Volume III

Chapter 7 Response to Comments

SCH# 2010031023

Willow Springs Solar Array Project by Willow Springs Solar, LLC

Conditional Use Permit 26, Map 232 Specific Plan Amendment 15, Map 232 ZCC 32, Map 232



Kern County Planning and Community Development Department Bakersfield, California

June 2015

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PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT

Planning Community Development Administrative Operations

June 12, 2015

File: SPA 15, Map 232 ZCC 32, Map 232 CUP 26, Map 232 S.D. #2 - Scrivner

ADDRESSEE LIST (See Distribution List)

TO COMMENTING AGENCIES AND INTERESTED PERSONS

Re: Chapter 7, Response to Comments for the Willow Spring Solar Array Project by Willow Spring Solar, LLC: Specific Plan Amendment 15, Map 232; ZCC 32, Map 232; Conditional Use Permit 26, Map 232

Enclosed is a document entitled Chapter 7, Response to Comments, Volume 3, for the above-referenced project. Section 15088 of the California Environmental Quality Act (CEQA) Guidelines requires the lead agency to evaluate comments on environmental issues received from persons who reviewed the Draft Environmental Impact Report (Draft EIR) and prepare a written response addressing each comment. This document is Chapter Seven (7) of the Final EIR.

A public hearing has been scheduled with the Kern County Planning Commission to consider the request on **June 25**, **2015** at 7:00 p.m. or soon thereafter, at the Chambers of the Board of Supervisors, First Floor, Kern County Administrative Center, 1115 Truxtun Avenue, Bakersfield, California.

Thank you for your participation in the environmental process for this project. **If you have any questions** regarding this letter or the Response to Comments, please contact Rob Dmohowski, Planner, at (661) 862-8608.

Very truly yours, LORELEI H. OVIATT, AICP, DIRECTOR Planning and Community Development Department

/s/

Rob Dmohowski Planner III Advanced Planning Division

Enclosure(s)

COMMENTING AGENCIES AND INTERSTED PARTIES: Lahontan Regional Water Quality Control Board; Kern County Engineering Surveying and Permit Services Floodplain Management Section; Kern County Roads Department; Eastern Kern Air Pollution Control District; Adams Broadwell Joseph & Cardozo; Audubon California; James and Dorothy Moore; Donna Pugh and Rick Graniere; Robert Mundy; Southern California Gas Company; RD Commercial Real Estate; Renald and Eleanor Showers. Lahontan Reg. Water Quality Control Board ATTN: Brianna Bergen 14440 Civic Drive, Ste. 200 Victorville CA 92392

Southern California Gas Company P.O. Box 2300 Chatsworth, CA 91313-2300 Attn: Rosalyn Squires

Kern County Library Local History Room

Robert Mundy 9 Kimball Court #403 Burlington MA 01803

Renald and Eleanor Showers 633 Glover Drive Lancaster, PA 17601

State Clearinghouse 1400 10th Street P.O. Box 3044 Sacramento, California 95612 Kern County Engineering, Surveying, and Permit Services Department/ Floodplain Management Section

Kern County Eastern Kern Air Pollution **Control Disrict**

James and Dorothy Moore 1760 100 St W Rosamond, CA 93560

Robert Dennis **RD** Commercial Real Estate 43770 15th Street West, Suite 300 Lancaster, CA 93534

Audubon California 4700 N. Griffin Ave Los Angeles, CA 90031 Attn: Garry George

Kern County Department

Waste

Management

Kern County Roads Department

Donna Pugh 27218 Oakgale Ave. Canyon Country CA 91351

Rick Graniere 21236 Hillgate Circle Trabuco Canyon, CA 92679

Adams Broadwell Joseph & Cardozo Attn: Thomas A. Enslow 520 Capitol Mall, Suite 350 Sacramento, CA 95814-4721

Kern County Planning and Community Development 2700 "M" STREET, SUITE 100 BAKERSFIELD, CA 93301-2323 Attn: Rob Dmohowski Kern County Planning and Community Development 2700 ''M'' STREET, SUITE 100 BAKERSFIELD, CA 93301-2323 Attn: Rob Dmohowski Kern County Planning and Community Development 2700 "M" STREET, SUITE 100 BAKERSFIELD, CA 93301-2323 Attn: Rob Dmohowski

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SCH# 2010031023

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June 2015

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Appendices

- A Phase I Environmental Site Assessment, by URS for First Solar, dated May 24, 2012
- B Phase II Environmental Site Assessment, by URS for First Solar, dated May 20, 2015
- C Proposed] Judgment and Physical Solution, *Antelope Valley Groundwater Cases* (Santa Clara Case No.: 1-05-CV-049053)
- D Biological Resources Technical Report, by Ironwood Consulting for First Solar, dated December 2011
- E Letter from Dr. Jim Estep to First Solar re: Swainson's hawk, dated May, 2015
- F Letter from Ironwood Consulting to First Solar re: Swainson's hawk, dated May 27, 2015
- G Letter from Department of Conservation, Division of Land Resource Protection, re: Willow Springs Solar Array Notice of Preparation, dated April 7, 2010
- H RBF Willow Springs Solar Array Modeling Results (CalEEMod 2013.2.2), dated April 28, 2015
- I Letter from Dr. Gary Fujimoto, M.D. to First Solar re: Valley Fever, dated May, 2015

7.1 Introduction

Purpose

As defined by Section 15050 of the *California Environmental Quality Act (CEQA) Guidelines*, the Kern County Planning and Community Development Department is serving as "Lead Agency" for the preparation of the Draft Environmental Impact Report (EIR) for the Willow Springs Solar Array Project (proposed project). The Final EIR presents the environmental information and analyses that have been prepared for the proposed project, including comments received addressing the adequacy of the Draft EIR, and responses to those comments. In addition to the responses to comments, clarifications, corrections, or minor revisions have been made to the Draft EIR. The Final EIR—which includes the responses to comments, the Draft EIR, along with the Mitigation Monitoring Program—will be used by the Planning Commission and Board of Supervisors in the decision-making process for the proposed project.

Environmental Review Process

A Notice of Preparation (NOP)/Initial Study (SCH No. 2012071086) was circulated for a 30-day public review period beginning on March 8, 2010. Four comments were received and used in the preparation of the Draft EIR. The Draft EIR for the proposed project was circulated for a 45-day public review period beginning on February 25, 2015 and ending on April 13, 2015. A total of 12 individual written comment letters were received on the Draft EIR.

Section 15088 of the *CEQA Guidelines* requires that the lead agency evaluate comments on environmental issues received from persons and agencies that reviewed the Draft EIR and prepare a written response addressing each of the comments received. The response to comments is contained in this document—Volume III, Chapter 7 of the Draft EIR. Volumes I, II and III together constitute the Final EIR. A list of agencies and interested parties who have commented on the Draft EIR is provided below. A copy of each numbered comment letter and a lettered response to each comment are provided in Section 7.4, "Response to Comments," of this Final EIR.

Local Agencies

- Letter 1 Lahontan Regional Water Quality Control Board
- Letter 2 Kern County Engineering, Surveying and Permit Services Floodplain Management Section
- Letter 3 Kern County Roads Department
- Letter 4 Eastern Kern Air Pollution Control District

Interested Parties

Letter 5 – Adams, Broadwell, Joseph & Cardozo

- Letter 6 Audubon California
- Letter 7 James and Dorothy Moore
- Letter 8 Donna Pugh and Rick Graniere
- Letter 9 Robert Mundy
- Letter 10 Southern California Gas Company
- Letter 11 RD Commercial Real Estate
- Letter 12 Renald and Eleanor Showers

7.2 Revisions to the Draft EIR

The revisions that follow were made to the text of the Draft EIR. Amended text is identified by page number. Additions to the Draft EIR text are shown with <u>underline</u> and text removed from the Draft EIR is shown with strikethrough.

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Amending the zone to A (Exclusive Agriculture and getting a CUP would allow construction and operation of a solar facility and a temporary concrete batch plant on the site.

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Interconnection will require Southern California Edison ("SCE") to install new interconnection facilities, which may include ground disturbance of up to approximately 3.5 acres to construct up to approximately six poles or lattice towers up to approximately 120 feet in height that would be located on SCE property prior to the gen tie entering into the Whirlwind substation proper and associated communication lines, which may be placed underground ("SCE Interconnection Facilities"). There are two potential alignments being considered for the SCE Interconnection Facilities, as depicted on Figure 1-7. Approval of the SCE Interconnection Facilities jurisdiction of the CPUC. However, because CEQA requires analysis of the entirety of the project, the project for CEQA purposes includes the SCE Interconnection Facilities.

Power generated by the proposed facility would ultimately be delivered from the project substation to one of two possible interconnection points:

- 1) If power is sold to the Los Angeles Department of Water and Power (LADWP) or a municipal utility with access to their transmission system, the project would interconnect to the LADWP Barren Ridge Rinaldi 230 kV line that crosses the project site. In this case, interconnection will require LADWP to install new interconnection facilities on the project site, which may include a 230 kV switching station and an associated generation tie-line. The project substation will interconnect to the LADWP switching station via a generation tie-line of approximately 500 feet in length. The switching station would then loop into the LADWP 230 kV Barren Ridge Rinaldi transmission line where it crosses the project site.
- 2) If power is sold to a customer that interconnects in the California Independent System-controlled grid, or is sold into the wholesale power market, then the project would construct approximately one mile of new gen-tie line along the alignment of 110th Street West to Rosamond Boulevard. At Rosamond Boulevard, the project would share the already approved Rosamond Solar gen-tie line to be constructed along Rosamond Boulevard and interconnect to the Southern California Edison (SCE) Whirlwind Substation located near the intersection of 170th Street West and Rosamond Boulevard. These facilities consist of a gen-tie line located primarily within existing public road right of ways, approximately six poles or lattice towers up to approximately 120 feet in height that would be located on SCE property prior to the generation-tie entering into the Whirlwind substation proper, and associated telecommunications communication lines.

Page 1-9

The area which would include the proposed SCE facilities consists of shadescale and creosote bush scrub. The area is zoned as follows: E (2 1/2) RS (Estate 2.5 acres, Residential Suburban Combining) and E (2 1/2) RS FPS (Estate 2.5 acres, Residential Suburban Combining, Floodplain Secondary Combining). Its General Plan and Specific Plan designation is 4.1/5.6 (Minimum 2.5 Gross Acres/Unit).

- An amendment to the Willow Springs Specific Plan to change the site land use from 5.3/4.4/2.8 (Maximum 10 Dwelling Units per net acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), 5.3/4.4/2.85 (Maximum 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations 60 decibels), 5.5/4.4/2.8 (Maximum 1 Dwelling Unit per acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), and 6.2/4.4 (General Commercial/Comprehensive Planning Area) to 5.3/2.8 (Maximum 10 dwelling units per net acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 1 Dwelling Unit per acre/Military Flight Operations 65 decibels) and 6.2 (General Commercial);
- A zoning amendment to change the zoning for the parcels currently zoned as C-2 PD FPS (General Commercial/Precise Development Combining/Floodplain Secondary Combining), <u>A FPS*</u> (Exclusive Agriculture/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(1) RS FPS* (Estate 5 <u>1</u> Acre/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(2 1/2) RS FPS* (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining (SP) to all be zoned as A FPS (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- Approval of a Conditional Use Permit (CUP) to allow for the construction and operation of an approximately 150 MW solar electrical generating facility (approximately 2,300,000 solar modules) on 1,402 acres in the A FPS zone (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- LADWP approval and construction of its interconnection facilities, if applicable.

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Table 1-7: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.1 AESTHETICS	-		
Impact 4.1-1: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than significant	None required.	Less than significant
Impact 4.1-2: The project would substantially degrade the existing visual character or quality of the site and its surroundings.	<u>Potentially</u> Significant and unavoidable	 MM 4.1-1: The project operator shall clear debris from the project area at least twice per year; this can be done in conjunction with regular panel washing and site maintenance activities. The project proponent shall erect signs with contact information for the project proponent's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Community Development Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. MM 4.1-2: The project operator shall install metal fence slats or similar view-screening materials as approved by the Kern County Planning and Community Development Department in all on-site perimeter fencing adjacent to parcels zoned for residential use (E [Estate Residential], R-1 [Low-Density Residential] or PL (Platted Lands) zoning), unless the adjacent property is owned by the project operator (to be verified by the Planning and Community Development Department) or a public or private agency that has submitted correspondence to the Planning and Community Development Department requesting this requirement be waived. Should the project operator sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale. 	Significant and unavoidable

Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
	MM 4.1-3: The following shall be implemented by the project operator:	
	 a) Drought-tolerant plants, species to be determined through consultation with landscape experts with local knowledge and approved by the Kern County Planning and Community Development Department, shall be planted along the fence line at 500-foot intervals where the adjoining property is zoned for residential use (E [Estate Residential], R-1 [Low-Density Residential], R-2 [Medium-Density Residential], R-3 [High-Density Residential], or PL (Platted Lands) zoning), unless the adjacent property is owned by the project operator (to be verified by the Kern County Planning and Community Development Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Community Development Department requesting this requirement be waived. Should the project proponent or agency sell the adjacent property, drought-tolerant plants shall be planted prior to the sale. Landscaping must be continuously maintained on the project site(s) by the project proponent in accordance with Section 19.86 	
	site. Ground cover shall include a native seed mix shall be spread under the solar panels as needed to establish the seeds. The seed	
	Development Director prior to planting. The plan must include the approved native seed mix, a timeline for seeding the site,	
	percentage of the site to be covered, details regarding the	
	consultation efforts completed, the methods and schedule for	
	report shall be submitted to the Kern County Planning and Community Development Director for the three year period. The	
	Significance before	Significance before Mitigation Mitigation Measures IM 4.1-3: The following shall be implemented by the project operator: a) Drought-tolerant plants, species to be determined through consultation with landscape experts with local knowledge and approved by the Kern County Planning and Community Development Department, shall be planted along the fence line at 500-foot intervals where the adjoining property is zoned for residential use (E [Estate Residential], R-1 [Low-Density Residential], R-2 [Medium-Density Residential], R-3 [High- Density Residential], or PL (Platted Lands) zoning), unless the adjacent property is owned by the project operator (to be verified by the Kern County Planning and Community Development Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Community Development Department requesting this requirement be waived. Should the project proponent in accordance with Section 19.86 (Landscaping must be continuously maintained on the project site(s) by the project proponent in accordance with Section 19.86 (Landscaping Standards) of the Kern County Zoning Ordinance. b) Prior to the commenement of operations, the project site(s) by the approved by the Kern County Zoning ordinance. b) Prior to the commenement of operations, the project site(s) and et the solar panels as needed to establish the seeds. The seed mix shall be determined through counsultation with hoeal experts and shall be approved by the Kern County Zoning ordinance. b) Prior to the commenement of operations, the project site, percentage of the site to be covered, details regarding the consultation efforts completed, the methods and schedule for installation of foneing that complies with wildlite agency regulations, and prohibition of the use of rodenticides. Ground cover shall be con

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		three year monitoring program is intended to ensure the site naturally achieves native plant diversity, consistent with site conditions prior to implementation of the project.	
Impact 4.1-3: The project would create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.	Potentially significant	 MM 4.1-4: Project facility lighting shall comply with "Dark Sky" lighting guidelines, and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not extend below the shields. MM 4.1-5: Where appropriate, proposed on-site buildings shall use non-reflective materials as approved by the Kern County Planning and Community Development Department. 	Less than significant
Cumulative	Potentially Significant and unavoidable	Implement Mitigation Measures MM 4.1-1 through MM 4.1-5.	Significant and unavoidable
4.2 AGRICULTURAL AND FO	RESTRY RESOURCES		
Impact 4.2-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agriculture uses.	Less than Significant	None required.	Less than Significant
Impact 4.2-2: The proposed project would involve other changes in the existing environment which, due to their location or nature, could result in	Less than Potentially significant	MM 4.2-1: The following note shall appear on all site plans: The County of Kern encourages operation of properly conducted businesses in agriculture, oil, mining, manufacturing, and other nonresidential operations within the County. If the property you are purchasing is located near these businesses, you may be subject to inconveniences or discomforts arising from such operations to the extent allowed by law.	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
conversion of Farmland, to non-agricultural use.		This notice does not waive your legal rights.	
Cumulative	Potentially Significant and unavoidable	Implement Mitigation Measure MM 4.2-1.	Significant and unavoidable
4.3 AIR QUALITY			
Impact 4.3-1: The proposed project would conflict with or obstruct implementation of the applicable air quality plan.	Less than Potentially sSignificant	 MM 4.3-1: The project operator shall develop a Fugitive Dust Control Plan in compliance with Eastern Kern Air Pollution Control District Rule 402 to reduce PM10 and PM2.5 emissions prior to during construction and decommissioning. The Plan shall be submitted for review and approval to the Kern County Planning and Community Development Department prior to the issuance of any grading permit for the proposed project: a) The applicant shall submit a comprehensive Phased Grading Plan as part of any grading permit application, for review and approval of the Kern County Planning and Community Development Department. The Phased Grading Plan shall; i. Identify a comprehensive grading schedule for the entire project site. ii. The project operator shall use GPS or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements iii. Minimize all grading activities to those areas necessary for project access and installation of solar panels and other associated infrastructure related to the solar facility. Where ground is cleared, plant roots must be left in place where possible. Construction of infrastructure associated with solar panels shall commence on areas that have undergone initial grading within 20 calendar days b) The following dust control measures shall be incorporated into the Site Specific Dust Control Plan: i. All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall take place a minimum of three times 	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust suppressant.	
		 All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures, or neighboring property. 	
		 All trucks entering or leaving the site will cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of two feet. 	
		iv. Areas disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.	
		v. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.	
		vi. After active clearing, grading, and earth moving is completed within any portion of the site, the following dust control practices shall be implemented	
		1. A dust suppressant shall be applied where initial leveling and vegetation removal has been completed.	
		 Upon completion of the installation of the solar panels or at a practical time based on seasonal conditions and as approved by the Kern County Planning and Community Development Department, the area shall be seeded and watered in a manner to ensure plant growth is evident and continued dust suppression during operations. 	
		3. All unpaved road areas shall be treated with a dust suppressant or graveled to prevent visible dust plumes.	
		 vii. The SSDCP shall identify, in addition to those measures required by the air district, all measures being undertaken during construction activities and operational activities to ensure fugitive dust being blown off site is minimized. Measures may include, but are not limited to: 1. Use of water trucks as required for the expected level of 	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		winds in the area.	
		2. Use of additional dust suppressants (i.e., chemical soil binders or mulch)	
		3. Pre-seeding and/or irrigating and/or use of wood chips as permitted by EKAPCD.	
		4. Other site-specific best available technologies and methods to minimize fugitive dust emissions during project construction.	
		5. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening).	
		c) During all phases of construction and decommissioning, the following vehicular control measures shall be implemented:	
		i. On-site vehicle speed shall be limited to 15 miles per hour.	
		 All areas with vehicle traffic shall be graveled or treated with dust palliatives. Final road surfaces must be stabilized to achieve a measurable threshold friction velocity (TFV) equal to or greater than 100 centimeters per second (cm/S). 	
		 Streets adjacent to the project sites shall be kept clean, and project-related accumulated silt shall be removed on a regular basis. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited. 	
		iv. Access to the project sites shall be by means of an apron into a project site from adjoining surfaced roadways, if available. If site soils cling to the wheels of the vehicles, then a grizzly, wheel-washer, or other such device shall be used on the road exiting the project sites, immediately prior to the pavement, to remove most of the soil material from vehicle tires.	
		d) Prior to commencement of any on-site construction activities (i.e., fence construction, mobilization of construction equipment, tree removal, initial grading), the project operator shall provide written notice to the public through mailing a notice to all parcels within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include the construction schedule a telephone number and email address where complaints	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		 sign, legible at a distance of 50 feet, shall also be posted at the construction site or adjacent to the nearest public access to the main construction entrance throughout construction activities which include the construction schedule (updated as needed) and a telephone number where complaints can be registered. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Community Development Department. MM 4.3-2: The project operator shall continuously comply with the following measures during project operations to control fugitive dust emissions from the use of unproved product on the project sites. 	
		 emissions from the use of unpaved roads on the project sites: a) Any unpaved access roads used by employees and/or for deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board-approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation. b) The other unpaved roads at the project sites shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes. 	
		c) Traffic speeds on unpaved roads shall be limited to no more than 15 miles per hour. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s).	
		MM 4.3-3: The project operator and/or its contractor(s) shall implement the following measures during construction of the proposed project:a) All equipment shall be maintained in accordance with the manufacturer's specifications.	
		b) Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes.	
		c) Electric equipment shall be used whenever possible in lieu of diesel or gasoline powered equipment.d) All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		substantially reduce NOx emissions.	
		e) On-road and off-road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.	
		 f) Prohibit the use of heavy-equipment during first- or second-stage smog alerts and suspend all construction activities during second- stage smog alerts. 	
		g) Utilize existing power sources (i.e., power from the distribution grid) when feasible. This measure would minimize the use of higher polluting gas or diesel generators.	
		h) Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use to the extent feasible.	
		i) Require that trucks and vehicles in loading or unloading queues have their engines turned-off when not in use	
		 j) Off road equipment engines over 50 horsepower shall be Tier <u>3</u>² certified or higher (unless Tier 2 equipment has been determined not to be available). Tier 3 construction equipment is not locally available. Construction equipment shall be considered "not locally available" if local contractors with their principal place of business within Kern County certify in writing to Kern County that such equipment cannot be secured at a regionally competitive price without materially delaying the project's construction schedule. k) Provide notification to trucks and vehicles in loading or unloading queues that their engines shall be turned off when not in use for 	
		more than five minutes.	
		MM 4.3-4: The project operator shall continuously comply with the following measures during project operations to control emissions from the on-site dedicated equipment (equipment that would remain on-site each day):	
		 a) All on-site off-road equipment and on-road vehicles for operation/maintenance shall meet the recent California Air Resources Board engine emission standards or alternatively fueled construction equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate. 	
		b) All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		 c) All equipment engines shall be maintained in good operating condition and in tune per manufacturers' specification. MM 4.3-5: Prior to the issuance of any grading or building permit, the project proponent shall establish a "construction coordinator" and submit written documentation which includes their phone number, email address and mailing address. The construction coordinator shall be responsible for the following: a) Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved. b) Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction related complaints (i.e., blowing dust, inability to access parcels, etc.) during project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Community Development Department no later than three business days from request. 	
Impact 4.3-2: The project could violate an applicable air quality standard as adopted in (c) i or (c) ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation	Less than Potentially significant	Implement Mitigation Measures MM 4.3-1 through MM 4.3-5.	Significant and unavoidable (construction activities)
Impact 4.3-3: Construction and operation of the proposed project could result in a cumulatively	Less than Potentially significant	Implement Mitigation Measures MM 4.3-1 through MM 4.3-5.	Significant and unavoidable (construction activities)

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable federal or state ambient air quality standards (including releasing emissions that exceed quantitative thresholds for ozone precursors).			
Impact 4.3-4: Construction and operation of the proposed project could expose sensitive receptors to substantial pollutant concentrations.	Less than Potentially significant	 MM 4.3-6: Prior to ground disturbance activities, the project operator shall provide evidence to the Kern County Planning and Community Development Department that the project operator and/or construction manager has developed a "Valley Fever Training Handout", training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Community Development Department within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The evidence submitted to the Kern County Planning and Community Development Department regarding the "Valley Fever Training Handout" and Session(s) shall include the following: a) A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session. b) Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever. c) Training on methods that may help prevent Valley Fever infection. d) A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Though use of the equipment is not mandatory during work, . Where respirators are required, the 	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		equipment shall be readily available and shall be provided to employees for use during work , if requested by an employee . Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.	
		The project operator also shall consult with the County Health Services Department to develop a Valley Fever Dust Management Plan that addresses management of dust to reduce the potential presence of the <u>Coccidioides spore and mitigates for the potential for</u> <u>Coccidioidomycosis for exposure to (Valley Fever)</u> . Prior to issuance of permits, the project operator shall submit the Plan to the County Services Health Department for review and approval. The Plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate dust management and safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to <u>Coccidioides spores potential Valley</u>	
		Fever containing dust. Measures in the Plan, which shall be implemented as practicable, may include the following: i. Provide HEP-filtersed for heavy equipment equipped with	
		factory air-conditioned enclosed cabs capable of accepting the filters. Cause contractors utilizing applicable heavy equipment to furnish proof of worker training on heavy equipment. Train workers on proper use of applicable heavy equipment cabs, such as turning on air conditioning prior to using the equipment.	
		ii. Provide communication methods, such as two-way radios, for use in enclosed cabs.	
		iii. <u>Provide Require</u> National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers.	
		iv. Require half-face respirators equipped with <u>minimum</u> N- <u>95</u> protection factor for use100 or P 100 filters to be used-during worker collocation with surface disturbance activities, as required per the hazard assessment process. digging. Require employees to wear respirators when working near earth moving machinery.	
		v. Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		 full respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144). vi. Provide separate, clean eating areas with hand-washing facilities vii. Thoroughly clean equipment, vehicles, and other items before they are moved offsite to other work locations. Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off-site. viii. Train workers to recognize the symptoms of Valley Fever, and the promptly report suspected symptoms of work-related Valley 	
		 promptly report suspected symptoms of work-related valley Fever to a supervisor. ix. Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever. 	
		 work with a medical professional, in consultation with the County Health Services Department, to develop an educational handout for on-site workers and surrounding residents within three miles of the project site, and include the following information on Valley Fever: what are the potential sources/ causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by the project on any work commencing, this handout shall be mailed to all existing residences within three miles of the project boundaries. 	
		xi. When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks.	
		xii. <u>Prohibit smoking at the worksite outside of designated smoking</u> <u>areas; designated smoking areas will be equipped with</u> <u>handwashing facilities.</u>	
		xiii. <u>Post warnings on-site and consider limiting access to visitors</u> ,	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		especially those without adequate training and respiratory protection.xiv.Audit and enforce compliance with relevant Cal OSHA health and safety standards on the jobsite.Prior to the Notice to Proceed for decommissioning, the project operator will follow the above process for all decommissioning work. In addition to the Valley Fever Dust Management Plan, hazard assessments required under 8 CCR 1509 and/or 3380 will be performed by each employer for all job classifications employed on site. The hazard assessments will comprehend the potential for exposure to the Coccidioides spore relative to work activity, proximity to other forms of work activity, weather conditions and other relevant variables and will identify appropriate 	
Cumulative	Potentially Significant and unavoidable (construction emissions)	Implement Mitigation Measures MM 4.3-1 through MM 4.3-6.	Significant and unavoidable (Construction emissions)
4.4 BIOLOGICAL RESOURCE	ES		
Impact 4.4-1: The project would have a substantial adverse impact, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.	Potentially significant	 MM 4.4-1: The project shall be designed to avoid alkali mariposa lily concentrations to the extent feasible. Pre-construction surveys should shall be conducted during the blooming period for alkali mariposa lily (April-June) to determine the most current limits of distribution within the project site. If construction is planned for outside the blooming period, the project will attempt to avoid those areas where the highest concentrations of this species were found during the focused surveys in 2010 and 2011. If avoidance is not feasible, a Habitat Management Plan shall be developed by a qualified biologist and approved by Kern County Planning and Community Development Department to ensure adequate management and conservation of botanical resources over the long term. The Habitat Management Plan shall provide for compensatory mitigation and include the following. 1. Identification of on-site or off-site restoration or enhancement locations and avoidance of those locations through the establishment of preservation areas and buffers. 	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		 Methods for preservation, restoration, enhancement, and/or population translocation. A replacement ratio and success standard of 1:1 for every plant (or population) that would be impacted. 	
		 4. A five-year monitoring program to ensure success in accordance with the <u>following survivorship percentage</u> performance standards outlined below. 	
		 5. Survivorship Percentage Performance Standards a. All plantings shall have a Because the plant lives above-ground during only a porting of its lifecycle, a minimum of 80 <u>90</u> percent survival <u>during one or more of the each year through the five year monitoring periods shall be considered success for this species.</u> b. The site shall attain 75 percent plant cover after 3 years and 90 percent cover after five years. c. Replacement plants shall be monitored with the same survival and growth requirements for five years after planting. 	
		6. Funding sources7. Adaptive management strategiesA 1:1 mitigation ratio is considered sufficient because alkali mariposa is not federally or state listed as threatened or endangered and is relatively common in the project area. Copies of all surveys and reports shall be submitted to the Kern County Planning and Community Development Department.	
		 MM 4.4-2: Prior to the issuance of grading or building permits, the project operator shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by U.S. Fish and Wildlife Service to oversee compliance with protection measures for all listed and other special-status species. 1. The project Lead Biologist shall be on-site during all fencing and ground disturbance activities throughout the construction phase. 	
		2. The project Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
-		species are removed and the species is no longer at risk.3. The project Lead Biologist shall have in her/his possession a copy of all the compliance measures while work is being conducted onsite.	
		MM 4.4-3: Prior to the issuance of grading or building permits, and for the duration of construction activities, the applicant shall demonstrate it has in place a Construction Worker Environmental Awareness Training and Education Program for all new construction workers at the project site, laydown area and/or transmission routes. All construction workers shall attend the Program prior to participating in construction activities. The Program will be developed and presented by the project Lead Biologist- or designee approved by the Lead Biologist.	
		The program shall include information on the life history of the burrowing owl, Swainson's hawk, desert tortoise, Mohave ground squirrel, as well as other wildlife and plant species that may be encountered during construction activities.	
		The program shall also discuss each species' legal protection status, the definition of "take" under the Endangered Species Act (Act), measures the project operator is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Act.	
		1. An acknowledgement form signed by each worker indicating that environmental training has been completed will be kept on record.	
		2. A sticker shall be placed on hard hats indicating that the worker has completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker.	
		 A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department. 	
		4. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact	Mitigation	 biological resources that are outside the areas defined as subject to impacts by project permits. MM 4.4-4: The Lead Biologist or biological monitor will monitor all initial ground-disturbance activities. Prior to conducting vegetation clearing or grading activities, a Lead Biologist or approved biological monitor shall survey the area immediately prior to conducting these activities to ensure that no special-status animals are present. Based on the results of pre-construction surveys, if any evidence of occupation of the project sites by listed or other special-status species is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance, as described below. If sufficient avoidance cannot be established or if special-status species are found, construction shall cease in the vicinity of the animal, and the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures and to determine whether temporary fencing is required. Copies of the correspondence shall be submitted to the Kern County Planning and Community Development Department. The applicant shall implement the measures described below. All proposed impact areas, including solar fields, generation-tie line, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. 	Mitigation
		 Construction-related activities outside of the impact zone shall be avoided. Access roads that are planned for use during construction shall not extend beyond the planned impact area. All vehicle traffic shall be contained within the planned impact area or in previously disturbed areas. Where new access routes are required, area will be clearly marked (i.e., flagged and/or staked) prior to construction. If fencing is required, the project site shall be fenced with a temporary exclusion fence to keep terrestrial wildlife species, including desert tortoise, from entering during construction. This exclusion fencing shall be constructed of silt fence material, metal flashing, plastic sheeting, or other materials that will prohibit wildlife from climbing the fence or burrowing below the fence. The 	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		 fencing shall be buried approximately twelve inches below the surface and extend a minimum of 30 inches above grade. Fencing shall be installed prior to issuance of grading or building permits and shall be maintained during all phases of construction and decommissioning. The fencing shall be inspected by a qualified biologist weekly and immediately after all major rainfall events through the duration of construction and decommissioning activities. Any needed repairs to the fence shall be performed on the day of their discovery. Exclusion fencing shall be removed once construction or decommissioning activities are complete. Outside temporarily fenced exclusion areas, the project operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be flagged and disturbance activities, vehicles, and equipment shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas. 4. To prevent inadvertent entrapment of desert kit foxes, badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected by the Lead biologist or approved biological monitor for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If a listed species is trapped, the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife shall be contacted immediately. 	
		5. Burrowing owls, mammals, and nesting birds can use construction pipes, culverts, or similar structures for refuge or nesting. Therefore, all construction pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		shall not be moved until the Lead Biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by the Lead Biologist.	
		6. No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own. No one shall be allowed to touch a listed species without authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.	
		 Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited. 	
		8. Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best management practices (BMPs) shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP). All detected erosion shall be remedied within two days of discovery or as described in the SWPPP.	
		9. Fueling of equipment shall take place within existing paved roads. No refueling within or adjacent to drainages or native desert habitats will be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.	
		 A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project area. 	
		 A long-term trash abatement program shall be established for construction, operations, and decommissioning. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs. 	
		12. Workers shall be prohibited from bringing pets and firearms to the project area and from feeding wildlife.	
		13. Intentional killing or collection of any plant or wildlife species shall be prohibited.	
		MM 4.4-5: Preconstruction surveys of suitable habitat areas for coast	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		horned lizard and silvery legless lizard shall be conducted by a qualified biologist to determine if the species is present in or adjacent to construction areas. Surveys need not be conducted for all suitable habitat areas at one time; they may be phased so that surveys occur immediately prior to vegetation being cleared in specific areas. If a coast horned lizard or any other "non-listed" special-status species is observed within the construction area, an approved biologist shall capture and relocate the animal to an area outside of the construction limits containing suitable habitat. The approved biologist shall have obtained a California Department of Fish and Wildlife Scientific Collection Permit and Memorandum of Understanding (MOU) from California Department of Fish and Wildlife prior to handling or relocating any special-status species. Any animal requiring capture and release shall be documented that shall be submitted to U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife and the Kern County Planning and Community Development Department within 5 days following the incident.	
		MM 4.4-6: Preconstruction surveys shall be conducted by a qualified biologist for the presence of American badger or desert kit fox dens within 14 days prior to commencement of construction and decommissioning activities. The surveys shall be conducted in areas of suitable habitat for American badger and desert kit fox, which includes fallow agricultural land and scrub habitats. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within two weeks prior to that portion of the site disturbed. If potential dens are observed, the following measures are required to avoid potential adverse effects to American badger:	
		 a) If the qualified biologist determined that potential dens are inactive, the biologist shall excavate these dens with a shovel to prevent badger re-use during construction. b) If the qualified biologist determines that potential dens may be active, the biologist shall notify California Department of Fish and Wildlife. Entrances to the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three- to five-day period. 	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction. A biologist shall remain on call throughout construction in the event a badger wanders onto the site.	
		c) Construction activities shall not occur within 30 feet of active badger dens.	
		 d) Perimeter fencing shall be made wildlife friendly by raising the bottom up 5-7 inches from the ground to allow movement of American badgers. 	
		e) If potential kit fox dens are observed, the following measures are required to avoid potential adverse effects to kit fox:	
		f) The collapsing of desert kit fix dens shall not occur without prior consultation with California Department of Fish and Wildlife.	
		g) If an active kit fox den is discovered with the potential to be occupied by a desert kit fox, the den openings shall be avoided by at least <u>100 feet1,000 feet during the breeding season (December to February) and 500 feet during the non-breeding season (March to November).</u>	
		h) A biologist shall remain on-call throughout construction in the even a desert kit fox wanders onto the site.	
		i) Perimeter fencing shall be made wildlife friendly by raising the bottom up 5-7 inches from the ground to allow movement of kit foxes.	
		<u>If active dens are found on site</u> D during construction daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall biological-resources-related activities conducted, including the worker awareness training, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife and	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		 Kern County Planning and Community Development Department on a monthly basis along with copies of all survey reports. MM 4.4-7: Prior to construction, the applicant shall conduct preconstruction surveys in suitable habitat for desert tortoise on-site and within the gen-tie line and shall implement the measures described below: 1. Pre-construction tortoise clearance surveys shall be conducted at 15-foot intervals to locate any desert tortoises prior to grading or ground disturbance. The survey shall be conducted by an Authorized Biologist within 24 hours of the onset of the surface disturbance and prior to the installation of all tortoise-proof fencing. The "Authorized Biologist" is defined as a wildlife biologist who has been authorized to handle desert tortoises by U.S. Fish and Wildlife Service and California Department of Fish and Wildlife for this project. Name(s) of proposed Authorized Biologist(s) must be submitted to U.S. Fish and Wildlife for approval at least 15 days prior to initiating field surveys. 2. Authorized biologists shall conduct preconstruction clearance surveys for desert tortoise prior to the start of any ground disturbing 	
		 construction activity. 3. If desert tortoise is found during preconstruction surveys, no one shall be allowed to touch the tortoise without authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. The U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures and to determine whether temporary exclusionary fencing is required. After exclusionary fence installation, if required by the wildlife agencies, authorized biologists shall conduct clearance surveys for desert tortoises within the fenced project site. Two surveys without finding any tortoises or new tortoise sign shall occur prior to declaring the site clear of tortoises. All burrows that could provide shelter for a desert tortoise shall be excavated during the first clearance survey. An authorized biologist shall remain on-site until all vegetation is cleared and, at a minimum, conduct site and fence 	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
-		 inspections on a regular basis throughout construction in order to ensure that the fence is intact and that no tortoises can enter the construction area. 4. Authorized biologists shall be on-site to survey for tortoises immediately in front of vegetation clearance activities in the event a tortoise was inadvertently missed during clearance surveys. A biologist shall remain on-call throughout construction in the event a tortoise wanders onto the site. 5. All construction personnel shall watch for desert tortoises within the construction area whenever driving, transporting, or operating equipment. 6. If no desert tortoises are found during preconstruction surveys, the project operator will provide a report to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife within one 	
		 week of starting construction. This report should be prepared by the authorized biologist. Following construction, the project operator will submit the report within 90 days, documenting applicable desert tortoise measures taken during the project, such as tortoise training, fence monitoring and maintenance, etc. 7. If a desert tortoise is observed in the project area during construction or operation activities, construction or operations shall 	
		cease in the vicinity of the tortoise and the tortoise shall be allowed to pass through the area on its own accord. No one shall be allowed to touch the tortoise without authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. Concurrent with this effort, U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization, or mitigation	
		measures that may be necessary. Once the animal is observed leaving the site, work in the area can resume. A report shall be prepared by the Lead Biologist to document the occurrence of the desert tortoise within the site. This report shall be submitted to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife and the Kern County Planning and Community Development Department.	
		MM 4.4-8 : The following measures are based on the recently updated	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG, 2012) and shall be implemented to ensure potential effects on burrowing owl resulting from project construction, operations and maintenance, and decommissioning will be avoided and minimized to less-than-significant levels	
		 A project Lead Biologist shall be on-site during all initial construction activities in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas, plus a 150- meter (approximately 492 foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to construction. The survey methodology will be consistent with the methods outlined in the Staff Report and will consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls (and may be combined with desert tortoise pre-construction surveys). As each burrow is investigated, biologists will also look for signs of American badger and kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Community Development Department. 	
		2. If burrowing owls are detected, no ground-disturbing activities, such as road construction or ancillary facilities, shall be permitted within the distances listed below in Table 4.4-3, unless otherwise authorized by California Department of Fish and Wildlife. Burrowing owls shall not be moved or excluded from burrows during the breeding season.	
		 If avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the 2012 Staff Report on Burrowing Owl Mitigation. Burrowing owls should not be excluded from burrows unless or until: 	
		 a) Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist meeting the Biologist Qualifications set forth in the May 2012 California Department 	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		of Fish and Wildlife Staff Report, ve methods that either: (1) the owls hav incubation; or (2) juveniles from the foraging independently and are capa Burrowing owls will not be moved of during the breeding season.	ve not begun egg-laying and occupied burrows are ble of independent survival.
		 b) A Burrowing Owl Exclusion Plan is the applicable local California Depa office and submitted to the Kern Cor Community Development Departme at a minimum: Confirm by site surveillance th burrowing owls and other spec scoping; 	rtment of Fish and Wildlife unty Planning and ent. The plan shall include, at the burrow(s) is empty of
		 ii. Type of scope and appropriate impacts; iii. Occupancy factors to look for a determination of vacancy and e doors should be left in place 48 owls have left the burrow befor daily and monitored for eviden can't escape i.e., look for sign door); 	and what will guide excavation timing (one-way 3 hours to ensure burrowing re excavation, visited twice ce that owls are inside and
		 iv. How the burrow(s) will be exc. hand tools with refilling to pre- preferable whenever possible (to stabilize the burrow to preve burrow has been excavated and no owls reside inside the burro 	vent reoccupation is may include using piping ent collapsing until the entire I it can be determined that
		v. Removal of other potential ow refugia on-site;	burrow surrogates or
		vi. Photographing the excavation a demonstrate the success and su	
		vii. Monitoring of the site to evaluate to implement remedial meausro	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		owl use to avoid take; viii. How the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disliking or immediate and continuous grading) until development is complete.	
		c) Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the measures described below.d) Temporary exclusion is mitigated in accordance with the measures described below.	
		 e) Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion will occur immediately after the end of the breeding season. 	
		 f) Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight). 	
		4. In accordance with the Burrowing Owl Exclusion Plan a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.	
		5. During construction activities, monthly and final compliance reports shall be provided to the California Department of Fish and Wildlife, the Kern County Planning and Community Development Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.	
		6. Should burrowing owls be found on site, cCompensatory mitigation	_

Impact	Level of Significance before Mitigation	Mitigation M	leasures	Level of Significance after Mitigation
		site or of guidance	preeding and/or wintering habitat shall be implemented on- ff-site in accordance with Burrowing Owl Staff Report e and in consultation with California Department of Fish dlife. At a minimum, the following recommendations shall emented:	
		a.	If passive relocation is required, the project operator shall conserve foraging habitat suitable for burrowing owl at a ratio of at least 10 acres of foraging habitat per passively relocated burrowing owl pair. Land identified to mitigate for passive relocation of burrowing owl may be combined with other off-site mitigation requirements of the project if the compensatory habitat is deemed suitable to support the species. If the project is located within the service area of a burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits in lieu of providing off-site habitat.	
		a<u>b.</u>	Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including decompacting soil and revegetating. If restoration is not feasible, then the applicant shall implement b below.	
		<u> bc</u> .	Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat will be mitigated such that the habitat acreage, number of burrows and burrowing owls impacted are replaced based on a site- specific analysis and The habitat to be protected shall include:	
			i. Permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering,	

Impact	Level of Significance before Mitigation	Mitigation Measures		Level of Significance after Mitigation
			and dispersal (i.e., during breeding and non- breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. Conservation shall occur in areas that support burrowing owl habitat and can be enhanced to support more burrowing owls.	
		d. ii.	Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.	
		plan in guideli	p and implement a mitigation land management accordance with Burrowing Owl Staff Report nes to address long-term ecological sustainability intenance of the site for burrowing owls.	
		land the	ne maintenance and management of mitigation rough the establishment of a long-term funding hism such as an endowment.	
		owls sh lands h benefit Depart monito	t shall not be altered or destroyed, and burrowing hall not be excluded from burrows, until mitigation ave been legally secured, are managed for the of burrowing owls according to California ment of Fish and Wildlife-approved management, ring and reporting plans, and the endowment or ong-term funding mechanism is in place or	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
F		security is provided until these measures are completed.	8
		 g. Mitigation lands should be on, adjacent to, or in proximity to the impact site, where feasible, and where habitat is sufficient to support burrowing owls. h. Consult with California Department of Fish and Wildlife 	
		when determining off site mitigation acreages.	
		MM 4.4-9 : Prior to the issuance of grading or building permits the following shall be implemented with respect to the area to be covered by such permit:	
		1. The project proponent shall mitigate for the loss of acres of Swainson's hawk foraging habitat by providing high-quality off-site habitat management lands preferred by Swainson's hawk such as native desert scrub, agricultural areas, grasslands with scattered trees, juniper- sage flats, or riparian areas (as identified by a qualified biologist in consultation with Kern County) at a 0.5:1 ratio, on-site lands at a 1:1 ratio, or some combination thereof. Completion of the selected measure must be within the Antelope Valley (Kern or Los Angeles County) or within the Central Valley. A priority shall be placed on replacement habitat within the Antelope Valley (Kern or Los Angeles County), if feasible. If the County finds that suitable replacement land is not available within the Antelope Valley at commercially reasonable prices, replacement habitat may be located within the Central Valley. Any such mitigation shall be within at most ten miles of an active nest and within suitable foraging habitat for Swainson's hawk as identified by a qualified biologist. The following options can be completed in any combination:	
		a. Fund and purchase conservation easements, to be held by an entity qualified to hold such easements under Section 815 of the California Civil Code;	
		b.Place deed restrictions on qualifying land;c.Provide in lieu fees to a qualified person, entity or agency forthe acquisition of conservation easements covering land satisfying the	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
_		requirements of this measure or otherwise adequate to mitigate the	_
		project's impacts on Swainson's hawk.	
		1. <u>2.</u> Preconstruction clearance nesting surveys for Swainson's hawk shall be conducted by a qualified biologist within 0.5 mile of the project site and generation-tie lines no more than 30 days prior to construction. The survey methodology shall be consistent with the Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimizations Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California prepared by the State of California, California Energy Commission, and California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the California Department of Fish and Wildlife and Kern County Planning and Community Development Department.	
		 2. <u>3.</u> If surveys locate a nest site, a Swainson's Hawk Monitoring and Mitigation Plan shall be prepared in consultation with California Department of Fish and Wildlife and the County. Plans should be prepared by a qualified biologist approved by California Department of Fish and Wildlife and the Kern County Planning and Community Development Department. The following detailed measures to avoid and minimize impacts to Swainson's hawks in and near the construction areas shall be included in the plan: a. If a nest site is found, design the project to allow sufficient foraging and fledging area to maintain the nest site. 	
		 b. During the nesting season, ensure no new disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledging occur within 0.5 mile of an active nest between March 1 and September 15. Buffer zones may be adjusted in consultation with California Department of Fish and Wildlife and the Kern County Planning and Community Development Department. 	
		c. Do not remove Swainson's hawk nest trees unless avoidance measures are determined to be infeasible. Removal of such trees should occur only during the timeframe of October 1 and the last day in February.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		3. <u>4.</u> The monitoring plan shall also include measures for injured Swainson's hawks:	
		a. For hawks found injured during project-related activities on the project site, the plans shall call for immediate relocation to a raptor recovery center approved by a California Department of Fish and Wildlife regional representative.	
		b. The plan shall include a system in which the costs associated with the care or treatment of such injured Swainson's hawks will be borne by the project developer.	
		 c. The plan shall include appropriate contact information for immediate notification of California Department of Fish and Wildlife and the Kern County Planning and Community Development Department of a hawk injury incident. The plan shall have approved procedures in place to notify California Department of Fish and Wildlife and the Kern County Planning and Community Development Department outside normal business hours. Appropriate personnel shall be notified via telephone or email, followed by a written incident report. Notifications shall include the date, time, location, and circumstances of the incident in the reports. MM 4.4-10: To mitigate for potential impacts to special-status birds and 	
		birds protected under the MBTA and California Fish and Game Code during construction and decommissioning activities, the following measures shall be implemented as part of the approval for a grading or building permit.	
		 During the avian breeding season (January 15 – August 31), a qualified biologist shall conduct a preconstruction avian nesting survey no more than 5 days prior to initial vegetation clearing. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur within 5 days prior to clearing of specific areas of the site. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. At no time shall the biologist be allowed to handle the nest or its eggs. The survey shall cover all reasonably potential nesting locations on and within 500 feet of the project site—this includes ground nesting species, such as 	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		California horned lark and killdeer, all shrubs that could support nests, and suitable raptor nest sites such as nearby trees and power poles. Access shall be granted on private offsite properties prior to conducting surveys on private land. If access is not obtainable, biologist shall survey these areas from the nearest vantage point with use of spotting scopes or binoculars.	
		 If construction is scheduled to occur during the non-nesting season (September 1 to January 14), no preconstruction surveys or additional measures are required for non-listed avian species. 	
		3. If construction begins in the non-breeding season and proceeds continuously into the breeding season, no surveys are required for non-listed avian species so long as all suitable nesting sites have been cleared from the site.	
		4. If active nests are found, a 100-foot no-disturbance buffer shall be created around passerine species' nests, and a 300-foot no-disturbance buffer around non-listed raptor species' nests (or a suitable distance otherwise determined in consultation with California Department of Fish and Wildlife). If the nest(s) are found in an area where ground disturbance is scheduled to occur, the project operator shall avoid the area either by delaying ground disturbance in the area until a qualified wildlife biologist has determined that the birds have fledged or by re-locating the project component(s) to avoid the area. All no-disturbance buffers shall be delineated in the field with visible flagging or fencing material.	
		MM 4.4-11: Prior to issuance of a grading or building permit for transmission line construction, the project operator shall:	
		 Construct all power transmission lines to the 2006 Avian Power Line Interaction Committee Guidelines specifications to protect birds from electrocution and collision. Appropriate notes regarding these specifications shall be included on any grading permit, building permit or final map. 	
		2. After construction, submit written documentation to the Kern County Planning and Community Development Department verifying that all power lines are constructed to Avian Power Line Interaction Committee Guidelines. The project operator shall conform to the latest practices (as outlined in the 2006 Avian Power	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		 Line Interaction Committee Guidelines document) to protect birds from electrocution and collision. Install power collection and transmission facilities utilizing Avian Power Line Interaction Committee standards for collision reducing techniques as outlined in Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee, 2006). MM 4.4-12: No earlier than 30 days prior to the commencement of construction activities, a preconstruction survey shall be conducted by a qualified biologist to determine if active maternity roosts of bats are present. The survey shall be conducted in areas considered suitable habitat for bats, which consists of scattered trees and windrows found within and in the vicinity of the project site and gen-tie route. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur shortly before a portion of the site is disturbed. If an active maternity roost is identified in these areas, the maternity roost will not be directly disturbed, and construction activities within 300 feet of the maternity roost shall be postponed or halted until the maternity roost is vacated and juveniles have fledged, as determined by the biologist. The breeding season for native bat species in California is approximately March 1 through August 31. 	
Impact 4.4-2: The project would have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.	Potentially significant	Implement Mitigation Measures MM 4.4-2 through MM 4.4-5, MM 4.8-1 and MM 4.9-1.	Less than significant
Impact 4.4-3: The project would have a substantial adverse impact on federally	Less than significant	None required.	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.			
Impact 4.4-4: The project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than significant	None required.	Less than significant
Cumulative	<u>Potentially</u> Significant and unavoidable	 Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-12, MM 4.8-1 and MM 4.9-1. MM 4.4-13: Prior to the issuance of grading or building permits, a Raven Management Plan shall be developed for the project site in consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. This plan shall include but is not limited to: Identification of all raven nests within the project area during construction; Weekly inspection under all nests in the project area for evidence of raven predation on local wildlife (bones, carcasses, etc.), and, if evidence of predation is noted, submit a report to California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the Kern County Planning and Community Development Department within five calendar days; and 	Significant and unavoidable

Impact	Level of Significance before Mitigation	Mitigation Measures 3. Provisions for the management of trash that could attract common ravens during the construction and operation phases of the project. 4. The proposed project shall be required to participate in the regional	Level of Significance after Mitigation
		4. The proposed project shall be required to participate in the regional comprehensive raven management plan, to address biological resources; the project operator shall be subject to compensation through the payment of fees not to exceed \$150 per disturbed acre. Evidence of the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife determination and payment of any required fees shall be submitted to the Kern County Planning and Community Development Department.	
4.5 CULTURAL RESOURCES			
Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.	Potentially significant	MM 4.5-1: Prior to the issuance of grading or building permits, and for the duration of construction activities, a Construction Worker Environmental and Cultural Awareness Training Program shall be provided to all construction personnel prior to commencing work at the project site. The training shall be prepared and conducted by the qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011). The training shall be prepared and conducted by the qualified archaeologist. The training may be in the form of a video. The training may be discontinued when ground disturbance is completed or suspended, but must resume when ground-disturbing activities resume. A sticker shall be placed on hard hats indicating that the worker has completed the cultural training program. Construction area unless they have attended the training and are wearing hard hats with the required sticker. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Community Development Department.	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		regulations and related enforcement provisions; an overview of the	-
		prehistoric and historic environmental setting and context, as well as	
		current cultural information regarding local tribal groups; samples or	
		visuals of artifacts that might be found in the project area; and a	
		discussion of what prehistoric and historic archaeological deposits look	
		like at the surface and when exposed during construction. The cultural	
		training program shall include instruction that in the event cultural	
		resources are unearthed during ground-disturbing activities, the project	
		operator shall cease any ground disturbing activities within 100 feet of	
		the find until it can be evaluated by a qualified archaeologist. The	
		cultural training program shall also indicate that the qualified	
		archaeologist shall be empowered to halt or redirect ground-disturbing	
		activities away from the vicinity of the find until the qualified	
		archaeologist has evaluated the find, determined whether the find is	
		culturally sensitive, and designed an appropriate short-term and long	
		term treatment plan.	
		MM 4.5-2: In the event that cultural resources are encountered during	
		the course of grading or construction, the project operator/contractor	
		shall cease any ground disturbing activities within 50 feet of the find.	
		Cultural resources may include prehistoric archaeological materials such	
		as flaked and ground stone tools and debris, shell, bone, ceramics, and	
		fire-affected rock, as well as historic materials such as glass, metal,	
		wood, brick, or structural remnants. A qualified archaeologist shall	
		evaluate the significance of the resources and recommend appropriate	
		treatment measures. If the qualified archaeologist determines that the	
		discovery represents a potentially significant cultural resource, additional	
		investigations may be required to mitigate adverse impacts from project	
		implementation.	
		Per California Environmental Quality Act (CEQA) Guidelines	
		Section 15126.4(b)(3), project redesign and preservation in place shall be	
		the preferred means to avoid impacts to significant historical resources.	
		Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if resources	
		cannot be avoided, additional treatment measures shall be developed in	
		consultation with the County, and may include testing and evaluation or	
		data recovery excavation. The County shall consult with appropriate	
		Native American representatives in determining appropriate treatment	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		for unearthed cultural resources if the resources are prehistoric or Native American in nature. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Community Development Department and to the Southern San Joaquin Valley Information Center.	
Impact 4.5-2: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA Guidelines Section 15064.	Potentially significant	MM 4.5-3: Prior to the issuance of grading permits, a qualified paleontologist shall be retained and approved by the County to prepare a Paleontological Resources Mitigation and Monitoring Plan. The Paleontological Resources Mitigation and Monitoring Plan should contain monitoring procedures and state that any fossils that are collected should be prepared to the point of identification, identified to the lowest taxonomic level, and curated into an accredited institutional repository. The qualified paleontologist shall monitor all excavation or grading that occurs at a depth of ten feet or deeper below ground surface. The use of pile driving or rotary drilling does not require monitoring. The duration and timing of monitoring, which shall be set forth in the Paleontological Resources Mitigation and Monitoring Plan, shall be determined by the qualified paleontologist in consultation with the lead agency and based on the grading plans. Initially, all excavation or grading activities deeper than ten feet shall be monitored. However, during the course of monitoring, if the paleontologist can demonstrate that the level of monitoring should be reduced, the paleontologist, in consultation with Kern County, may adjust the level of monitoring to circumstances as warranted.	Less than significant
		If a potentially significant fossil is found, the paleontologist shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil if necessary to facilitate evaluation and, if necessary, salvage. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository. Following the completion of the above tasks, the paleontologist shall	
		prepare a report documenting the absence or discovery of fossil resources on-site. If fossils are found, the report shall summarize the results of the	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to Kern County and to the Natural History Museum of Los Angeles County.	
		MM 4.5-4: If paleontological resources are encountered during project ground disturbing activities, all excavation work in the immediate vicinity of the find shall halt until a qualified paleontologist can evaluate the find and make recommendations. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional measures such as investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. Ground-disturbance shall not resume until the resource-appropriate measures are implemented or the materials are determined to be less than significant.	
Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.	Less than <u>Potentially</u> <u>sS</u> ignificant	MM 4.5-5: If human remains are uncovered during project construction, the project proponent shall immediately halt work in the immediate vicinity of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the County coroner determines that the remains are Native American, the Native American Heritage Commission shall be notified, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.	Less than significant
Cumulative	Potentially significant	Implement Mitigation Measures MM 4.5-1 through MM 4.5-5.	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.6 GEOLOGY AND SOILS			
Impact 4.6-1: The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.	Less than significant	None required.	Less than significant
Impact 4.6-2: The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	Less than significant	None required.	Less than significant
Impact 4.6-3: The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic related ground failure, including liquefaction.	Less than significant	None required.	Less than significant
Impact 4.6-4: The project would result in substantial	Less than Potentially sSignificant	Implement Mitigation Measure MM 4.9-1 . MM 4.6-1: The project operator shall limit grading to the minimum area	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
soil erosion or the loss of topsoil.		necessary for construction and operation of the project. Final plans shall include best management practices to limit on-site and off-site erosion and a water plan to treat disturbed areas during construction and reduce dust. The plans shall be submitted to the Kern County Planning and Community Development Department.	
Impact 4.6-5: The project is located on a geologic unit or soil that is unstable, or that would become unstable as result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Less than significant	None required.	Less than significant
Impact 4.6-6: The project is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	Less than significant	None required.	Less than significant
Impact 4.6-7: The project has soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.	Less than Potentially significant	MM 4.6-2: Prior to the issuance of any building permit for the operation and maintenance facility, the project operator shall obtain all required permits and approvals from Kern County Environmental Health Services Division, and shall implement all required conditions regarding the design and siting of the septic system and leach fields.	Less than significant
Cumulative	Less than Potentially significant	Implement Mitigation Measures MM 4.6-1, MM 4.6-2, and MM 4.9-1.	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.7 GREENHOUSE GAS EMIS	SIONS		
Impact 4.7-1: The proposed project would generate greenhouse emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	None required.	Less than significant
Impact 4.7-2: The project would not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.	Less than significant	None required.	Less than significant
Cumulative	Less than significant	None required.	Less than significant
4.8 HAZARDS AND HAZARDO	OUS MATERIALS		
Impact 4.8-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than <u>Potentially</u> significant	MM 4.8-1: The project operator shall prepare a hazardous materials business plan and submit it to the Kern County Environmental Health Services Division/Hazardous Materials Section for review and approval. The hazardous materials business plan shall delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies including fires. The project operator shall provide the hazardous materials business plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times. A copy of the approved hazardous materials business plan shall be submitted to the Kern County Planning and Community Development Department.	Less than significant
Impact 4.8-2: The project would create a significant hazard to the public or the	Potentially significant	MM 4.8-2: The contractor or project personnel shall only use herbicides that are approved by the California Department of Fish and Game and U.S Fish and Wildlife Service. Personnel applying herbicides shall have	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.		all appropriate state and local herbicide applicator licenses and comply with all state and local regulations regarding herbicide use. Herbicides shall be mixed and applied in conformance with the manufacturer's directions. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife; products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated. MM 4.8-3: In the event that suspect asbestos-containing materials are uncovered during project construction, work at the project site shall immediately halt and a qualified asbestos assessment professional shall be contacted and brought to the project site to make a proper assessment of the suspect materials. All potentially friable asbestos-containing materials shall be removed in accordance with federal, state, and local laws and the National Emissions Standards for Hazardous Air Pollutants guidelines prior to ground disturbance that may disturb such materials. All demolition activities shall be undertaken in accordance with California Occupational Safety and Health Administration standards, as contained in Title 8 of the California Code of Regulations, Section 1529, to protect workers from exposure to asbestos. Materials containing more than one percent asbestos shall also be subject to South Coast Air Quality Management District regulations. Demolition shall be performed in conformance with federal, state, a	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		with all applicable California and federal laws. Soil excavation and removal depths shall be consistent with those provided in the Phase II Report.	
Cumulative	Potentially significant	Implement Mitigation Measures MM 4.8-1 through MM 4.8-34.	Less than significant
4.9 HYDROLOGY AND WATE	ER QUALITY		
Impact 4.9-1: The project would substantially alter the existing drainage patterns of the project site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion on or off site.	Less than Potentially significant	 MM 4.9-1: Prior to issuance of a grading permit, the project operator shall submit a Stormwater Pollution Prevention Plan to the Kern County Planning and Community Development Department that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving offsite and into receiving waters. The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase shall include the following: a. Erosion Control i. Scheduling of construction activities to avoid major rain events ii. Limiting vegetation removal to the maximum extent practicable b. Sediment Control i. Secure stockpiling of soil ii. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas c. Non-stormwater control i. Proper fueling and maintenance of equipment and vehicles ii. Properly managing construction materials, designating construction staging areas in or around the project site. 	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact	Mitigation	 Mitigation Measures Stockpiling and disposing of demolition debris, concrete, and soil properly Aggressive control of litter Proper disposal of demolition debris, concrete and soil Proper protections for fueling and maintenance of equipment and vehicles Post- Construction stabilization Ensuring the stabilization of all disturbed soils per revegetation or application of a soil binder MM 4.9-2: Prior to issuance of a grading permit, the project operator shall prepare a drainage plan that is designed to minimize runoff and will include engineering recommendations to minimize the potential for impeding or redirecting 100-year flood flows. The final design of the solar arrays shall include one-foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar panel sites shall be graded to direct potential flow waters into channels adjacent to the existing and proposed right of ways without increasing the water surface elevations more than one foot or as required by Kern County's Floodplain Ordinance. The drainage plan shall be prepared in accordance with the Kern County Grading Code and approved by the Kern County Engineering, Surveying and Permit Services Department, Floodplain Management Section prior to the issuance of grading permits. MM 4.9-3: The project would comply with the recommendations of the Water Quality Assessment that include the incorporation of structural post-construction BMPs on-site. These BMPs include: Using a portion of the site as a retention basin; Constructing a dedicated infiltration/retention basin; Constructing a dedicated infiltration is technically infeasible) 	Mitigation
		These structures would accommodate for runoff generated on-site up to the 85^{th} percentile storm event.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
Impact 4.9-2: The project would substantially alter the existing drainage patterns of the project site or area, including though the alteration of the course of a stream or river, or substantially increase the rate or amount of runoff in a manner than would result in substantial flooding on- or off-site.	Less than <u>Potentially</u> significant	Implement Mitigation Measures MM 4.9-1, MM 4.9-2 and MM 4.9-3	Less than significant
Impact 4.9-3: The proposed project would place within a 100-year flood hazard area structures that could impede or redirect flood flows.	Less than Potentially significant	Implement Mitigation Measure MM 4.9-3.	Less than significant
Cumulative	Less than Potentially significant	Implement Mitigation Measures MM 4.8-1, and MM 4.9-1 through MM 4.9-3.	Less than significant
4.10 LAND USE AND PLANNI	NG		
Impact : The project would conflict with a applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an	Less than significant	None required.	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
environmental effect.			
Cumulative	Potentially significant	 MM 4.10-1: Prior to issuance of any building permit, the project operator shall provide the Kern County Planning and Community Development Department with a Decommission Plan for review and approval. The plan would be carried out by the proposed operator or a County-contracted consulting firm(s) at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby resulting in the County hiring an independent contractor to perform the decommission work. In addition to submittal of a Decommission Plan, the project operator shall post or establish and maintain with the County financial assurances related to the deconstruction of the site as identified on the approved Decommission Plan should at any point in time the project operator determine it is not in their best interest to operate the facility. The financial assurance required prior to issuance of any building permit shall be established using one of the following: A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Community Development Department. The financial institution or Surety Company shall give the County at least 120 days notice of intent to terminate	Less than significant
		Financial assurances shall be reviewed annually by the respective counties or County-contracted consulting firm(s) at a cost to be borne by	
		the project operator to substantiate that adequate funds exist to ensure	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance. Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted will be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.	
		Should any portion of the solar field not be in operational condition for a consecutive period of twenty-four (24) months that portion of the site shall be deemed abandoned and shall be removed within sixty (60) days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this sixty (60) day period, the property owner, solar field owner, or project operator may provide the County a written request and justification for an extension for an additional twelve (12) months. The Kern County Planning and Community Development Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field which has been deemed abandoned be permitted to remain in place for more than forty eight (48) months from the date the solar facility was first deemed abandoned.	
		MM 4.10-2: Prior to the operation of the solar facility, the project operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.	

Impact 4.11-1: The project	Less than significant	None required.	Less than significant
would result in the loss of			
availability of a known			
mineral resource that			
would be of value to the			
region and the residents of			
the state.			

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
Impact 4.11-2: The project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	Less than significant	None required.	Less than significant
Cumulative	Less than significant	None required.	Less than significant
4.12 NOISE			
Impact 4.12-1: The project would expose persons to or generate noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies.	Less than Potentially significant	 MM 4.12-1: The following shall be implemented for the duration of project construction: a) The construction contractor shall locate equipment staging in areas that create the greatest possible distance between construction-related noise sources and any nearby noise-sensitive receptors to the project site during all project construction to the extent practical. b) The construction contractor shall ensure proper maintenance and working order of equipment and vehicles. c) The construction contractor shall ensure that all construction equipment is equipped with manufacturer-approved mufflers and baffles. Upon notice of a complaint that a nearby residence is impacted by project construction noise, the project operator shall implement one or more of the following noise control measures to the extent practical. a) Place stationary noise generating construction equipment so that emitted noise is directed away from the sensitive receptor(s). b) The construction hours shall comply with the Kern County Noise Ordinance. 	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		 with the following during construction: A "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures to resolve the complaint. MM 4.12-3: Prior to the issuance of grading permits, the project operator shall submit evidence of the following: Construction contracts shall specify that notices shall be sent out to all residences located within a 1,000 feet from the project site at least 15 days prior to commencements of construction. The notices shall include the construction schedule and a telephone number where complaints can be registered with the noise disturbance coordinator. A sign, legible at a distance of 50 feet, shall also 	
		be posted at the construction sites throughout construction which includes the same details as the notices.	
Impact 4.12-2: The proposed project would expose persons to or generate excessive ground- borne vibration or ground- borne noise levels.	Less than significant	None required.	Less than significant
Impact 4.12-3: The proposed project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Potentially significant	Implementation of Mitigation Measures MM 4.12-1 through MM 4.12-3.	Significant and Unavoidable

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.12-4: The project would create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	Potentially significant	Implement Mitigation Measures MM 4.12-1 through MM 4.12-3.	Significant and Unavoidable
Cumulative	Less than Potentially significant	Implement Mitigation Measures MM 4.12-1 through MM 4.12-3.	Significant and Unavoidable
4.13 PUBLIC SERVICES			
Impact 4.13-1: The project would result in adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services or police protection and law enforcement services.	Less than <u>Potentially</u> significant	 MM 4.13-1: In order to reduce impacts to public services including police and fire protection, the following shall be implemented: a) The project proponent shall pay for impacts to countywide public protection, sheriff patrol and investigation, and fire services at a rate of \$28.84 (or the most current rate established by Kern County) per 1,000 square feet of panel-covered ground. The total amount will be divided by the number of years of operation and paid on a yearly basis. The annual amount will be based on the square footage of ground covered by April 30 of each year, if completed in phases. The amount will be paid for each and all years of operation. The fee will be paid to the Kern County Auditor/Controller by April 30 of each calendar year. b) Written verification of ownership of the project shall be submitted to the Kern County Planning and Community Development Department by April 15 of each calendar year. If the project is sold to a city, county, or utility company that pays assessed taxes that equal less than \$1,000 per megawatt per year on equipment that would otherwise be subject to assessment, than they will pay those taxes plus an amount necessary to equal the equivalent of \$1,000 per megawatt. The amount shall be paid for all years of operation. The fee shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year. 	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		 the receipt of sales and use taxes related to the construction of the project will be maximized. This process shall include, but is not necessarily limited to, the project proponent: obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, registering this address for acquisition, purchasing and billing purposes associated with the proposed project. As an alternative to the aforementioned process, the project operator may make arrangements with Kern County for a guaranteed single payment that is equivalent to the amount of sales and use taxes that would have otherwise been received (less any sales and use taxes actually paid); with the amount of the single payment to be determined via a formula approved by Kern County. The project operator shall encourage all contractors of the project to hire at least 50 percent of their workers from the local Kern County communities. The applicant shall provide the contractors a list of training programs that provide skilled wind and solar workers and shall require the contractor to advertise locally for available jobs, notify the training programs of job availability, all in conjunction with normal hiring practices of the contractor. The applicant shall submit a letter detailing the hiring efforts prior to commencement of construction. 	
		MM 4.13-2: The project operator shall develop and implement a fire safety plan for use during construction and operation. The project proponent will submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval prior to the issuance of any building permit or grading permits. The fire safety plan will contain notification procedures and emergency fire precautions including, but not limited to, the following:	
		a) All internal combustion engines, stationary and mobile, will be equipped with spark arresters. Spark arresters will be in good working order.b) Light trucks and cars with factory-installed (type) mufflers will be used only on roads where the roadway is cleared of vegetation.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
		 These vehicle types will maintain their factory-installed (type) muffler in good condition. c) Fire rules will be posted on the project bulletin board at the contractor's field office and areas visible to employees. d) Equipment parking areas and small stationary engine sites will be cleared of all extraneous flammable materials. e) Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats; and f) The project proponent shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel. 	
Cumulative	Less than Potentially significant	Implementation of Mitigation Measures MM 4.13-1 and MM 4.13-2.	Less than significant
4.14 TRANSPORTATION AND	TRAFFIC		
Impact 4.14-1: The proposed project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system.	Less than <u>Potentially</u> significant	 MM 4.14-1: The project proponent shall prepare and submit a Construction Traffic Control Plan to Kern County Roads Department and the California Department of Transportation District 9 office for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues: a) Timing of deliveries of heavy equipment and building materials; b) Directing construction traffic with a flag person; c) Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic; d) Ensuring access for emergency vehicles to the project site; 	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		 e) Temporary closure of travel lanes or disruptions to street segments and intersections during materials delivery, transmission line stringing activities, or any other utility connections; 	
		 f) Maintaining access to adjacent property; g) Specification of both construction-related vehicle travel and oversize load haul routes, the minimization of construction traffic during the a.m. and p.m. peak hour, distributing construction traffic flow across alternative routes to access the proposed project site, and avoiding residential neighborhoods to the maximum extent feasible; and 	
		h) Identification of vehicle safety procedures for entering and exiting site access roads.	
		 i) Enter into a secure agreement with the Kern County Roads Department to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State or Kern County; 	
		Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Community Development Department and the Kern County Roads Department.	
		 j) Obtain all necessary Encroachment Permits for any proposed work within the County road right of way. These permits may be obtained from the Roads Department Permits Engineer. 	
		 k) Obtain all necessary Transportation Permits for any oversized or overweight (heavy) loads that will utilize County maintained roads, which may require California Highway Patrol escort. These permits may be obtained from the Roads Department Permits Engineer. 	
		 Submit documentation that identifies the roads to be used during construction. The project operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County 	
		Roads Department and Planning and Community Development Department.	

Impact	Level of Significance before Mitigation	Mitigation Measures m) <u>Subsequent to completion of construction, submit a post-</u> <u>construction video log and inspection report to the County. This</u> <u>information shall be submitted in DVD format. The County, in</u> <u>consultation with the project operator's engineer, shall determine</u> <u>the extent of remediation required, if any.</u>	Level of Significance after Mitigation
Impact 4.14-2: The proposed project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards developed by the county congestion management agency.	Less than Potentially significant	Implement Mitigation Measure MM 4.14-1.	Less than significant
Cumulative	Less than Potentially significant	Implement Mitigation Measures MM 4.14-1.	Less than significant
4.15 UTILITIES AND SERVICE	E SYSTEMS		
Impact 4.15-1: The proposed project would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	Less than significant	None required.	Less than significant
Impact 4.15-2: The project could require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental	Less than <u>Potentially</u> significant	Implement Mitigation Measure MM 4.9-1.	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance afte Mitigation
effects. Impact 4.15-3: The project would not have sufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements are needed.	Less than significant	None required.	Less than significant
Impact 4.15-4: The project could be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.	Potentially significant	MM 4.15-1: During construction, operation, and decommissioning, any debris and waste generated shall be recycled to the extent feasible. An on-site recycling coordinator shall be designated by the project operator to facilitate recycling of all construction waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The on-site recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to state and County regulations that are in effect at the time of disposal. The name and phone number of the coordinator shall be provided to the Kern County Waste Management Department prior to issuance of building permits.	Less than significant
Impact 4.15-5: The project would comply with federal, state, and local statutes and regulations related to solid waste.	Less than significant	None required.	Less than significant
Cumulative	Potentially significant	Implement Mitigation Measures MM 4.9-1 and MM 4.15-1	Less than significant

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- An amendment to the Willow Springs Specific Plan to change the site land use from 5.3/4.4/2.8 (Maximum 10 Dwelling Units per net acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), 5.3/4.4/2.85 (Maximum 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations 60 decibels), 5.5/4.4/2.8 (Maximum 1 Dwelling Unit per acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), and 6.2/4.4 (General Commercial/Comprehensive Planning Area) to 5.3/2.8 (maximum 10 dwelling units per net acre/ Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Units per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Units per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Units per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Units per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Units per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Unit per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Unit per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Unit per acre/Military Flight Operations 65 decibels), and 6.2 (General Commercial);
- A zoning amendment to change the zoning for the parcels currently zoned as C-2 PD FPS (General Commercial/Precise Development Combining/Floodplain Secondary Combining), <u>A FPS* (Exclusive Agriculture/Floodplain Secondary Combining [R-1 PD FPS in suspense]</u>), E(1) RS FPS<u>*</u> (Estate 5 <u>1</u> Acre/Residential Suburban Combining/Floodplain Secondary Combining <u>[R-1 PD FPS in suspense]</u>), E(2 1/2) RS FPS<u>*</u> (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining <u>[R-1 PD FPS in suspense]</u>), E(2 1/2) RS FPS<u>*</u> (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining <u>[R-1 PD FPS in suspense]</u>), and <u>SP</u> (Special Planning) (SP) to all be zoned as A FPS (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- Approval of a Conditional Use Permit (CUP) to allow for the construction and operation of an approximately 150 MW solar electrical generating facility (approximately 2,300,000 solar modules) on 1,402 acres in the A FPS zone (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- LADWP approval and construction of its interconnection facilities, if applicable.

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As shown in Figure 3-5, the project site has Kern County General Plan Map Code designations of 3.3 (Other Facilities), <u>3.3/2.8</u> (Other Facilities/ Military Flight Operations, <u>65 decibels</u>), <u>3.3/2.85</u> (Other Facilities/ Military Flight Operations 60 decibels), <u>5.3/4.4/2.8</u> (Max. 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), <u>5.3/4.4/2.85</u> (Max. 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations, <u>60 decibels</u>), <u>5.5/4.4/2.8</u> (Max. 1 Dwelling Unit/Comprehensive Planning Area/Military Flight Operations, <u>65 decibels</u>), <u>5.5/4.4/2.8</u> (Max. 1 Dwelling Unit/Comprehensive Planning Area/Military Flight Operations, <u>65 decibels</u>), <u>5.5/4.4/2.8</u> (Min. 2.5 Gross Acres Per Unit), <u>6.2/2.8</u> (General Commercial), <u>6.2/4.4</u> (General Commercial/Comprehensive Planning Area), <u>8.1/2.85</u> (Intensive Agriculture Min. 20 Acre Parcel Size/ Military Flight Operations 60 decibels, and <u>8.5/2.85</u> (Resource Management Min. 20 Acre Parcel Size).

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An amendment to the Willow Springs Specific Plan to change the site land use from 5.3/4.4/2.8 (Maximum 10 Dwelling Units per net acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), 5.3/4.4/2.85 (Maximum 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations 60 decibels), 5.5/4.4/2.8 (Maximum 1 Dwelling Unit per acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), and 6.2/4.4 (General Commercial/Comprehensive Planning Area) to 5.3/2.8 (Maximum 10 dwelling units per net acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling units per net acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling units per net acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 dwelling Units per acre/Military Flight

Flight Operations 60 decibels), 5.5/2.8 (Maximum 1 Dwelling Unit per acre/Military Flight Operations 65 decibels) and 6.2 (General Commercial);

- A zoning amendment to change the zoning for the parcels currently zoned as C-2 PD FPS (General Commercial/Precise Development Combining/Floodplain Secondary Combining), <u>A FPS*</u> (Exclusive Agriculture/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(1) RS FPS* (Estate 5 <u>1</u> Acre/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(2 1/2) RS FPS* (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(2 1/2) RS FPS* (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), and SP (Special Planning) (SP) to all be zoned as A FPS (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- Approval of a Conditional Use Permit (CUP) to allow for the construction and operation of an approximately 150 MW solar electrical generating facility (approximately 2,300,000 solar modules) on 1,402 acres in the A FPS zone (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- LADWP approval and construction of its interconnection facilities, if applicable.

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Mitigation Measure MM 4.1-3:

(a): Drought-tolerant plants, species to be determined through consultation with landscape experts with local knowledge and approved by the Kern County Planning and Community Development Department, shall be planted along the fence line at 50<u>0</u>-foot intervals

b) Prior to the commencement of operations, the project operator must submit a landscape re vegetation and restoration plan for the project site. Ground cover shall include a native seed mix shall be spread under the solar panels as needed to establish the seeds. The seed mix shall be determined through consultation with local experts and shall be approved by the Kern County Planning and Community Development Director prior to planting. The plan must include the approved native seed mix, a timeline for seeding the site, percentage of the site to be covered, details regarding the consultation efforts completed, the methods and schedule for installation of fencing that complies with wildlife agency regulations, and prohibition of the use of rodenticides. Ground cover shall be continuously maintained on the project site by the project operator. Re vegetation and restoration of the site shall be monitored annually for a three year period and an annual evaluation report shall be submitted to the Kern County Planning and Community Development Director for the three year period. The three year monitoring program is intended to ensure the site naturally achieves native plant diversity, consistent with site conditions prior to implementation of the project.

Page 4.3-32

Mitigation Measure 4.3-1:

MM 4.3-1: The project operator shall develop a Fugitive Dust Control Plan in compliance with Eastern Kern Air Pollution Control District Rule 402 to reduce PM10 and PM2.5 emissions <u>prior to during</u> construction and decommissioning. The Plan shall be submitted for review and approval to the Kern County Planning and Community Development Department prior to the issuance of any grading permit for the proposed project:

Page 4.3-39

Based on a list of cumulative projects in the vicinity of the project site, related projects located within six miles of the project site include the Antelope Valley Solar Project (#1), <u>Champagne Road Solar (#3)</u>, the RE Astoria Solar Project (#8), Kingbird Solar (#4), <u>RE Rosamond One (#15)</u>, <u>RE Rosamond Two (#16)</u>, <u>Rosamond Solar (by First Solar) (#17)</u>, Rosamond Solar Project (by SGS Antelope Valley) (#18), the Fremont Springbok 2 (by 68 SU 8ME, LLC) (#21), Garland Solar Project (#22), Terra Five, LLC (#41), Largent Group (#33), <u>Larry Barton (#28)</u>, and Royal Investor's Group (#39)-Catalina Renewable Energy Project (#31), and 2PdV Wind Energy Project (#36). While Kern County's list of cumulative projects within a six mile radius of the project site also included the Pacific Wind Energy Project (#36), this project is already operational at the time of this writing; and therefore, is considered as part of the baseline analysis. Los Angeles County projects within six miles include North Lancaster Ranch (#60), Alpine Solar (#56), AV Solar Ranch One (#63), and <u>Antelope Valley Solar (#66). and Antelope Valley Solar (#62)</u>.

Page 4.4-41

Mitigation Measure 4.4-1 (3)

3. A replacement ratio and success standard of 1:1 for every plant (or population) that would be impacted.

4. A five-year monitoring program to ensure success in accordance with the performance standards outlined below

5. Survivorship Percentage Performance Standards

a. All plantings shall have a Because the plant lives above-ground during only a portion of its lifecycle, a minimum of 80-90 percent survival <u>during one or more of the each year through the five-year monitoring periods shall be considered success for this species</u>.

b. The site shall attain 75 percent plant cover after 3 years and 90 percent cover after five years.

c. Replacement plants shall be monitored with the same survival and growth

requirements for five years after planting.

6. Funding sources

7. Adaptive management strategies

Mitigation Measure 4.4-3

MM 4.4-3: Prior to the issuance of grading or building permits, and for the duration of construction activities, the applicant shall demonstrate it has in place a Construction Worker Environmental Awareness Training and Education Program for all new construction workers at the project site, laydown area and/or transmission routes. All construction workers shall attend the Program prior to participating in construction activities. The Program will be developed and presented by the project Lead Biologist- or designee approved by the Lead Biologist.

Page 4.4-44

Mitigation Measure MM 4.4-6(g)

- g) If an active kit fox den is discovered with the potential to be occupied by a desert kit fox, the den openings shall be avoided by at least <u>100 feet 1,000 feet during the breeding season</u> (December to February) and 500 feet during the non-breeding season (March to November).
- h) A biologist shall remain on-call throughout construction in the even a desert kit fox wanders onto the site.
- i) Perimeter fencing shall be made wildlife friendly by raising the bottom up 5-7 inches from the ground to allow movement of kit foxes.

<u>If active dens are found on site</u> Dduring construction daily monitoring reports shall be prepared by the monitoring biologists. The Lead Biologist shall prepare a summary monitoring report documenting the effectiveness and practicality of the protection measures that are in place and making recommendations for modifying the measures to enhance species protection, as needed. The report shall also provide information on the overall biological-resources-related activities conducted, including the worker awareness training, clearance/pre-activity surveys, monitoring activities, and any observed special-status species, including injuries and fatalities. These monitoring reports shall be submitted to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife and Kern County Planning and Community Development Department on a monthly basis along with copies of all survey reports.

Page 4.4-46

Mitigation Measure MM 4.4-8

A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas, plus a 150 meter (approximately 492 foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to construction.

Page 4.4-48

Mitigation Measure 4.4-8 (6)

6. Should burrowing owls be found on site, c<u>C</u>ompensatory mitigation land for lost breeding and/or wintering habitat shall be implemented on-site or off-site in accordance with Burrowing Owl Staff Report guidance and in consultation with California Department of Fish and Wildlife. At a minimum, the following recommendations shall be implemented:

a. <u>If passive relocation is required, the project operator shall conserve foraging habitat</u> suitable for burrowing owl at a ratio of at least 10 acres of foraging habitat per passively relocated burrowing owl pair. Land identified to mitigate for passive relocation of burrowing owl may be combined with other off-site mitigation requirements of the project if the compensatory habitat is deemed suitable to support the species. If the project is located within the service area of a burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits in lieu of providing offsite habitat.

- <u>ab.</u> Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including decompacting soil and revegetating. If restoration is not feasible, then the applicant shall implement b below.
- bc. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat will be mitigated such that the habitat acreage, number of burrows and burrowing owls impacted are replaced based on a site specific analysis and The habitat to be protected shall include:
 - i. Permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. Conservation shall occur in areas that support burrowing owl habitat and can be enhanced to support more burrowing owls.
 - d.ii. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits.
- d. Develop and implement a mitigation land management plan in accordance with Burrowing Owl Staff Report guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.
- e. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.
- f. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.
- g. Mitigation lands should be on, adjacent to, or in proximity to the impact site, where feasible, and where habitat is sufficient to support burrowing owls.
- h. Consult with California Department of Fish and Wildlife when determining off-site mitigation acreages.

Page 4.5-17

Fifteen <u>Eleven</u> new cultural resources (RBF-7 through RBF-17, CA-KER-8173H, CA-KER-8175H, CA-KER-8176H, and PM-H-002) were recorded during the pedestrian archaeological survey for the solar array and gen-tie components of the proposed project (Hudlow 2011).

Page 4.8-20

As described in Chapter 3, Project Description, multiple projects, including 22 utility-scale solar energy production facilities in Kern County and <u>17</u>44 in Los Angeles County.

Page 4.9-1

The project site is located in the northwestern portion of the Mojave Desert on the northern end of the Antelope Hydrologic Unit or Watershed (DOC, 2007). The Antelope Hydrologic Unit drains the eastern slopes of the Tehachapi Mountains. The Antelope Hydrologic Unit is part of the Lahontan Region of the Regional Water Quality Control Board (RWQCB). In Antelope Valley, water flows east towards Rosamond Lake (USEPA, 2012). The project is located in the Willow Springs-Lancaster Hydrologic Area or sub-watershed (RBF, 2011).

Page 4.9-15

MM 4.9-1: Prior to issuance of a grading permit, the project operator shall submit a Stormwater Pollution Prevention Plan to the Kern County Planning and Community Development Department that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving offsite and into receiving waters. The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase shall include the following:

- a. Erosion Control
 - i. Scheduling of construction activities to avoid major rain events
 - ii. Limiting vegetation removal to the maximum extent practicable
- b. Sediment Control
 - i. Secure stockpiling of soil
 - ii. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas
- c. Non-stormwater control
 - i. Proper fueling and maintenance of equipment and vehicles
 - ii. Proper concrete handling techniques
- d. Waste and material management
 - i. Properly managing construction materials, designating construction staging areas in or around the project site in upland areas outside of any stream channels or minor surface waters on or around the project site.
 - ii. Stockpiling and disposing of demolition debris, concrete, and soil properly
 - iii. Aggressive control of litter
 - iv. Proper disposal of demolition debris, concrete and soil
 - v. Proper protections for fueling and maintenance of equipment and vehicles

- e. Post- Construction stabilization
 - i. Ensuring the stabilization of all disturbed soils per revegetation or application of a soil binder

Page 4.10-1

- An amendment to the Willow Springs Specific Plan to change the site land use from 5.3/4.4/2.8 (Maximum 10 Dwelling Units per net acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), 5.3/4.4/2.85 (Maximum 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations 60 decibels), 5.5/4.4/2.8 (Maximum 1 Dwelling Unit per acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), and 6.2/4.4 (General Commercial/Comprehensive Planning Area) to 5.3/2.8 (Maximum 10 dwelling units per net acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 1 Dwelling Unit per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 1 Dwelling Unit per acre/Military Flight Operations 65 decibels) and 6.2 (General Commercial);
- A zoning amendment to change the zoning for the parcels currently zoned as C-2 PD FPS (General Commercial/Precise Development Combining/Floodplain Secondary Combining), <u>A FPS*</u> (Exclusive Agriculture/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(1) RS FPS* (Estate 5 1 Acre/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(2 1/2) RS FPS* (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(2 1/2) RS FPS* (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), and SP (Special Planning) (SP) to all be zoned as A FPS (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- Approval of a Conditional Use Permit (CUP) to allow for the construction and operation of an approximately 150 MW solar electrical generating facility (approximately 2,300,000 solar modules) on 1,402 acres in the A FPS zone (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- LADWP approval and construction of its interconnection facilities, if applicable.

As shown in Figure 3-5, the project site has the following Willow Springs Specific Plan land use designations: 3.3 (Other Facilities), 3.3/2.8 (Other Facilities/ Military Flight Operations, 65 decibels), 3.3/2.85 (Other Facilities/ Military Flight Operations 60 decibels), 5.3/4.4/2.8 (Max. 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), 5.3/4.4/2.85 (Max. 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations, 60 decibels), 5.5/4.4/2.8 (Max. 1 Dwelling Unit/Comprehensive Planning Area/Military Flight Operations, 60 decibels), 5.5/4.4/2.8 (Max. 1 Dwelling Unit/Comprehensive Planning Area/Military Flight Operations, 65 decibels), 5.6 (Min. 2.5 Gross Acres Per Unit), 6.2/2.8 (General Commercial), 6.2/4.4 (General Commercial/Comprehensive Planning Area), 8.1/2.85 (Intensive Agriculture Min. 20 Acre Parcel Size/ Military Flight Operations 60 decibels, and 8.5/2.85 (Resource Management Min. 20 Acre Parcel Size).

Page 4.10-2

Direction from Project Site	Existing Land Use	Existing Land Use Designations	Existing Zoning Classifications
Project Site	Undeveloped/	3.3 (Other Facilities), 3.3/2.8 (Other	A FPS (Exclusive Agriculture, Floodplain
	Abandoned	Facilities/ Military Flight Operations,	Secondary Combining), E (1) RS FPS, E (2
	and recently	<u>65 decibels</u>), 3.3/2.85 (Other	1/2) RS FPS (Estate Residential 2.5 Acre
	fallowed	Facilities/ Military Flight Operations	min. Residential Suburban Combining,
	agricultural	60 decibels), 5.3/4.4/2.8 (Max. 10	Floodplain Secondary Combining), C-2 PD
		Dwelling Units per	FPS, SP(Specific Plan)
		acre/Comprehensive Planning	
		Area/Military Flight Operations 65	
		decibels), 5.3/4.4/2.85 (Max. 10	
		Dwelling Units per	
		acre/Comprehensive Planning	
		Area/Military Flight Operations, 60	
		decibels), 5.5/4.4/2.8 (Max. 1	
		Dwelling Unit/Comprehensive	
		Planning Area/Military Flight	
		Operations, 65 decibels), 5.6 (Min.	
		2.5 Gross Acres Per Unit), 6.2/2.8	
		(General Commercial), 6.2/4.4	
		(General Commercial/Comprehensive	
		Planning Area), 8.1/2.85 (Intensive	
		Agriculture Min. 20 Acre Parcel Size/	
		Military Flight Operations 60	
		decibels, and 8.5/2.85 (Resource	
		Management Min. 20 Acre Parcel	
		Size)	

Table 4.10-1: Proposed Project Site and Surrounding Land Uses

Page 4.10-16

- An amendment to the Willow Springs Specific Plan to change the site land use from 5.3/4.4/2.8 (Maximum 10 Dwelling Units per net acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), 5.3/4.4/2.85 (Maximum 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations 60 decibels), 5.5/4.4/2.8 (Maximum 1 Dwelling Unit per acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), and 6.2/4.4 (General Commercial/Comprehensive Planning Area) to 5.3/2.8 (Maximum 10 dwelling units per net acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Units per acre/Military Flight Operations 65 decibels), 5.5/2.8 (Maximum 1 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 1 Dwelling Units per acre/Military Flight Operations 65 decibels), and 6.2 (General Commercial);
- A zoning amendment to change the zoning for the parcels currently zoned as C-2 PD FPS (General Commercial/Precise Development Combining/Floodplain Secondary Combining), <u>A FPS*</u> (Exclusive Agriculture/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(1) RS FPS* (Estate 5 1 Acre/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(2 1/2) RS FPS* (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(2 1/2) RS FPS* (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), and SP (Special Planning) (SP) to all be zoned as A FPS (Exclusive Agriculture/Secondary Floodplain Secondary Combining);

- Approval of a Conditional Use Permit (CUP) to allow for the construction and operation of an approximately 150 MW solar electrical generating facility (approximately 2,300,000 solar modules) on 1,402 acres in the A FPS zone (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- LADWP approval and construction of its interconnection facilities, if applicable.

As described above, the project area is largely zoned SP (Special Planning District) and <u>A FPS (Exclusive Agriculture, Floodplain Secondary Combining)</u> C-2 PS FPS (General Commercial/Precise Development Combining/Floodplain Secondary Combining), except for the northeastern portion of the project area that is zoned for a variety of rural residential and general commercial uses.

Page 4.10-17

- An amendment to the Willow Springs Specific Plan to change the site land use from 5.3/4.4/2.8 (Maximum 10 Dwelling Units per net acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), 5.3/4.4/2.85 (Maximum 10 Dwelling Units per acre/Comprehensive Planning Area/Military Flight Operations 60 decibels), 5.5/4.4/2.8 (Maximum 1 Dwelling Unit per acre/Comprehensive Planning Area/Military Flight Operations 65 decibels), and 6.2/4.4 (General Commercial/Comprehensive Planning Area) to 5.3/2.8 (Maximum 10 dwelling units per net acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.3/2.85 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Units per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Unit per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Unit per acre/Military Flight Operations 60 decibels), 5.5/2.8 (Maximum 10 Dwelling Unit per acre/Military Flight Operations 65 decibels) and 6.2 (General Commercial);
- A zoning amendment to change the zoning for the parcels currently zoned as C-2 PD FPS (General Commercial/Precise Development Combining/Floodplain Secondary Combining), <u>A FPS*</u> (Exclusive Agriculture/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(1) RS FPS* (Estate 5 1 Acre/Residential Suburban Combining/Floodplain Secondary Combining [R-1 PD FPS in suspense]), E(2 1/2) RS FPS* (Estate 2 1/2 Acres Acres/Residential Suburban Combining/Floodplain Secondary Combining (SP) to all be zoned as A FPS (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- Approval of a Conditional Use Permit (CUP) to allow for the construction and operation of an approximately 150 MW solar electrical generating facility (approximately 2,300,000 solar modules) on 1,402 acres in the A FPS zone (Exclusive Agriculture/Secondary Floodplain Secondary Combining);
- LADWP approval and construction of its interconnection facilities, if applicable.

Page 4.10-18

As described in Chapter 3, Project Description, multiple projects, including 22 utility-scale solar energy production facilities in Kern County and <u>17</u>44 in Los Angeles County.

Page 4.10-26

All ten The sites would comply with the ALUCP policies related to public airports and military bases.

Page 4.11-8

As described in Chapter 3, Project Description, multiple projects, including 22 utility-scale solar energy production facilities in Kern County and <u>17</u>44 in Los Angeles County.

As shown in Table 3-4, Cumulative Projects List, there are 22 solar energy projects in the western Antelope Valley portion of Kern County and approximately <u>17</u> 44 such projects in Los Angeles County. Based on a list of cumulative projects in the vicinity of the project site provided by Kern County staff, related projects located within six miles of the project site include the Antelope Valley Solar Project (#1), <u>Champagne Road Solar (#3)</u>, the RE Astoria Solar Project (#8), RE Rosamond One (#15), RE Rosamond Two (#16), Kingbird Solar (#4), the Rosamond Solar Project (by SGS Antelope Valley) (#18), the Rosamond Solar Array (#17), the Fremont Springbok 2 (by 68 SU 8ME, LLC.) (#21), Garland Solar Project (#22), Terra Five, LLC (#41), Largent Group (#33), <u>Larry Barton (#28), and Royal Investor's</u> <u>Group (#39)</u>. While Kern County's list of cumulative projects within a six-mile radius of the project site also included the Pacific Wind Energy Project (#36), this project is already operational at the time of this writing; and therefore, is considered as part of the baseline analysis. Los Angeles County projects within six miles include North Lancaster Ranch (#60), Antelope Valley Solar Ranch One (#<u>63</u>21), <u>Antelope</u> <u>Valley Solar (#66), and Antelope Valley Solar (#62)</u>. Additionally, other related projects in the surrounding areas have been included that were: (1) submitted for plan processing; (2) approved by the County of Kern; and/or (3) engaged in active construction programs.

Page 4.12-20

"... and approximately $\frac{38}{51}$ deliveries occurring throughout the workday..."

Page 4.14-11

MM 4.14-1: The project proponent shall prepare and submit a Construction Traffic Control Plan to Kern County Roads Department and the California Department of Transportation District 9 office for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

- a) Timing of deliveries of heavy equipment and building materials;
- b) Directing construction traffic with a flag person;
- c) Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
- d) Ensuring access for emergency vehicles to the project site;
- e) Temporary closure of travel lanes or disruptions to street segments and intersections during materials delivery, transmission line stringing activities, or any other utility connections;
- f) Maintaining access to adjacent property;
- g) Specification of both construction-related vehicle travel and oversize load haul routes, the minimization of construction traffic during the a.m. and p.m. peak hour, distributing construction traffic flow across alternative routes to access the proposed project site, and avoiding residential neighborhoods to the maximum extent feasible; and

- h) Identification of vehicle safety procedures for entering and exiting site access roads.
- i) Enter into a secured agreement with the Kern County Roads Department to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and or Kern County.

Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Community Development Department and the Kern County Roads Department.

- j) <u>Obtain all necessary Encroachment Permits for any proposed work within the County road right</u> of way. These permits may be obtained from the Roads Department Permits Engineer.
- k) Obtain all necessary Transportation Permits for any oversized or overweight (heavy) loads that will utilize County maintained roads, which may require California Highway Patrol escort. These permits may be obtained from the Roads Department Permits Engineer.
- Submit documentation that identifies the roads to be used during construction. The project operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Roads Department and the Planning and Community Development Department.
- m) <u>Subsequent to completion of construction, submit a post-construction video log and inspection</u> report to the County. This information shall be submitted in DVD format. The County, in consultation with the project operator's engineer, shall determine the extent of remediation required, if any.

Page 4.14-14

Several other large solar projects may be developed in the areas surrounding the project sites in the future. As shown in Table 3-13, "Cumulative Projects List," 22 solar energy projects are presently under development within the vicinity of the project sites in Kern County and 17 such projects are under development in Los Angeles County.

Page 4.15-13

As a result, the proposed project would result in a net decrease of water demand <u>as compared to historical</u> <u>water use on site.</u>

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7.3 Errata

Page 3-26

Avian Post-Construction Monitoring

The applicant intends to prepare an Avian Post-Construction Monitoring (PCM) Plan to monitor the potential operational effects of the project on bird and bat species. Under the PCM Plan, the applicant will conduct surveys of the solar arrays for the first year of the operations and maintenance phase based on 15 to 20 percent sampling. The Plan will contain protocols for data collection, documentation, assessment of searcher efficiency, and scavenging bias trials. The applicant will use qualified monitoring personnel to conduct the surveys and will make the results of the surveys available upon request.

Page 4.2-14

Because <u>Although</u> these cumulative projects have the potential to covert a large number of acres of agricultural lands to nonagricultural uses, the potential cumulative loss of agricultural land in the Western Antelope Valley and the desert portion of the County outside the Western Antelope Valley the project site is not considered to be Prime Farmland, Unique Farmland, and Farmland of Statewide Importance under current criteria and consistent with the County's Pathway for Processing policy. Accordingly, development of the project site with nonagricultural use is not a cumulatively considerable contribution to the loss of farmland and cumulative impacts are therefore is considered less than significant. Within this regional context and when considered with other past, present, and reasonably foreseeable future projects as listed in Table 3-4, the project in combination with other projects would have a cumulatively considerable contribution to impacts on farmland.

Page 4.3-43

Table 4.3-8

	Pollutant (μg/m³) ^a	
	PM ₁₀	PM _{2.5}
Emissions Source	24-Hour	24-Hour
Maximum Modeled Concentrations	16.77 <u>23.91</u>	16.32 <u>5.15</u>
NAAQS	150	35
CAAQS	50	35
Exceed NAAQS or CAAQS?	No	No

Page 4.3-35

Mitigation Measure 4.3-3(j)

j) Off-road equipment engines over 50 horsepower shall be Tier 32 certified or higher, (unless Tier 2 equipment has been determined to not be available). Tier 3 construction equipment is not locally available. Construction equipment shall be considered "not locally available" if local contractors with their principal place of business within Kern County certify in writing to Kern County that such

equipment cannot be secured at a regionally competitive price without materially delaying the project's construction schedule.

Page 4.3-45

"With the implementation of the mitigation measures, and the knowledge that long-term residents have typically already developed immunity to Valley Fever, dust from the construction of the proposed project would not add significantly to the existing exposure level of people to this fungus <u>on a project-level or cumulative basis</u>."

Page 4.3-45

Mitigation Measure 4.3-6

MM 4.3-6: Prior to ground disturbance activities, the project operator shall provide evidence to the Kern County Planning and Community Development Department that the project operator and/or construction manager has developed a "Valley Fever Training Handout", training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Community Development Department within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The evidence submitted to the Kern County Planning and Community Development Department regarding the "Valley Fever Training Handout" and Session(s) shall include the following:

a) A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session.

b) Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever.

c) Training on methods that may help prevent Valley Fever infection.

d) A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Though use of the equipment is not mandatory during work, Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work, if requested by an employee. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.

The project operator also shall consult with the County Health Services Department to develop a Valley Fever Dust Management Plan that addresses management of dust to reduce the potential presence of the Coccidioides spore and mitigates for the potential for Coccidioidomycosisfor exposure to (Valley Fever). Prior to issuance of permits, the project operator shall submit the Plan to the County Services Health Department for review and approval. The Plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate dust management and safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to <u>Coccidioides</u> sporespotential Valley Fever

containing dust. Measures in the Plan, which shall be implemented as practicable, may include the following:

- a) Provide HEP-filters for heavy equipment equipped with factory-ed air conditioned enclosed cabs capable of accepting the filters. Cause contractors utilizing applicable heavy equipment to furnish proof of worker training on heavy equipment. Train workers on proper use of <u>applicable heavy equipment</u> cabs, such as turning on air conditioning prior to using the equipment.
- b) Provide communication methods, such as two-way radios, for use in enclosed cabs.
- c) <u>Provide</u> <u>Require</u> National Institute for Occupational Safety and Health (NIOSH)approved respirators for workers.
- d) Require National Institute for Occupational Safety and Health (NIOSH) approved halfface respirators equipped with <u>minimum</u> N-<u>95 protection factor for use</u>100 or P-100 filters to be used during <u>worker collocation with surface disturbance activities</u>, as required per the hazard assessment process. digging. Require employees to wear respirators when working near earth moving machinery.
- <u>d)</u>e) Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144).
- <u>e)</u> Provide eating areas with hand-washing facilities.
- <u>f)g</u>) Thoroughly clean equipment, vehicles, and other items before they are moved offsite to other work locations. Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off-site.
- <u>h</u>)Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor.
- <u>h)</u>;) Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever.
- <u>i)</u>;) Work with a medical professional, in consultation with the County Health Services Department, to develop an educational handout for on-site workers and surrounding residents within three miles of the project site, and include the following information on Valley Fever: what are the potential sources/ causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by the County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within three miles of the project boundaries.
- j) When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks.

- <u>k)</u> Prohibit smoking at the worksite outside of designated smoking areas; designated smoking areas will be equipped with handwashing facilities.
- 1) Post warnings on-site and consider limiting access to visitors, especially those without adequate training and respiratory protection.
- <u>m)</u> Audit and enforce compliance with relevant Cal OSHA health and safety standards on the jobsite.

Prior to the Notice to Proceed for decommissioning, the project operator will follow the above process for all decommissioning work. In addition to the Valley Fever Dust Management Plan, hazard assessments required under 8 CCR 1509 and/or 3380 will be performed by each employer for all job classifications employed on site. The hazard assessments will comprehend the potential for exposure to the Coccidioides spore relative to work activity, proximity to other forms of work activity, weather conditions and other relevant variables and will identify appropriate personal protective equipment based on current working conditions.

Page 4.4-49

Mitigation Measure 4.4-9

MM 4.4-9: Prior to the issuance of grading or building permits the following shall be implemented with respect to the area to be covered by such permit:

- 1. The project proponent shall mitigate for the loss of acres of Swainson's hawk foraging habitat by providing high-quality off-site habitat management lands preferred by Swainson's hawk such as native desert scrub, agricultural areas, grasslands with scattered trees, juniper-sage flats, or riparian areas (as identified by a qualified biologist in consultation with Kern County) at a 0.5:1 ratio, on-site lands at a 1:1 ratio, or some combination thereof. Completion of the selected measure must be within the Antelope Valley (Kern or Los Angeles County) or within the Central Valley. A priority shall be placed on replacement habitat within the Antelope Valley (Kern or Los Angeles County), if feasible. If the County finds that suitable replacement land is not available within the Antelope Valley at commercially reasonable prices, replacement habitat may be located within the Central Valley. Any such mitigation shall be within at most ten miles of an active nest and within suitable foraging habitat for Swainson's hawk as identified by a qualified biologist. The following options can be completed in any combination:
 - a. Fund and purchase conservation easements, to be held by an entity qualified to hold such easements under Section 815 of the California Civil Code;
 - b. Place deed restrictions on qualifying land;
 - c. Provide in lieu fees to a qualified person, entity or agency for the acquisition of conservation easements covering land satisfying the requirements of this measure or otherwise adequate to mitigate the project's impacts on Swainson's hawk
- 42. Preconstruction clearance nesting surveys for Swainson's hawk shall be conducted by a qualified biologist within 0.5 mile of the project site no more than 30 days prior to construction. The survey methodology shall be consistent with the Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimizations Measures for Renewable Energy Projects in the Antelope Valley

of Los Angeles and Kern Counties, California prepared by the State of California, California Energy Commission, and California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the California Department of Fish and Wildlife and Kern County Planning and Community Development Department.

- 23. If surveys locate a nest site, a Swainson's Hawk Monitoring and Mitigation Plan shall be prepared in consultation with California Department of Fish and Wildlife and the County. Plans should be prepared by a qualified biologist approved by California Department of Fish and Wildlife and the Kern County Planning and Community Development Department. The following detailed measures to avoid and minimize impacts to Swainson's hawks in and near the construction areas shall be included in the plan:
 - a. If a nest site is found, design the project to allow sufficient foraging and fledging area to maintain the nest site.
 - b. During the nesting season, ensure no new disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledging occur within 0.5 mile of an active nest between March 1 and September 15. Buffer zones may be adjusted in consultation with California Department of Fish and Wildlife and the Kern County Planning and Community Development Department.
 - c. Do not remove Swainson's hawk nest trees unless avoidance measures are determined to be infeasible. Removal of such trees should occur only during the timeframe of October 1 and the last day in February.
- 34. The monitoring plan shall also include measures for injured Swainson's hawks:
 - a. For hawks found injured during project-related activities on the project site, the plans shall call for immediate relocation to a raptor recovery center approved by a California Department of Fish and Wildlife regional representative.
 - b. The plan shall include a system in which the costs associated with the care or treatment of such injured Swainson's hawks will be borne by the project developer.
 - c. The plan shall include appropriate contact information for immediate notification of California Department of Fish and Wildlife and the Kern County Planning and Community Development Department of a hawk injury incident. The plan shall have approved procedures in place to notify California Department of Fish and Wildlife and the Kern County Planning and Community Development Department outside normal business hours. Appropriate personnel shall be notified via telephone or email, followed by a written incident report. Notifications shall include the date, time, location, and circumstances of the incident in the reports.

Page 4.8-4

While pesticides, herbicides, and associated metals may be present in the near-surface soils at residual concentrations, studies of the project site have found no evidence of pesticide misuse and no recognized environmental conditions with respect to pesticides or herbicides."

Page 4.8-20

MM 4.8-4: Prior to issuance of a grading permit, shallow excavation and removal of soils impacted with chemicals of potential concern shall be conducted, as identified by the project Phase II Report, followed by off-site disposal of the material to a licensed waste facility, in accordance with all applicable California and federal laws. Soil excavation and removal depths shall be consistent with those provided in the Phase II Report.

Page 4.9-1

The project is located in the Willow Springs Hydrologic Area or sub-watershed Lancaster Hydrologic Area (626.50), Neenach Hydrologic Area (626.40), Willow Springs Hydrologic Area (626.30), and the Antelope Valley Groundwater Basin (6-44).

Page 5-2

Resources	Project Impacts	Cumulative Impacts
Agricultural	The project would convert	The project would have
Resources	Prime Farmland, Unique	significant and unavoidable impacts
	Farmland, Farmland of	related to agriculture after
	Statewide Importance as	implementation of mitigation. Even
	shown on <u>2012</u> maps	with implementation of Mitigation
	pursuant to the Farmland	measures MM 4.2-1 through MM
	Mapping and Monitoring	4.2-2 , cumulative impacts from the
	Program of the California	loss of Prime, Unique, or Important
	Resources Agency, to	Farmland <u>in the Western Antelope</u>
	non-agricultural land uses.	<u>Valley</u> resulting from the proposed
	<u>However, the land would not</u>	project, when combined with other
	meet criteria for designation	proposed projects in the area,
	today and, consistent with the	would be considered
	<u>County's Pathway for</u>	significant and unavoidable
	Processing Conversion of	
	<u>Agricultural Land, these</u>	
	<u>parcels would not contribute</u>	
	to the agricultural economy	
	<u>or be deemed important</u>	
	<u>farmland to the state. Therefore,</u>	
	<u>The project would result in</u>	
	<u>less than significant impacts.</u>	
	Even after implementation of	
	Mitigation Measures MM 4.2-1	
	and 4.2-2, impacts are	
	considered significant and	
	unavoidable	

Table 5-1: Summary of Significant and Unavoidable Impacts of the Proposed Project

7.4 Comments on the Draft EIR

The comment letters received on the Draft EIR are addressed in their entirety in this section. Each comment contained in the letter has been assigned a reference code. The responses to the reference code comments follow each letter. Each comment letter has been given its own number.

Comment Letter 1: Lahontan Regional Water Quality Control Board (April 8, 2015)



Water Boards



Lahontan Regional Water Quality Control Board

April 8, 2015

File: Environmental File Review Kern County

Rob Dmohowski, Planner III Kern County Planning Department 2700 "M" Street, Suite 100 Bakersfield, CA 93301-2323 dmohowskir@co.kern.ca.us

COMMENTS ON THE REVISED DRAFT ENVIRONMENTAL IMPACT REPORT, WILLOW SPRINGS SOLAR PHOTOVOLTAIC PROJECT, KERN COUNTY, STATE CLEARINGHOUSE NO. 2010031023

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received the Revised Draft Environmental Impact Report (DEIR) for the above-referenced project (Project) on February 27, 2015. Kern County (County), acting as lead agency, prepared and submitted the DEIR in compliance with provisions of CEQA. Water Board staff, acting as a responsible agency, is providing these comments to specify the scope and content of the environmental information germane to our statutory responsibilities pursuant to CEQA Guidelines, California Code of Regulations, title 14, section 15096. Based on our review of the DEIR, we request that the County consider the following in the Final EIR: the cumulative effects of such projects on the environment with respect to water quality and water quantity; long-term impacts related to soil erosion and dust control; avoidance and/or minimization of impacts to ephemeral drainages onsite; effective implementation of best management practices (BMPs) to treat post-construction stormwater runoff as well as Low-Impact Development (LID) construction practices; and identification and protection of the beneficial uses of surface water and groundwater. We encourage the County to consider our comments and value our mission to protect waters of the State and maintain water quality in the Lahontan Region.

1-A

Project Description

The proposed Project involves the construction of a 150 megawatt (MW) photovoltaic (PV) solar collection field and electricity generating station on approximately 1,402 acres of previously-disturbed agricultural and undisturbed land west of Rosamond. The Project site is bounded by Avenue A to the south, Holiday Avenue to the north, 120th Street West to the west, and 100th Street West to the east. The project would include the following components: approximately 2.3 million PV panels, an electrical collection and direct current to alternating current system, a 230 kilovolt (kV) substation, a generation-tie line to the local power grid, approximately 14 weather monitoring stations, an operations and maintenance building, telecommunications equipment, interconnection facilities, and security fencing. The solar-generated electricity will be delivered to one of two possible locations: either the Barren Ridge-Rinaldi 230 kV line, which crosses the project site and is owned by the

KIMES BLY COX, CHAIR | PATTY Z KOUYJUM IJIAN, EXECUTIVE OFFICER

14440 Civic Drive, Suite 200, Victorville, CA 92392 | www.waterboards.ca.gov/tahontan

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Los Angeles Department of Water and Power, or the Whirlwind substation near the intersection of 170th Street West and Rosamond Boulevard, owned by Southern California Edison. This connection location has yet to be determined and will depend on the power

purchasing agreement.

Mr. Dmohowski

Authority

All groundwater and surface waters are considered waters of the State. Surface waters include streams, ponds, lakes, and wetlands, and may be ephemeral, intermittent, or perennial. All waters of the State are protected under California law. State law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. Some waters of the State are also waters of the U.S. The Federal Clean Water Act (CWA) provides additional protection for those waters of the State that are also waters of the U.S.

- 2 -

The Water Quality Control Plan for the Lahontan Region (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect the quality of waters of the State within the Lahontan Region. The Basin Plan sets forth water quality standards for surface water and groundwater of the Region, which include designated beneficial uses as well as narrative and numerical objectives which must be maintained or attained to protect those uses. The Basin Plan can be accessed via the Water Board's web site at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml.

Specific Comments

- 1. As this site encompasses approximately 1,402 acres, we request that the County carefully evaluate the cumulative effects of such projects with respect to water quality, water quantity, the environment, and local residents. With the high winds that typically occur in the high desert, construction and operation of large solar arrays can create nuisance conditions, especially if not properly planned and/or operated. If the site is mass-graded, soil erosion and dust will likely present significant issues. In order to control both soil erosion and dust, we encourage the use of the native vegetation as a preferred BMP. If water is used for dust control and/or panel washing, additional water sources may need to be identified. We request that the environmental document address the cumulative impacts of such projects with respect to water quality, water quantity, soil erosion, and dust control as addressed herein.
- We request that grading and vegetation clearing be kept to a minimum and installation of PV panels be accomplished without grading, if possible. Where feasible, existing vegetation should be mowed so that vegetation could more readily reestablish post-construction.
- 3. Based on our review of aerial photographs, the Project site appears to contain previously disturbed agricultural land, undisturbed desert land, and a few lots where houses may have stood. A portion of the Project site appears to be denuded of vegetation, which may pose a potential threat for erosion and dust control at the site. In addition, small ephemeral drainages may traverse the site. If adequate mitigation

April 8, 2015

1-В

1-C

1-D

1-A

Mr. Dr	nohowski
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- 3 -

measures are not properly implemented, such Projects have the potential to hydrologically modify or damage natural drainage systems (hydromodification). 1-D We request that the environmental document consider the effects of the Project with respect to potential hydromodification across the site and on the surrounding properties. 4. The environmental document should include a detailed Hydrology Study of the Project site that examines surface flow direction, flow rates, soil types, and the potential for soil erosion and transport for a range of potential storm events for preand post-construction conditions as well as recommendations for managing stormwater runon and runoff. The post-construction hydrograph must be similar to 1-E the pre-Project hydrograph with negligible increase in flow volumes. The results of this analysis must be considered in the Project's final design, and we request that the Project maintain existing hydrologic features and patterns to the maximum extent feasible. 5. The DEIR incorrectly states that the Project is located in the Willow Springs Hydrologic Area, but we have placed it within the Lancaster Hydrologic Area (626.50) for surface waters, and within the Antelope Valley Groundwater Basin (6-44) for groundwater beneath the Project site. The beneficial uses of these water resources are listed either by watershed (for surface waters) or by groundwater basin (for groundwater) in Chapter 2 of the Basin Plan. Any potential impacts to the beneficial uses of these waters, and the mitigation measures to minimize or prevent them, should be discussed in the environmental document. The environmental 1-F document should correctly identify the Project location within the correct surface water and groundwater basins. Implementation of the proposed Project must comply with all applicable water quality standards and prohibitions, including provisions of the Basin Plan. All unavoidable impacts to waters of the State must be mitigated to ensure that no net loss of function and value to beneficial uses of surface and groundwater will occur as a result of Project implementation. 6. We encourage the use of LID practices for the design and construction of the project elements. The environmental document should specify those temporary sediment and erosion control BMPs that will be implemented to mitigate potential water quality impacts to stormwater. LID components include: maintaining natural drainage paths and landscape features to slow and filter runoff and maximize groundwater recharge; 1-G managing runoff as close to the source as possible; and maintaining vegetated areas for stormwater management and onsite infiltration. In addition, temporary BMPs need to be implemented during construction until such time that permanent BMPs are in-place and functioning. 7. We request that construction staging areas be sited in upland areas outside of any stream channels or minor surface waters on or around the Project site. Buffer areas should be identified and exclusion fencing used to protect the water resource and 1-H prevent unauthorized vehicles or equipment from entering or otherwise disturbing stream channels. Construction equipment should use existing roadways to the maximum extent feasible.

 Obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required. The environmental document must specifically describe the BMPs and other measures used to mitigate Project impacts. 				
Permitting Requirements				
A number of activities associated with the proposed Project appear to have the potential to impact waters of the State and, therefore, may require permits issued by either the State Water Resources Control Board (State Water Board) or Lahontan Water Board. The required permits may include:				
 Streambed alteration and/or discharge of fill material to a surface water may require a CWA, section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements for impacts to non- federal waters, both issued by the Lahontan Water Board; and 				

- 4 -

April 8, 2015

1-J

 Land disturbances of more than 1 acre may require a Clean Water Act (CWA), section 402 (p) stormwater permit, including a National Pollution Discharge Elimination System (NPDES) General Construction Stormwater Permit, Order 2009-0009-DWQ (as amended), obtained from the State Water Board, or an individual stormwater permit obtained from the Lahontan Water Board.

Please be advised of the permits that may be required for the proposed Project, as outlined above. We request that specific Project activities that may trigger these permitting actions be identified in the appropriate sections of the DEIR. Should Project implementation result in activities that will trigger these permitting actions, the Project proponent must consult with Water Board staff. Information regarding these permits, including application forms, can be downloaded from our web site at http://www.waterboards.ca.gov/lahontan/.

Thank you for the opportunity to comment on the DEIR. If you have any questions regarding this letter, please contact me at (760) 241-7391 (<u>tbrowne@waterboards.ca.gov</u>) or Patrice Copeland, Senior Engineering Geologist, at (760) 241-7404 (<u>pcopeland@waterboards.ca.gov</u>).

Mr. Dmohowski

Tom Browne, PhD, PE Water Resources Control Engineer

cc: Department of Fish and Wildlife, Central Region, <u>reg4sec@wilflife.ca.gov</u> State Clearinghouse, <u>state.clearinghouse@opr.ca.gov</u>

RB6Victorville:\Shared\Units\Patrice's Unit\Tom\CEQA Reviews\Willow Springs Solar Kern Co\draft Willow Springs Solar DEIR.docx

Response to Comment Letter 1: Lahontan Regional Water Quality Control Board (April 8, 2015)

1-A The commenter summarizes their recommendations for the Draft EIR, which include consideration the cumulative effects of solar projects on the environment with respect to water quality and water quantity; long-term impacts related to soil erosion and dust control; avoidance and/or minimization of impacts to ephemeral drainages onsite; effective implementation of best management practices (BMPs) to treat post-construction stormwater runoff as well as low impact development (LID) construction practices; and identification and protection of the beneficial uses of surface water and groundwater. The commenter summarizes the project description and states that all groundwater and surface waters are considered waters of the State.

Thank you for your comments. The participation of the Lahontan Regional Water Quality Control Board in the public review of this document is appreciated. Please see the subsequent responses to individualized comments included in the letter. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

1-B The commenter states that the County should carefully evaluate the cumulative effects of such projects with respect to water quality, water quantity, the environment and local residents. Because high winds are common in the high desert, construction and operation of the solar facility could create nuisance conditions, especially if the site is mass graded, as soil and dust will likely present significant issues.

Thank you for your comments. Mitigation Measure MM 4.3-1 of the Draft EIR states the project applicant would prepare a Phased Grading Plan as part of a Fugitive Dust Control Plan, which would minimize the amount of all grading activities and plant roots and vegetation would be left in place where feasible. Further, the mitigation measure states that water would be used for dust control and additional water sources would need to be found. This comment has been noted for the record and provided to the Kern County Planning Commission and Board of Supervisors for consideration.

1-C The comment states that grading and vegetation clearing be kept to a minimum and installation of PV panels be accomplished without grading, if possible. Existing vegetation should be moved so that vegetation can be more readily reestablished post-construction.

Thank you for your comments. Mitigation Measure MM 4.3-1 in the Draft EIR states that all grading activities would be minimized and plant roots and vegetation would be left in place where feasible. This comment has been noted for the record and provided to the Kern County Planning Commission and Board of Supervisors for consideration.

1-D The commenter states the project site appears to be denuded of vegetation, from aerial photographs, which may pose a potential threat for erosion and dust control at the site. Additionally, small ephemeral drainages may traverse the site and if adequate mitigation measures are not properly implemented, the project may have the potential to hydrologically modify or damage natural drainage systems (hydromodification). The Draft EIR should consider the effects of the project with respect to the potential for hydromodification.

Thank you for your comments. The proposed project is composed of generally flat abandoned and recently fallowed agricultural lands. Construction and earthmoving activities could loosen soil and the removal of vegetation could contribute to future soil loss (Page 4.6-14 of the Draft EIR). Mitigation Measure MM 4.6-1 would limit grading to the minimum area necessary and requires best management practices to be implemented to minimize erosion and fugitive dust. Further, Mitigation Measure MM 4.9-1 would require the project operator to develop a SWPPP to ensure compliance with County NPDES requirements, which would include BMPs to be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby drainages. Mitigation Measure MM 4.9-2 would require the project operator to prepare and submit a pre-construction drainage plan to the Kern County Engineering and Survey Services Department, which would include post-construction structural and nonstructural BMPs and comply with the Kern County Code of Building Regulations, as well as with Kern County Development Standards and Floodplain Management Ordinance. This comment has been noted for the record and provided to the Kern County Planning Commission and Board of Supervisors for consideration.

1-E The commenter states that the environmental document should include a detailed Hydrology Study of the project site that examines surface flow direction, flow rates, soil types, and the potential for soil erosion and transport for a range of potential storm events for pre-and postconstruction conditions as well as recommendations for managing stormwater run-on and runoff. The results of this analysis must be considered in the proposed project's final design and the commenter requests the project maintain existing hydrologic features and patterns to the maximum extent feasible.

Thank you for your comments. The Preliminary Flood Hazard Assessment for the Willow Springs Solar Array can be found in Appendix P of the Draft EIR. This assessment speaks to surface flow direction, flow rates, soil types, and the potential for soil erosion in the case of potential storm events. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

1-F The commenter states that the Draft EIR incorrectly states that the project site is located in the Willow Springs Hydrologic Area, but rather it is within the Lancaster Hydrologic Area (626.50) for surface waters, and within the Antelope Valley Groundwater Basin for groundwater beneath the project site. Any potential impacts to beneficial uses of these waters, and the mitigation measures to minimize or prevent them, should be discussed in the environmental document. Implementation of the proposed project must comply with all applicable water quality standards and prohibitions, including provisions of the Basin Plan.

Thank you for your comments. Page 4.9-1 of the Draft EIR has been amended to reflect the Lancaster Hydrologic Area. On Page 4.9-4 of the Draft EIR, it states that the project site is located within the Antelope Valley Groundwater Basin which underlies an extensive alluvial valley in the western Mojave Desert. This comment has been noted for the record and provided to the Kern County Planning Commission and Board of Supervisors for consideration.

1-G The commenter states that the use of LID practices should be encouraged for the design and construction of the proposed project. The environmental document should specify the temporary and erosion control BMPs that would be implemented to mitigate potential water quality impacts to stormwater. LID components include: maintaining natural drainage paths and landscape features to slow and filter runoff and maximize groundwater recharge; managing runoff as close

to the source as possible; and maintaining vegetated areas for stormwater management and onsite infiltration.

Thank you for your comments. Mitigation Measure MM 4.9-1 requires the project operator shall submit a Stormwater Pollution Prevention Plan to the Kern County Planning and Community Development Department that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving offsite and into receiving waters. Examples of specific erosion and sediment controls are identified in Mitigation Measure MM 4.9-1. In addition, Mitigation Measure MM 4.9-3 lists four BMPs that would be implemented on-site to mitigate potential water quality impacts, including: using a portion of the site as a retention basin; constructing a dedicated infiltration/retention basin; constructing infiltration trenches; and extending detention basins (where infiltration is technically infeasible). These would accommodate for runoff generated on-site up to the 85th percentile storm event. This comment is noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

1-H The commenter states that construction staging areas be sited on upland areas outside of any stream channels or minor surface waters on or around the project site. Buffer areas should be identified and exclusion fencing used to protect the water resource and prevent unauthorized vehicles or equipment from entering or otherwise disturbing stream channels. Construction equipment should use existing roadways to the maximum extent feasible.

Thank you for your comments. Mitigation Measure MM 4.9-1 has been amended to reflect that construction staging areas should be sited on upland areas outside of any stream channels or minor surface waters on or around the project site, as shown below. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

MM 4.9-1: Prior to issuance of a grading permit, the project operator shall submit a Stormwater Pollution Prevention Plan to the Kern County Planning and Community Development Department that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving offsite and into receiving waters. The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and construction contracts. Recommended best management practices for the construction phase shall include the following:

- d. Erosion Control
 - i. Scheduling of construction activities to avoid major rain events
 - ii. Limiting vegetation removal to the maximum extent practicable
- e. Sediment Control
 - i. Secure stockpiling of soil
 - ii. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas
- f. Non-stormwater control

- i. Proper fueling and maintenance of equipment and vehicles
- ii. Proper concrete handling techniques
- f. Waste and material management
 - i. Properly managing construction materials, designating construction staging areas in or around the project site in upland areas outside of any stream channels or minor surface waters on or around the project site.
 - ii. Stockpiling and disposing of demolition debris, concrete, and soil properly
 - iii. Aggressive control of litter
 - iv. Proper disposal of demolition debris, concrete and soil
 - v. Proper protections for fueling and maintenance of equipment and vehicles
- g. Post- Construction stabilization
 - i. Ensuring the stabilization of all disturbed soils per revegetation or application of a soil binder
- 1- I The commenter states that the action of obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required. The environmental document must specifically describe the BMPs and other measures used to mitigate project impacts.

Thank you for your comments. The project would implement the structural post-construction BMPs recommended by the Water Quality Assessment (Mitigation Measure MM 4.9-3), which include the construction of a retention basin, an infiltration basin, infiltration trenches and detention basins on-site. These structures would reduce the runoff leaving the site, thus preventing impacts to downstream receiving water quality. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

1-J The commenter states that there are a number of activities associated with the proposed project that appear to have the potential to impact waters of the State and therefore, may require permits issued by either the State Water Resources Control Board or Lahontan Water Board. The required permits include: streambed alteration and/or discharge of fill materials to a surface water which may require a Clean Water Act (CWA) and land disturbances of more than one acre may require a CWA section 402 stormwater permit, including a National Pollution Discharge Elimination System (NPDES) General Construction Stormwater Permit, Order 2009-0009-DWQ from the State Water Board.

Thank you for your comments. The proposed project would adhere to all applicable federal, state and local regulations pertaining to impacts to waters of the State. The project applicant would obtain all necessary permits before construction of the proposed project would occur. Appendix G contains a formal determination letter from USACE in 2010 confirming the absence of "waters of the U.S." on the proposed solar site. Appendix G provides a full discussion of the jurisdictional resources and provides figures which illustrate the extent and limits of said jurisdiction. The Draft EIR, Section 4.4 Biological Resources, page 4.4-31 states should CDFW or RWQCB determine that on-site water features are jurisdictional and include riparian habitat or a sensitive natural community, permitting would be required and the agencies would require measures to reduce the effects to these resources. Such measures could include, among others, avoidance of the features, replacement of the features on or in the vicinity of the project site, or payment of fees to allow for the purchase and preservation of replacement habitats. Mitigation measures that were outlined under the discussion of Impact 4.4-1 to protect special-status species, specifically Mitigation Measure MM 4.4-2 through 4.4-5, would also serve to protect CDFW jurisdictional waters and otherwise sensitive habitats. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors.

Comment Letter 2: Kern County Engineering, Surveying and Permit Services Floodplain Management Section (March 24, 2015)

NERN	COUNTY	
	Planning Department Rob Dmohowski	Date: March 24, 2015
	Engineering, Surveying and Permit Services Floodplain Management Section Aaron Leicht, by Jason Scheer	Phone: (661) 862-5083 Email: <u>ScheerJ@co.kern.ca.u</u>
Subject:	Notice of Public Hearing – Planning Commission Special Plan Amendment #15, Map #232 Zone Classification Change #32, Map #232 Conditional Use Permit #26, Map #232	

From the information supplied with the Notice of Public Hearing, we have no comments or recommendations regarding the above project.

Office Memorandum KERN COUNTY

To: Planning Department Rob Dmohowski

Date: March 31, 2015

Phone: (661) 862-5083

Email: ScheerJ@co.kern.ca.us

- From: Engineering, Surveying and Permit Services Floodplain Management Section Aaron Leicht, by Jason Scheer
- Subject: Notice of Public Hearing Planning Commission Willow Springs Solar

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From the information supplied with the Notice of Public Hearing, we have no comments or recommendations regarding the above project.

Office Memorandum KERN COUNTY

- To:
 Planning Department Rob Dmohowski
 Date: April 6, 2015

 From:
 Engineering, Surveying and Permit Services Floodplain Management Section
 Phone: (661) 862-5083

 Email:
 ScheerJ@co.kern.ca.us
- Subject: Notice of Public Hearing Board of Supervisors Willow Springs Solar

Aaron Leicht, by Jason Scheer

From the information supplied with the Notice of Public Hearing, we have no comments or recommendations regarding the above project.

Office Memorandum

- To: Planning Department Rob Dmohowski
- From: Engineering, Surveying and Permit Services Floodplain Management Section Aaron Leicht, by Jason Scheer
- Subject: Draft Environmental Impact Report Willow Springs Solar Project

Date: March 6, 2015

Phone: (661) 862-5083 Email: <u>ScheerJ@co.kern.ca.us</u>

Our section has reviewed the attached subject documents and has the following comments:

The runoff of storm water from the site will be increased due to the increase in impervious surface generated by the proposed development.

The subject property is subject to flooding.

Therefore, this section recommends the following be included as conditions of approval for this project:

2-B

The applicant shall provide a plan for the disposal of drainage waters originating on site and from adjacent road right-of-ways (if required), subject to approval of the Engineering, Surveying and Permit Services Department.

Associated flood hazard requirements will need to be incorporated into the design of this project per the Kern County Floodplain Management Ordinance.

Response to Comment Letter 2: Kern County Engineering, Surveying and Permit Services Floodplain Management Section (March 24, 2015)

2-A The commenter states that the Kern County Engineering, Surveying and Permit Services department received the Draft EIR of for the Willow Springs Solar Project.

Thank you for your comments. The participation of the Kern County Engineering, Surveying and Permit Services Department Floodplain Management Section in the public review of this document is appreciated. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

2-B The commenter states that the runoff of storm water from the site will be increased due to the increase in impervious surface generated by the proposed development, and that the subject property is subject to flooding. The commenter recommends that the applicant provide a plan for the disposal of drainage waters originating on site and from adjacent road right-of-ways, subject to approval of the Engineering, Surveying and Permit Services Department. The commenter also recommends that the associated flood hazard requirements need to be incorporated into the design of this project per the Kern County Floodplain Management Ordinance.

Thank you for your comments. The participation of the Kern County Engineering, Surveying and Permit Services Department Floodplain Management Section in the public review of this document is appreciated. The project applicant shall ensure compliance with the disposal of drainage waters and flood hazard requirements prior to obtaining approval of building and grading permits through implementation of Mitigation Measure MM 4.9-2. Mitigation Measure MM 4.9-2 requires that prior to issuance of a grading permit, the project operator shall prepare a drainage plan that is designed to minimize runoff and will include engineering recommendations to minimize the potential for impeding or redirecting 100-year flood flows. The drainage plan shall be prepared in accordance with the Kern County Grading Code and approved by the Kern County Engineering, Surveying and Permit Services Department, Floodplain Management Section prior to the issuance of grading permits. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Comment Letter 3: Kern County Roads Department (February 26, 2015)

Office Memorandum - Kern County

- TO: [Distribution List] <u>PLEASE SIGN AND DATE BELOW AS SOON AS RECEIVED AND RETURN</u> TO PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT BY **April 13, 2015**.
- FROM: Lorelei H. Oviatt, AICP, DIRECTOR Planning & Community Development Department By: Rob Dmohowski, Planner III (661) 862-8608

DATE: February 26, 2015

SUBJECT: Draft Environmental Impact Report – Willow Springs Solar Project by Willow Springs Solar, LLC (PP10232)

Enclosed is a document entitled Draft Environmental Impact Report for the Willow Springs Solar Project. The Kern County Planning & Community Development Department as Lead Agency (per CEQA Guidelines Section 15050) solicits the views of your agency as to the scope and content of the environmental information, which is germane to your agency's statutory responsibilities in connection with the proposed project.

In order to verify that this document was received by your department, please date and sign this memo and return by office mail to the Planning and Community Development Department, Attn: Rob Dmohowski. Thank you in advance for your cooperation.

Distribution List:

Engineering Services – Code Compliance Division Engineering Services – Floodplain Engineering Services – Survey Environmental Health Services Fire Department – Benny Wofford Fire Department – Dave Goodell Library – Local History Room Library Director Sheriff Roads Waste Management Arthur Unger/Sierra Club/Kern Keaweah Chapter Eastern Kern Air Pollution Control District

By: Paul Andelara Dept .: Konos **RECEIVED:**

3-A

COUNTY OF KERN DEVELOPMENT SERVICES AGENCY ROADS DEPARTMENT Office Memorandum

То:	Lorelei Oviatt, Director March 24, 2015 Attn: Rob Dmohowski, Planner III	
From:	Warren D. Maxwell, Transportation Development Engineer Roads Department	
Subject:	7-5.3 Draft Environmental Impact Report for the Willow Springs Solar Project by Willow Springs Solar, LLC, and (PP10232).	
This Department has reviewed the Draft Environmental Impact Report for the subject project and recommends the following:		
 Submit a stamped and signed REVISED Traffic Impact Analysis (TIA) from RBF Consulting (dated August 28, 2014) by a Traffic Engineer or a Civil Engineer that specializes in Traffic. 		
2. Page	e 4.14-12, Mitigation Measures. MM 4.14-1, Please add the following:	
ea	inter into a secured agreement with the Kern County Roads Department to nsure that any County roads that are demonstrably damaged by project-related ctivities are promptly repaired and, if necessary, paved, slurry-sealed, or acconstructed as per requirements of the State and or Kern County.	
K	opies of the approved traffic plan and issued permits shall be submitted to the ern County Planning and Community Development Department and the Kern ounty Roads Department.	
С	btain all necessary Encroachment Permits for any proposed work within the ounty road right of way. These permits may be obtained from our Permits ngineer.	3-C
(h C	btain all necessary Transportation Permits for any oversized or overweight neavy) loads that will utilize County maintained roads, which may require alifornia Highway Patrol escort. These permits may be obtained from our ermits Engineer.	
TI m or ro	ubmit documentation that identifies the roads to be used during construction. The project operator shall be responsible for repairing any damage to non-county aintained roads that may result from construction activities. The project berator shall submit a preconstruction video log and inspection report regarding adway conditions for roads used during construction to the Kern County Roads epartment and the Planning and Community Development Department	

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	e) Subsequent to completion of construction, submit a post-construction video log and inspection report to the County. This information shall be submitted in DVD format. The County, in consultation with the project operator's engineer, shall determine the extent of remediation required, if any.	3-C
3.	Project construction timing may coincide with other neighboring projects listed in the TIA. Coordinate construction traffic to avoid possible conflicts during the project construction phases.	3-D
4.	Contact the California Department of Transportation District 9 regarding this project.	3-E

Thank you for the opportunity to comment on this project, if you have any questions or comments please contact Paul Candelaria at 862-8869.

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Response to Comment Letter 3: Kern County Roads Department (February 26, 2015)

3-A The commenter states that the Kern County Roads department received the Draft EIR of for the Willow Springs Solar Project.

Thank you for your comments. The participation of the Kern County Roads Department in the public review of this document is appreciated. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

3-B The commenter recommends that the Planning and Community Development Department submit a stamped and signed REVISED Traffic Impact Analysis (TIA) from RBF Consulting (dated August 28, 2014) by a Traffic Engineer or a Civil Engineer that specializes in Traffic.

Thank you for your comments. Mitigation Measure MM 4.14-1 the project proponent to prepare and submit a Construction Traffic Control Plan to Kern County Roads Department and the California Department of Transportation District 9 office for approval. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

3-C The commenter recommends the addition of specific language to Mitigation Measure MM 4.14-1 on Page 4.14-12.

Thank you for your comments. The suggested language has been added to Mitigation Measure MM 4.14-1 as identified below (also see section 7.2 Revisions to the Draft EIR of this Final EIR). This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

MM 4.14-1: The project proponent shall prepare and submit a Construction Traffic Control Plan to Kern County Roads Department and the California Department of Transportation District 9 office for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:

- a) Timing of deliveries of heavy equipment and building materials;
- b) Directing construction traffic with a flag person;
- c) Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
- d) Ensuring access for emergency vehicles to the project site;
- e) Temporary closure of travel lanes or disruptions to street segments and intersections during materials delivery, transmission line stringing activities, or any other utility connections;
- f) Maintaining access to adjacent property;

- g) Specification of both construction-related vehicle travel and oversize load haul routes, the minimization of construction traffic during the a.m. and p.m. peak hour, distributing construction traffic flow across alternative routes to access the proposed project site, and avoiding residential neighborhoods to the maximum extent feasible; and
- h) Identification of vehicle safety procedures for entering and exiting site access roads.
- i) Enter into a secured agreement with the Kern County Roads Department to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and or Kern County.

Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Community Development Department and the Kern County Roads Department.

- j) Obtain all necessary Encroachment Permits for any proposed work within the County road right of way. These permits may be obtained from the Roads Department Permits Engineer.
- k) Obtain all necessary Transportation Permits for any oversized or overweight (heavy) loads that will utilize County maintained roads, which may require California Highway Patrol escort. These permits may be obtained from the Roads Department Permits Engineer.
- Submit documentation that identifies the roads to be used during construction. The project operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Roads Department and the Planning and Community Development Department.
- m) <u>Subsequent to completion of construction, submit a post-construction video log and</u> inspection report to the County. This information shall be submitted in DVD format. The County, in consultation with the project operator's engineer, shall determine the extent of remediation required, if any.
- 3-D The commenter states that the project construction timing may coincide with other neighboring projects listed in the TIA, therefore construction traffic should be coordinated to avoid possible conflicts during the project construction phases.

Thank you for your comments. Cumulative traffic impacts were evaluated in Section 4.14, Traffic and Transportation beginning on page 4.14-13 of the Draft EIR. The cumulative projects listed in Chapter 3, Project Description, Table 3-4, are located a greater distance away from the project area. While the construction schedules for those projects may overlap with that of the project, they are several miles away, and their construction vehicles are not likely to travel extensively on the analyzed road segments. While they may use SR 14, much of the traffic created by the cumulative projects is likely to disperse in different directions, using various highways and roadways. Additionally, the peak construction traffic created by the cumulative projects would be temporary, and their onsite operations staff would be minimal and not create considerable permanent increases to nearby traffic volumes. Moreover, the analysis here assumes a worst-case

scenario, so even if other projects were to have some impacts on the study roadways, cumulative impacts would still remain less than significant. However, as previously stated, Mitigation Measure MM 4.14-1 requires the project proponent to prepare and submit a Construction Traffic Control Plan to Kern County Roads Department and the California Department of Transportation District 9 for approval. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

3-E The commenter recommends that the Planning and Community Development Department contact the California Department of Transportation District 9 regarding this project.

Thank you for your comments. The Planning and Community Development Department provided the California Department of Transportation District 9 the opportunity to comment on the NOP and Draft EIR for this project. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Comment Letter 4: Eastern Kern Air Pollution Control District (February 26, 2015)

Office Memorandum - Kern County

- TO: [Distribution List] <u>PLEASE SIGN AND DATE BELOW AS SOON AS RECEIVED AND RETURN</u> <u>TO PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT BY April 13, 2015.</u>
- FROM: Lorelei H. Oviatt, AICP, DIRECTOR Planning & Community Development Department By: Rob Dmohowski, Planner III (661) 862-8608

DATE: February 26, 2015

SUBJECT: Draft Environmental Impact Report – Willow Springs Solar Project by Willow Springs Solar, LLC (PP10232)

Enclosed is a document entitled Draft Environmental Impact Report for the Willow Springs Solar Project. The Kern County Planning & Community Development Department as Lead Agency (per CEQA Guidelines Section 15050) solicits the views of your agency as to the scope and content of the environmental information, which is germane to your agency's statutory responsibilities in connection with the proposed project.

In order to verify that this document was received by your department, please date and sign this memo and return by office mail to the Planning and Community Development Department, Attn: Rob Dmohowski. Thank you in advance for your cooperation.

Distribution List:

Engineering Services – Code Compliance Division Engineering Services – Floodplain Engineering Services – Survey Environmental Health Services Fire Department – Benny Wofford Fire Department – Dave Goodell Library – Local History Room Library Director Sheriff Roads Waste Management Arthur Unger/Sierra Club/Kern Keaweah Chapter Eastern Kern Air Pollution Control District

RECEIVED Dept .: EKAPCD By: EASTERN KERN AIR POLLUTION CONTROL DIST.

4-A



Eastern Kern Air Pollution Control District

Glen E. Stephens, P.E. Air Pollution Control Officer

March 11, 2015

SUBJECT: Comments for Draft Environmental Impact Report – Willow Springs Solar Project (PP10232)

Dear Mr. Dmohowski:

Eastern Kern Air Pollution Control District (District) acknowledges receipt of draft EIR for proposed Willow Springs Solar Project. Thank you for providing a copy of this document to the District.

Upon review of the draft EIR, District staff recommends the project operator to submit a Fugitive Dust Control Plan in compliance with Rule 402 prior to any construction rather than during construction mentioned in Mitigation Measures 4.3-1 (Air Quality). The District has no further comments.

Should you have any questions, please contact Wunna Aung at <u>aungw@co.kern.ca.us</u> or (661) 862-5250.

Sincerely,

Glen E. Stephens, P.E. Air Pollution Control Officer GES:WA

Administrative Office: 2700 "M" Street, Suite 302, Bakersfield, CA 93301-2370 Phone (661) 862-5250 – Fax (661) 862-5251 www.kernair.org – ekapcd@co.kern.ca.us **4-B**

Response to Comment Letter 4: Eastern Kern Air Pollution Control District (EKAPCD) (February 26, 2015)

4-A The commenter states that the EKAPCD received the Draft EIR of for the Willow Springs Solar Project.

Thank you for your comments. The participation of the EKACPD in the public review of this document is appreciated. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

4-B The commenter states that the EKAPCD recommends that the project operator submit a Fugitive Dust Control Plan in compliance with Rule 402 prior to any construction, rather than during construction as mentioned in Mitigation Measure MM 4.3-1.

Thank you for your comments. The participation of the EKAPCD in the public review of this document is appreciated. Mitigation Measure MM 4.3-1 has been edited to reflect compliance with Rule 402 prior to construction rather that during construction, as shown below. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

MM 4.3-1: The project operator shall develop a Fugitive Dust Control Plan in compliance with Eastern Kern Air Pollution Control District Rule 402 to reduce PM10 and PM2.5 emissions <u>prior</u> to during-construction and decommissioning. The Plan shall be submitted for review and approval to the Kern County Planning and Community Development Department prior to the issuance of any grading permit for the proposed project:

ADAMS BROADWELL JOSEPH & CARDOZO

DANIEL L. CARDOZO THOMAS A. ENSLOW TANYA A. GULESSERIAN LAURA E. HORTON MARC D. JOSEPH RACHAEL E. KOSS JAMIEL. MAULDIN MEGHAN A. QUINN ADAM J. REGELE ELLEN L. TRESCOT

ATTORNEYS AT LAW 520 CAPITOL MALL, SUITE 350 SACRAMENTO, CA 95814-4721

TEL: (916) 444-6201 FAX: (916) 444-6209 tenslow@adamsbroadwell.com SO. SAN FRANCISCO OFFICE

601 GATEWAY BLVD., SUITE 1000 SO. SAN FRANCISCO, CA 94080 TEL: (850) 589-1660 FAX: (650) 589-5062

April 13, 2015

VIA E-MAIL AND OVERNIGHT MAIL

Mr. Rob Dmohowski Kern County Planning Department 2700 "M" Street, Suite 100 Bakersfield, CA 93301 dmohowskir@co.kern.ca.us planning@co.kern.ca.us

Re: <u>Comments on the Draft Environmental Impact Report for the</u> <u>Willow Springs Solar Array Project (PP10232) (State</u> <u>Clearinghouse No. 2010031023)</u>

Dear Mr. Dmohowski:

On behalf of Kern County Citizens for Responsible Solar, we submit these comments on the Draft Environmental Impact Report ("DEIR") prepared by the County of Kern ("County") for the Willow Springs Solar Array Project ("Project") proposed by Willow Springs Solar, LLC ("Applicant"). The Project requires County Zoning Changes, a Specific Plan Amendment and a Conditional Use Permit to allow for the development of a photovoltaic ("PV") solar power plant with a capacity of 150 megawatts ("MW"), located on a 1,401 acre site over nine parcels.

As explained more fully below, the DEIR does not comply with the requirements of the California Environmental Quality Act ("CEQA").¹ The County may not approve the Project until an adequate DEIR is prepared and circulated for public review and comment.

Kern County Citizens for Responsible Solar is a coalition comprised of individuals (including Rosamond residents, Gary Wilcox and Daniel Wilbour, Mojave residents Gaston Moore, Lorreta Moore and Emilio Pino, and Tehachapi

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¹ Pub. Resources Code § 21000 et seq.

residents Josh Hernandez and Neal Herman), and groups, including California Unions for Reliable Energy and its members and their families. Kern County Citizens for Responsible Solar was formed to advocate for responsible and sustainable solar development that protects the environment where the coalition members and their families live, work, and recreate.

The individual members of Kern County Citizens for Responsible Solar live in and recreate in and around eastern Kern County. They have a personal interest in protecting the Project site from unnecessary, adverse impacts to the area's plants, wildlife, air and water resources. These individuals appreciate and enjoy the ecosystem in and around the Project area.

California Unions for Reliable Energy ("CURE") is a coalition of labor unions whose members encourage sustainable development of California's energy and natural resources. Environmental degradation destroys cultural and wildlife areas, consumes limited fresh water resources, causes water and air pollution, and imposes other stresses on the environmental carrying capacity of the state. This in turn jeopardizes future development by causing construction moratoriums and otherwise reducing future employment opportunities for CURE's members.

Additionally, union members live, recreate and work in the communities and regions that suffer the impacts of projects that are detrimental to human health and the environment. CURE therefore has a direct interest in enforcing environmental laws to minimize the adverse impacts of projects that would otherwise degrade the environment. Finally, CURE members are concerned about projects that risk serious environmental harm without providing countervailing economic benefits. The CEQA process allows for a balanced consideration of a project's socioeconomic and environmental impacts, and it is in this spirit that we offer these comments.

We have reviewed the DEIR and its technical appendices with assistance from air quality and public health expert Petra Pless,² hazards expert Matt Hagemann³ and biologist Shawn Smallwood.⁴ The comments and curriculum vitae⁵

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² Exhibit A, Pless Comments.

⁸ Exhibit B, Hagemann Comments.

⁴ Exhibit C, Smallwood Comments.

⁵ Exhibit D, Pless CV; Exhibit E, Hagemann CV; Exhibit F, Smallwood CV.

of these experts are attached to this letter. These expert comments are submitted as supplemental comments to this letter and should be responded to separately in the response to comments.

I. INTRODUCTION

The Project is located in western Kern County. More than 30 solar power plants on 20,872 acres in Kern County have been approved, and there are more than 18 additional pending applications for solar projects on over 15,000 acres within the County.⁶ While these projects will employ solar technology, each one will unavoidably tax the State's limited water, land, air, and biological resources to a potentially significant cumulative extent. In addition, many of the projects are on agricultural land that has provided substantial employment to Kern County residents - employment opportunities that will not be replaced by the meager operational staff required to operate these land intensive solar projects. At the same time, the County is facing the fourth year of severe drought, resulting in reduced water availability, intense and more frequent dust storms, increased threats to the viability of agricultural and biological resources, and increasing rates of Valley Fever.

Due to the unprecedented scope of large scale development projects taking place in this region, it is essential that the County's EIR adequately identify and analyze the Project's foreseeable direct, indirect and cumulative impacts. It is also imperative that any and all feasible mitigation measures be presented and discussed. Indeed, CEQA requires nothing less.

As discussed below, the Project will result in significant impacts in a number of areas, including air quality, biological resources, agricultural resources, hazards and water supplies. The DEIR mischaracterizes, mis-analyzes, underestimates, or fails to identify many of these impacts. Furthermore, many of the mitigation measures described in the DEIR will not in fact mitigate impacts to the extent claimed. The DEIR must be revised to resolve its inadequacies and must be recirculated for public review and comment. CEQA requires recirculation of a DEIR for public review and comment when significant new information must be added to the DEIR following public review, but before certification.⁷ The CEQA Guidelines

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⁶ http://www.co.kern.ca.us/planning/pdfs/renewable/solar_projects.pdf

⁷ Pub. Resources Code § 21092.1.

clarify that new information is significant if "the DEIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the Project or a feasible way to mitigate or avoid such an effect."⁸

The purpose of recirculation is to give the public and other agencies an opportunity to evaluate the new data and the validity of conclusions drawn from it.⁹ As discussed below, the DEIR fails to disclose and evaluate all Project components, the DEIR does not adequately establish the environmental setting from which to evaluate the Project's impacts, the Project will result in significant environmental impacts that are not analyzed in the DEIR, and there are feasible mitigation measures available to reduce significant impacts that have not been required in the DEIR. These changes must be addressed in a revised DEIR that is circulated for public review and comment.

II. THE PROJECT DESCRIPTION IS INADEQUATE

The DEIR violates CEQA because it contains an incomplete and inconsistent Project description. A stable, accurate and complete project description is necessary to meaningfully evaluate the potential environmental effects of a proposed project.¹⁰ In contrast, an inconsistent, inaccurate or incomplete project description renders the analysis of environmental impacts inherently unreliable.¹¹ Without a complete project description, the environmental analysis under CEQA will be impermissibly narrow, thus minimizing the project's impacts and undercutting public review.¹² The courts have repeatedly held that "[a]n accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR."¹³

The DEIR fails to meet this basic threshold by stating in the introduction that the Project will include the temporary construction and operation of a concrete batch plant on site¹⁴, yet stating in the analysis of the Project's impacts that all 5-C

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⁸ 14 Cal. Code Regs, tit. 14 ("CEQA Guidelines"), § 15088.5.

 ⁹ Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors (1981) 122 Cal.App.3d 813, 822.
 ¹⁰County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185, 192.

¹¹Id. at 192-193.

¹² See, e.g., Laurel Heights Improvement Association v. Regents of the University of California (1988) 47 Cal.3d 376.

¹³County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185, 193.

¹⁴ DEIR at p. 1-1; see also Exhibit G, Willow Springs Updated Project Description (July 26, 2012).

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concrete will be delivered to the Project site from a local source approximately 40 miles away.¹⁵ The applicant added the temporary construction and operation of a concrete batch plant to the Project description in July of 2012¹⁶, but the DEIR failed to amend its impact analyses to include this additional Project component. As a result, the DEIR fails to assess any air, noise, water, biological resource or other environmental impacts that may result from the construction and operation of the concrete batch plant.¹⁷ The DEIR must be revised to clarify the Project description and evaluate the potential additional impacts from the concrete batch plant.

The DEIR's Project description is also inadequate because it fails to include the Project proponent's proposed sale of the water rights that are attached to the Project property. The Water Supply Assessment prepared for the Project states that the Project will not rely on an existing public water system, but rather will be served by groundwater produced on site.¹⁸ Later in the same document, however, the Assessment states that if "it proves beneficial," the applicant may divest its groundwater rights upon construction completion."¹⁹ Applicants are able to sell the property's groundwater rights because the Project converts the property to a nonagricultural use. Accordingly, the sale of the property's groundwater rights is a reasonably foreseeable consequence of the Project's conversion of agricultural land to a solar energy power plant, and must be disclosed and evaluated in the DEIR.

CEQA Guidelines section 15378 defines "project" to mean "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment."²⁰ Courts have explained that "[a] complete description of a project has to address not only the immediate environmental consequences of going forward with the project, but also all "reasonably foreseeable consequence[s] of the initial

https://www.escondido.org/Data/Sites/1/media/pdfs/Utilities/BMPTemporaryBatchPlants.pdf; Environment Protection Authority, State Government of Victoria, Environmental Guidelines for the Concrete Batching Industry (June 1998), available at http://www.epa.vic.gov.au/~/media/Publications/628.pdf.

¹⁵ See DEIR at p. 4.3-27.

¹⁶ Exhibit G, Willow Springs Updated Project Description (July 26, 2012).

¹⁷ See California Storm Water Quality Association, Temporary Batch Plants NS-16 (January 2003), available at

DEIR, Appendix C, Water Supply Assessment at p. 6.
 DEIR, Appendix C, Water Supply Assessment at p. 12.

²⁰ CEQA Guidelines §15378.

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project."²¹ If an EIR "does not adequately apprise all interested parties of the true scope of the project for intelligent weighing of the environmental consequences of the project, informed decisionmaking cannot occur under CEQA" and the environmental review document is inadequate as a matter of law.²²

The sale of the property's groundwater rights may have significant impacts on water availability for the Project, may eliminate the ability of the property to return to agricultural use after Project completion, and could lead to increased groundwater overdraft and other water-supply-related impacts. By failing to disclose in the DEIR that the Project applicants may use the conversion of this land to non-agricultural use as an opportunity to sell the property's groundwater rights, informed decisionmaking cannot occur under CEQA and the environmental review document is inadequate as a matter of law.²³

III. THE DEIR FAILS TO ADEQUATELY ESTABLISH THE EXISTING ENVIRONMENTAL SETTING AGAINST WHICH THE DEIR IS REQUIRED TO EVALUATE THE PROJECT'S POTENTIALLY SIGNIFICANT IMPACTS

The DEIR describes the existing environmental setting inaccurately and incompletely, thereby skewing the impact analysis. The existing environmental setting is the starting point from which the lead agency must measure whether a proposed Project may cause a significant environmental impact.²⁴ CEQA defines the environmental setting as the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, from both a local and regional perspective.²⁵

Describing the environmental setting accurately and completely for each environmental condition in the vicinity of the Project is critical to an accurate, meaningful evaluation of environmental impacts. The importance of having a

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²¹ Laurel Heights Improvement Association v. Regents of University of California (1988) 47 Cal.3d 376, emphasis added; see also Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 449-50.

²² Riverwatch v. Olivenhain Municipal Water Dist. (2009) 170 Cal.App.4th 1186, 1201.

²³ Riverwatch v. Olivenhain Municipal Water Dist. (2009) 170 Cal.App.4th 1186, 1201.

²⁴ See, e.g., Communities for a Better Environment v. S. Coast Air Quality Mgmt. Dist. (March 15,

^{2010) 48} Cal.4th 310, 316; Fat v. County of Sacramento (2002) 97 Cal.App.4th 1270, 1278.

²⁵ CEQA Guidelines §15125(a); Riverwatch v. County of San Diego (1999) 76 Cal.App.4th 1428, 1453.

stable, finite, fixed environmental setting for purposes of an environmental analysis was recognized decades ago.²⁶ Today, the courts are clear that "[b]efore the impacts of a Project can be assessed and mitigation measures considered, an [EIR] must describe the existing environment. It is only against this baseline that any significant environmental effects can be determined."²⁷ In fact, it is:

a central concept of CEQA, widely accepted by the courts, that the significance of a Project's impacts cannot be measured unless the DEIR first establishes the actual physical conditions on the property. In other words, baseline determination is the first rather than the last step in the environmental review process.²⁸

The DEIR must also describe the existing environmental setting in sufficient detail to enable a proper analysis of Project impacts.²⁹ The CEQA Guidelines provide that "[k]nowledge of the regional setting is critical to the assessment of environmental impacts."³⁰ This level of detail is necessary to "permit the significant effects of the Project to be considered in the full environmental context."³¹

The DEIR fails to accurately and adequately describe the environmental setting for the Project, and omits highly relevant information regarding biological resources, drought, and historic pesticide use. An accurate description of the environmental setting is critical to determining Project impacts and identifying appropriate mitigation for those impacts. To comply with CEQA, the County must gather the relevant data and the DEIR must be revised to include accurate and complete descriptions of the existing environmental setting.

A. The DEIR Fails to Disclose that the County Is in the Fourth Year of a Severe Drought.

The DEIR's description of the environmental setting is legally inadequate because it fails to disclose that the Project environment is in the middle of a prolonged and severe drought. California's fourth year of drought has resulted in

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²⁶ County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185.

²⁷ County of Amador v. El Dorado County Water Agency (1999) 76 Cal.App.4th 931, 952.

²⁸ Save our Peninsula Comm. v. Monterey County Bd. of Supervisors (2001) 87 Cal.App.4th 99, 125.

 ²⁹ Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist. (1997) 60 Cal.App.4th 1109, 1121-22.
 ³⁰ CEQA Guidelines § 15125(d).

³¹ Id.

some of the lowest water availability levels on record, leading the Governor to declare a drought State of Emergency.³² The resultant impacts on groundwater have been unprecedented.³³ These drought conditions substantially affect potential water supply impacts, air quality impacts and Valley Fever impacts. The DEIR must be revised to disclose these conditions and take them into account in its evaluation of Project impacts.

B. The DEIR Fails to Adequately Investigate and Describe Existing Hazardous Conditions on the Project Site

The DEIR is legally inadequate because it fails to meaningfully investigate or disclose the existence of contaminated soil or other hazards that may currently exist on the Project site. The DEIR states that no evidence of contamination was found through a review of public databases and of the lists of projects relating to hazardous wastes maintained pursuant to Government Code Section 65962.5. These lists, however, are not comprehensive and cannot be relied upon to assume that no contamination exists at all. For example, agricultural lands that contain hazardous residues of now-banned organic pesticides such as DDT would not show up on these lists; nor would unreported gasoline or pesticide storage leaks.³⁴

Typically, the potential for the presence of soil contamination is evaluated in a Phase I Environmental Site Assessment ("ESA") to identify chemical hazards that may pose a risk to the public, workers, or the environment and which may require further investigation, including soil sampling.³⁵ Phase I ESAs combine a review of regulatory agency databases with interviews with people knowledgeable about the property and a physical inspection by an expert who can identify discolored soils and other potential signs of contamination. Standards for performing a Phase I ESA have been promulgated by the US EPA and are based in part on American Society for Testing and Materials Standard E1527-05.³⁶

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 ³² State of California, California Drought, available at <u>http://ca.gov/drought/;</u> Governor Edmund G. Brown, Executive Order B-28-14, available at http://www.gov.ca.gov/news.php?id=18815.
 ³³ Id.; see also Betina Boxall, Los Angeles Times, Overpumping of Central Valley groundwater creating a crisis, experts say (March 18, 2015), available at:

http://www.latimes.com/local/california/la-me-groundwater-20150318-story.html#page=1.

³⁴ Hagemann Comments. ³⁵ Hagemann Comments.

³⁶ Hagemann Comments.

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Phase I ESAs are conducted to identify any "recognized environmental conditions" (RECs) that may exist and recommendations to address such conditions. By definition, a REC is "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property."³⁷ If RECs are identified, a Phase II ESA is generally conducted, which includes the collection of soil, soil vapor or groundwater samples, as necessary, to identify the extent of contamination and the need for cleanup to reduce exposure potential to the public.³⁸

The failure to perform a Phase I ESA for a Project of this scale (1,402 acres or more than two square miles) is highly unusual and is inconsistent with the standard of practice under CEQA for other projects of this magnitude in Kern County.³⁹ A review of current Kern County renewable energy projects available on the County website showed that every other solar project currently undergoing review had completed Phase I ESAs, including the following:⁴⁰

- Blackwell Solar Project;
- Castor Solar Project;
- Fremont Solar Project (Springbok 2);
- Kingbird Solar Project;
- Pioneer Green;
- RE Astoria Solar Project;
- RE Garland Solar;
- Redwood Cluster Solar Project; and
- SEPV Mojave West Solar Project.

CEQA requires that the County collect facts that enable a complete and accurate description of the Project and its impacts.⁴¹ While the absence of information in an EIR does not per se constitute a prejudicial abuse of discretion, "a

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³⁷ Id., citing American Society for Testing and Materials Standard E1527-05.

³⁸ Hagemann Comments.

³⁹ Hagemann Comments.

⁴⁰ Hagemann Comments, citing <u>http://pcd.kerndsa.com/planning/environmental-</u>

documents?limitstart=0

⁴¹ Sundstrom v. County of Mendocino (1988) 22 Cal.App.3d 296, 311; see also Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal. (1988) 47 Cal.3d 376, 404-05.

prejudicial abuse of discretion occurs if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process."⁴² An "inadequate description of the environmental setting for the project [makes] a proper analysis of project impacts . . . impossible."⁴³ A lead agency is not "allowed to hide behind its own failure to gather relevant data."⁴⁴

Here, the failure to conduct a Phase I ESA has resulted in a curtailed, inadequate and misleading description of the project setting and baseline. By only looking at publically available databases and failing to have a qualified professional conduct a Phase I inspection of the property, the County lacks sufficient information to support its conclusion that no soil contamination exists on the property.

The need to conduct a Phase I ESA is further supported by historical aerial photographs of the Project site that were obtained by hazards expert Matt Hagemann.⁴⁵ Obtaining such imagery is standard practice in preparation of a Phase I ESA to evaluate land uses which may indicate chemical use.⁴⁶ The historical aerial photographs show agricultural activities on the Project site since 1963.⁴⁷

The use of the Project site for agriculture extending to at least 1963 indicates that organochlorine pesticides may have been applied to the Project site.⁴⁸ Organochlorine pesticides, such as DDT, DDE, and chlordane, were used from the 1940s until they were banned in the 1970s.⁴⁹ Despite being banned for about 40

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⁴² Berkeley Keep Jets Over the Bay Committee v. Board of Port Comrs. (2001) 91 Cal.App.4th 1344, 1355.

⁴⁸ Galante Vineyards v. Monterey Peninsula Water Management Dist. (1997) 60 Cal.App.4th 1109, 1122. CEQA defines "environment" as the physical conditions that exist within the area that will be affected by a project, and defines "significant effect on the environment" as a potentially substantial adverse change in the environment. Pub. Resources Code §§ 21060.5, 21068; CEQA Guidelines § 15126.2. Without an accurate baseline description of the environment it is impossible to determine whether the project's impacts will be significant.

⁴⁴ Gentry v. City of Murietta (1995) 36 Cal.App.4th 1359, 1378-1379.

⁴⁵ Hagemann Comments.

⁴⁶ Hagemann Comments.

⁴⁷ Hagemann Comments.

⁴⁸ Hagemann Comments.

⁴⁹ U.S. EPA, DDT – A Brief History and Status.

http://www.epa.gov/pesticides/factsheets/chemicals/ddt-brief-history-status.htm

years, these compounds can persist in soil for hundreds of years.⁵⁰ The California Department of Toxic Substances Control ("DTSC") states:

DDT is ubiquitous to California soil due to heavy agricultural usage prior to cancellation in 1972. Therefore, agricultural land which is currently being developed or considered for new uses [...] frequently contains DDT.⁵¹

Rather than disclosing that hazardous pesticides may have been applied to the site, the DEIR instead evades this issue by stating that the "type, concentration, and frequency of [the use of pesticides and herbicides] is unknown."⁵² This description of past pesticide use is incomplete and fails to disclose potential hazards that require further investigation.⁵³

The DEIR must be revised to include the results of a Phase I ESA and to assess if past land uses, including potential organochlorine pesticide application, have resulted in soil contamination that may pose a risk to construction workers or to nearby residents. Due to the history of agricultural use prior to the 1972 ban of organochlorine pesticides, the Project site should be sampled for the presence of pesticides in soil in accordance with California Department of Toxics Substances Control guidance. ⁵⁴ Without this baseline information, a proper analysis of project impacts is impossible.

C. The DEIR Fails to Adequately Describe the Environmental Setting for Swainson's Hawk, Burrowing Owl and other Special Status Bird Species

The DEIR inaccurately states that the proposed Project area contains lowquality foraging habitat for Swainson's hawk, burrowing owl, and other special status bird species.⁵⁵ This characterization of the environmental setting is incorrect 5-G

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⁵⁰Agency for Toxic Substances and Disease Registry, Public Health Statement for DDT, DDE, and DDD <u>http://www.atsdr.cdc.gov/phs/phs.asp?id=79&tid=20</u>

⁵¹ Office of the Science Advisor, DDT in Soil: Guidance for the Assessment of Health Risks to Humans. <u>http://www.dtsc.ca.gov/AssessingRisk/upload/chap8.pdf</u>, p. 11.

⁵² DEIR at p. 4.8-4.

⁵³ Hagemann Comments.

 ⁵⁴ Department of Toxic Substances Control, Interim Guidance for Sampling Agricultural Properties (Third Revision). <u>http://www.dtsc.ca.gov/Schools/upload/Ag-Guidance-Rev-3-August-7-2008-2.pdf</u>,
 ⁵⁶ DEIR at p. 4.4-55.

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and is not supported by any substantial evidence. None of the biological reports relied upon by the DEIR state that this habitat is "low-quality" foraging habitat. To the contrary, the biological reports show the Project area as literally teeming with Swainson's hawks, burrowing owls and other special status bird species.⁵⁶

For example, up to 15 Swainson's hawks were observed on or within a mile of the Project site and over nine active nests were observed within five miles of the Project site within the last five years.⁵⁷ Swainson's hawks known foraging preference is for areas of low vegetation, such as grasslands or alfalfa fields and in Joshua tree woodlands – exactly the type of land present on the Project site.⁵⁸ No evidence exists in the record to support the claim that the Project area is "lowquality" foraging habitat.⁵⁹

Similarly, numerous burrowing owls, along with suitable habitat, were found present on the Project site by the County's own biological consultants.⁶⁰ Cooper's hawk, ferruginous hawks, loggerhead shrike, northern harrier, prairie falcon and yellow-headed blackbirds, along with suitable foraging habitat, were also found present on the Project site.⁶¹

The DEIR's description of the quality of habitat for Swainson's hawk is further inadequate because it fails to disclose the particular vulnerability of the Antelope Valley population of the Swainson's hawk and fails to disclose how critical the Project habitat is to that population.⁶² The Swainson's hawk population in 5-G

⁵⁶ Smallwood Comments.

⁵⁷ See DEIR at pp. 4.4-13, 4.4-14.

⁵⁸ California Energy Commission and Department of Fish and Game, Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (June 2, 2010); see also Ironwood Consulting, Biological Resources Technical Report Willow Springs Solar Array (December 2011) at p. 21.

⁵⁹ Smallwood Comments.

⁶⁰ Ironwood Consulting, Biological Resources Technical Report Willow Springs Solar Array (December 2011) at p. 20.

⁶¹ Ironwood Consulting, Biological Resources Technical Report Willow Springs Solar Array (December 2011) at pp. 20-21

⁶² Smallwood Comments.

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Antelope Valley has been estimated to consist of just 10 pairs of nesting hawks⁶³ The DEIR must be revised to disclose that the 12 Swainson's hawks that were observed relying on foraging habitat on or adjacent to the Project site represent 60% of the Swainson's hawk population in Antelope Valley.⁶⁴ Accordingly, not only is there no evidence to support the claim that this habitat is "low quality," the available evidence demonstrates the exact habitat – that this is critical foraging habitat whose loss directly threatens the continued viability of the small, satellite Antelope Valley population of the Swainson's hawk.⁶⁵

By mischaracterizing the Project site as "low quality" foraging habitat, the DEIR misleads the public and the decisionmakers as to the true impacts from the conversion of this property and precludes informed decisionmaking regarding appropriated mitigation or alternatives. The DEIR must be revised to correct this error and allow public comment on the proposals given this new information.

D. The DEIR Fails to Disclose or Investigate the Likely Occurrence of Eleven Special Status Species and Incorrectly Designates Five Special Status Species as Having a Low Likelihood of Occurrence

The DEIR fails to adequately disclose the Project setting due to its failure to disclose or investigate the likely occurrence of the following special status species: (1) pallid bat; (2) Western mastiff bat; (3) long-eared myotis; (4) fringed myotis; (5) long-legged myotis; (6) Yuma myotis; (7) northern harrier; (8) sharp-shinned hawk; (9) merlin; (10)peregrine falcon; and (11) barn owl.⁶⁶ Biologist Shawn Smallwood testifies that the geographic range maps of these species overlap the Project site and that the habitat descriptions for these species are consistent with the environment of the Project site.⁶⁷

In addition, Mr. Smallwood testifies that the designations of "low likelihood of occurrence for Townsend's western big-eared bat, desert kit fox, Tehachapi pocket

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⁶³ Smallwood Comments; California Energy Commission and Department of Fish and Game, Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (June 2, 2010). ⁶⁴ Smallwood Comments.

⁶⁵ Smallwood Comments.

⁶⁶ Smallwood Comments.

⁶⁷ Smallwood Comments.

mouse, silvery legless lizard, and coast horned lizard are not supported by substantial evidence because no directed surveys were performed to determine their potential presence.⁶⁸ No acoustic detection was attempted for bats, including the use of species recognition tools using sonograms. No directed surveys for desert kit fox were performed. For Tehachapi pocket mouse, searches for their burrows and tail drags would have been needed, followed by live-trapping in the areas of potential activity.⁶⁹ Focused surveys would have been needed to conclude absence of silvery legless lizard and coast horned lizard, including searches for tracks and use of cover boards and raking.⁷⁰

The failure to accurately disclose and investigate the potential presence of special status species on the Project site precluded informed evaluation of the Project's potential impacts and identification of appropriate mitigation for those impacts. As a result, the Project's evaluation of impacts on biological resources is incomplete and its conclusions are not supported by substantial evidence.

THE COUNTY LACKS SUBSTANTIAL EVIDENCE TO SUPPORT ITS III. CONCLUSIONS IN THE DEIR REGARDING THE PROJECT'S SIGNIFICANT IMPACTS AND FAILS TO INCORPORATE ALL FEASIBLE MITIGATION

CEQA has two basic purposes, neither of which the DEIR satisfies. First, CEQA is designed to inform decisionmakers and the public about the potentially significant environmental impacts of a Project before harm is done to the environment.⁷¹ The DEIR is the "heart" of this requirement.⁷² The DEIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return."78

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⁶⁸ Smallwood Comments.

⁶⁹ Smallwood Comments.

⁷⁰ Smallwood Comments.

⁷¹ CEQA Guidelines § 15002(a)(1); Berkeley Keep Jets Over the Bay v. Bd. of Port Commissioners. (2001) 91 Cal.App.4th 1344, 1354; County of Inyo v. Yorty (1973) 32 Cal.App.3d 795, 810.

⁷² No Oil, Inc. v. City of Los Angeles (1974) 13 Cal.3d 68, 84. ⁷⁸ County of Inyo v. Yorty (1973) 32 Cal.App.3d 795, 810.

To fulfill this function, the discussion of impacts in a DEIR must be detailed, complete, and "reflect a good faith effort at full disclosure."⁷⁴ An adequate DEIR must contain facts and analysis, not just an agency's conclusions.⁷⁵ CEQA requires a DEIR to disclose all potential direct and indirect, potentially significant environmental impacts of a project.⁷⁶

Second, if a DEIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures to minimize these impacts.⁷⁷ CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.⁷⁸ Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon the DEIR to meet this obligation.

Under CEQA, an EIR must not only discuss measures to avoid or minimize adverse impacts, but must ensure that mitigation conditions are fully enforceable through permit conditions, agreements, or other legally binding instruments.⁷⁹ A CEQA lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility.⁸⁰ This approach helps "insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug."⁸¹

In this case, the DEIR fails to satisfy the basic purposes of CEQA. The DEIR's conclusions regarding, impacts to air, agricultural, biological and water resources, and regarding impacts from the presence of hazards and hazardous 5-I

⁷⁴ CEQA Guidelines § 15151; San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal.App.4th 713, 721-722.

⁷⁵ See Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 568.

⁷⁶ Pub. Resources Code § 21100(b)(1); CEQA Guidelines § 15126.2(a).

¹⁷ Pub. Resources Code §§ 21002.1(a), 21100(b)(3); CEQA Guidelines § 15002(a)(2) and (3); Berkeley Keep Jets Over the Bay v. Bd. of Port Commissioners. (2001) 91 Cal.App.4th 1344, 1354; Laurel Heights Improvement Assn. v. Regents of the University of Cal. (1998) 47 Cal.3d 376, 400.

⁷⁸ Pub. Resources Code §§ 21002-21002.1.

⁷⁹ CEQA Guidelines, § 15126.4, subd. (a)(2).

⁸⁰ Kings County Farm Bur. v. County of Hanford (1990) 221 Cal.App.3d 692, 727-28 (a groundwater purchase agreement was inadequate mitigation because there was no record evidence that replacement water was available).

⁸¹ Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn. (1986) 42 Cal.3d 929, 935.

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materials, are not supported by substantial evidence. In preparing the DEIR, the County: (1) failed to provide sufficient information to inform the public and decisionmakers about potential environmental impacts; (2) failed to accurately identify and adequately analyze all potentially significant environmental impacts; (3) failed to incorporate adequate measures to mitigate environmental impacts to a less than significant level; and (4) failed to support its findings with substantial evidence. The County must correct these shortcomings and recirculate a revised DEIR for public review and comment.

A. The DEIR's Agricultural Resource Analysis Is Not Supported by Substantial Evidence and Relies on an Incorrect, Inconsistent and Misleading Baseline

The DEIR's conclusion that the Project's conversion of agricultural land to non-agricultural uses is not a significant impact contradicts the County's own threshold of significance, relies upon an incorrect, inconsistent and misleading baseline, violates the County's own policies for evaluating the conversion of agricultural land to Solar PV use, and arbitrarily ignores the expert opinion of the California Department of Conservation.

As set forth in the DEIR and the Kern County CEQA Implementation Document, the threshold for determining whether a project's impact on agricultural resources will be significant is if it: "Converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses."⁸² The DEIR states that the Project site contains 119.5 acres of Prime Farmland, 198.1 acres of Farmland of Statewide Importance and 113.2 acres of Unique Farmland, as shown on the 2012 maps pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Accordingly, the Project's conversion of this designated farmland to non-agricultural is a significant impact under the threshold of significance established by Kern County and set forth in the DEIR.

The DEIR nonetheless declines to find the conversion of Project farmland to be significant on the grounds that: (1) these parcels would not be considered Prime Farmland, Farmland of Statewide Importance or Unique Farmland in future

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⁸² DEIR, p. 4.2-10.

mapping exercises because the Project site has not been actively farmed for more than 5 years; and (2) that the Project does not have long-term viability for farmland use due to the increasing scarcity and price of water. The threshold of significance established by Kern County and the DEIR, however, does not depend on speculation of how farmland would be designated in "future mapping exercises." Instead, it determines significance based upon the land's current designation on the Farmland Mapping and Monitoring Program maps. The DEIR's failure to apply its own threshold of significance is arbitrary and capricious.

Moreover, the DEIR's conclusion that the site does not contain significant Prime, Important or Unique Farmland due to the lack of regular or recent agricultural activity on the parcels is not supported by substantial evidence and relies on an incorrect and inconsistent baseline analysis. In particular, the DEIR fails to take into account that the cessation of agricultural activities on the Project property coincided with the filing of the application for this Project and the filing of the Notice of Preparation ("NOP"). Prior to the filing of the NOP in 2010, satellite photos show that the Project site supported regular agricultural activities for the past 50 years, if not longer.⁸³ It was only upon the current application for this Project that agricultural activities ceased.

CEQA guidelines require "a description of the physical conditions in the vicinity of the project, as they exist at the time the notice of preparation is published and specifies that this environmental setting will normally constitute the baseline."⁸⁴ Here, the NOP was issued in 2010, so the baseline environmental setting for agricultural resources would be the agricultural activity that occurred in the years immediately prior to the issuance of the NOP. The Supreme Court has stated that the reason for looking at conditions at the time of the NOP is so that a "temporary lull or spike in operations that happens to occur at the time environmental review for a new project begins should not depress or elevate the baseline."⁸⁵ Otherwise applicants would be encouraged to suspend or increase operations artificially, simply in order to establish a more favorable baseline.⁸⁶

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⁸⁸ Hagemann Comments.

⁸⁴ CEQA Guidelines section 15125, subd. (a).

⁸⁶ Communities for a Better Environment v. South Coast Air Quality Management District (2010) 48 Cal.4th 310, 328.

 $^{^{86}}$ Id.

Furthermore, the DEIR's reliance on the cessation of agricultural activities during the pendency of this environmental review directly contradicts the DEIR's reliance on the agricultural activities occurring during the five years prior to the NOP for its analysis of water supply impacts. In its water analysis, the DEIR establishes the baseline water use for the Project site by looking at the estimated water use during agricultural activities from 2005 to 2009. Pursuant to this analysis, the DEIR determines that the baseline water use for this Project is 1400 acre feet per year, even though the Project has not used any water since 2009. The DEIR's cherry picking of favorable baselines is arbitrary and contradictory, rendering its analysis of both agricultural impacts and water supply impacts legally inadequate.

The assumption that agricultural activity on the Project site would have to cease because of water limitations is also not supported by any analysis or substantial evidence. The water supply assessment prepared for the Project states that the agricultural properties have vested groundwater rights and have historically used up to 1400 acre feet of water per year. While adjudication of these groundwater rights is ongoing, the DEIR estimates that these water rights may be reduced by up to 35%. Assuming maximum Groundwater extraction rights of 1400 acre feet per year, a 35% reduction of 1400 acre feet would be 910 acre feet. According to Table 2 of the water supply assessment, the amount of water used in two of the last five years of agricultural production was well under 910 acre feet, with one other year just a little over 910 acre feet. The assumption that water limitations would make it impossible or highly unlikely that agricultural activities would continue on these sites is simply not supported by the evidence in the record.

The assumption that agricultural activities on this Project would cease on these parcels even without this Project is also contradicted by the DEIR's assumption that indirect impacts from the conversion of this agricultural land would be less than significant because the entire Project would be rezoned for agricultural use and the Project would require a decommissioning plan and financial assurances to promote the conversion of the site back to agricultural when the Solar power plant ceased operations.⁸⁷ The DEIR cannot, on the one hand, assume that agricultural activities would resume at the end of the Project's operational life, and on the other hand assume that the property does not contain useful agricultural land.

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⁸⁷ DEIR at p. 4.2-12.

In any case, the baseline to be considered when determining significant impacts is the current baseline of parcels designated as Prime, Important and Unique Farmland. Speculation as to whether the property would remain so designated or would abandon agricultural activities altogether is not relevant.

The DEIR's findings are also internally inconsistent. While the executive summary and Section 4.2 of the DEIR find that the conversion of Project farmland is a less than significant impact, Section 5.2 of the DEIR finds that this conversion of farmland would be a significant and unavoidable impact even after mitigation.⁸⁸ These numerous internal contradictions render the DEIR's findings regarding agricultural resources arbitrary and capricious.

The DEIR's analysis is also inadequate because it fails to consider and contradicts the expert comments submitted by the California Department of Conservation ("DOC"). The DOC submitted a letter dated April 7, 2010 in response to the NOP for this Project. This letter states that "the soils within the project boundaries are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance." The DOC further finds that the "loss of agricultural land represents a permanent reduction in the State's agricultural land resources" and "should be deemed an impact of at least regional significance." DOC then recommends a variety of mitigation measures that should be imposed. These include requiring "permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land."

The DEIR not only fails to consider the DOC's expert findings and mitigation recommendations, it fails to disclose that DOC commented on the Project at all. Furthermore, DEIR Appendix A2, which claims to include all comments submitted on the NOP, does not include the DOC NOP comment letter.

The DEIR's analysis is also inadequate because it fails to comply with Kern County's own policies on evaluating and mitigating impacts related to the conversion of agricultural uses for solar development. As noted in the DEIR, Kern County Board of Supervisors approved a "Pathway for Processing Conversion of Agricultural Land to Solar PV Use in the Central Valley" ("Pathway Process").⁸⁹

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⁸⁸ DEIR at p. 5.2.

⁸⁹ DEIR (at p. 4.2-12).

The Pathway Process requires staff to consider farmland to be productive if it has been designated Prime, Important or Unique Farmland and has been actively farmed five years or more out of the last ten years. Even if staff did not use the date of the NOP as the baseline for determining the significance of agricultural resources on the Project site, the project farmland would still be considered productive under the Pathway Process because it has been actively farmed for 5 of the past 10 years.⁹⁰ The DEIR's failure to apply the County's own CEQA guidelines for determining significance was arbitrary and capricious.

The DEIR also fails to consider and apply the mitigation measures set forth in the Pathway Process. Under the Pathway Process, if a site has been actively farmed for 5 of the past 10 years or is otherwise actively productive, then "CEQA will require mitigation for the loss of farmland at a ratio of 1 to 1." Replacement land must be in Kern County. In addition to the standard replacement land, the Project mitigation for land that has been actively farmed for 5 of the past 10 years must include one of the following: (a) replacement land shall be acquired at a ratio of up to 1.5 to 1; or (b) the Project shall fund, at an equivalent amount, a program that benefits the long term stability of agricultural production in Kern County, such as the Shafter Cotton Research Station, local FFA or 4-H organizations or agricultural pest management programs. In addition, the Pathway Process requires a condition to be placed on the project requiring the submittal of a vertebrate pest and weed management plan.

The DEIR must be revised to disclose that the conversion of farmland is a significant Project impact and to evaluate and establish mitigation measures to minimize these impacts, as set forth in the Pathway Process.

B. The DEIR Fails to Adequately Mitigate Cumulative Impacts to Agricultural Resources

The DEIR finds that the conversion of the Project site from agricultural land to non-agricultural uses would have significant and unavoidable cumulative impacts on the loss of agricultural land. Instead of requiring the purchase of

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⁹⁰ Even if the Project site had been actively farmed for only one to four out of the last ten years, the Pathway Process would require the EIR to analyze the reasons why the site has not been farmed for more than four years to determine if the site is adequate for farming activities. Here, the primary reason the site has not been farmed is because of the pendency of this application.

compensatory mitigation land as set forth in the Pathway Process, the County instead relies upon Implementation of Mitigation Measure MM 4.2-1 to partially mitigate this impact. The reliance on Mitigation Measure MM 4.2-1 to partially mitigate this impact is arbitrary and capricious because this mitigation measure has no relevance to the cumulative loss of agricultural land.

MM 4.2-1 is intended to mitigate impacts that may occur if the operation of the Project finds itself in conflict with the operation of nearby agricultural activities. MM 4.2-1 requires only that the following note shall appear on all site plans, "The County of Kern encourages operation of properly conducted business in agriculture, oil, mining, manufacturing, and other nonresidential operations within the County. If the property you are purchasing is located near these businesses, you may be subject to inconveniences or discomforts arising from such operations to the extent allowed by law. This notice does not waive your legal rights." The DEIR fails to explain how this mitigation measure would, in any way, mitigate the cumulative impacts from the loss of agricultural resources due to solar projects in the region. The assumption that this mitigation measure minimizes the cumulative impacts of agricultural resource loss is not supported by substantial evidence. Moreover, because the cumulative impacts remain significant even with this "mitigation", the County must also consider all other feasible mitigation to determine if it also should be imposed. Such other feasible mitigation would include, at a minimum, the compensatory land mitigation set forth in the Pathway Process.

C. The DEIR Fails to Adequately Disclose, Analyze and Mitigate Significant Air Quality Impacts

The DEIR's evaluation of the Project's air quality impacts contains significant errors and omissions and, as a result, its conclusions are not supported by substantial evidence.⁹¹ Construction of the Project, which would occur over the course of approximately 24 months,⁹² would generate air pollutant emissions from fuel combustion and exhaust from construction equipment and vehicle traffic (construction worker commute and delivery truck trips) and grading and site work (construction equipment), as well as from fugitive dust particulate matter emissions due to grading, material handling, wind erosion, and re-entrained road dust from

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⁹¹ Pless Comments.

⁹² DEIR at p. 3-21.

vehicle travel on paved and unpaved roads. The DEIR presents emission estimates for six air pollutants – reactive organic gases ("ROG"), nitrogen oxides ("NOx"), carbon monoxide ("CO"), sulfur dioxide ("SO₂"), particulate matter equal to or smaller than 10 micrometers ("PM10"), and particulate matter equal to or smaller than 2.5 micrometers ("PM2.5")⁹³ – and, based on a comparison with thresholds of significance established by the Eastern Kern Air Pollution Control District ("EKAPCD"), concludes that even with implementation of the recommended mitigation measures, Project construction would result in significant and unavoidable impacts on air quality due to emissions of NOx, CO, and PM10 and would result in a cumulatively considerable net increase for these pollutants.⁹⁴ For the reasons discussed below, the DEIR's analysis is substantially flawed and fails to identify and adequately mitigate significant impacts on air quality.

1. The DEIR Estimates Construction Emissions Using an Outdated Computer Model In Violate of County Policy

The DEIR's emission estimates for the construction phase of the Project were prepared using the California Emissions Estimator Model ("CalEEMod"), version 2011.1.1.⁹⁵ This version of the model has been superseded three times by versions 2013.2, 2013.2.1, and 2013.2 which were released in July 2013, September 2013, and October 2013, respectively. Compared to version 2011.1.1, these versions incorporated revised emission factors for entrained fugitive road dust emissions; incorporated the California Air Resources Board's EMFAC2011 and OFFROAD databases; added nitrous oxide ("N₂O") calculations from off-road and on-road sources; corrected the unmitigated fugitive dust emissions of PM10 from haul trucks; updated climate zone options; and modified the running loss equation for emissions of ROG from on-road vehicles to match emission factors (per vehicle trip instead of per mile driven).⁹⁶

The County's 2006 Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports specifically advise:

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⁹⁸ DEIR at Tables 4.3-5 and 4.3-6.

⁹⁴ DEIR at pp. 4.3-36 and 4.3-42.

⁹⁵ Pless Comments; DEIR at Table 4.3-5.

⁹⁶ Pless Comments; CalEEMod, List of Revisions; <u>http://www.aqmd.gov/docs/default-source/caleemod/Model/2013.2.2/revisions-2013-2-2.pdf?sfvrsn=0</u>.

> The latest version of all models shall be used for the appropriate application. It is the responsibility of the air quality preparer to use professional judgment in ensuring that the very latest version of a model is used. For purposes of timing, the determination of whether a model is current or not shall be based on when the EIR is being printed for distribution to the public, not when the administrative draft is submitted to the County.97

At the time the DEIR was printed for distribution to the public, February 2015, the latest version of CalEEMod was version 2013.2.2.98 The DEIR's reliance on out-of-date air modeling violates the County's own guidelines and is arbitrary and capricious. Moreover, when combined with the other errors in the air quality analysis, the reliance on the out-of-date air modeling renders the DEIR's conclusion regarding the significance of air quality impacts unreliable and unsupported by substantial evidence. This error, in conjunction with the other errors set forth herein, results in substantially underestimated air quality impacts, rendering the DEIR deficient as an informational document and rendering the DEIR's findings unreliable and unsupported by substantial evidence.⁹⁹ A revised DEIR must be prepared using the latest CalEEMod version to ensure accurate emission estimates and analysis of associated impacts on air quality during Project construction.

2. The DEIR's Emission Estimates Are Improperly Phased for Determining the Significance of Annual Project **Construction Emissions**

The DEIR relies on the EKAPCD's annual thresholds of significance to assess impacts on air quality during construction, which, according to the DEIR, would last approximately 24 months. 100 Yet, rather than comparing construction emissions for two consecutive 12-month periods to the EKAPCD's annual thresholds of significance, the DEIR arbitrarily splits the construction period into three calendar years starting in July 2013, as shown in the following chart. What's more,

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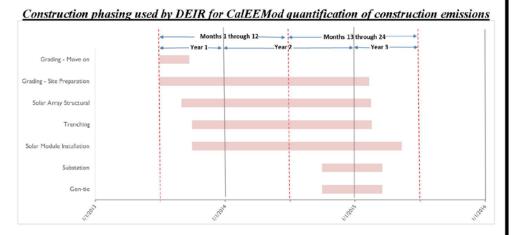
⁹⁷ County of Kern, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports, December 1, 2006;

http://www.co.kern.ca.us/planning/pdfs/AirQualityAssessmentPreparationGuidelines.pdf.

⁹⁸ Pless Comments.

⁹⁹ Pless Comments. ¹⁰⁰ DEIR at p. 3-21.

the DEIR estimates construction for only 21 months (July 2013 through March 2015), rather than 24 months. 101



This approach arbitrarily and misleadingly distributes 21 months of construction emissions over three calendar years. As a result of this manipulation, the DEIR incorrectly finds that mitigated construction emissions for all pollutants in Year 1 (July 2013 through December 2013) and Year 3 (January 2015 through March 2015) would be below the EKAPCD's annual significance thresholds and would therefore not be significant. Since the actual start of Project construction is not foreseeable, emissions should be estimated for consecutive 12-month periods.¹⁰²

Air quality expert Petra Pless prepared mitigated construction emissions for two 12-month periods based on the DEIR's emission estimates, adjusting emissions for the number of months each construction phase would occur during a 12-month construction period. The tables below compares Project emissions estimated for the two consecutive 12-month construction periods to thresholds of significance established by the EKAPCD.¹⁰³

¹⁰¹ Pless Comments.

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¹⁰² Pless Comments.

¹⁰³ Pless Comments.

Mitigated construction emissions for Months 1 through 12 (in tons/year)							
Construction Phase	Months	ROG	NOx	CO	SO ₂	PM10	PM2.5
Grading – Move On	3	0.57	3.81	3.45	0.01	0.55	0.25
Grading - Site Preparation	12	2.62	16.66	13.90	0.02	14.08	2.50
Solar Array Structural	10	0.80	3.83	10.25	-	0.65	0.30
Solar Module Installation	9	1.38	5.58	8.94	-	0.93	0.36
Trenching	9	1.68	5.85	6.15	-	0.54	0.42
Substation Construction	-	-	-	-	-	-	-
Gen-tie Line Construction	-	~	~	~	-	-	-
Water Consumption	12	0.92	9.80	5.68	0.06	0.38	0.36
	Total	7.97	45.53	48.37	0.09	17.13	22.96
EKAPCD Threshold of	Significance	25	25	25	27	15	-
	Significant?	no	YES	YES	no	YES	~

Mitigated construction emissions for Months 13 through 24 (in tons/year)

Construction Phase	Months	ROG	NOx	со	SO ₂	PM10	PM2.5
Grading – Move On	-		Ξ.	-	-	÷	-
Grading - Site Preparation	12	2.90	18.37	14.70	0.03	13.74	1.82
Solar Array Structural	12	1.02	4.98	8.50	0.01	0.86	0.38
Solar Module Installation	12	2.25	9.10	14.15	0.02	1.58	0.61
Trenching	12	3.08	10.70	10.92	0.02	1.00	0.75
Substation Construction	6	0.76	4.60	3.68	-	0.42	0.28
Gen-tie Line Construction	6	0.54	3.36	3.18	-	0.28	0.20
Water Consumption	12	0.91	9.80	5.67	0.05	0.37	0.35
	Total	11.46	60.91	60.80	0.13	18.25	4.39
EKAPCD Threshold of	Significance	25	25	25	27	15	~
	Significant?	no	YES	YES	no	YES	-

As shown, Project construction would emit NOx, CO, and PM10 at levels exceeding the EKAPCD's annual thresholds of significance during both 12-month construction periods even based on the DEIR's estimates for mitigated emissions. Contrary to what the DEIR suggests, these emissions will not be reduced by the proposed mitigation measures because their control efficiency is already accounted for in the mitigated emission estimates.¹⁰⁴ Further, as discussed below, the DEIR's mitigated emission calculations relied upon in the above tables are substantially

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¹⁰⁴ Pless Comments.

underestimated. When corrected, mitigated emissions of ROG will also likely exceed the EKACPD's threshold of significance. 105

3. The DEIR Underestimates Construction Emissions by Failing to Use the Correct Wind Speed in its Air Modeling Calculations

Construction of the Project would result in emissions of fugitive dust particulate matter particularly during grading of and cut-and-fill activities at the site, as well as from wind erosion of graded areas and storage piles. Fugitive dust emissions increase with increasing wind speed.¹⁰⁶ The DEIR states that average wind speed in the Project area ranges from 5.1 to 7.6 miles per hour ("mph") throughout the year.¹⁰⁷ However, the DEIR's estimates for emission of particulate matter, modeled with CalEEMod, rely on an average wind speed of only 2.7 mph,108 and, thus, underestimate fugitive emissions of PM10 and PM2.5.109 The DEIR must be revised to disclose and evaluate PM10 and PM2.5 using the correct average wind speed for the Project site. This error, in conjunction with the other errors set forth herein, results in substantially underestimated air quality impacts, rendering the DEIR deficient as an informational document and rendering the DEIR's findings unreliable and unsupported by substantial evidence.¹¹⁰ A revised DEIR must be prepared using the correct wind speed in the air modeling calculations to ensure accurate emission estimates and analysis of associated impacts on air quality during Project construction.

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¹⁰⁵ Pless Comments.

 $^{^{106}}$ Pless Comments; see EPA, Compilation of Air Pollutant Emission Factors (November 2006) § 13.2.4 Aggregate Handling and Storage Piles [13.2.4.3 Predictive Emission Factor Equations include a multiplier "U" defined as "mean wind speed"] and §13.2.5 Industrial Wind Erosion [13.2.5.3 Predictive Emission Factor Equation includes a multiplier "Pi" defined as "erosion potential corresponding to the observed (or probable) fastest mile of wind for the ith period between disturbances"], available at http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0204.pdf and http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0204.pdf and http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0204.pdf and http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0204.pdf and http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0204.pdf and

¹⁰⁷ DEIR at p. 4.3-1.

¹⁰⁸ See DEIR, Appendix E.

¹⁰⁹ Pless Comments.

¹¹⁰ Pless Comments.

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4. The DEIR Underestimates Construction Emissions by Failing to Include Construction and Operation of the Temporary Concrete Batch Plant

Construction of the footings and foundations for the solar arrays and concrete pads for the substation and O&M building would require large amounts of concrete.¹¹¹ The DEIR's executive summary states that the Project includes seeking a CUP to allow for construction of an on-site temporary concrete batch plant.¹¹² Yet, the DEIR air quality section does not quantify emissions associated with raw material delivery and operation of a concrete batch plant; instead the DEIR's air quality analysis assumes that concrete would be delivered to the Project site from a local source approximately 40 miles away and assuming 3,480 one-way deliveries.¹¹³

Dr. Pless testifies that constructing and operating an on-site temporary concrete batch plant instead of trucking concrete in from 40 miles away will not reduce project emissions. To the contrary, the on-site temporary concrete batch plant is likely to increase emissions, resulting in the DEIR's air quality analysis understating Project impacts.¹¹⁴

First, on-site concrete batching requires delivery of a number of raw materials including cement, sand, coarse aggregate (gravel, crushed stone, iron blast furnace slag, barite, magnetite, limonite, ilmenite, iron, steel, sintered clay, shale, slate, diatomaceous shale, perlite, vermiculite, slag pumice, cinders, or sintered fly ash) and supplementary cementitious materials, also called pozzolans, (natural pozzolans, fly ash, ground granulated blast-furnace slag, and silica fume) which make the concrete mixtures more economical, reduce permeability, increase strength, or influence other concrete properties.¹¹⁵ These materials would likely come from considerably further distances than the 40 miles assumed by the DEIR for the local source of concrete. Thus, exhaust and re-entrained road dust emissions are likely substantially underestimated.¹¹⁶

¹¹⁴ Pless Comments.

¹¹⁵ EPA, AP-42, 11.12 Concrete Batching, June 2006;

http://www.epa.gov/ttnchie1/ap42/ch11/final/c11s12.pdf.

¹¹⁶ Pless Comments.

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¹¹¹ DEIR at p. 4.3-27.

¹¹² DEIR at p. 1-1.

¹¹³ Pless Comments; DEIR at p. 4.3-27.

Second, on-site manufacture of concrete would require substantial amounts of water, which may be delivered via truck if groundwater water rights are curtailed as expected by the ongoing adjudication.¹¹⁷ The DEIR only accounts for the availability of 900 acre-feet of groundwater for drinking water, soil conditioning, and dust suppression; it does not evaluate water availability for concrete batching.¹¹⁸ Furthermore, combustion exhaust emissions from trucks delivering water to the site must be included in the emission estimates.¹¹⁹

Third, in addition to off-site vehicle exhaust and entrained fugitive road dust emissions associated with material deliveries, an onsite batch plant would generate fugitive particulate matter emissions.¹²⁰ These emissions would consist primarily of cement and pozzolan dust, along with some aggregate and sand dust emissions. Particulate matter from concrete batch plants also often contains metals. Point source emissions come from the transfer of cement and pozzolan material to silos, and these are usually vented to a fabric filter. Fugitive sources include the transfer of sand and aggregate, truck loading, mixer loading, vehicle traffic, and wind erosion from sand and aggregate storage piles.¹²¹ These emissions can be estimated based on equations and emission factors *Compilation of Air Pollutant Emission Factors* ("AP-42"), Section 11.12 Concrete Batching, developed by the U.S. Environmental Protection Agency ("EPA").¹²²

Fourth, a concrete batch plant requires electricity to power a variety of equipment including mixers, cement batchers, aggregate batchers, conveyors, chillers, dust collectors, etc.¹²³ Given the location of the Project site, electricity will likely be generated by a diesel-powered engine. Combustion exhaust from this diesel engine must be included in the emission estimates. Diesel engine emissions may also pose significant health risks to nearby residents.¹²⁴ These risks must also be evaluated in a revised EIR.

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¹¹⁷ DEIR at p. 3-24.

¹¹⁸ DEIR at p. 3-24. ¹¹⁹ Pless Comments.

¹²⁰ Pless Comments.

¹²¹ Pless Comments.

¹²² Pless Comments.

¹²³ Pless Comments.

¹²⁴ Pless Comments.

The failure to evaluate emissions from the concrete batch plant, in conjunction with the other errors set forth herein, results in substantially underestimated air quality impacts, rendering the DEIR deficient as an informational document and rendering the DEIR's findings unreliable and unsupported by substantial evidence. A revised DEIR must be prepared that includes evaluation of emissions related to the concrete batch plant to ensure accurate emission estimates and analysis of associated impacts on air quality during Project construction.

5. The DEIR Fails to Properly Determine the Significance of Particulate Matter Concentrations Resulting from Project Construction

Project construction may result in exposure of sensitive receptors to substantial pollutant concentrations. Sensitive receptors are defined as land uses where sensitive population groups (*e.g.*, children, the elderly, the acutely ill and the chronically ill) are located. These land uses include residences, schools, childcare centers, retirement homes, convalescent homes, medical care facilities, and recreational facilities.¹²⁵ The DEIR, Table 4.3-1, identifies four residences within less than half a mile of the Project site as sensitive receptors; the closest residence is located 105 feet from the Project site.

The DEIR presents modeled ambient concentrations of PM10 and PM2.5 at the nearest residence of about 17 and 16 micrograms per cubic meter (" μ g/m³"), respectively, to assess Project construction impacts on sensitive receptors. The DEIR recognizes that fugitive dust and exhaust particulate matter emissions generated during Project construction may adversely impact sensitive receptors. The DEIR states that these pollutant concentrations in ambient air would not exceed the respective 24-hour national or state ambient air quality standards ("NAAQS" and "CAAQS"); would only be temporary in nature; would not last over the entire duration of the Project's construction period; would disperse rapidly from the construction site; would not be concentrated in any one area; and would be mitigated by Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-5, and MM 4.3-10. Thus, the DEIR concludes, Project construction would not expose nearby sensitive receptors to a substantial increase in PM10 and PM2.5 concentrations and impacts

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¹²⁵ DEIR at p. 4.3-42.

on air quality would be less than significant. 126 This analysis is not supported by substantial evidence.

First, contrary to the County's explicit instructions in its 2006 Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports to include all model outputs in EIRs,¹²⁷ the presented 24-hour concentrations of PM10 and PM2.5 in ambient air, allegedly modeled with EPA's AERSCREEN model,¹²⁸ are not supported by any modeling input/output files.¹²⁹

Second, the modeling results for the Project's construction emissions of 24hour concentrations of PM10 and PM2.5 presented by the DEIR, 16.77 μ g/m³ and 16.32 μ g/m³ do not appear to actually be modeling results for this file, but rather appear to be the modeling results for the nearby Rosamond Solar Array Project. Dr. Pless testifies that the modeling results for the Project's construction emissions of 24-hour concentrations of PM10 and PM2.5 presented by the DEIR, 16.77 μ g/m³ and 16.32 μ g/m³, respectively, are exactly the same as those presented in the Recirculated DEIR for the nearby Rosamond Solar Array Project, which was prepared by the same consultant, RBF consulting.¹³⁰ Because the distances to the nearest sensitive receptors and the maximum daily emissions of PM10 and PM2.5 for the two projects determined with CalEEMod are not the same, the only explanation for this coincidence is that RBF Consulting inadvertently used the Rosamond Solar Array Project modeling results for the Willow Springs DEIR. Because the County has failed to support the modeling results with modeling input/output files, it lacks any substantial evidence to rebut the evidence that the

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¹²⁶ DEIR at pp. 4.3-43, 4.3-44.

¹²⁷ County of Kern, *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports*, p. 2 ("SCREEN3 or AERMOD modeling of maximum 24-hour average concentration of Primary PM10 and PM2.5 at the project boundary, with comparison to National Ambient Air Quality Standards (NAAQS), Kern County CEQA thresholds and the applicable Air District (San Joaquin Valley Air Pollution Control District and/or Kern County Air Pollution Control District) thresholds. The model output shall be included in the report.");

http://www.co.kern.ca.us/planning/pdfs/AirQualityAssessmentPreparationGuidelines.pdf. ¹²⁸ DEIR, Appendix E at p. 54.

¹²⁹ Pless Comments.

¹⁸⁰ Pless Comments; County of Kern, Rosamond Solar Array Project by Rosamond Solar, LLC, Recirculated Draft Environmental Impact Report, SCH# 2010031030, Revised July 2014 (hereafter "Rosamond Recirculated DEIR"), Table 4.3-8 and App. G, Table 8; <u>http://pcd.kerndsa.com/planning/environmental-documents/334-rosamond-solar</u>.

Rosamond Solar Array Project modeling results were erroneously used for the Willow Springs $\rm DEIR.^{131}$

Third, even assuming arguendo, that the modeled 24-hour concentrations of PM10 and PM2.5 presented by the DEIR had been modeled correctly, review of the AERSCREEN modeling for the Rosamond Solar Array Project indicates that the modeling only took into account exhaust emissions of these pollutants. Dr. Pless reviewed the CalEEMod outputs for the Rosamond Solar Array Project and found that the daily emission rates calculated by RBF Consulting only accounted for combustion exhaust emissions and did not include fugitive dust emissions.¹³² In order to determine whether Project construction emissions would result in a violation or contribute substantially to an existing violation of an ambient air quality standard, all emission sources must be accounted, not just source emissions. The table below presents revised maximum 24-hour ambient concentrations of PM10 and PM2.5 including fugitive dust and exhaust emissions for the Rosamond Solar Array Project, as calculated by Dr. Pless.¹³³

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Revised 24-hour ambient concentrations of PM10 and PM2.5	from Rosamond Solar Array Project construction
emissions at nearest sensitive recentor compared to (CAAOS and NAAOS (exceedances hold)

	PM10	PM2.5
Maximum daily emissions	(lbs/day)	(lbs/day)
Fugitive dust	300.04	3.87
Exhaust	28.57	27.79
Total	328.97	31.66
Maximum 24-hour ambient concentration at nearest sensitive receptor	(µg/m ³)	(µg/m ³)
Modeled	16.77	16.32
Revised	193.09	18.59
NAAQS	150	35
CAAQS	50	-°

As shown, the revised maximum 24-hour ambient concentration of PM10 at the nearest sensitive receptor resulting from construction emissions including fugitive dust and exhaust emissions, 193 μ g/m³, are high enough to result in a violation of the state and national 24-hour ambient air quality standards of 50 μ g/m³ and 150 μ g/m³, respectively.

¹³¹ Pless Comments.

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¹³² Pless Comments.

¹³³ Pless Comments.

Without access to the modeling input/output files, there is no evidence that RBF Consulting did not make the same error here. Using the same approach for the Project, assuming, *arguendo*, that the PM10 and PM2.5 24-hour concentrations presented in DEIR, Table 4.3-8, had been correctly modeled for Project construction exhaust emissions, revised total 24-hour concentrations of PM10 and PM2.5 including fugitive dust emissions are estimated by Dr. Pless in the table below.¹³⁴

Revised 24-hour ambient concentrations of PM10 and PM2.5 at nearest sensitive receptor from Project
construction emissions compared to CAAOS and NAAOS (exceedances bold)

construction emissions compared to CAAQS and NAAQS (exceedances bold)				
Maximum daily emissions (lbs/day)	PM10 Emissions	PM10 Emissions		
Fugitive dust	122.40	4.09		
Exhaust	28.57	27.79		
Total	150.97	31.88		
Maximum ambient concentration at nearest sensitive receptor $(\mu g/m^3)$	24-hour PM10	24-hour PM2.5		
Modeled	16.77	16.32		
Revised	88.61	18.72		
NAAQS	150	35		
CAAQS	50	_°		

As shown, the revised maximum 24-hour ambient concentration of PM10 at the nearest sensitive receptor resulting from Project construction emissions including fugitive dust and exhaust emissions, 87 μ g/m³, are high enough to result in a violation of the state 24-hour ambient air quality standard of 50 μ g/m³. These results would not be reduced by implementation of the proposed mitigation measures as they represent mitigated emissions which already include the control efficiency of the proposed mitigation measures. Moreover, these measures do not take into account additional emissions that would result from the operation of the concrete batch plant and the diesel generator necessary to operate the batch plant. This is a new significant impact that was not identified by the DEIR.¹³⁵ Accordingly, a revised DEIR must be prepared to disclose this impact and identify feasible mitigation measures to minimize impacts from these emissions.

Fourth, the County's 2006 Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports explicitly recommend that 24hour concentrations of PM10 and PM2.5 in ambient air be modeled at the Project

¹³⁴ Pless Comments.

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¹³⁵ Pless Comments.

boundary; here, the DEIR presents modeling conducted for the nearest sensitive receptor, rather than the Project boundary.¹³⁶

SCREEN3 or AERMOD modeling of maximum 24-hour average concentration of Primary PM10 and PM2.5 at the project boundary, with comparison to National Ambient Air Quality Standards (NAAQS), Kern County CEQA thresholds and the applicable Air District (San Joaquin Valley Air Pollution Control District and/or Kern County Air Pollution Control District) thresholds. The model output shall be included in the report.¹³⁷

This error, in conjunction with the other errors set forth herein, results in substantially underestimated air quality impacts, rendering the DEIR deficient as an informational document and rendering the DEIR's findings unreliable and unsupported by substantial evidence.

Fifth, the DEIR fails to take into account existing harmful PM10 and PM2.5 concentrations.¹³⁸ The Mojave Desert Air Basin is in nonattainment for particulate matter and background PM concentrations already exceed the most stringent ambient air quality standards. The DEIR, however, fails to include background concentrations when determining whether Project construction PM10 and PM2.5 concentrations will be harmful to nearby sensitive receptors.¹³⁹ This approach improperly suggests that the Project's PM10 and PM2.5 emissions are not harmful to these receptors. The determination of significance in this case is not whether Project construction emissions would by themselves result in exceedances of ambient air quality standards, but rather whether they would contribute significantly to an existing violation of ambient air quality standards.¹⁴⁰

¹³⁶ Pless Comments.

¹³⁷ County of Kern, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports, December 1, 2006;

http://www.co.kern.ca.us/planning/pdfs/AirQualityAssessmentPreparationGuidelines.pdf. 138 Pless Comments.

¹³⁹ Pless Comments; DEIR at Table 4.3-8. ¹⁴⁰ Pless Comments.

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In the table below, Dr. Pless summarizes the 24-hour ambient concentrations of PM10 and PM2.5 attributable to Project construction and including background concentrations.¹⁴¹

	24-hour PM10 (μg/m ³)	24-hour PM2.5 (μg/m ³)
Maximum ambient concentration at nearest sensitive receptor	88.61	18.72
Background concentration	131.5	76.2
Total ambient concentration at nearest sensitive receptor	220.1	95.0
NAAQS	150	35
CAAQS	50	-°

24-hour ambient concentrations of PM10 and PM2.5 at nearest sensitive receptor

As shown above, the total 24-hour ambient concentrations of PM10 at the nearest sensitive receptor is 220.1 μ g/m³. This greatly exceeds the NAAQS threshold of 150 μ g/m³ and the CAAQS threshold of 50 μ g/m³ for this pollutant. In addition, the total 24-hour concentrations of PM2.5 far exceed the NAAQS threshold of 35 μ g/m³. The contribution of Project emissions to these exceedances are 40 percent for PM10 and 20 percent for PM2.5, respectively, high enough to constitute a significant contribution to existing violations of ambient air quality standards.

This is a new significant impact that was not identified by the DEIR.¹⁴² Accordingly, a revised DEIR must be prepared to disclose this impact and identify feasible mitigation measures to minimize impacts from these emissions.

6. The DEIR Fails to Properly Determine Exposure of Sensitive Receptors to Toxic Air Contaminants

The DEIR recognizes that sensitive receptors would be exposed to emissions of toxic air contaminants ("TACs") during Project construction, in particular, to diesel particulate matter ("DPM") emissions from the operation of heavy-duty vehicle and construction equipment at the Project site.¹⁴³ However, the DEIR claims that under the guidelines for health risk assessments published by the Office of Environmental Health Hazard Assessment ("OEHHA") and the California Air Pollution Control Officers Association ("CAPCOA"), "estimating the cancer risk from

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¹⁴¹ Pless Comments.

¹⁴² Pless Comments.

¹⁴³ DEIR at p. 4.3-44.

diesel engine particulate is typically not required for construction activities, as they occur for a short period of time and therefore would not measurably increase cancer risk." Therefore, the DEIR concludes, "impacts from TACs would be less than significant."¹⁴⁴ The DEIR's claims regarding OEHHA and CAPCOA guidance for construction projects is incorrect, and, thus, the DEIR's conclusion is not supported by substantial evidence.¹⁴⁵

Contrary to the DEIR's assumption, OEHHA's 2012 guidelines for preparation of health risk assessments explicitly recommend evaluation of short-term projects:

We recommend that exposure from projects less than 6 months be assumed to last 6 months (e.g., a 2-month project would be evaluated as if it lasted 6 months). Exposure from projects lasting less than two months would not be evaluated for cancer risk. We recommend that exposure from projects lasting more than 6 months be evaluated for the duration of the project. In all cases the exposure should be assumed to start in the third trimester to allow for the use of the Age Sensitivity Factors (OEHHA, 2009). Thus, if the District is evaluating a proposed 5-year mitigation project at a hazardous waste site, the exposure duration for the residents would be from the third trimester through the first five years of life. The exposure duration for the offsite worker scenario would be five years in this case.¹⁴⁶

The OEHHA's new guidelines for preparation of health risk assessments, adopted February 2015, are even more explicit with respect to evaluating the potential cancer risks associated with short-term projects for the maximum exposed individual resident and worker ("MEIR" and "MEIW," respectively):

Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime. There are

¹⁴⁶ OEHHA, Air Toxics Hot Spots Program Risk Assessment Guidelines, Technical Support Document for Exposure Assessment and Stochastic Analysis, August 2012, p. 11-5 (*emphasis* added); <u>http://oehha.ca.gov/air/hot_spots/tsd082712.html/</u>.

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¹⁴⁴ Id.

¹⁴⁵ Pless Comments.

> some studies indicating that dose rate changes the potency of a given dose of a carcinogenic chemical. In others words, a dose delivered over a short time period may have a different potency than the same dose delivered over a lifetime.

> The OEHHA's evaluation of the impact of early-in-life exposure has reduced some of the uncertainty in evaluating the cancer risk to the general population for shorter-term exposures, as it helps account for susceptibility to carcinogens by age at exposure (OEHHA, 2009).

Due to the uncertainty in assessing cancer risk from very short-term exposures, we do not recommend assessing cancer risk for projects lasting less than two months at the MEIR. We recommend that exposure from projects longer than 2 months but less than 6 months be assumed to last 6 months (e.g., a 2-month project would be evaluated as if it lasted 6 months). Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009). Thus, for example, if the District is evaluating a proposed 5-year mitigation project at a hazardous waste site, the cancer risks for the residents would be calculated based on exposures starting in the third trimester through the first five years of life.

Finally, the risk manager may want to consider a lower cancer risk threshold for risk management for very short-term projects. Typical District guidelines for evaluating risk management of Hot Spots facilities range around a cancer risk of 1 per 100,000 exposed persons as a trigger for risk management. Permitting thresholds also vary for each District. There is valid scientific concern that the rate of exposure may influence the risk – in other words, a higher exposure to a carcinogen over a short period of time may be a greater risk than the same total exposure spread over a much longer time period. In addition, it is inappropriate from a public health perspective to allow a lifetime acceptable risk to accrue in a short period of time resulting in a $1 \times 10-5$ cancer risk). Thus, consideration should be given for very short

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term projects to using a lower cancer risk trigger for permitting decisions. 147

Further, the CAPCOA guidance document *Health Risk Assessments for Proposed Land Use Projects* does not exempt construction activities:

This guidance does not include how risk assessments for construction projects should be addressed in CEQA. As this is intended to be a "living document", the risks near construction projects are expected to be included at a later time as the toxic emissions from construction activities are better quantified. State risk assessment policy is likely to change to reflect current science, and therefore this document will need modification as this occurs.¹⁴⁸

Elsewhere, this guidance document discusses categorically exempt projects which nonetheless require health risk assessment evaluation:

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Although methodology for assessing health risk for construction projects is not included in this document, lead agencies under CEQA are required to identify health risk from construction activities or projects and mitigate if they are deemed significant.¹⁴⁹

Accordingly, the DEIR's categorical dismissal of the requirements for an analysis of air quality impacts to adjacent residents during project construction violates applicable guidance documents and is not supported by substantial evidence.¹⁵⁰ The DEIR must be revised to include a proper health risk assessment for toxic air emissions during Project construction. This assessment should include metals emissions from the concrete batch plant, in addition to the DPM emissions from Project construction.²⁵¹

¹⁴⁷ OEHHA, Air Toxics Hot Spots Program, Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, February 2015, pp. 8-17 and 8-18 (*emphasis* added); http://oehha.ca.gov/air/hot_spots/2015/2015/GuidanceManual.pdf.

 ¹⁴⁸ CAPCOA, Health Risk Assessments for Proposed Land Use Projects, July 2009, p. 2;
 <u>http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA HRA LU Guidelines 8-6-09.pdf</u>.
 ¹⁴⁹ Id, p. 7.
 ¹⁵⁰ Pless Comments.

¹⁵¹ Pless Comments.

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7. The DEIR Fails to Adequately Mitigate Particulate Matter Emissions

Dust is an enormous problem in the area where the Project would be constructed. The combination of prolonged drought and multiple large scale solar and wind development projects in the arid desert environments has led to severe dust storms in the Project area. A dust storm in Antelope Valley on April 8, 2013, was so severe that it resulted in multiple car pileups in the sparsely populated region, as well as closure of the Antelope Valley Freeway.¹⁵² During the 2014 March through May windy season, fugitive dust in the Western Antelope Valley negatively impacted air quality to an extent never experienced before and was likened to the Great Dust Bowl of the 1930's.¹⁵³

The increased severity in dust storms has been linked to both the historic drought of the past four years and the ongoing development of large scale solar and wind power facilities on this desert land.¹⁵⁴ For instance, despite implementing similar dust mitigation measures as proposed here, construction of First Solar's Antelope Valley Solar Ranch One ("AVSR1"), a solar development in Kern County, was officially halted in April 2013, due to the company's inability to bring the facility in compliance with ambient air quality standards for dust.¹⁵⁵ The company was issued four violations by the Antelope Valley Air Quality Management District

¹⁵² Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: <u>http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site</u>.

¹⁶³ Peter McRae, The Mojave Dust Bowl of 2014 – Causes and Solutions, Quattro Environmental (2014), available at: http://www.quattroenvironmental.com/the-mojave-dust-bowl-of-2014-causes-and-solutions/.

 $^{^{154}}$ Peter McRae, The Mojave Dust Bowl of 2014 – Causes and Solutions, Quattro Environmental (2014) [(solar farms and power corridors "have undoubtedly contributed to dust emanating from large tracts of disturbed lands during construction activities"], available at:

http://www.quattroenvironmental.com/the-mojave-dust-bowl-of-2014-causes-and-solutions/. ¹⁵⁵ Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: <u>http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site</u>.

("AVAQMD").¹⁵⁶ Dust from the project, in general, has led to complaints of respiratory distress by local residents.¹⁵⁷



Severe dust storm blowing off the Ivanpah Solar Electric Generating System construction site February 23, 2013 (from: Chris Clarke, KCET, Dust Problem at Ivanpah Solar February 27; http://www.kcet.org/news/redefine/rewire/solar/concentrating-solar/dust-problem-at-ivanpahsolar.html)

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¹⁵⁵ Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: <u>http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site</u>.

¹⁵⁷ Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: <u>http://www.greentechmedia.com/articles/rea.d/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site.</u>



(from: Herman K. Trabish, GreenTechMedia, Construction Halted at First Solar's 230 MW Antelope V alley Site, April 22, 2013; <u>http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site</u>)



(from: Peter McRae, Summer 2014, op. cit.)

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The DEIR finds that cumulative dust impacts from multiple concurrent construction projects in the area will be significant and unavoidable, but fails to adequately set forth the magnitude of the problem. Moreover, it improperly relies on voluntary, unenforceable, or vague mitigation measures to reduce these impacts. Instead of requiring compliance with all of the identified measures, the DEIR instead often only directs the County to "promote," "encourage," "support," or "investigate" implementation of the measure. In other cases, compliance with the mitigation measure is only required "where feasible" or "where appropriate," without providing any criteria for the circumstances under which a measure will be considered "feasible" or "appropriate."

For example, Mitigation Measure MM 4.3-1 refers to the "SSDCP" who "shall identify, in addition to those measures required by the air district, all measures being undertaken during construction activities and operational activities to ensure fugitive dust being blown off site is minimized."¹⁵⁸ This measure is incorrectly and poorly worded. *First*, presumably the mitigation measure intends to refer to the EKAPCD rather than the SSDCP. *Second* the phrasing of this measures should be changed from "being undertaken" to "to be undertaken" to ensure that the proposed measures will be, in fact, implemented.

Further, the DEIR proposes Mitigation Measures MM 4.3-3 and 4.3-4 to reduce particulate matter from exhaust emissions during Project construction. While at first glance these measures appear exhaustive and comprehensive, a closer review shows that they would do very little to reduce exhaust emissions and even permit higher exhaust emissions than determined by the DEIR. Specifically, for quantification of mitigated emissions, the DEIR's air quality assessment already assumes the use of Tier 3 diesel engines for off-road equipment greater than 50 horsepower.¹⁵⁹ Yet, Mitigation Measure 4.3-3(j) as proposed by the DEIR requires only certification to Tier 2 rather than Tier 3 for off-road equipment over 50 horsepower.¹⁶⁰ Thus, the proposed mitigation does not ensure that construction equipment exhaust emissions do not exceed emission estimates.¹⁶¹

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¹⁵⁸ DEIR at p. 4.3-33.

¹⁵⁹ Pless Comments; DEIR at Table 4.3-6 and DEIR, Appendix E.

¹⁶⁰ DEIR at p. 4.3-35.

¹⁶¹ Pless Comments.

Also, as written, Mitigation Measure MM 4.3-5, which establishes the requirements for and the responsibilities of a "construction coordinator," is entirely reactive only requiring investigation and remedy in response to local complaints about construction activities. The measure should be revised to require an on-site construction mitigation manager who oversees and enforces implementation of all specified mitigation measures to proactively ensure that construction activities do not result in complaints.¹⁶²

The DEIR's reliance on voluntary, unenforceable, or vague mitigation measures to support its findings violates CEQA. CEQA requires that public agencies adopt "feasible" mitigation measures that must "actually be implemented."¹⁶³ "When the success of mitigation is uncertain, an agency cannot reasonably determine that significant effects will not occur."¹⁶⁴ Nonbinding measures cannot be relied upon to mitigate potential impacts.¹⁶⁵ Mitigation measures that are vague or so undefined that it is impossible to evaluate their effectiveness are also legally inadequate.¹⁶⁶ Without substantial evidence that these measures will be implemented, the DEIR's reliance on these measures to support its conclusions is speculative and without evidentiary support.

The California Attorney General commented on the Tulare County General Plan EIR regarding the enforceability of mitigation:

CEQA provides that a public agency should not approve a project as proposed if there are feasible mitigation measures that would substantially lessen the significant environmental effects of the project. Further, in order to ensure that mitigation measures are actually implemented, they must be "fully enforceable through permit conditions, agreements, or other measures... The General Plan relies on unenforceable policies that "encourage," but do not mandate that

¹⁶² Pless Comments.

¹⁶³ Federation of Hillside and Canyon Associations v. City of Los Angeles, supra, 83 Cal.App.4th at 1261; see Pub. Resources Code § 21002.1, subd. (b).

 ¹⁶⁴ Remy, Thomas, Moose and Manley, Guide to the California Environmental Quality Act (Solano Press, 2007) at p. 426; see Sundstrom v. County of Mendocino (1988) 22 Cal.App.3d 296, 306-308.
 ¹⁶⁵ Napa Citizens for Honest Government v. Napa County Board of Supervisors (2001) 91 Cal.App.4th 342, 385.

¹⁶⁶ See San Franciscans for Reasonable Growth v. City & County of San Francisco (1984) 151 Cal.App.3d 61, 79.

growth will occur in certain areas, with the result that all important development decisions are left to the marketplace. 167

In comments on the Santa Clarita Valley Area Plan, the California Attorney General elaborated:

When an EIR makes a finding of significant environmental harm from a project, as it does here, CEQA requires the public agency carrying out the project to adopt all feasible mitigation measures to lessen that harm, or to adopt a feasible alternative that will do less environmental damage. (Pub. Resources Code, §§ 21002, 21081 and 21081.5.) If the public agency rejects a mitigation measure or alternative as infeasible, the agency must make specific findings, supported by substantial evidence, that a mitigation measure or alternative is not feasible. (Pub. Resources Code, §§ 21081 and 21081.5.) Here, the RDEIR [Recirculated DEIR] does not provide substantial evidence that all feasible mitigation has been proposed. For example, the RDEIR relies on a number of measures and policies that it states will reduce air pollution, including air pollution from cars and trucks, resulting from the [One Valley, One Vision] Plan. However, most of the measures and policies identified are unenforceable or vague, directing the County only to "promote," "encourage," "support," or "investigate" various methods to reduce driving, or committing the County to use the measures only "where feasible" or "where appropriate," without providing any criteria for the circumstances under which a measure will be considered "feasible" or "appropriate." It is not clear, and the RDEIR does not specify, whether a measure is being rejected on the basis of technical or economic infeasibility, or both.

Similarly, many measures require only that the County "work with" agencies that do or may provide transit options, or to "seek" funding or other assistance to provide transportation options. While many of the listed measures appear well intentioned and might be effective if carried out, the RDEIR provides no substantial evidence – often no

¹⁶⁷ Susan Fiering, Deputy Attorney General for Edmund Brown, Attorney General, Re: Tulare County General Plan and Recirculated Draft Environmental Impact, May 27, 2010; <u>http://oag.ca.gov/sites/all/files/agweb/pdfs/environment/comments_Tulare_County_GP_DEIR.pdf.</u>

> evidence at all – that they will be implemented or, if implemented, whether they will be effective at reducing vehicle miles traveled. The RDEIR also fails to provide substantial evidence that it is infeasible to make these non-enforceable measures binding and enforceable.

Faced with the conclusion that the serious public health threat from air pollution in the Valley will be exacerbated under the OVOV Plan, and with the finding that the mitigation proposed will not reduce impacts to insignificant levels, the County is obliged under CEQA to adopt additional measures that are enforceable or, alternatively, to provide substantial evidence that additional measures are infeasible. The RDEIR does neither.¹⁶⁸

The same criticism applies to the DEIR at hand.

The ongoing drought conditions and the scope of the County's dust problems make it even more critical to ensure that all feasible particulate emission mitigation measures are actually implemented and enforced. The particulate emission mitigation measures set forth in the DEIR must be revised to ensure that all of them are mandatory and enforceable.

8. The DEIR Must Be Revised to Evaluate and Mitigate Particulate Matter Impacts from the Concrete Batch Plant

As discussed, *supra*, the DEIR's air quality analysis failed to account for the changed Project description adding the concrete batch plant. The DEIR must be revised to evaluate and mitigate dust impacts from the proposed onsite concrete batch plant. Dr. Pless recommends incorporating the following feasible mitigation measures to reduce emissions from the concrete batch plant during Project construction:¹⁶⁹

- Keep sand and aggregates damp.
- Cover or enclose conveyor belts and hoppers.

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 ¹⁶⁸ Kamala D. Harris, Letter to Mitch Glaser, County of Los Angeles, March 17, 2011 (internal citations omitted); <u>http://oag.ca.gov/sites/all/files/agweb/pdfs/environment/santa_clarita_letter.pdf</u>.
 ¹⁶⁹ Pless Comments.

- Keep pavements and surfaces clean.
- Fit cement silos with high level alarms, multi-bag pulse jet filters, airtight inspection hatches and automatic cutoff switches on the filler lines.
- Keep duct work airtight.
- Enclose the loading bay.
- Develop and implement an inspection regime for all dust control components.
- Clean up spills immediately.

D. The DEIR Fails to Adequately Disclose, Evaluate or Mitigate Valley Fever Impacts

1. The DEIR Fails to Adequately Describe the Scope of Valley Fever Impacts

The DEIR's finding that Project construction activities may increase the risk to "nearby" sensitive receptors of contracting Valley Fever is legally inadequate because this finding fails to disclose that the potentially exposed population is much larger than just "nearby" sensitive receptors. Due to their small size, Valley Fever spores have been documented to travel hundreds of miles from their place of origin during windstorms.¹⁷⁰ Accordingly, the potentially exposed population includes all immediately surrounding communities and beyond, including the over 18,000 residents of Rosamond located within a few miles of the Project, the over 300,000 residents of the Palmdale / Lancaster urban area located within approximately 30 miles of the Project site, and the more than 10,000 employees of Edward Air Force Base located approximately 20 miles from the Project site.¹⁷¹

¹⁷⁰ Demosthenes Pappagianis and Hans Einstein, Tempest From Tehachapi Takes Toll or Coccidioides Conveyed Aloft and Afar, West J Med, v.129 (Dec. 1978), pp. 527-30, available at: <u>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1238466/pdf/westjmed00256-0079.pdf</u>; see also Lawrence L. Schmelzer and R. Tabershaw, Exposure Factors in Occupational Coccidioidomycosis, Am. J. Public Health Nations Health, v. 58, no. 1, 1968, p. 110, available at: <u>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1228046/?page=1</u>; David Filip and Sharon Filip, Valley Fever Epidemic, Golden Phoenix Books, 2008, p. 24. 5-T

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¹⁷¹ Greater Antelope Valley Economic Alliance, 2014 Economic Report at pp. 1-3, http://socalleadingedge.org/wp-content/uploads/2014/12/2014gaveareport.pdf

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CEQA requires disclosure of the scope and severity of a project's environmental impacts where such information is necessary to allow decisionmakers and the public to understand the environmental consequences of the project.¹⁷² By failing to accurately disclose the scope of the exposure risk, the DEIR fails to inform members of the public who are not nearby residents of their risk to Valley Fever exposure from Project activities.¹⁷³ The DEIR must be amended to address this error.

The DEIR is also deficient because it fails to disclose that current drought conditions¹⁷⁴ have greatly exacerbated the risk that Project construction activities will expose the public to Valley Fever.¹⁷⁵ During drought years, the number of organisms competing with *Coccidioides ssp.* decreases and the fungus remains alive, but dormant. When rain finally occurs, the arthroconidia germinate and multiply more than usual because of a decreased number of other competing organisms. When the soil dries out in the summer and fall, soil disturbances can easily release the spores into the air where they can be inhaled, leading to infections.¹⁷⁶ Furthermore, as a result of this drought, solar power plant construction projects in this region have been unable to successfully minimize dust impacts, leading to severe dust storms, complaints of respiratory distress by local residents, and even the temporary shutdown of one solar development.¹⁷⁷ These drought-related impacts dramatically increase the risk of Valley Fever from Project construction.

¹⁷⁷ Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: <u>http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site</u>; Peter McRae, The Mojave Dust Bowl of 2014 – Causes and Solutions, Quattro Environmental (2014) [(solar farms and power corridors "have undoubtedly contributed to dust emanating from large tracts of disturbed lands during construction activities"], available at: http://www.quattroenvironmental.com/the-mojave-dust-bowl-of-2014causes-and-solutions/.

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 ¹⁷² See at Berkeley Keep Jets Over the Bay Committee v. Bd. of Port Commissioners. (2001) 91
 Cal.App.4th 1344, 1382; see also Cadiz Land Co. v. Rail Cycle (2000) 83
 Cal.App.4th 74, 93-94.
 ¹⁷³ Pless Comments.

 ¹⁷⁴ State of California, Office of Governor Edmund G. Brown, Governor Brown Declares Drought State of Emergency, January 17, 2014, available at: <u>http://gov.ca.gov/news.php?id=18368</u>.
 ¹⁷⁵ Gosia Wozniacka, Associated Press, Fever Hits Thousands in Parched West Farm Region, May 5, 2013, citing Prof. John Galgiani, Director of the Valley Fever Center for Excellence at the University of Arizona, available at: <u>http://usa.news.net/article/272191/Top+Stories&</u>.

¹⁷⁶ Theodore N. Kirkland and Joshua Fierer, Coccidioidomycosis: A Reemerging Infectious Disease, Emerging Infectious Diseases, Vol. 3, No. 2, July-September 1996, available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2626789/pdf/8903229.pdf.

This is not an academic concern. As a result of the combination of historic drought and increased large-scale construction activities on desert land, the number of Valley Fever cases has significantly increased both in workers and the general public.¹⁷⁸ Health officials are calling the rise in instances of Valley Fever contraction an epidemic.¹⁷⁹ At two photovoltaic solar energy projects in San Luis Obispo County, Topaz Solar Farm and California Valley Solar Ranch, 28 construction workers contracted Valley Fever.¹⁸⁰

By failing to disclose the heightened risk that current drought conditions combined with large scale desert construction projects have created and the dramatic increase in recent cases of Valley Fever, the DEIR fails to adequately inform the public of the scope of risks posed by Project construction.

2. The DEIR Lacks Substantial Evidence to Support Its Conclusion that the Project's Valley Fever Impacts Will Be Less than Significant after Mitigation

a. The DEIR Improperly Bases its Conclusion on Deferred, Voluntary and Unenforceable Mitigation Measures

The DEIR finds that exposure to Valley Fever is a potentially significant impact of Project construction activities, but concludes that this impact will be reduced below a level of significance with the implementation of the dust control measures set forth in MM 4.3-1 and the Valley Fever Training and Valley Fever Dust Management Plan set forth in MM 4.3-6.

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¹⁷⁸ Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: <u>http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site</u>; *See* Center for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever), available at: http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf.

¹⁷⁹ Mark Koba, CNBC, *The Silent Epidemic Known as Valley Fever* (Monday, January 27, 2014 at 1:33 p.m.), available at: <u>http://www.cnbc.com/id/101362762</u>; *See* Center for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever), available at: <u>http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf</u>.

¹⁸⁰ Julie Cart, Los Angeles Times, 28 Solar Workers Sickened by Valley Fever in San Luis Obispo County May 01, 2013; available at <u>http://articles.latimes.com/2013/may/01/local/la-me-ln-valley-fever-solar-sites-20130501</u>.

The conclusion that these mitigation measures will reduce impacts below a level of significance is not supported by substantial evidence. As discussed *supra*, the dust control measures set forth in MM 4.3-1 are inherently inadequate and thus cannot be relied upon to ensure that workers and the general public will not be exposed to dust containing Valley Fever spores. Moreover, the dust mitigation measures are designed to prevent exposure to harmful levels of particulate matter, not to eliminate dust altogether. Nearby residents may still be exposed to Valley Fever spores even when dust is at levels below significance for particulate matter. Valley Fever spores, whose size is well below the limits of human vision, may be present in air that appears relatively clear and dust free.¹⁸¹

The Valley Fever-specific mitigation measures set forth in MM 4.3-6 are also inherently inadequate because they include deferred, voluntary and unenforceable mitigation measures. The only mandatory measures identified in MM 4.3-6 are training on Valley Fever awareness, a demonstration on how to use protective equipment, the implementation of a program to make respirators available *upon request* by the employee, and the deferred development of a Valley Fever Dust Management Plan.

The deferral of the formulation of mitigation measures to post-approval studies is generally impermissible.¹⁸² Project modifications necessary to avoid significant impacts must be made *before* the lead agency issues a proposed EIR for public review.¹⁸³ Mitigation measures adopted *after* project approval cannot validate the issuance of an EIR, since this deferral denies the public the opportunity to comment on the project as modified to mitigate impacts.¹⁸⁴ An agency may only defer the formulation of mitigation measures when it "recognizes the significance of the potential environmental effect, commits itself to mitigating its impact, and articulates *specific performance criteria* for the future mitigation."¹⁸⁵

¹⁸¹ Frederick S. Fisher, et al, Operational Guidelines (version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever), U.S. Geological Survey Open-File Report 00-348 (2000) at p. 9, available at <u>http://esp.cr.usgs.gov/projects/sw/pubs/task4/Fisher_et_al_2000.pdf</u>.

¹⁸² Sundstrom v. County of Mendocino (1988) 202 Cal.App.3d 296, 308-309.

¹⁸³ Pub. Resources Code § 21061.

¹⁸⁴ Gentry v. City of Murrieta (1995) 36 Cal.App.4th 1359, 1393; Quail Botanical Gardens Foundation v. City of Encinitas (1994) 29 Cal.App.4th 1597, 1604, fn. 5.

¹⁸⁵ Gentry v. City of Murrieta (1995) 36 Cal.App.4th 1359,1411 (emphasis provided).

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Here, specification of mitigation measures are deferred until a Valley Fever Dust Management Plan is developed *after Project approval*. While MM 4.3-6 sets forth a number of specific mitigation measures (Measures i - x.) that *may* be included in the Plan, none of these measures are actually required. In addition to making clear that the Valley Fever Dust Management Plan is not required to include Measures i - x, MM 4.3-6 also states that any measures that do end up making it into the plan only need to "*be implemented as practicable*." Furthermore, no specific performance standards are set forth for the Valley Fever Dust Management Plan. MM 4.3-6 only requires the plan to "minimize" personnel and public exposure to Valley Fever-containing dust. It does not require reducing such exposures below any identifiable level of significance.

The reliance on the future development of a Plan that may or may not include the listed measures and which will only be implemented "as practicable" violates CEQA's general prohibition against deferred mitigation and CEQA's requirement that mitigation measures be specific and enforceable. Because the DEIR relies on deferred, illusory, vague and unenforceable mitigation measures, its finding that these measures will reduce Valley Fever Impacts below a level of significance violates CEQA and is not supported by substantial evidence.

The inadequacy of this deferred analysis is underscored by the failure of MM 4.3-6 to require the use of respirator equipment by construction workers who are likely to be exposed to dust from earth moving activities. While the MM 4.3-6 states that such a requirement may be considered in the Valley Fever Dust Management plan, if "practicable," it contradicts this elsewhere when it explicitly states that respiratory equipment "is not mandatory during work" but shall be instead provided to employees only upon request.

The failure to require the use of protective respiratory equipment directly conflicts with the Valley Fever prevention recommendations set forth by the California Department of Public Health and the California Department of Industrial Relations and in recommendations developed by the U.S. Geological Survey. These agencies all recommend that respirators be *provided* to employees digging or working near earth-moving trucks or equipment, not just made available. Mandatory respiratory protection measures are essential to protect construction workers at projects that involve excavation or grading of land contaminated with

Valley Fever spores.¹⁸⁶ One study reported, "generally 50% of the individuals who were exposed to the dust or were excavating dirt at the [Valley-Fever-contaminated] sites were infected."¹⁸⁷

Because the DEIR fails to explain how Valley Fever risks will be reduced below a level of significance if respirators are only provided upon request, it lacks substantial evidence for its conclusion that this will reduce Valley Fever impacts below a level of significance.

b. The DEIR Conclusion that the Project's Valley Fever Impacts Will Be Less Than Significant After Mitigation Is Not Supported By Any Analysis or Substantial Evidence

Even if Measures i through x in MM 4.3-6 were determined to be "practicable" and included in the Valley Fever Dust Management Plan, the DEIR's conclusion that the Project's Valley Fever impacts will be less than significant after mitigation is not supported by any analysis or substantial evidence. CEQA requires conclusions in an EIR to be supported by substantial evidence.¹⁸⁸ Conclusory statements "unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind" are insufficient to support a finding of insignificance.¹⁸⁹

For example, the DEIR fails to provide any evidence that the half-face respirators with N-100 or P-100 filters that will be required to be available are sufficient to reduce impacts below a level of significance, even if they were required.

¹⁸⁷ Frederick S. Fisher, Mark W. Bultman, Suzanne M. Johnson, Demosthenes Pappagianis, and Erik Zaborsky, Coccidioides Niches and Habitat Parameters in the Southwestern United States, a Matter of Scale, Ann. N.Y. Acad. Sci., No. 1111, 2007, p. 47, available at: <u>http://esp.cr.usgs.gov/projects/sw/pubs/task4/Fisher_et_al_2007.pdf</u>.

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¹⁸⁶ Rafael Laniado-Laborin, Expanding Understanding of Epidemiology of Coccidioidomycosis in the Western Hemisphere, Ann. N.Y. Acad. Sci., v. 111, 2007, pp. 20-22; Frederick S. Fisher, Mark W. Bultman, Suzanne M. Johnson, Demosthenes Pappagianis, and Erik Zaborsky, Coccidioides Niches and Habitat Parameters in the Southwestern United States, a Matter of Scale, Ann. N.Y. Acad. Sci., No. 1111, 2007, pp. 47-72 ("All of the examined soil locations are noteworthy as generally 50% of the individuals who were exposed to the dust or were excavating dirt at the sites were infected."), available at: http://esp.cr.usgs.gov/projects/sw/pubs/task4/Fisher et al_2007.pdf.

¹⁸⁸ Pub. Resources Code § 21081.5; CEQA Guidelines § 15091, subd. (b).

¹⁸⁹ People v. County of Kern (1974) 39 Cal.App.3d 830, 841-842.

To the contrary, the California Department of Public Health and the California Department of Industrial Relations have found that Fit-tested half-mask respirators are expected to reduce exposure by only 90% and conclude that the use of these respirators can still "result in an unacceptable risk of infection when digging where Valley Fever spores are present."¹⁹⁰

An EIR must provide the reader with the analytic bridge between its ultimate findings and the facts in the record.¹⁹¹ Here, the DEIR fails to describe the "analytic route" it traveled in determining that the mitigation measures required would reduce Valley Fever risk to a level of insignificance.¹⁹² The DEIR's conclusion that the Project's Valley Fever impacts will be less than significant after mitigation is conclusory and fails to meet the requirements of CEQA.

c. The Immunity to Valley Fever that Some Long Term Residents May Have Developed Does Not Mitigate the Impacts to Residents Who Do Not Have this Immunity

In addition to relying on the implementation of Mitigation Measure MM 4.3-6, the DEIR also bases its conclusion that impacts would be reduced to less than significant levels on "the knowledge that long-term residents have typically already developed immunity to Valley Fever." This rationale is incorrect for two reasons.

First, it incorrectly assumes that Valley Fever is less of a risk in areas where residents are more likely to have been exposed to Valley Fever. The idea that areas with higher rates of Valley Fever exposure are at less risk from Valley Fever impacts is nonsensical. To the contrary, Valley Fever is more likely to afflict people who live and work in areas endemic to Valley Fever because they are the people more likely to be exposed to it. Workers engaged in soil-disturbing activities, such as excavation and grading, and residents in the vicinity of such activities are among the greatest at risk for contracting Valley Fever. According to a Medscape article by Dr. Duane Hospenthal, M.D., Ph.D., which provides a comprehensive account of the

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¹⁹⁰ California Department of Public Health & California Department of Industrial Relations, Preventing Work-Related Coccidioidomycosis (Valley Fever) (June 2013) at p. 5, available at http://www.elcosh.org/record/document/3684/d001224.pdf.

¹⁹¹ Topanga Association for a Scenic Community v. County of Los Angeles (1974) 11 Cal.3d 506, 515; see CEQA Guidelines, § 15091.

¹⁹² Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 733.

clinical aspects, etiology and epidemiology of Valley Fever, the risk of Valley Fever infection is increased by a history of residence in, or travel to, an area endemic to Valley Fever.¹⁹³ "Infection occurs in endemic areas and is most commonly acquired in the summer or the late fall during outdoor activities."¹⁹⁴ Furthermore, Valley Fever is considered to be an occupational hazard in endemic regions when work activities involve increased exposure to dust or soil, such as construction work.¹⁹⁵

An article in the Journal of Occupational and Environmental Medicine found that "[i]nfection risk is highest in workers engaging in soil-disrupting activities such as construction...^{*196} The article refuted the presumption that residents of endemic areas were more likely to have subclinical infections and therefore be immune to reinfection. The article found that outbreaks of Valley Fever included workers that were from endemic areas, demonstrating that local workers were not necessarily immune and remained at risk for being infected.¹⁹⁷

Second, the immunity of long-term area residents is not relevant to the potential impacts on sensitive receptors that are not long term residents. The immunity of some long term residents does not protect newer residents or children. The communities surrounding the Project site have experienced rapid growth over the past 10 years and are not limited to long term, older residents.¹⁹⁸ Moreover, the Project applicant has not made any commitment to hire local workers or even to pay workers the prevailing local rates. As a result, the workforce on this Project is

¹⁹⁶ Das R. et al., Occupational Coccidioidomycosis in California, Outbreak Investigation, Respirator Recommendations, and Surveillance Findings, Journal of Occupational and Environmental Medicine, Volume 54, No. 5, May 2012, pp. 564-571, available at <u>http://www.cdph.ca.gov/programs/ohb/Documents/OccCocci.pdf</u>.

¹⁹⁷ Das R. et al., Occupational Coccidioidomycosis in California, Outbreak Investigation, Respirator Recommendations, and Surveillance Findings, Journal of Occupational and Environmental Medicine, Volume 54, No. 5, May 2012, pp. 564-571, available at http://www.cdph.ca.gov/programs/ohb/Documents/OccCocci.pdf.

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¹⁹³ Duane R. Hospenthal, M.D., Ph.D., FACP, FIDSA, FASTMH, Coccidioidomycosis Clinical Presentation, Medscape (Sept. 25, 2014), available at <u>http://emedicine.medscape.com/article/215978clinical</u>.

¹⁹⁴ Duane R. Hospenthal, M.D., Ph.D., FACP, FIDSA, FASTMH, Coccidioidomycosis, Medscape (Sept. 25, 2014), available at http://emedicine.medscape.com/article/215978-overview.

¹⁹⁵ Duane R. Hospenthal, M.D., Ph.D., FACP, FIDSA, FASTMH, Coccidioidomycosis Clinical

Presentation, Medscape (Sept. 25, 2014), available at <u>http://emedicine.medscape.com/article/215978-clinical</u>.

¹⁹⁸ See Greater Antelope Valley Economic Alliance, 2014 Economic Report at pp. 2-4, http://socalleadingedge.org/wp-content/uploads/2014/12/2014gaveareport.pdf

likely to consist of cheaper workers from out of the area who do not have any immunity to Valley Fever.

Finally, the recent increase in Valley Fever cases in both workers and the general public also belie the assumption that pre-existing immunities will help reduce impacts below a level of significance.¹⁹⁹

The DEIR's assumption that widespread immunity in long term, older residents will help reduce Valley Fever impacts below a level of significance is not supported by any evidence.

3. The DEIR Fails to Evaluate Cumulative Valley Fever Impacts

The DEIR violates CEQA by failing to evaluate the cumulative increase in Valley Fever risks from the huge number of solar project developments that are taking place concurrently or sequentially in Kern County. These immense desert construction projects have already resulted in huge dust storms that have affected both Kern County and Los Angeles County and appear linked to the recent dramatic rise in Valley Fever cases.²⁰⁰ The Project will incrementally contribute to

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¹⁹⁹ Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site; Center for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever), available at: http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf; Mark Koba, CNBC, The Silent Epidemic Known as Valley Fever (Monday, January 27, 2014 at 1:33 p.m.), available at: http://www.cnbc.com/id/101362762; Julie Cart, Los Angeles Times, 28 Solar Workers Sickened by Valley Fever in San Luis Obispo County May 01, 2013; available at http://articles.latimes.com/2013/mav/01/local/la-me-ln-valley-fever-solar-sites-20130501. ²⁰⁰ Peter McRae, The Mojave Dust Bowl of 2014 – Causes and Solutions, Quattro Environmental (2014) [(solar farms and power corridors "have undoubtedly contributed to dust emanating from large tracts of disturbed lands during construction activities"], available at: http://www.guattroenvironmental.com/the-mojave-dust-bowl-of-2014-causes-and-solutions/; Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site; Julie Cart, Los Angeles Times, 28 Solar Workers Sickened by Valley Fever in San Luis Obispo County May 01, 2013; available at http://articles.latimes.com/2013/may/01/local/la-me-ln-valley-fever-solar-sites-20130501; See Center for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever), available at: http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf.

the increased risk of contracting Valley Fever. The failure to consider this cumulative impact violates CEQA.

4. Additional Mitigation Measures Should Be Required Prior to Project Approval

Because the potential for significant Valley Fever impacts remains even with implementation of the DEIR's mitigation measures, additional mitigation measures are required. First, Measures i through x in MM 4.3-6 must all be mandatory.

In addition to making the above measures mandatory, the additional mitigation measures identified in Dr. Pless's comments should be adopted to further minimize the risk of Project construction activities resulting in increased cases of Valley Fever. These measures are taken from the recommendations of the U.S. Geological Survey, the California Department of Public Health, the California Department of Industrial Relations, the County of San Luis Obispo's Health Department and an occupational study of Valley Fever in California workers, and include the following:²⁰¹

- Suspend outdoor construction operations during heavy wind or dust storms;
- (2) Continuously wet soils when digging to keep dust levels down;
- (3) When possible, position workers upwind when digging a trench or performing other soil-disturbing tasks;

²⁰¹ Frederick S. Fisher, et al, Operational Guidelines (version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever), U.S. Geological Survey Open-File Report 00-348 (2000) at p. 11, available at http://esp.cr.usgs.gov/projects/sw/pubs/task4/Fisher et al 2000.pdf; California Department of Public Health & California Department of Industrial Relations, Preventing Work-Related Coccidioidomycosis (Valley Fever) (June 2013), available at http://www.elcosh.org/record/document/3684/d001224.pdf; San Luis Obispo County Health Agency, Recommendations for Workers to Prevent Infection by Valley Fever in SLO County; http://www.slocounty.ca.gov/Assets/PH/Epidemiology/Cocci+Recomendations.pdf; Lawrence L. Schmelzer and R. Tabershaw, Exposure Factors in Occupational Coccidioidomycosis, Am. J. Public Health Nations Health, v. 58, no. 1, 1968, pp. 107-113, available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1228046/?page=1

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- (4) Prohibit eating and smoking at the worksite, and provide separate, clean eating areas with hand-washing facilities;
- (5) Limit outdoor construction during the fall to essential jobs only, as the risk of cocci infection is higher during this season;
- (6) Prevent worker transport of Valley Fever spores by (a) thoroughly cleaning equipment, vehicles, and other items before they are moved off-site to other work locations; (b) providing workers with coveralls daily, lockers (or other system for keeping work and street clothing and shoes separate), daily changing and showering facilities; and (c) installing boot-washing;
- (7) Post warnings onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection;
- (8) Pretest soils to determine if each work location is within an endemic area;

- (9) Establish a medical program, including skin tests on all new employees, retesting of susceptibles, and prompt treatment of respiratory illness in susceptibles; periodic medical examination or interview to discover a history of low grade or subclinical infection, including repeated skin testing of susceptible employers;
- (10) Implement aggressive enforcement of respiratory use where exposures from manual digging are involved;
- (11) Test all potential employees for previous infection to identify the immune population and assign immune workers to operations involving known heavy exposures; and
- (12) Hire resident labor whenever available, particularly for heavy dust exposure work.

All of the above health-protective measures are feasible for the Project and must be required in an enhanced dust control plan to reduce the significant risk of construction workers, on-site employees, and the public contracting Valley Fever.²⁰²

E. The DEIR Fails to Disclose and Evaluate Potentially Significant Impacts from Soil Contaminated with Hazardous Pesticide Residues

The DEIR is legally inadequate because there is substantial evidence that the Project may contain pesticide contamination that was not disclosed in the DEIR and which may pose a significant risk to construction workers and the public when disturbed by Project construction activities. A revised EIR needs to be prepared for the Project to adequately assess this potential impact and to provide mitigation, if warranted.

As discussed *supra*, historical aerial photographs show agricultural activities on the Project site since 1963. Hazards expert Matt Hagemann testifies that this historic agricultural use indicates the potential presence of soil contamination from organochlorine pesticides.²⁰³ Organochlorine pesticides, such as DDT, DDE, and chlordane, were commonly used throughout California from the 1940s until their ban in the 1972.²⁰⁴ Because these compounds can persist in soil for hundreds of years, agricultural land which is currently being developed or considered for new uses frequently contains DDT.²⁰⁵

The U.S. EPA has determined DDT, and its breakdown product DDE, are probable human carcinogens.²⁰⁶ DDT is also known to affect the nervous system.²⁰⁷

²⁰⁵Hagemann Comments.; Agency for Toxic Substances and Disease Registry, Public Health Statement for DDT, DDE, and DDD <u>http://www.atsdr.cdc.gov/phs/phs.asp?id=79&tid=20</u>; Office of the Science Advisor, DDT in Soil: Guidance for the Assessment of Health Risks to Humans. <u>http://www.dtsc.ca.gov/AssessingRisk/upload/chap8.pdf</u>, p. 11.

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²⁰² Pless Comments.

²⁰⁸ Hagemann Comments.

²⁰⁴ U.S. EPA, DDT – A Brief History and Status.

http://www.epa.gov/pesticides/factsheets/chemicals/ddt-brief-history-status.htm; Office of the Science Advisor, DDT in Soil: Guidance for the Assessment of Health Risks to Humans.

http://www.dtsc.ca.gov/AssessingRisk/upload/chap8.pdf, p. 11;

²⁰⁶ U.S. EPA, DDT. <u>http://www.epa.gov/pbt/pubs/ddt.htm</u>; and U.S. EPA, DDE <u>http://www.epa.gov/ttnatw01/hlthef/dde.html</u>

Exposure to DDT can result in headaches, nausea, and convulsions,²⁰⁸ as well as damage to the liver and nervous and reproductive system impairments.²⁰⁹ Chlordane has also been classified as a probable human carcinogen by the U.S. EPA and exposure can result in neurological effects such as headaches, irritability, dizziness, and nausea.²¹⁰

Project construction activities would disturb any contaminated soil, exposing construction workers and nearby residents through inhalation of construction dust that has pesticides bound to the soil particles and through dermal absorption when touching excavated contaminated soil.²¹¹ The DEIR describes extensive earth-disturbing site preparation activities that would include use of heavy equipment such as scrapers, paddlewheels, haul vehicles and graders and trenching activities and foundation work for the PV panel support beams.²¹²

The DEIR fails to disclose or evaluate this potential impact. Instead, it misleadingly states that "studies of the project site have found no evidence of pesticide misuse and no recognized environmental conditions." First, the application of DDT and other hazardous organic pesticides prior to 1972 was not a "misuse" of pesticides. The DEIR's assumption that pesticides must have been misused in order to have contaminated the Project site is incorrect and unsupported by any substantial evidence. Second, the only study of the Project site was the County's review of public databases of current and past hazardous contamination sites. The DEIR failed to conduct a Phase I investigation and failed to investigate pre-1972 activities on the Project site to determine if hazardous pesticides may have been applied.²¹³

The DEIR must be revised to disclose and evaluate the potential for Project soil to be contaminated with hazardous pesticide residuals that could pose a health risk to workers and nearby residents when disturbed by Project construction activities. The Project site must be sampled for the presence of pesticides in soil in

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²⁰⁷ Agency for Toxic Substances and Disease Registry, ToxFAQs, *DDT*, *DDE*, *DDD*, <u>http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=80&tid=20</u>

²⁰⁸ U.S. EPA, DDE. <u>http://www.epa.gov/ttnatw01/hlthef/dde.html</u>

²⁰⁹ U.S. EPA, DDT. <u>http://www.epa.gov/pbt/pubs/ddt.htm</u>

²¹⁰ U.S. EPA, Chlordane. <u>http://www.epa.gov/ttnatw01/hlthef/chlordan.html</u>

²¹¹ Hagemann Comments at p. 2.

²¹² DEIR at pp. 3-23, 3-24.

²¹³ Hagemann Comments.

accordance with California Department of Toxics Substances Control guidance. ²¹⁴ Sampling results should be compared to human health screening levels (such as Environmental Screening Levels²¹⁵ and California Human Health Screening Levels²¹⁶) and evaluated in the revised DEIR.²¹⁷ If concentrations exceed screening levels, mitigation measures to minimize exposure to construction workers and onsite and nearby residents should be considered, including requiring protective equipment for workers (i.e. respirators), continuous onsite dust monitoring, and fenceline dust monitoring.²¹⁸

F. The DEIR's Analysis of Project Water Supply Is Legally Inadequate

1. The Water Supply Assessment Prepared for the Project Fails to Comply with the Requirements of SB 610

Water Code section 10910 requires a city or county that determines a project is subject to CEQA to identify any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to those entitlements, rights and contracts. The Water Supply Assessment ("WSA") prepared for this Project identifies the amount of water estimated to have been utilized by certain Project parcels from the years 2005 to 2009, but fails to specify where this water came from and pursuant to what entitlements, rights or contracts that water was supplied.

Similarly, the WSA states that water for the Project will be supplied by groundwater wells, but fails to specify the amount of water that the Project is entitled to extract from the wells. The WSA acknowledges that groundwater extraction rights are currently under litigation, and assumes that the likely result of the litigation is the reduction of the Project proponent's groundwater rights by 35%. The WSA, however, fails to identify the baseline groundwater rights under this adjudication and does not calculate the amount of water that a 35% reduction would supply.

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²¹⁴ Department of Toxic Substances Control, Interim Guidance for Sampling Agricultural Properties (Third Revision). <u>http://www.dtsc.ca.gov/Schools/upload/Ag-Guidance-Rev-3-August-7-2008-2.pdf</u>,

⁽¹⁾ http://www.disc.ca.gov/schools/upload/Ag-Guidance-Rev-5-August-7-215 http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.shtml

²¹⁶ http://www.oehha.ca.gov/risk/chhsltable.html

²¹⁷ Hagemann Comments.

²¹⁸ Hagemann Comments.

The DEIR's water supply analysis is also inadequate because it relies on an out of date baseline and fails to take into consideration significant new information regarding California's drought that was not available or applicable during the 2005-2009 baseline years relied upon in the DEIR. Given current drought conditions the DEIR's assumption that groundwater extraction rights will be reduced by just 35% may be substantially out of date. Moreover, the DEIR's assumption that a back up water supply is available from the Antelope Valley-East Kern ("AVEK") is not supported by substantial evidence. AVEK is a wholesaler of State Water Project water for the region. The WSA fails to demonstrate that AVEK has available water to sell to the Project given current long-term drought conditions. Moreover, the WSA fails to identify evidence of any options, contracts or rights to AVEK water.

The DEIR is also inadequate because it fails to evaluate normal, single-dry and multiple-dry year scenarios for groundwater availability and overdraft. Where a project relies on groundwater, SB 610 requires a WSA to evaluate normal, singledry and multiple-dry year scenarios for groundwater availability and overdraft. The WSA completely ignores this requirement and instead evaluates the availability of WSA water to AVEK as set forth in the AVEK Urban Water Management Plan ("UWMP"). The WSA's reliance on the AVEK UWMP is in error. This UWMP is not applicable. The DEIR assumes that the Project will use groundwater, not AVEK water. Moreover, neither the Willow Springs Solar Array Project nor the historical agricultural operations on the Project site were identified or included in the 2010 AVEK UWMP.²¹⁹ Because it fails to evaluate normal, singledry and multiple-dry year scenarios for groundwater availability and overdraft, the DEIR lacks substantial evidence for its findings regarding water availability and regarding impacts from the Project's use of water.

2. The Water Supply Assessment Fails to Take into Account Water Use from the Proposed Temporary Concrete Batch Plant

The DEIR's evaluation of water supply availability and impacts is incomplete and lacks substantial evidence because it fails to account for water used from the proposed temporary concrete batch plant. The on-site manufacture of concrete would require substantial amounts of water. The DEIR only accounts for the

²¹⁹ DEIR, Appendix C, Water Supply Assessment at p. 9.

availability of 900 acre-feet of groundwater for drinking water, soil conditioning, and dust suppression; it does not evaluate water availability for concrete batching.²²⁰ Moreover, there is no evidence that groundwater extraction rights for the Project would be sufficient to provide water for all Project construction needs once the needs of the concrete batch plant are factored.

3. The DEIR Fails to Evaluate Water Supply Impacts if the Applicant Sells the Project's Groundwater Rights

The WSA's reliance on historic use of groundwater also is inadequate because the WSA states the applicant may sell these water rights upon construction completion and look instead to import water through AVEK and Antelope Valley Groundwater Basin Management. Under such a scenario, all of its historic water use would be used by other consumers pursuant to the sale of these rights. In such a case, the water used for the Project would have to come from water use above and beyond its current entitlements. The DEIR's assumption that water use will be reduced by this Project is thus incorrect. If the applicant sells its existing water rights, then all of that water will be used by the purchaser, plus more water will have to be found to supply the Project. Given the indication that the applicant intends to sell its water rights, the DEIR must be revised to disclose the Project will not result in a net reduction of water use, and must be revised to evaluate where the water will come from if its groundwater rights are sold, whether that water is likely to be available, and what impacts may occur as a result of this change in water supply.

The DEIR must also be revised to disclose how water would be delivered to the site and to evaluate what impacts may be associated with the water delivery. If the applicants are relying entirely on AVEK to supply them with water if they sell their groundwater rights, the WSA fails to demonstrate a likelihood of availability of water from AVEK during dry years, fails to demonstrate any entitlements, contracts or options to buy water from AVEK, and fails to identify an alternative source of likely available water.

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²²⁰ DEIR at p. 3-24.

G. The DEIR's Evaluation of Biological Impacts Is Legally Inadequate

1. The DEIR Lacks Substantial Evidence for Its Conclusion that Direct Impacts to Swainson's Hawk Will Be Mitigated Below a Level of Significance and Fails to Follow Department of Fish & Game Mitigation Protocol

The DEIR is deficient because it lacks substantial evidence for its conclusion that direct impacts to Swainson's hawks will be mitigated below a level of significance and fails to follow Department of Fish & Game mitigation protocol.

The DEIR finds that Project construction may have a significant direct impact on Swainson's hawks, but that this impact will be reduced to a less than significant level through mitigation measures requiring preconstruction clearance surveys and other minimization measures as described in Mitigation Measures MM 4.4-2 through MM 4.4-4 and MM 4.4-9 through MM 4.4-11, and 4.4-36. The DEIR's conclusion that the Project's impact on Swainson's hawks will be less than significant after mitigation is not supported by the Biological Resources Technical Reports prepared for the DEIR by its biology consultants, nor by any other analysis or substantial evidence.²²¹ CEQA requires conclusions in an EIR to be supported by substantial evidence.²²² Conclusory statements "unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind" are insufficient to support a finding of insignificance.²²³ Moreover, an EIR must provide the reader with the analytic bridge between its ultimate findings and the facts in the record.²²⁴ Here, the DEIR fails to describe the "analytic route" it traveled in determining that the mitigation measures required would reduce Swainson's hawk impacts to a level of insignificance. The DEIR's conclusion that the Project's impacts on Swainson's hawk will be less than significant after mitigation is conclusory and fails to meet the requirements of CEQA.

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²²¹ Smallwood Comments.

 $^{^{222}}$ Pub. Resources Code § 21081.5; CEQA Guidelines § 15091, subd. (b).

²²³ People v. County of Kern (1974) 39 Cal.App.3d 830, 841-842.

²²⁴ Topanga Association for a Scenic Community v. County of Los Angeles (1974) 11 Cal.3d 506, 515; Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 733; see CEQA Guidelines § 15091.

Furthermore, the DEIR's reliance on Mitigation Measures MM 4.4-2 through MM 4.4-4 and MM 4.4-9 through MM 4.4-11 4.4-36 to reduce Swainson's Hawk impacts below a level of significance is arbitrary and lacks substantial evidence because it fails to include all of the mitigation measures set forth by the California Department of Fish and Game ("CDFG") in the document *Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California.* While many of the recommended mitigations are included, the DEIR conspicuously fails to include the following recommended mitigation to compensate for the direct and cumulative loss of foraging habitat:²²⁵

Mitigation plans should focus on providing habitat management (HM) lands. Lands which are currently in urban use or lands that have no existing or potential value for foraging Swainson's hawks will not require mitigation nor would they be suitable for mitigation. The plans should call for mitigating loss of Swainson's hawk foraging habitat by providing HM lands within the Antelope Valley Swainson's hawk breeding range at a minimum 2:1 ratio for such habitat impacted within a five-mile radius of active Swainson's hawk nest(s). The Department considers a nest active if it was used one or more times within the last 5 years.

Project developers may consider delegating responsibilities for acquisition and management of the HM lands to the Department or a third party, such as a nongovernmental organization dedicated to Mojave Desert habitat conservation. Seek approval of such delegations from the Department and the appropriate lead agency.

Approaches for acquisition and management of HM lands:

a. <u>HM Land Selection Criteria.</u> Identify the region within which lands would be acquired, and the type/quality of habitat to be acquired. Foraging habitat should be moderate to good with a capacity to improve in quality and value to Swainson's hawks, and must be within

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²²⁵ California Energy Commission and Department of Fish and Game, Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (June 2, 2010); Smallwood Comments.

the Antelope Valley Swainson's hawk breeding range. Foraging habitat with suitable nest trees is preferred.

b. <u>Review and Approval of HM Lands Prior to Acquisition</u>. Provide an acquisition proposal to the Department and the appropriate lead agency for their approval at least 3 months before acquiring the property. The proposal should discuss the suitability of the property by comparing it to the selection criteria.

c. <u>Land Acquisition Schedule and Financial Assurances</u>. Complete acquisition of proposed HM lands before initiating ground-disturbing project activities. If an irrevocable letter of credit or other form of security is provided, complete land acquisition within 12 months prior to beginning ground-disturbing project activities. Provide financial assurances for dedicating adequate funding for impact avoidance, minimization and compensation measures required for project approval (see 3. d. below).

d. <u>HM Lands Acquisition</u>. Be prepared to provide a preliminary title report, initial hazardous materials survey report, biological analysis, at a minimum to the Department and the appropriate lead agency. The information will likely also be reviewed by the California Department of General Services, Fish and Game Commission and/or Wildlife Conservation Board.

Fee title or conservation easement will likely be transferred to a Department of Fish and Game-approved non-profit third party and the Department, or solely to the Department. Be prepared to support enhancement and endowment funds for protection and enhancement of acquired lands. The Department will approve establishment and management of the funds, ensuring that qualified non-profit organizations or the Department will manage the funds in an appropriate manner. Contributed funds and any related interest generated from the initial capital endowment would support long-term operation, management, and protection of the approved HM lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of

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the HM lands. Be prepared to reimburse the Department or other entities for all land acquisition costs.

The DEIR's evaluation of impacts and the sufficiency of mitigation for loss of Swainson's hawk habitat is also deficient because it fails to take into account the critical nature of the Swainson's hawk habitat on the Project site. The Swainson's hawk population in Antelope Valley is considered particularly vulnerable and at risk because its population has been estimated to be just 10 pairs of nesting hawks.²²⁶ According to the biological surveys prepared for the DEIR, up to 12 Swainson's hawks have been observed relying on foraging habitat on or adjacent to the Project site. This represents 60% of the Swainson's hawk population in Antelope Valley.²²⁷ Biologist Shawn Smallwood concludes that the loss of up to 1,400 acres of habitat that has been immediately available to this vulnerable satellite population poses a substantial threat to the continued viability of this species – both individually and in conjunction with the loss of habitat from other large-scale renewable energy projects in the nearby vicinity.²²⁸

The DEIR must be revised to include compensatory mitigation for loss of Swainson's hawk habitat and to provide substantial evidence to support its findings.

2. The DEIR Fails to Consider or Recommend Feasible Mitigation to Minimize the Cumulative Impacts of Loss of Habitat for Swainson's hawk, burrowing owl and other special status bird species

The DEIR is inadequate because its fails to consider or recommend feasible mitigation to minimize cumulative impacts arising from the loss of habitat for Swainson's hawk, burrowing owl, and other special status bird species. The DEIR finds that the cumulative loss of habitat for the Swainson's hawk, burrowing owl, and other (unspecified) special status bird species would be a significant and unavoidable impact.²²⁹ The DEIR, however, fails to evaluate or recommend any

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²²⁶ Smallwood Comments; California Energy Commission and Department of Fish and Game, Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (June 2, 2010). ²²⁷ Smallwood Comments.

²²⁸ Smallwood Comments.

²²⁹ DEIR at p. 4.4-55.

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mitigation for this loss of foraging habitat. At a minimum, the County should require mitigation for the loss of Swainson's hawk habitat at the minimum 2:1 ratio for habitat impacted within a five mile radius of active Swainson's hawk nests,²³⁰ as required by the CDFG Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California.²³¹ Compensatory mitigation must also be evaluated for cumulative impacts to burrowing owls and other special status bird species that will be affected by the cumulative loss of habitat.²³²

Under CEQA, public agencies cannot approve projects with significant environmental impacts when feasible mitigation measures or alternatives can substantially lessen or avoid such impacts. Consistent with this policy, a legally adequate EIR must identify "[m]itigation measures proposed to minimize the significant effects on the environment." The failure to evaluate and identify feasible mitigation for cumulative impacts arising from the loss of habitat for Swainson's hawk, burrowing owl, and other special status bird species violates CEQA.

The analysis of cumulative impacts from the loss of habitat is also legally inadequate because it fails to identify the special status bird species other than Swainson's hawk and burrowing owl that would be impacted by the cumulative loss of habitat. Without specifically identifying the species that would be impacted by the cumulative loss of habitat, the public is not adequately informed of the impact and appropriate mitigation cannot be formulated.

3. The DEIR Improperly Defers Determination of the Amount of Compensatory Mitigation that Will Be Required to Mitigate Burrowing Owl Impacts

The DEIR violates CEQA by improperly deferring the determination of the amount of compensatory mitigation that will be required to mitigate burrowing owl impacts. Consistent with CDFG guidance on burrowing owl mitigation, Mitigation measure MM 4.4-8 requires permanent impacts to nesting, occupied and satellite

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 $^{^{230}}$ Here, the entire Project is within a five mile radius of active Swainson's hawk nests. Smallwood Comments.

²⁸¹ California Energy Commission and Department of Fish and Game, Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (June 2, 2010) at p. 8.
²⁸² Smallwood Comments.

burrows and/or burrowing owl habitat to be mitigated through the permanent conservation of similar habitat to provide for burrowing owl nesting, foraging, wintering, and dispersal comparable to or better than that of the impact area. Mitigation measure MM 4.4-8, however, defers determination of the amount of compensatory mitigation that will be required to an unspecified, future "site-specific analysis." The *CDFG Staff Report on Burrowing Owl Mitigation* states that a "minimum habitat replacement recommendation is not provided here as it has been shown to serve as a default, replacing any site-specific analysis."²³³ Accordingly, any mitigation formulated to mitigate burrowing owl impacts from a project must include a site-specific analysis that determines the amount of mitigation habitat that will be required. The DEIR's deferral of such an analysis to some unspecified future time violates CEQA.

Mitigation measures adopted *after* project approval cannot validate the issuance of an EIR, since this deferral denies the public the opportunity to comment on the project as modified to mitigate impacts.²³⁴ Accordingly, deferral of the formulation of mitigation measures to post-approval studies is generally impermissible.²³⁵ An agency may only defer the formulation of mitigation measures when it "recognizes the significance of the potential environmental effect, commits itself to mitigating its impact, and articulates *specific performance criteria* for the future mitigation."²³⁶

Here, the DEIR fails to specify the amount of compensatory mitigation that will be required to compensate for Project impacts on burrowing owls, denying the public the opportunity to comment on the Project as modified to mitigate this impact. Furthermore, the DEIR fails to articulate any specific, enforceable performance criteria that it will use to make this determination. The DEIR must be revised to include the required site specific analysis and to disclose the amount of compensatory mitigation that will be required to compensate for Project impacts on burrowing owls based.

²³³ California Department of Fish and Game, Staff Report on Burrowing Owl Mitigation (March 7, 2012) at pp. 11-12.

²³⁴ Gentry v. City of Murrieta (1995) 36 Cal.App.4th 1359, 1893; Quail Botanical Gardens Foundation v. City of Encinitas (1994) 29 Cal.App.4th 1597, 1604, fn. 5.

²³⁵ Sundstrom v. County of Mendocino (1988) 202 Cal.App.3d 296, 308-309.

²³⁶ Gentry v. City of Murrieta (1995) 36 Cal.App.4th 1359,1411 (emphasis provided).

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4. The DEIR Fails to Adequately Evaluate and Mitigate Avian Collision Risks

Substantial evidence shows that the Project will result in significant, cumulative impacts to birds from collision hazards. In his attached comments, Mr. Smallwood explains the substantial threat that collision hazards pose to birds. Reports of recent bird deaths at solar facilities in California further demonstrate that solar arrays present a collision hazard to birds.²³⁷ As a result, the California Energy Commission requires all recently licensed solar projects to conduct a Bird Monitoring Study to monitor the death and injury of birds from collisions with solar facility features. The DEIR fails to meaningfully evaluate these impacts and lacks substantial evidence to support its findings. The DEIR's evaluation of avian collision impacts must be revised to meaningfully analyze and mitigate the cumulative impact to birds from collision hazards on the Project site.

The DEIR also fails to disclose or mitigate for potential impacts associated with Project fencing. The Project site will be surrounded by a seven-foot tall fence with three rows of barbed wire.²³⁸ This type of fencing is known to pose a mortality hazard to sensitive avian species in the Project area.²³⁹ The DEIR must be revised to disclose this potentially significant impact and require "wildlife friendly" fencing at the Project site.

5. The DEIR Fails to Adequately Evaluate Habitat Fragmentation Impacts

Habitat fragmentation is a process that is central to a project's impacts on wildlife movement. It is recognized as one of the most serious threats to the continued existence of terrestrial wildlife, but is often misunderstood and mischaracterized in environmental reviews of residential, commercial, and industrial projects.²⁴⁰ Habitat fragmentation is a *pattern* of habitat loss that results

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²³⁷ Smallwood Comments; *see also* <u>http://www.kcet.org/news/rewire/solar/water-birds-turning-up-</u> dead-at-solar-projects-in-desert.html; <u>http://www.kcet.org/news/rewire/wildlife/great-blue-herons-die-</u> <u>at-solar-project.html; http://www.audublog.org?p=11179</u>;

http://www.kcet.org/news/rewire/wildlife/august-was-a-bad-month-for-birds-at-genesis-solar.html. 238 DEIR, p. 3-21.

²³⁹ Smallwood Comments.

²⁴⁰ Smallwood Comments.

in a greater numerical reduction of a species' population than would have happened with the same level of habitat loss in another pattern, e.g., a single, contiguous habitat patch. Biologist Shawn Smallwood testifies that, in the Antelope Valley, the Willow Springs Solar Photovoltaic project would contribute to a lengthening east-west corridor of solar projects along the Kern and Los Angeles County line.²⁴¹ With additional solar projects extending northward from the southern aspect of the Antelope Valley, the development of solar projects might completely block northsouth and east-west movement of wildlife through the Antelope Valley.²⁴² The pattern of renewable energy development in the Antelope Valley will likely disconnect populations of many species in the region, thereby resulting in suppressed recruitment and gene flow, and a greater numerical reduction of wildlife species than would have happened had all the solar been distributed in a patchwork of properties throughout the Antelope Valley or as one large patch in the middle of the Valley.

The evaluation of the Project's impacts on wildlife movement in the DEIR is inadequate because it fails to address all likely habitat fragmentation impacts. The DEIR states: "Wildlife movement corridors, also referred to as dispersal corridors or landscape linkages, are generally defined as linear features along which animals can travel from one habitat or resource area to another. A wildlife corridor study was not conducted as part of the proposed project since extensive, long-term studies of species ecology, movement patterns, and dispersal behavior would be required to conclusively demonstrate if a particular site or feature of a site served as an important movement corridor."243 This is incomplete because habitat fragmentation can occur from interference with wildlife movement within an existing habitat, not just interference with established wildlife movement corridors between habitats.²⁴⁴ Kern County's rejection of the possibility of habitat fragmentation impacts based on the lack of any wildlife corridor study is conclusory. The fact that a wildlife corridor study has not been conducted does not mean that no habitat fragmentation impacts will occur. Mr. Smallwood has examined the cumulative obstructions to movement within the habitat area around the Project and determined that the Project will almost certainly significantly interfere with the movement of many species of wildlife, both individually and cumulative in concert with the adjacent multiple

²⁴¹ Smallwood Comments.

²⁴² Smallwood Comments.

²⁴³ DEIR at p.4.4-18.

²⁴⁴ Smallwood Comments.

other solar projects that collectively form a long barrier to wildlife movement across the Antelope Valley. 245

The DEIR's analysis of fragmentation impacts is further inadequate because it improperly assumes that a project cannot interfere with habitat movement if the land being developed was previously used as agricultural land. The DEIR states, "Desert habitats throughout the Antelope Valley are fragmented by ongoing agricultural operations and development. The proposed project site is not likely to serve as a wildlife corridor due to the agricultural and rural residential uses in the area and the project site is not located within a known movement "corridor" or "linkage". Regional wildlife movement through the site and surrounding area is likely to continue to be fragmented by ongoing agricultural operations within the region."246 Solar projects have substantially different fragmentation impacts than agricultural land uses. Many species of wildlife use and travel through agricultural landscapes, but would be impeded by solar projects - which do not provide foraging opportunities and usually are fenced.²⁴⁷ Fenced-off solar projects are much more likely to impede the movement of wildlife than are open alfalfa fields. If solar projects are developed as planned in the region, they will extend nearly the entire north-south and east-west lengths of Antelope Valley, thereby cutting off movement of terrestrial wildlife and causing a devastating degree of habitat fragmentation.²⁴⁸

The DEIR's reliance on the Los Angeles County regional wildlife linkages map is also not relevant. The DEIR states that, "Los Angeles County has released a draft Regional Wildlife Linkages map as part of its General Plan Update program [citation omitted]. The Los Angeles County Regional Planning Commission recommended approval of the General Plan, including the Regional Wildlife Linkages map, to the Board of Supervisors. The draft map indicates that the project is not within an existing habitat corridor." This map, however, just shows regional habitat linkages, it does not address habitat movement within the regions.²⁴⁹

Because Kern County's impact assessment focused on established regional movement and habitat corridors, and not on wildlife movement within the region,

²⁴⁵ Smallwood Comments.

²⁴⁶ DEIR, p. 4.4-18.

²⁴⁷ Smallwood Comments.

²⁴⁸ Smallwood Comments.

²⁴⁹ Los Angeles County, Regional Habitat Linkages and Wildlife Corridors, available at <u>http://planning.lacounty.gov/sea/regional habitat linkages and wildlife corridors/#</u>.

the analysis was overly narrow and the conclusion overly broad. Replacing current land uses with solar panels and fencing will obviously constrain wildlife movement, and doing so in combination with all the other solar projects that were developed, under development or planned will destroy the capacity of movement in the region for many animal species. The DEIR must be revised to adequately evaluate this impact.

IV. CONCLUSION

The Project presents significant environmental issues that must be addressed prior to Project approval. The DEIR's Project description fails to include all Project components. The DEIR fails to adequately establish the existing setting upon which to measure impacts. The DEIR also fails to include an adequate analysis of the Project's potentially significant impacts. Finally, the DEIR's conclusions lack substantial evidence as required by CEQA. The DEIR must be revised and recirculated.

Sincerely,

Thomas a 2

Thomas A. Enslow

TAE:ljl

Attachments

* Internet links to all other references are provided herein, and a compact disc with referenced documents is provided herewith. Paper copies of these documents will be promptly provided to the County upon request.

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5-J2

Shawn Smallwood, Ph.D. 3108 Finch Street Davis, CA 95616

Attn.: Rob Dmohowski, Planner III Planning and Community Development Department County of Kern 2700 "M" Street, Suite 100 Bakersfield, CA 93301-2323

RE: Willow Springs Solar Photovoltaic Project

12 April 2015

Dear Mr. Dmohowski,

I would like to comment on the Draft Environmental Impact Report prepared for the Willow Springs Solar Photovoltaic Project, which I understand is a proposed 150 MW solar photovoltaic project on 1,402 acres. I also understand that the gen-tie would extend 7.5 to 9.5 miles, depending on the alterative selected. Also, there would be about 8.5 miles of six-foot tall, chain-link security fence topped with three rows of barbed wire along the perimeter of the PV arrays. There would be artificial lighting, temporary lined holding ponds, a new substation, and a new LADWP or SCE interconnection facility and potentially a new LADWP switching station.

My qualifications for preparing expert comments are the following. I earned a Ph.D. degree in Ecology from the University of California at Davis in 1990, where I subsequently worked for four years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, habitat restoration, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I have authored numerous papers on special-status species issues, including "Using the best scientific data for endangered species conservation," published in Environmental Management (Smallwood et al. 1999), and "Suggested standards for science applied to conservation issues" published in the Transactions of the Western Section of The Wildlife Society (Smallwood et al. 2001). I served as Chair of the Conservation Affairs Committee for The Wildlife Society -Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I've been a part-time lecturer at California State University, Sacramento. I was also Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management.

I have performed wildlife surveys in California for twenty-five years (Smallwood 1997, Smallwood et al. 1996, Smallwood and Nakamoto 2009). Over these years, I studied the impacts of human activities and human infrastructure on wildlife, including on Swainson's hawks, burrowing owls, and other species. I studied fossorial animals (i.e., animals that burrow into soil, where they live much of their lives), including pocket gophers, ground squirrels, kangaroo rats, voles, harvester ants, and many other

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functionally similar groups. I performed focused studies of how wildlife interact with agricultural fields and associated cultural practices, especially with alfalfa production. I also performed wildlife surveys at many proposed project sites, including at a proposed large solar thermal project in the Mojave Desert. Finally, I have performed research and monitoring on renewable energy projects for sixteen years, and I have authored many peer-reviewed report, papers, and book chapters on fatality monitoring, fatality rate estimation, behavior responses, mitigation, and other issues related to biological impacts of renewable energy generation. I have also reviewed many reports, served for five years on the Alameda County Scientific Review Committee that was charged with overseeing the fatality monitoring and mitigation measures in the Altamont Pass Wind Resource Area, and prepared many comment letters on proposed renewable energy projects. I also collaborate with colleagues worldwide on the underlying science and policy issues. My CV is attached.

SUFFICIENCY OF THE EIR AS AN INFORMATIVE DOCUMENT

Under CEQA,¹ "[A] paramount consideration is the right of the public to be informed in such a way that it can intelligently weigh the environmental consequences of any contemplated action and have an appropriate voice in the formulation of any decision." The public needs information that is thorough, relevant, unbiased, and honest; the public needs full disclosure of the environmental setting and possible cumulative impacts. Documents presenting information from a biased perspective will tend to include omissions, logical fallacies, internal contradictions, and unfounded responses to substantial issues. Therefore, my assessment of the DEIR and associated documents also considers omissions, errors, logical fallacies, and bias, which bears on the sufficiency of the Willow Springs Solar Photovoltaic Project DEIR as an informational disclosure document.

In many instances, the DEIR minimized or understated the likely occurrence of specialstatus species, as well as the significance of the occurrences of special-status species that were detected on site during surveys. This approach was contrary to the approach that is appropriate and consistent with CEQA's intent of affording the fullest possible protection to the environment. The DEIR's impacts conclusions should err on the side of caution, consistent with Type II hypothesis-testing and the Precautionary Principle in risk assessment (National Research Council 1986, O'Brien 2000, Shrader-Frechette and McCoy 1992). A Type II error is the failure to reject a false null hypothesis, or in the case of an impact assessment, the failure to reject a no-impact conclusion when in fact there will be an impact. Most scientific hypothesis-testing focuses on Type I error, or the rejection of a true null hypothesis. In the case of an impact assessment, a Type I error would mean the rejection of the no-impact conclusion when in fact there will be no impact. The implication of a Type I error would be the implementation of unneeded mitigation, but without adversely affecting the rare resource (e.g., Swainson's hawk).

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¹ Environmental Planning and Information Council vs. County of El Dorado (1982) 131 Cal. App. 3d 350, 354.

The implication of committing a Type II error would be failing to mitigate adverse impacts when in fact the mitigation was needed. Focusing on Type II error would be consistent with the Precautionary Principle, which holds that impact predictions should mitigate according to a worse-case scenario (not necessarily the worst case) after considering a range of possible outcomes. Unfortunately, the DEIR does not attempt to err on the side of caution, but rather downplays potential project impacts and relies on self-serving but unfounded speculation.	5-L2
For example, the DEIR acknowledges that the ferruginous hawk was seen on the project site, but then notes that nests were not seen (Kern County 2015:4.4-5). That nests were not seen might give the impression that the project site is less important to ferruginous hawk than habitat occurring elsewhere. However, ferruginous hawks do not nest in California. The project area is important to ferruginous hawks as a winter migration destination, where the species forages. The fact of nests not being seen needs enough additional information for appropriate interpretation. One should not expect to see ferruginous hawk nests at the project site, and no nests needed to be seen to conclude that the site is important to ferruginous hawks.	5-M2
The DEIR (Kern County 2015:4.4-5) reported that Cooper's hawk was detected on site, but added that no nests were seen. Again, one should not expect to find Cooper's hawks nesting on the project site, given its vegetation cover. Not seeing nests there was irrelevant. The site is important foraging habitat, without which habitat the species cannot persist.	5-N2
Northern harriers were seen on site, but the DEIR (Kern County 2015:4.4-6) pointed out that no nests were seen. However, pedestrian transects with short inter-transect spacing would be needed during the nesting season to find the nests of northern harrier. Pointing out that no nests were seen can be a bit misleading without also pointing out that appropriate surveys were not performed for this species.	5-02
Prairie falcons were seen on site, but the DEIR (Kern County 2015:4.4-6) pointed out that no nests were seen. I would have been surprised to have learned that prairie falcon nests had been found, because prairie falcons do not nest in this type of environment. Nests of prairie falcon should not be expected at this site, which nevertheless is obviously used by the species for foraging. Without foraging habitat, prairie falcons cannot survive.	5-P2
Loggerhead shrikes were seen on site, but the DEIR (Kern County 2015:4.4-6) pointed out that no nests were seen. Because this species typically nests where it is found in spring, it is likely that the Project contains nests even if they were not found by the consultant.	5-Q2
According to the DEIR (Kern County 2015:4.4-40), "No American badgers or badger sign (i.e., burrows, scat, tracks, etc.) were observed during the 2010 and 2011 biological surveys." And "No desert kit foxes or kit fox sign (i.e., burrows, scat, tracks, etc.) were observed during the 2010 and 2011 biological surveys." However,	5-R2

surveys were not directed toward these species, so not seeing sign of them was unconvincing of their absence.

Occurrence likelihood Common name Scientific name Status¹ DEIR Smallwood Pallid bat Antrozous pallidus CSC No mention Probable Townsend's western Possible Plecotus t. townsendii CSC Low big-eared bat Western mastiff bat Eumops perotis CSC No mention Possible Long-eared myotis Myotis evotis WBWG No mention Possible Fringed myotis Myotis thysanodes WBWG No mention Probable Long-legged myotis Myotis volans WBWG No mention Possible Myotis yumanensis Yuma myotis CSC No mention Possible Probable American badger Taxidea taxus CFP Moderate Probable Desert kit fox Vulpes macrotis Low CT Mojave ground *Xenospermophilus* Low Possible squirrel mojavensis Tehachapi pocket Perognathus alticolus CSC Low Possible mouse inexpectatus Mountain plover Charadrius montanus BCC, BSSC2 Probable Low Turkey vulture Cathartes aura CDFG 3503.5 Certain Present Golden eagle CFP, BGEPA Aquila chrysaetos Present Certain Northern harrier Circus cyaneus SSC3 Present Certain White-tailed kite Elanus leucurus CFP No mention Probable Cooper's hawk Accipiter cooperi Present Certain CDFG 3503.5 Sharp-shinned hawk Probable Accipiter striatus CDFG 3503.5 No mention Ferruginous hawk Buteo regalis SSC Present Certain Red-tailed hawk Buteo jamaicensis CDFG 3503.5 Present Certain Red-shouldered hawk Buteo lineatus CDFG 3503.5 Present Certain Swainson's hawk Buteo swainsoni Present Certain CTAmerican kestrel Present Certain Falco sparverius CDFG 3503.5 Falco columbarius Possible Merlin CDFG 3503.5 No mention Prairie falcon Falco mexicanus CDFG 3503.5 Present Certain Peregrine falcon Falco peregrinus CE, CFP No mention Possible Barn owl Tyto alba CDFG 3503.5 No mention Probable Great-horned owl Bubo virginianus CDFG 3503.5 Present Certain SSC2, FCC Western burrowing Athene cunicularia Present Certain owl SSC₂ Purple martin Progne subis Certain Present California horned Eremophila alpestris CBRL Present Certain lark actia Loggerhead shrike Lanius ludovicianus SSC2 Present Certain (breeding)

Table 1. Special-status species of wildlife that could potentially occur at, or travelthrough, the proposed Willow Springs Solar Photovoltaic project site.

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5-R2

			Occurrence likelihood	
Common name	Scientific name	Status ¹	DEIR	Smallwood
Yellow-headed blackbird	Xanthocephalus xanthocephalus	SSC3	Present	Certain
Tricolored blackbird	Agelaius tricolor	SSC1	Low	Unlikely
Desert tortoise	Gopherus agassizii	FT, CT	Low	Possible
Silvery legless lizard	Anniella pulchra pulchra	SSC	Low	Possible
Coast horned lizard	Phrynosoma blainvillii	SSC	Low	Possible

¹ Listed as FE = federal endangered, FT = threatened, FCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, BGEPA = Bald and Golden Eagle Protection Act, CE = California endangered, CT = California threatened, CSC = California species of special concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), CFP = California Fully Protected (CDFG Code 4700), CDFG 3503.5 = California Department of Fish and Game Code 3503.5 (Birds of prey), and SSC2 and SSC3 = California Bird Species of Special Concern priorities 2 and 3, respectively (Shuford and Gardali 2008), CBRL = California Bird Responsibility List, WBWG = Western Bat Working Group listing as moderate or high priority.

An omission in the DEIR, which, as discussed earlier can reflect bias, was a point made about the long list of special-status species detected on the proposed project site. Even though the surveys were cursory in nature or directed to a few species (desert tortoise, burrowing owl, and Swainson's hawk), 16 special-status species were seen (Table 1). At most project sites only one or a few special-status species are detected, but 16 turned up at this one. The richness of this site was glaringly missing from the DEIR.

Eleven special-status species of wildlife were not even mentioned in the DEIR, including 6 species of bat (Table 1). The geographic range maps of these species overlap the project site and the habitat descriptions were consistent with the environment of the project site (Burt and Grossenheider 1976, National Geographic Society 1987, <u>https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1685, http://www.drecp.org/meetings/2012-02-24 meeting/species profiles/American%20Peregrine%20Falcon.pdf, http://www.drecp.org/meetings/2012-02-24 meeting/species profiles/White-tailed_kite.pdf).</u>

The designation of "low likelihood of occurrence for five of the species was not sufficiently supported by rigorous surveys, including for Townsend's western big-eared bat, desert kit fox, Tehachapi pocket mouse, silvery legless lizard, and coast horned lizard. No acoustic detection was attempted for bats, including the use of species recognition tools using sonograms. No directed surveys for desert kit fox were performed. For Tehachapi pocket mouse, searches for their burrows and tail drags would have been needed, followed by live-trapping in the areas of potential activity. Focused surveys would have been needed to conclude absence of silvery legless lizard and coast horned lizard, including searches for tracks and use of cover boards and raking.

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5-U2

Some of the surveys were admittedly cursory, including a preliminary survey of the project area on February 2, 2010, and of the Gen-tie area on February 15, 2011. On May 15, 2014, a biologist working for Ironwood Consulting, Inc. (2014) conducted a "windshield" reconnaissance level habitat assessment of the project Site. Other than these surveys, there were focused surveys for desert tortoise, Swainson's hawk, and burrowing owl.

IMPACTS ASSESSMENT

Industrial solar projects will have two types of direct impact on wildlife that warrant assessment. One type of impact is habitat loss, including the greater habitat loss that is caused by habitat fragmentation (discussed later). The habitat loss caused by the project will happen once, when the project is built, although habitat fragmentation can continue with the construction of additional renewable energy projects or other human projects in the area. Another type of impact will be ongoing injuries and fatalities caused by the operation of the facilities. Once the project is built, birds will collide with PV arrays, transmission lines, electric distribution lines, met towers, and the perimeter fence, and terrestrial animals can be entrapped by portions of the facility, electrocuted on riser elements, or run over by vehicles. The operational impacts will continue through the life of the project, or even longer if the facilities are not removed at the end of the permitted period of operations. These operational impacts need to be predicted prior to the construction of the project so that appropriate compensatory mitigation can be formulated. However, post-construction impact monitoring is also needed to determine whether the compensatory mitigation was sufficient or even if it was excessive. If post-construction monitoring reveals greater-than-predicted impacts, then compensatory mitigation should be augmented, and if it reveals less-than-predicted impacts, then the mitigation can be reduced.

Predictions of operational impacts need to be presented in the form of a rate. At energy projects, the rate metric used is the number of fatalities (or injuries) per megawatt of rated capacity per year, or fatalities/MW/year. The predicted rate also needs to include a confidence range.

Collision risk with PV panels

The DEIR provided no prediction of the fatality rate that will be caused by collisions with PV panels at Willow Springs. The assessment in the DEIR merely downplayed the likelihood of collision impacts with solar panels and associated facilities by charactering collisions as commonplace and well understood, although it was unclear how this information would indicate that the impacts are nothing to worry about. According to the DEIR (Kern County 2015:4.4-38), "Such risks [collision fatalities] are commonplace with most human development activities. Risk factors that are typically associated with avian collisions with man-made structures include size of facility, height of structures, and specific attributes of structures (guy wires and lighting/light attraction), as well as siting in high risk areas, frequency of inclement weather, type of

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5-V2

development and species or taxa at potential risk. The role of these risk factors has been outlined in the U.S. Fish and Wildlife Service new draft guidelines for wind turbines (USFWS 2013) and communication towers (USFWS 2013), as well as by various publications in the peer reviewed literature (Gehring et al. 2009, 2011, Kerlinger et al. 2010)." However, these risk factors were speculative, vague, and of no meaning in the context of a solar project developed in the Antelope Valley. For example, the height of structures was listed, but this factor means nothing outside the contexts of location and type of structure at issue. In the context of photovoltaic panels, a leading candidate risk factor is the "lake effect," in which birds mistake the solar arrays as a body of water and attempt to land on it. If the lake effect turns out to be a major factor, then the height of the structures would not matter.

Contrary to the Precautionary Principle, the DEIR (Kern County 2015:4.4-39) concluded, "*The potential for a significant impact to result from avian collisions at the project site is unlikely, and collision risk is not expected to adversely affect avian populations.*" The evidence from other solar projects refutes the first conclusion, and the second conclusion is nothing more than hopeful speculation. The DEIR referenced no evidence in support of this conclusion. Furthermore, whether the impacts are significant at a population level is not the standard of significance under CEQA. The standard under CEQA is whether the project will harm any individuals of special-status species, which is already documented to have happened at other solar projects. We know that birds will collide with the solar panels or their support structures. For example, a Yuma clapper rail (*Rallus longirostris yumanensis*), which was a member of a species listed as Endangered under the Federal Endangered Species Act, was recently killed at an industrial solar farm near Joshua Tree National Park (<u>http://www.kcet.org /news/rewire/solar/photovoltaic-pv/endangered-bird-dead-at-desert-solar-facility.html</u>).

According to the DEIR (Kern County 2015:4.4-39), "*The project site is also sited in an area of comparatively low use by avian species, is not located within a known migratory route...*" This conclusion lacked foundation, however, as no surveys were performed for avian use at this or other nearby sites, nor were surveys performed to measure and compare migratory patterns through the area. This conclusion is speculative and not supported by any evidence.

The DEIR (Kern County 2015:4.4-39) added, "...the best available scientific information to date does not suggest a significant risk of significant avian mortality occurring at facilities such as the project." However, the same could have been said about the Altamont Pass Wind Resource Area in 1980 or the Ivanpah Solar Electric Generating System ("ISEGS") in 2010. As both of these relatively new types of renewable energy generation got underway in California, little was known about the potential collision impacts, just as little is known about the impacts of industrial-scale photovoltaic projects. We know that PV projects cause collisions, but the results of scientific fatality monitoring at PV projects have yet to be shared with the public, so the numerical impacts remain unknown except to those holding the data to themselves. Kern County has no basis for claiming that the best scientific information suggests anything about the impacts of PV, because the scientific information has yet to be made available.

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This argument made in the DEIR - that the best available scientific information to date does not suggest a significant risk of avian mortality -- resembled the more long-winded argument made in the EIS prepared for ISEGS (BLM 2010:4.3-41), "Diurnal birds could collide with tall structures, and could also be at risk of injury and fatality from burns if they flew into the reflected sunlight between the heliostats and the power towers. Although data are limited, one 79-acre solar facility with one 282-foot tall solar tower experienced 1.7 avian mortalities per week (McCrary 1986). The majority of avian mortalities were attributed to collisions, but approximately 20 percent were attributed to heat related injuries. Although proposed ISEGS project is approximately 50 times the size of the McCrary study site with more numerous and taller towers, the collisions mortalities and heat-induced injuries that have been reported at solar facilities, may be associated or exacerbated by large evaporation ponds at the solar plant that attracted the birds to the area (McCrary 1986) and collisions with guy wires in poor visibility conditions such as fog or inclement weather (Manville 2001). Because the ISEGS project does not include evaporation ponds or guyed structures and rarely is subject to weather that reduces visibility, collision and heat-related injuries may not be substantial. Nevertheless, there is insufficient data to make definitive conclusions regarding the potential magnitude of these types of impacts at the ISEGS facility." Unfortunately, this bit of hopeful speculation turned out to be very wrong, and now it is obvious that thousands of birds are being killed by the project annually.

According to the DEIR (Kern County 20154.4-39), "Data collection and avian risk studies are currently underway at several PV solar array facilities in desert regions, including the Desert Sunlight Solar Project in Riverside County (Sunlight). To date, standardized monitoring and study results have not been completed." ... "...at Desert Sunlight, current data suggests that avian mortality associated with direct contact with panels is less than 10 percent of identified avian deaths, while the other possible causes were associated with temporary facilities like the ponds, or structures and facilities not unique to solar facilities like fences, project buildings, transmission line, and unknown or possible background causes." These claims look similar to the claims made by BLM (2010:4.3-41) regarding the ISEGS project (see previous paragraph). I have obtained lists of dead birds found at PV projects, and have seen no indication that the ancillary structures are more dangerous than the PV panels, although I must point out that transmission lines and electric distribution lines have not been monitored to the same extent as the solar panels. Until the complete results of scientific monitoring at PV projects are released to the public, it would be prudent to err on the side of caution rather than speculate in the same erroneous manner as did BLM (2010).

Without the scientific monitoring results from recently built industrial-scale solar PV projects, the only basis that I have for estimating annual fatality rates caused by collisions with solar arrays was from the Solar One project, where 30% of fatalities were attributed to collision with the solar arrays (McCrary et al. 1986). It remains unknown to what degree collision rates at solar PV projects might differ from those measured at Solar One (McCrary et al. 1986), which was a concentrating thermal power plant. But again, in the face of high uncertainty when assessing impacts to rare environmental resources, the accepted standard is to err on the side of caution (National Research

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Council 1986, Shrader-Frechette and McCoy 1992, O'Brien 2000), so one should not assume that due to less reflectivity in PV panels, the collision rates will necessarily be different. In fact, the collision rate could be higher, for all that is known now. Given these uncertainties, a reasonable approach would be to extrapolate the fatality rate estimates at Solar One, but adjusted for reasonable guesses as to what might be the percentage differences in the rates.

McCrary et al. (1986) searched for dead birds amongst the heliostat mirrors and around the power tower at Solar One, and they estimated a bird fatality rate caused by bird collisions with heliostat mirrors and the power tower, and by heat encountered when birds flew through the concentrated sunlight reflected toward the power tower. However, McCrary et al. (1986) appeared to have under-appreciated the magnitude of the impacts caused by Solar One, likely because McCrary et al. (1986) did not know as much as scientists know today about scavenger removal rates and searcher detection error.

McCrary et al. (1986) searched for dead birds during 40 visits to the 10 MW Solar One project. Their search pattern was not fixed, so it was not as rigorous as modern searches at wind energy projects and other energy generation and transmission facilities. McCrary et al. (1986) placed 19 bird carcasses to estimate the proportion remaining over the average time span between their visits to the project site, though they provided few details about their scavenger removal trial. We know today that the results of removal trials can vary substantially for many reasons, including the species used, time since death, and the number of carcasses placed in one place at one time, and etc. (Smallwood 2007). McCrary et al. (1986) also performed no searcher detection trials, because they concluded that the ground was sufficiently exposed that all available bird carcasses would have been found. This conclusion would not be accepted today, based on modern fatality search protocols.

Because scientists have performed many more scavenger removal trials and searcher detection trials, as well as many more bird carcass searches since the study of McCrary et al. (1986), I re-calculated the fatality rate estimate from that first study, but this time using national averages to represent scavenger removal rates and searcher detection rates (see Smallwood 2007, 2013). Based on the methods in Smallwood (2007), I have since reviewed more than 400 searcher detection trials and more than 400 scavenger removal trials across North America (Smallwood 2013). From these reviews, I estimated the average proportion of carcasses remaining after 9 days since the last carcass search. I used 9 days for the average search interval, because that was the average search interval in the McCrary et al. (1986) study.

The estimator I used was derived from the Horvitz and Thompson (1952):

$$\mathbf{F}_{\mathbf{A}} = \frac{\mathbf{F}_{\mathbf{U}}}{\mathbf{R}_{\mathbf{C}} \times \mathbf{p}},$$

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where F_U was the unadjusted number of fatalities/MW/year (the found carcasses), and F_A was the fatality rate adjusted for the proportion of carcasses found amongst those that were available to be found, p, and by the average proportion of carcasses remaining since the last fatality search, R_C . The adjustments for p and R_C were estimated from searcher detection trials and scavenger removal trials. I assumed carcasses were deposited at a steady rate from heliostat mirrors and power towers, so I took the average proportion of carcasses remaining each sequential day between searches:

$$R_{\rm C} = \frac{\sum_{i=1}^{\rm I} R_i}{\rm I},$$

where R_i was proportion of carcasses remaining by the *i*th day following the initiation of a scavenger removal trial. Thus, the expected proportion of carcasses remaining by the next fatality search should be R_c corresponding with the fatality search interval, *I*, which was 9 days in the McCrary et al. (1986) study. Note that McCrary et al. (1986) used R_i instead of R_c , which means their fatality rate estimate would have been inflated for this factor alone (their estimate was biased low, however, by assuming they experienced no searcher detection error).

McCrary et al. (1986) reported the mean and standard deviation (SD) of bird carcasses found per visit, but estimating rates for the purpose of extrapolation should include a standard error (SE), which can be approximated as:

$$SE = \frac{SD}{\sqrt{n}},$$

which, in the case of McCrary et al. (1986) with a SD = 1.8 and n = 40 visits, was 0.28 (the calculated mean was 1.75).

Using SE also facilitates carrying of the error terms through the calculation of the fatality rate estimate. For this purpose, I estimated standard error of the adjusted fatality rate, $SE[F_A]$, using the delta method:

$$SE[F_{A}] = \sqrt{\left(\frac{1}{p \times R_{C}} \times SE[F_{U}]\right)^{2} + \left(\frac{F_{U}}{p} \times \frac{-1}{R_{C}^{2}} \times SE[R_{C}]\right)^{2} + \left(\frac{F_{U}}{R_{C}} \times \frac{-1}{p^{2}} \times SE[p]\right)^{2}}.$$

Using data reported by McCrary et al. (1986), and adopting their assumptions, their estimated fatality rate was 1.75 fatalities/visit divided by 70% to 90% of placed trial carcasses remaining between visits, or $1.75 \div 0.90 = 1.94$ and $1.75 \div 0.70 = 2.5$. Assuming a point estimate of 80% of placed carcasses remaining, then the estimated bird carcasses per visit would be $1.75 \div 0.80 = 2.19$. Given that there were 40 visits in the year, then $2.19 \times 40 = 87.6$ bird fatalities per year, or on a per-MW basis, there were 87.6/10 MW = 8.76 bird fatalities per MW per year. Because McCrary et al. (1986) did not report the SE of their proportion of placed trials carcasses remaining, and because

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they assumed p = 1, I could not carry the error terms, so the estimate from their study was 8.76 bird fatalities/MW/year with an 80% confidence interval (CI) of 6.96 to 10.55. The only real challenge remaining is to extrapolate this estimate to the 150 MW Willow Springs Solar Photovoltaic project consisting of PV panels instead of power towers and heliostat mirrors.

Assuming PV panels will result in only 10% of the fatalities compared to the rate observed at Solar One, then I would predict that Willow Springs Solar Photovoltaic project will kill 131 birds per year (80% CI: 104 to 158). Assuming PV panels will result in half the fatalities per MW as occurred at Solar One, and extrapolating this rate to the 150 MW Willow Springs Solar Photovoltaic project, I would predict 657 bird fatalities per year (80% CI: 522 to 791). However, these rates need to be adjusted for the proportion of fatalities not found by searchers.

The results of my adjustment trials yielded national averages of $R_c = 0.48$ (SE = 0.12) for birds over a mean search interval of 9 days and p = 0.676 (SE = 0.029) when ground visibility was characterized as high or very high. Using these values, my estimated fatality rate at McCrary et al.'s project site was 21.57 fatalities/MW/year (80% CI: 7.15 to 36.00). Relying on these adjustments and assuming PV panels will result in only 10% of the fatalities compared to the rate observed at Solar One, then I would predict that the Willow Springs Solar Photovoltaic project will kill 324 birds per year (80% CI: 107 to 540). Assuming PV panels will result in half the fatalities per MW as occurred at Solar One, and extrapolating this rate to the 150 MW Willow Springs Solar Photovoltaic project, I would predict 1,618 bird fatalities per year (80% CI: 534 to 2,700).

Clearly, the McCrary et al. (1986) fatality monitoring study resulted in a highly uncertain fatality rate estimate, which was revealed to be even more uncertain when considering national averages of the adjustment factors and when carrying the error terms through the calculations . The direct impact of the Willow Springs Solar Photovoltaic project can be said to be highly uncertain at this point. If the project goes forward, it would be very important to require scientific monitoring for fatalities. It would be helpful to perform avian behavior surveys in advance of construction, in order to characterize avian flight paths and the types of behaviors of endemic species that could contribute to collision risk (Smallwood et al. 2009a,b). In the meantime, and based on the assumptions applied herein, I predict that Willow Springs PV panels will cause about 600 to 1,600 bird fatalities per year. This annual toll could amount to 15,000 to 64,000 dead birds over the projected life of the project of 25 to 40 years. Compensatory mitigation should be formulated accordingly.

Collision risk with fencing

Fencing can entangle and kill wildlife (Photo 1). The project proposes to surround the solar power facility with security fencing. The DEIR should be revised to provide sufficient detail regarding this fencing to allow evaluation of its potential impacts on wildlife. Currently, the DEIR lacks this detail and lacks any meaningful evaluation of fencing impacts.

5-W2

5-X2



Photo 1. A great-horned owl died after becoming entangled on the razor wire placed on top of this cyclone fence. Photo by Joanne Mount.

Collision risk with gen-tie

The DEIR made no attempt to predict the annual number of avian collisions with electric distribution lines and transmission lines. These impacts can be very large (Hartman et al. 1992). Avian collisions with transmission lines are common (Photo 2), and can cause higher fatality rates than the renewable energy projects they support. In addition to following APLIC guidelines to minimize impacts, those collisions that cannot be prevented should be compensated. The appropriate type of compensatory mitigation and the level of mitigation needs to be informed initially by predicted impacts, and later by post-construction monitoring.



Photo 2. A great blue heron hangs from the top wire of a transmission line in the Altamont Pass Wind Resource Area. Photo by K. Shawn Smallwood.

Hartman et al. (1992) provided an empirical basis for predicting fatality rates of birds caused by collisions with transmission lines. Hartman et al. monitored bird collisions with a transmission line strung across Mare Island, California, where they reported 85.3 bird fatalities per mile of transect per year along the portion of the circuit overlying

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hayfields. The fatality rate estimated by Hartman et al. probably would be higher than the rate realized at Willow Springs due to greater levels of bird activity at Mare Island, but the same approach can be used here as used to estimate collisions with PV panels based on empirical evidence from solar thermal. Assuming that a gen-tie will cause only 10% of the fatality rate observed at Mare Island, a 7.5 to 9.5 mile gen-tie would cause 64 to 81 bird fatalities per year. If collision rates were available from arid environments, then I would suggest using those rates to predict the impacts at Willow Springs. In any event, I suggest that a revised DEIR includes some range of possible collision rates so that appropriate compensatory mitigation can be formulated.

Habitat Loss

Almost the entire 1,402 acres of the project serves as foraging habitat for multiple special-status species, including burrowing owl and Swainson's hawk. The project would destroy all of this habitat. The same could be said about burrowing owl breeding habitat, because burrowing owl breeding colonies shift locations periodically and will over time likely occur throughout the project site (K. S. Smallwood, personal data 1999-2015).

The project's impacts to Swainson's hawk would affect at least 60% of the Antelope Valley population that was estimated in 2010 (Single 2010). Single (2010) reported that 10 pairs of nesting Swainson's hawks resided in Antelope Valley in 2010, and Ironwood Consulting, Inc. (2014a) found 6 nests within 5 miles of the project site in 2011. The clustering of Swainson's hawk nesting around the project site has probably been due to the production of alfalfa hay in the project's vicinity, as alfalfa production has been a key foraging habitat for Swainson's hawks (Smallwood 1995). Therefore, the loss of foraging habitat at Willow Springs would be particularly harmful to the Antelope Valley population of Swainson's hawks.

Another concern related to the habitat loss caused by the project is the likelihood of the extirpation of the Antelope Valley population of Swainson's hawk. If Single's (2010) estimate was accurate, then 10 pairs would be a smaller demographic unit than breeding populations located elsewhere where sufficient habitat space is available (Smallwood 2001). Where sufficient habitat space is available, there should be about 50 breeding pairs of Swainson's hawk (Smallwood 2001). If the Antelope Valley supports only 10 pairs, then I share Single's (2010) concern over the vulnerability of this satellite population of Swainson's hawk. Losing foraging habitat that has been immediately available to at least 60% of a population that is already too small for the area could be the final blow to the Swainson's hawk in the Antelope Valley. This project alone might lead to the loss of the species in the Antelope Valley, and in combination with the thousands of acres of other renewable energy projects in the area, the species would be especially vulnerable to extirpation.

Wildlife Movement and Habitat Fragmentation

Habitat fragmentation is a process that is central to a project's impacts on wildlife movement. It is recognized as one of the most serious threats to the continued existence

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5-Z2

of terrestrial wildlife (Wilcox and Murphy 1985), but is often misunderstood and mischaracterized in environmental reviews of residential, commercial, and industrial projects (Smallwood 2015). Habitat fragmentation is a *pattern* of habitat loss that results in a greater numerical reduction of a species' population than would have happened with the same level of habitat loss in another pattern, e.g., a single, contiguous habitat patch. Habitat fragmentation is the disproportionate reduction in numerical capacity of the remaining habitat of the same net area (Smallwood 2015). In the Antelope Valley, the Willow Springs Solar Photovoltaic project would contribute to a lengthening east-west corridor of solar projects along the Kern and Los Angeles County line (Figure 1). With additional solar projects extending northward from the southern aspect of the Antelope Valley, the development of solar projects might completely block north-south and east-west movement of wildlife through the Antelope Valley. The pattern of renewable energy development in the Antelope Valley will likely disconnect populations of many species in the region, thereby resulting in suppressed recruitment and gene flow, and a greater numerical reduction of wildlife species than would have happened had all the solar been distributed in a patchwork of properties throughout the Antelope Valley or as one large patch in the middle of the Valley.



Figure 1. Planned and ongoing solar (dark blue) and wind (light blue) projects in the region, including urban areas and other industrial uses (pink). The Willow Springs project is shown in red. Yellow arrows depict remaining potential wildlife movement routes between solar projects, should all of these projects be built. This map may not be entirely accurate in the boundaries of projects, and is probably incomplete; it is intended to provide an approximation of the existing and foreseeable build-out of renewable energy projects.

The DEIR did not address habitat fragmentation. Instead of addressing habitat fragmentation, the DEIR addressed the question of whether the project would interfere with a known wildlife movement corridor. In fact, all the DEIR did to address this question was to point out that the types of study needed to answer the question would be too expensive. Thus, no analysis was performed on whether the project would interfere with a wildlife movement corridor.

The question over whether the project would interfere with a wildlife movement corridor was also the wrong question to be asking. The CEQA standard is whether a project will interfere with wildlife movement in the region; it is not whether the project will interfere with a corridor. This distinction is important because the notion that wildlife move along corridors lacks empirical foundation other than in the context of human-constructed corridors (Simberloff et al. 1992, Smallwood 2015).

In a new book chapter appearing this year on habitat fragmentation and corridors, I wrote (Smallwood 2015), "Corridor implies concentrated movement of one or more species, or disproportionate use of a linear portion of a landscape. Naturally occurring corridors are typically characterized as linear features of the landscape, such as stream basins and the vegetation that grows along streams. Linear features of the landscape have been thought to be used by animals as convenient guides to migration, dispersal, home range patrol, and other types of long-distance movement. However, biologists often assume this relationship rather than measure it. Animals actually move across all types of landscape features and vegetation patterns, not just linear features. The capacity for animals and plants to move across the "matrix" landscape might be just as important as the capacity for movement along corridors." CEOA appropriately asks the question of whether a project will interfere with the movement of wildlife in the region. Therefore, there is no need for performing the costly studies that the DEIR claimed were unreasonable and thus not performed. The type of study that was needed was on habitat fragmentation and whether Willow Springs and other nearby solar projects will disrupt the ability of wildlife to move across the region, and hence reduce the numerical capacity of the landscape for particular species.

Installing 1,402 acres of solar panels and surrounding it with a cyclone fence will most certainly interfere with the movement of many species of wildlife, and adjacent to multiple other solar projects will collectively form a long barrier to wildlife movement across the Antelope Valley. An assessment of the impacts could be based on field studies, or on simulation studies, or even on best guesses based on what is known about the movement and social organization of each species.

In addition to the DEIR constraining the assessment of habitat fragmentation to the narrow topic of corridors, it also conflated the impacts on wildlife movement due to agriculture with those due to industrial solar projects (Kern County 2015:4.4-18), "Desert habitats throughout the Antelope Valley are fragmented by ongoing agricultural operations and development. The proposed project site is not likely to serve as a wildlife corridor due to the agricultural and rural residential uses in the

area and the project site is not located within a known movement "corridor" or "linkage". Regional wildlife movement through the site and surrounding area is likely to continue to be fragmented by ongoing agricultural operations within the region." Solar projects have substantially different fragmentation impacts than agricultural land uses. Many species of wildlife use agricultural fields (Smallwood and Geng 1993), and move through agricultural landscapes, but solar projects do not provide foraging opportunities and usually are fenced (as is proposed here). Fenced-off solar projects are much more likely to impede the movement of wildlife than are alfalfa fields. If solar projects are developed as planned in the region, they will extend nearly the entire northsouth and east-west lengths of Antelope Valley (Figure 1), thereby cutting off movement of terrestrial wildlife and causing a devastating degree of habitat fragmentation.

The DEIR's reliance on the Los Angeles County regional wildlife linkages map was also not relevant. The DEIR stated that "Los Angeles County has released a draft Regional Wildlife Linkages map as part of its General Plan Update program, (available at: http://planning.lacounty.gov/assets/upl/ project/gp_2035 FIG 6-Regional Wildlife Linkages.pdf). The Los Angeles County Regional Planning Commission recommended approval of the General Plan, including the Regional Wildlife Linkages map, to the Board of Supervisors. The draft map indicates that the project is not within an existing habitat corridor." This map, however, just shows regional habitat linkages, it does not address wildlife movement within the region. (http://planning.lacounty.gov/sea/ regional habitat linkages and wildlife corridors/#.)

Because Kern County's impact assessment focused on established regional movement and habitat corridors, and not on wildlife movement within the region, the analysis was overly narrow and the conclusion overly broad. Replacing current land uses with solar panels and fencing will obviously constrain wildlife movement, and doing so in combination with all the other solar projects that were developed, under development or planned will destroy the capacity of movement in the region for many animal species. This impact is obvious from even a cursory glance at my Figure 1. The impact on wildlife movement will be highly significant; more than that -- it will be devastating.

CUMULATIVE IMPACTS

The DEIR's cumulative impacts analysis was insufficient. It failed to disclose the magnitude of the impacts caused by the identified projects, or to analyze how their spatial distribution would affect wildlife movement in the region. See my Figure 1 as an example of how proposed and ongoing projects can be mapped to begin understanding their possible cumulative consequences to wildlife. Not only can the spatial extent of direct impacts be seen in Figure 1, but so too can the isolated and semi-isolated patches of open space that used to serve as wildlife habitat. Some of these patches of open space that will be completely or partially surrounded by PV arrays and cyclone fences will either be unavailable to multiple species of wildlife or at a minimum more difficult to reach. The DEIR makes no mention of these areas.

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The DEIR (Kern County 2015:4.4-55) states, "However, within the regional context and when considered with other past, present, and reasonably foreseeable future projects (Table 3-4), the proposed project would have an incremental contribution to a cumulative loss of low-quality foraging habitat for Swainson's hawk, burrowing owl, and other special-status bird species, even with the implementation of project-specific mitigation measures." On the one hand, Kern County acknowledges that cumulative impacts will be significant, but on the other it concedes only to impacts to low quality habitat. However, Kern County had no basis for claiming that the habitat is low quality for the special-status species seen on site. No studies were performed on habitat quality, as no measures were taken of productivity or survival of any of the many special-status species detected on site.

In another example, the DEIR (Kern County 2015:4.4-55) claimed, "Direct effects (i.e., injury or mortality) to desert kit fox and American badger could occur from implementation of the project. However, the potential for these project-level impacts is considered minimal as the project site does not contain suitable foraging or breeding habitat for these species." As pointed out in the preceding paragraph, no studies were performed to provide any foundation for this speculation. No surveys were performed specifically for these species. Instead, the determination of whether these species occur in the area was based on a "windshield survey," reconnaissance surveys, and a few species that targeted other species.

The only outcome of the cumulative impacts analysis that had any substance to it was the proposal to develop a raven management plan (MM-4.4-13). However, the formulation of this plan was deferred to an unspecified later date for review by resource agencies, thereby preventing the public from providing any meaningful participation with it. Besides keeping the raven management plan out of the purview of the public, it is hard to imagine how a raven management plan would mitigate cumulative impacts to Swainson's hawk, burrowing owl, desert kit fox, American badger or the majority of special-status species that will be significantly affected by the massive land conversions underway in the region.

MITIGATION

The DEIR failed to consider or propose adoption of feasible mitigation measures to address the project's significant and unavoidable impacts on biological resources. In particular, the DEIR failed to consider or implement standard mitigation measures to require the purchase of compensatory mitigation easements to compensate for impacts or to require ongoing monitoring of the project's impacts on biological resources. The DEIR mentioned the ongoing preparations of the Draft West Mojave Habitat Conservation Plan and the Desert Renewable Energy Conservation Plan (DRECP), but the mentioning of these plans was as close as the DEIR came to proposing any compensatory mitigation. The DRECP was initiated jointly by multiple state and federal regulatory and resource management agencies for the purpose of mitigating impacts caused by renewable energy development in the desert regions of California. The DEIR did not propose to use the DRECP or the Draft West Mojave HCP as vehicles for

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mitigating the impacts of Willow Springs. More importantly, and glaringly at odds with the purpose of the DRECP, the DEIR proposed no compensatory mitigation for wildlife impacts.

The only compensatory mitigation that I saw in the DEIR was for Alkali mariposa lily. In MM 4.4-1, the DEIR stated, "If avoidance is not feasible, a Habitat Management Plan shall be developed by a qualified biologist and approved by Kern County Planning and Community Development Department to ensure adequate management and conservation of botanical resources over the long term. The Habitat Management Plan shall provide for compensatory mitigation and include the following:

1. Identification of on-site or off-site restoration or enhancement locations and avoidance of those locations through the establishment of preservation areas and buffers.

2. Methods for preservation, restoration, enhancement, and/or population translocation.

3. A replacement ratio and success standard of 1:1 for every plant (or population) that would be impacted.

4. A five-year monitoring program to ensure success in accordance with the performance standards outlined below

5. Survivorship Percentage Performance Standards

a. All plantings shall have a minimum of 80 percent survival each year through the five-year monitoring period.

b. The site shall attain 75 percent plant cover after 3 years and 90 percent cover after five years.

c. Replacement plants shall be monitored with the same survival and growth requirements for five years after planting.

6. Funding sources

7. Adaptive management strategies"

However, this plan is vague, and does not explain how success will be achieved should the five years of monitoring demonstrate initial failure. What adaptive management strategies would be implemented? The very definition of adaptive management includes the *a priori* identification of candidate measures to be implemented should success thresholds not be achieved, and all success thresholds and their linkages to candidate adaptive measures are supposed to be described and agreed upon by all stakeholders at the outset (Holling 1978, Walters 1986). These significant shortfalls in the Habitat Management Plan for Alkali mariposa lily highlight the importance of including the public in the entirety of the environmental review of the project.

According to the DEIR (Kern County 2015:4.4-51), after the mitigation measures are implemented for direct project impacts to wildlife and plants, "*Impacts would be less than significant.*" I cannot agree with this conclusion. The project's impacts have not been analyzed appropriately, nor have effective mitigation measures been proposed. No compensatory mitigation was proposed for any of the 16 special-status species of wildlife detected on or next to the project site.

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The failure to require compensatory mitigation also violates standard protocol guidance documents for mitigating Swainson's hawk and burrowing owl, such as the Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (CEC and CDFG 2010) and the Staff Report on Burrowing Owl Mitigation (CDFG 2012). These documents each contain specific recommendations for considering such mitigation.

According to CEC and CDFG (2012), "Mitigation plans should focus on providing habitat management (HM) lands. Lands which are currently in urban use or lands that have no existing or potential value for foraging Swainson's hawks will not require mitigation nor would they be suitable for mitigation. The plans should call for mitigating loss of Swainson's hawk foraging habitat by providing HM lands within the Antelope Valley Swainson's hawk breeding range at a minimum 2:1 ratio for such habitat impacted within a five-mile radius of active Swainson's hawk nest(s). The Department considers a nest active if it was used one or more times within the last 5 years." This guidance, applied to the Willow Springs project impacts, would mean that at least 2,804 acres of Swainson's hawk foraging habitat should be protected within the Antelope Valley as compensation.

According to CDFG (2012), the project's impacts to burrowing owls should be mitigated by replacing the habitat acreage, number of burrows and number of burrowing owls that are adversely affected, and that these replacements should be made according to conditions specified in an appendix that accompanies the guidelines document. One condition was to replace lost habitat with habitat adjacent or proximate to the lost habitat. A replacement ratio was not included because CDFG (2012) determined that the unique conditions of the site should factor into the replacement ratio. I predict that CDFG will recommend at minimum a 1:1 replacement ratio of foraging habitat. However, the replacement of burrows and burrowing owls would require updated and more rigorous surveys than performed to date, in order to obtain an accurate estimate of the number of breeding pairs on site.

As for operational impacts, there are precedents available for formulating compensatory mitigation measures. For example, to compensate for wind turbine collision mortality, one wind company in the Altamont Pass Wind Resource Area agreed with the California Attorney General and Audubon Society to pay about \$11,250 per megawatt of rated capacity. Half of this fund was directed to habitat protection and the other half to research to help understand and mitigate the impacts.

Designated Biological Monitor

The impacts caused by the Willow Springs Solar Photovoltaic project, if permitted and constructed, will be larger and more complex than can be reasonably expected to be handled by a designated biological monitor. A Technical Advisory Committee (TAC) should be established, and the TAC members should be composed of experts on scientific monitoring and mitigation. The TAC should not be composed of members of regulatory agencies, unless those individuals are expert in scientific monitoring and

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have demonstrated records of success in testing the efficacy of mitigation plans. The TAC meetings, documents, and activities should be fully transparent to the public including being publicly noticed and accessible and provide an opportunity for public input.

Pre-construction Surveys to Predict and Mitigate Impacts

The DEIR included no description of pre-construction bird and bat surveys to predict collision rates with solar panels or any other parts of the project, to guide the siting of the facilities to minimize collision risks, or to serve as a baseline against which to measure displacement or attraction impacts after construction. The following is what I propose should be done to establish a proper baseline for predicting and measuring project impacts on volant wildlife.

A full year of behavior surveys prior to project development and approval should provide sufficient information to predict impacts (Smallwood et al. 2009a) and to serve as a baseline for estimating post-construction impacts such as displacement. Behaviors related to foraging, predator avoidance, social organization and mate acquisition are relatively stable, and are expressed consistently, so one year of surveys should suffice. The surveys need to be performed by behavioral ecologists familiar with the collision issues. Not only should the flight behaviors of birds be recorded, but their flight paths should be related to a digital elevation model of the project area and vegetation cover so that terrain and vegetation can be used to predict flight paths. It is important to predict the major flight paths of species of concern so that the project can be laid out to minimize collision hazard (Smallwood et al. 2009b).

In my experience, behavior surveys are most efficient when they last one hour. Any longer, and the observers grow disinterested and lose focus. Any less, and the efficiency of the surveys is compromised by the logistical demands of closing down surveys, relocating, and starting new surveys. A key point to behavior surveys is that they are not counts of abundance, but rather are supposed to be high-quality recording of flight behaviors. Therefore, quality tracking of individual birds or groups of birds is more important than tracking all of the birds available at any given time.

In behavior surveys, behavior attributes can be recorded as point features on maps for use in geographic information system (GIS), but the point features can be recorded every few seconds rather than every minute as typical of standard use surveys in wind projects. A sequence of point features results in a line feature representing a bird's flight path. It is the flight paths that can be intersected with interesting features of the landscape, proposed or existing solar arrays, fences, or gen-ties. Those point features closest to the intersections of the line features can inform of the height above ground and specific behaviors being performed by the bird. The capacity for predictive modeling is therefore much greater when using map-based behavior surveys.

Each survey session begins with wind and temperature measurements, so that behavior rates can later be related to weather conditions. One should record the station number, date, and start time on a handheld map and on two worksheets in an electronic

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spreadsheet format. These three variables are key variables that enable merging of the data in all three formats when it is time for analysis. It is critical that special care be given to recording key variables consistently and without error. One sheet is for session attributes, such as observer's initials, temperature, wind direction, average and maximum wind speeds, and percentage cloud cover. These attributes are recorded at the start and end of each session, and the values averaged for session representation in analysis. The other sheet is for bird observations during the session, which the observers record into voice recorders during the survey. The first bird seen is assigned letter A, and the first recorded observation of bird A is assigned 1, and the second observation is 2, and so on (Figure 2). These observations are recorded on a field map as A1 and A2, and they are also recorded in a spreadsheet with the same designations. Each record should also include species, height above ground, behavior, and number in group. The alphanumeric values assigned to birds also serve as key variables enabling the merging of data from field maps and the observation worksheet. All voice recordings need to be transcribed to spreadsheets within 24 hours of survey.

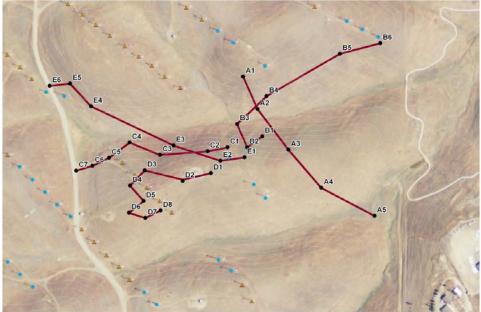


Figure 2. Example bird flight paths and connecting point features where behavior attributes were recorded. These data were from one of my project sites in the Altamont Pass. The triangles and circles were 40-KW wind turbines.

Mapped behavior data should be digitized for use in GIS, preferably with the help of a GIS analyst. A simple form of analysis consists of overlaying flight paths of individual species under a range of conditions, such as wind speeds and wind directions, or time of day. Flight patterns should be evident, and potential impacts inferred from the flight paths. A more rigorous analysis would involve constructing predictive models based on

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associations between flight locations and mapped slope and vegetation measurements. Candidate modeling approaches could be Discriminant Function Analysis or Fuzzy Logic (Smallwood et al. 2009b).

To quantify displacement and attraction impacts caused by the project if approved and constructed, the behavior surveys should be continued for a year after construction. A BACI design would help control for variation in behavior rates due to the change in years, although only one impact site will be possible in the design. The BACI design's power would be diminished by the existence of only one real plot representing the impact portion of the design, but it would yield useful results, nevertheless.

Nocturnal Surveys

Similar to the diurnal behavior surveys, to quantify displacement and attraction impacts caused by the project, nocturnal surveys with thermal imaging equipment should be undertaken before any approval and construction and also continued for a year after construction. A BACI design would help control for variation in nocturnal behavior rates due to the change in years, although only one impact site will be possible in the design. The BACI design's power would be diminished by the existence of only one real plot representing the impact portion of the design, but it will still yield useful results.

Post-construction Fatality Monitoring

Little is known of the types or magnitudes of impacts on wildlife caused by industrial solar projects. Qualified biologists should be funded to search the ground between arrays of solar panels on a weekly basis (every two weeks at the longest) for at least three years to determine the magnitude of collision fatalities. Searches should be done on foot. I suggest searching randomly or systematically selected arrays of solar panels to the extent that equals 33% or more of the project. Detection trials should be integrated into the searches. At least 10 bird carcasses should be randomly placed within the search areas weekly (10 carcasses project-wide). These carcasses should have been frozen very soon after death, so that the decay process was halted in the incipient stage. If collision fatalities are greater than predicted, then I suggest extending the fatality monitoring for at least another three years.

Furthermore, I would suggest performing an analysis of the pattern of fatalities to identify spatial or other trends that can inform mitigation measures to reduce fatality rates. Basic methods for fatality monitoring at a solar energy plant can be found in McCrary et al. (1986), and updated methodology can be found in Smallwood (2007, 2009, 2013), Smallwood and Karas (2009), Smallwood et al. (2013). A summary is provided below.

The essential elements of scientifically defensible fatality rate estimates include: (1) detecting as many of the available fatalities as possible; and, (2) adjusting the number of found fatalities by the proportion not found. The duration of the average search interval matters greatly to both of these factors. During the past three years I have worked with three search intervals at two studies, including 7 and 28 day intervals at one study and 5

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day intervals at another. Also at the latter study, another monitor overlapped many of my study plots with an average search interval of 42 days. What I learned from these various search intervals is that the longer intervals can be more efficient for large bird carcasses, but short search intervals are crucial for obtaining reasonable fatality rate estimates of small birds and bats. I suggest a search interval of no longer than two weeks. A search interval of weekly would be the longest that would be appropriate for bats.

I recommend that at least a third of the project area be searched periodically for dead or injured birds and bats. The project area should be divided into grid cells or other sampling units (such as groups of heliostat mirrors) that are then sampled randomly or systematically (with a random starting point) for inclusion in the fatality monitoring. Standardization of the field and analytical methods should include the following for most species.

- 1. Periodic fatality searches at time intervals of no more than two weeks (for birds). Fatality searches should be conducted along transects separated by no more than 7 m in most environments, but closer if ground visibility is poor and farther apart if ground visibility is excellent. Trained dogs should be used to improve detection rates of bats and very small birds, if necessary.
- 2. Fatality monitoring should last at least three years, and another three years if significant numbers of fatalities are found during the first year. Surveys should cover all seasons, in order to capture variation due to seasons and multi-annual cycles of abundance or weather conditions.
- 3. Detection trials should be integrated into routine fatality monitoring, whereby fresh carcasses (very short time between death and when the carcass was placed in a freezer) are marked discreetly and placed at random locations within the fatality search areas and at random times within periodic time intervals such as weekly. Carcasses should be placed at a rate that does not exceed new fatality finds by the searchers. The fatality searchers should be blind to the trial to the degree possible. All trial and found carcasses should be left in the field so as not to disrupt the ecology of scavenging in the project area, and so that missed trial carcasses can potentially be found during later searches. Detection rates should be combined, rather than treated separately for searcher detection error and scavenger removal. The proportion of carcasses found should be the metric used to adjust fatality rates, and should not involve mean days to carcass removal.

For its simplicity and freedom from bias when the detection trial is implemented properly, I recommend the Horvitz and Thompson (1952) estimator:

$$F_{\mathcal{A}} = \frac{F_{U}}{D},$$

Where F_U is the unadjusted number of fatalities/MW/year (the found carcasses), D is the proportion of placed carcasses that is detected by searchers performing standard

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searches, and F_A is the fatality rate adjusted for the proportion of carcasses found amongst those that were available to be found fatality throughout a given monitoring period. I calculate the standard error of the adjusted fatality rate, $SE[F_A]$, using the Delta Method:

$$\sqrt{\left(\left(\left(\frac{1}{D}\right) \times SE(F_U)\right)^2 + \left(\left(F_U \times \left(\frac{-1}{D^2}\right)\right) \times SE(D)\right)^2\right)}$$

where SE stands for standard error, F_A and F_U are adjusted and unadjusted fatality rates, and D is overall detection rate. A superior method for estimating the confidence interval would be to use variance exhaustion methods on the component terms of the estimator.

Review of Mitigation and Monitoring Plans

The public should have the opportunity to review mitigation and monitoring plans that are formulated for this project. The DEIR included no monitoring plan, so one needs to be developed and a new draft EIR circulated. As for the mitigation, I noticed that what appears in the DEIR are mostly promises that specific measures will be formulated and shared with resource agencies for their approval at some time in the future. This deferred mitigation prevents meaningful public review and participation. The public should have the opportunity to review and comment on every mitigation measure that is proposed.

Measures to Rectify Impacts

If the project is built, injured birds will sometimes be found alive (also see Kagan et al. 2014). Not all the birds will die immediately after flying into photovoltaic panels or gentie. Given the number of birds being found injured and alive at Ivanpah, I predict that many birds will be found injured and alive at Willow Springs, if Willow Springs is built. The biological monitor will need a plan and a place to send injured birds. In the Altamont Pass Wind Resource Area, the wind companies pay nearby rehabilitation facilities \$10,000 per year to handle injured birds as they are brought in from the Altamont Pass. Most of the birds brought to the facilities are euthanized, largely due to budget constraints. I know this first hand because I personally interviewed the rehabilitators to understand why so many of the injured birds were being euthanized, even when some of the injuries seemed relatively minor. If Willow Springs is built, the responsible thing to do would be to provide an annual payment to local rehabilitation facilities. The amount paid would need to cover the number of birds and other wildlife being brought from the project, and it would need to cover sufficient time for the rehabilitators to give the injured animals a chance at recovery rather than a quick needle. The funding should also include an amount that is regarded as a donation for the use of deceased birds that will be needed in detection trials as part of fatality monitoring.

5-G3

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5-13

Compensatory Mitigation

I failed to find any compensatory mitigation measure to offset impacts caused by bird collisions with project facilities. Given what has been found at other industrial solar projects, there is ample reason to conclude that fatalities will happen. There will be fatalities caused by Willow Springs if permitted and constructed. A compensatory mitigation plan should be formulated to address these impacts, and the amounts of compensation should be linked to fatality levels and to monitoring to measure fatality levels.

I also failed to find any compensatory mitigation measure to offset impacts caused by habitat loss of 16 special-status species detected on site or of any of the other species likely to occur on the site but yet to be detected. The DEIR should include compensatory mitigation ratios that are consistent with mitigation guidelines provided by the state and federal resource agencies, and by precedent at other projects.

MITIGATION MONITORING

It has long been known that mitigation pursuant to CEQA has often either failed or has not been implemented, but with no consequences to the take-permit holder (Silva 1990). There should be consequences for not achieving mitigation objectives or performance standards. The project proponents should be required to provide a performance bond in an amount that is sufficient for an independent party to achieve the mitigation objectives originally promised, and in this case, the promises should be much more substantial. A fund is needed to support named individuals or an organization to track the implementation of mitigation measures. Report deadlines should be listed, and who will be the recipients of the reports. If the mitigation measures are not clearly laid out, then there will be no basis to determine that impacts will be less than significant once implemented. Furthermore, without adequate funding allocated in advance, there is no certainty that any proposed mitigation monitoring will actually take place.

Thank you for your attention,

Man Sullwood

Shawn Smallwood, Ph.D.

5-K3

5-J3

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April 8, 2015

Thomas A. Enslow Adams Broadwell Joseph & Cardozo 520 Capitol Mall, Suite 350 Sacramento, CA 95814

Subject: Comments on the Willow Springs Solar Array Project

Dear Mr. Enslow:

I have reviewed the February 2015 Draft Environmental Impact Report (DEIR) for the Willow Springs Solar Array Project ("Project") in Kern County California. The Project will generate 150 MW of power from 2,300,000 photovoltaic solar panels on 1,402 acres eight miles west of Rosamond, California.

The Project has foreseeable impacts that were not disclosed in the DEIR. Hazardous materials may be present on the Project site that would pose a risk to construction workers and the public. A new EIR needs to be prepared for the Project to adequately assess this potential impact and to provide mitigation, if warranted.

Hazardous Materials are Inadequately Evaluated

The DEIR fails to characterize potential hazards from residual pesticides at the Project site. The DEIR states:

The project site and the surrounding areas are primarily undeveloped disturbed lands, used for agricultural activities. Therefore, it is likely that pesticides and herbicides have been applied to the crops and soils. The type, concentration, and frequency of this use are unknown. Agricultural chemicals in use today are applied in diluted concentrations and, when used properly, degrade relatively quickly; however, older pesticides can linger in the soil for many years. While pesticides, herbicides, and associated metals may be present in the near-surface soils at residual concentrations, studies of the project site have found no evidence of pesticide misuse and no recognized environmental conditions. No pesticides are stored on the project site (p. 4.8-4).

The DEIR did not conduct a thorough analysis of hazards and hazardous materials to support the claim that residual pesticides would not pose a potential hazard. Typically, the potential for the presence of residual pesticides is evaluated in a Phase I Environmental Site Assessment (ESA) to identify chemical hazards that may pose a risk to the public, workers, or the environment and which may require further

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investigation, including soil sampling. Phase I ESAs involve a review of all the subject property that are on regulatory agency databases for assessme inspection, and interviews with people knowledgeable about the propert Phase I ESA have been promulgated by the US EPA and are based in part of and Materials Standard E1527-05. ¹	ent or cleanup activities, an y. Standards for performing a 5-M3	
Phase I ESAs conclude by identifying any "recognized environmental cond and recommendations to address such conditions. By definition, a REC is presence of any hazardous substances or petroleum products on a proper indicate an existing release, a past release, or a material threat of a releas or petroleum products into structures on the property or into the ground, water of the property." ² If RECs are identified, a Phase II ESA is generally collection of soil, soil vapor or groundwater samples, as necessary, to iden contamination and the need for cleanup to reduce exposure potential to t	"the presence or likely ty under conditions that e of any hazardous substances groundwater, or surface conducted, which includes the tify the extent of	
 Failure to perform a Phase I ESA for a Project of this scale (1,402 acres or n highly unusual and inconsistent with the standard of practice under CEQA magnitude in Kern County. In fact, a review of the current Kern County re the County website³, showed that every other solar project currently under Phase I ESAs, including the following: Blackwell Solar Project; Castor Solar Project (Springbok 2); Kingbird Solar Project; Pioneer Green; RE Astoria Solar Project; Redwood Cluster Solar Project; and SEPV Mojave West Solar Project. 	for other projects of this this newables projects, available at	
The failure to conduct a Phase I ESA may put construction workers and ne construction. The DEIR describes earth-disturbing site preparation activiti heavy equipment such as scrapers, paddlewheels, haul vehicles and grade activities and foundation work for the PV panel support beams will also be Construction is expected to last for approximately 24 months (p. 3-21). Soil disturbance may potentially expose construction workers and nearby may be absorbed to dust particles and through dermal contact with the so	es that would include use of rs (p. 3-23). Trenching e conducted (p. 3-24). Tresidents to contaminants that	

¹ <u>http://www.astm.org/Standards/E1527.htm</u> ² Ibid.

³ http://pcd.kerndsa.com/planning/environmental-documents?limitstart=0

²

prepared to include a Phase I ESA that would properly disclose all potential hazardous materials conditions on the 1,402-acre Project site that might pose a health risk during construction.

The need to conduct a Phase I ESA is supported by historical aerial photographs that I obtained in my review of the Project site. Obtaining such imagery is standard practice in preparation of a Phase I ESA to evaluate land uses which may indicate chemical use.

Features that indicate the potential for chemical hazards at the Project site are apparent in the photographs which show agricultural use in 1963. An excerpt of one photograph, below, shows agricultural usage on the Project site south of Holiday Avenue between 100th Street West and 110th Street West. The full library of photographs used in this review are attached in Appendix A.



HISTORICAL AERIAL MAP

The use of the Project site for agriculture extending to at least 1963, may indicate the use of organochlorine pesticides. Organochlorine pesticides, such as DDT, DDE, and chlordane, were used from the 1940s⁴ until they were banned in the 1970s. Despite being banned for about 40 years, these compounds can persist in soil for hundreds of years.⁵ The California Department of Toxic Substances Control (DTSC) states:

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⁴ U.S. EPA, DDT – A Brief History and Status. <u>http://www.epa.gov/pesticides/factsheets/chemicals/ddt-brief-</u> history-status.htm

⁵Agency for Toxic Substances and Disease Registry, Public Health Statement for DDT, DDE, and DDD http://www.atsdr.cdc.gov/phs/phs.asp?id=79&tid=20

DDT is ubiquitous to California soil due to heavy agricultural usage prior to cancellation in 1972. Therefore, agricultural land which is currently being developed or considered for new uses [...] frequently contains DDT.⁶

The U.S. EPA has determined DDT and DDE, are probable human carcinogens.⁷ DDT is also known to affect the nervous system.⁸ Exposure to DDT can result in headaches, nausea, and convulsions⁹ as well as damage to the liver and nervous and reproductive system impairments.¹⁰ Chlordane has also been classified as a probable human carcinogen by the U.S. EPA and exposure can result in neurological effects such as headaches, irritability, dizziness, and nausea.¹¹

A DEIR should be prepared, to include the results of a Phase I ESA, to assess if past land uses, including potential organochlorine pesticide application, have resulted in soil contamination that may pose a risk to construction workers or to nearby residents. Construction workers may be exposed to soil contaminants during grading and trenching activities through dermal contact and inhalation. Adjacent residents, some as close as 105 feet away (p. 4.3-2) may be exposed to dust during earth-disturbing activities.

If pesticide application is identified as a REC, the Project site should be sampled under a Phase II ESA for the presence of pesticides in soil in accordance with California Department of Toxics Substances Control guidance.¹² Sampling results should be compared to human health screening levels (such as Environmental Screening Levels¹³ and California Human Health Screening Levels¹⁴) and evaluated in a revised DEIR. If concentrations exceed screening levels, mitigation measures to minimize exposure to construction workers and on-site and nearby residents should be considered, including issuance of protective equipment for workers (i.e. respirators), onsite dust monitoring, and fenceline dust monitoring.

Sincerely,

M Harm

Matt Hagemann, P.G., C.Hg.

¹⁴ http://www.oehha.ca.gov/risk/chhsltable.html



5-P3

⁶ Office of the Science Advisor, DDT in Soil: Guidance for the Assessment of Health Risks to Humans.

http://www.dtsc.ca.gov/AssessingRisk/upload/chap8.pdf, p. 11. ⁷ U.S. EPA, DDT. http://www.epa.gov/pbt/pubs/ddt.htm; and U.S. EPA, DDE

http://www.epa.gov/ttnatw01/hlthef/dde.html

⁸ Agency for Toxic Substances and Disease Registry, ToxFAQs, DDT, DDE, DDD,

http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=80&tid=20 ⁹ U.S. EPA, DDE. http://www.epa.gov/ttnatw01/hlthef/dde.html

¹⁰ U.S. EPA, DDT. http://www.epa.gov/pbt/pubs/ddt.htm

¹¹ U.S. EPA, Chlordane. http://www.epa.gov/ttnatw01/hlthef/chlordan.html

¹² Department of Toxic Substances Control, Interim Guidance for Sampling Agricultural Properties (Third Revision).

http://www.dtsc.ca.gov/Schools/upload/Ag-Guidance-Rev-3-August-7-2008-2.pdf,

¹³ <u>http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.shtml</u>

APPENDIX A

Envirosite Corporation

Historical Aerial Photo Package | 2015

> Order Number: 00001185 Report Generated: 04/02/2015

Project Name: Willow Springs

Willow Springs Avenue A Rosamond, CA

1175 Post Road East Westport, CT 06880 Toll Free: 866-211-2028 www.envirositecorp.com Envirosite's Historical Aerial Report is designed to assist in evaluating a subject property resulting from past activities. Envirosite's Historical Aerial Map Report includes a search of USGS historical aerial maps, dating back to the early 1900s.

ENVIROSITE SEARCHED SOURCES

SUBJECT I Willow Spring Avenue A Rosamond, C			
YEAR:	SCALE:	DETAILS:	SOURCE:
1963	1:40,000	Single Frame	U.S.G.S
1973	1:32,500	Single Frame	U.S.G.S.
1974	1:30,000	Single Frame	U.S.G.S.
1977	1:80,000	Single Frame	U.S.G.S.
1978	1:80,000	Single Frame	U.S.G.S
1986	1:66,000	NHAP	U.S.G.S
1987	1:53,000	NHAP	U.S.G.S
1989	1:53,000	NAPP	U.S.G.S
1990	1:53,000	NAPP	U.S.G.S
1994	1:60,000	NAPP	U.S.G.S
1995	1:60,000	NAPP	U.S.G.S
2002	1:53,000	NAPP	U.S.G.S
2005	1:40,000	NAIP JPG2000	U.S.G.S
2009	1:40,000	NAIP JPG2000	U.S.G.S
2010	1:40,000	NAIP JPG2000	U.S.G.S
2012	1:40,000	NAIP JPG2000	U.S.G.S

Envirosite Corporation appreciates your business. Please contact your Envirosite Corporation customer service representative at 866-211-2028 with any questions.

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HISTORICAL AERIAL MAP

IMAGE INFORMATION:

IMAGE DATE: 04.23.63 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1963 PHOTO TYPE: Single Frame PHOTO COLOR: Black & White

1" = 750' Scale:

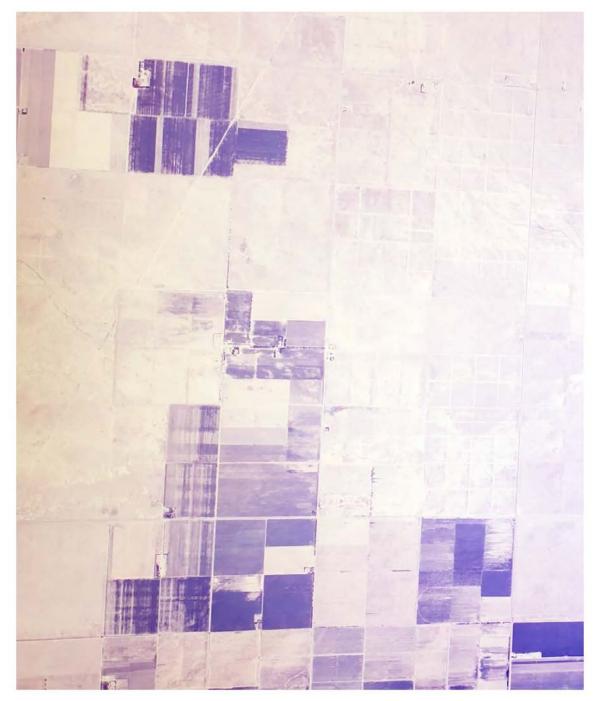


HISTORICAL AERIAL MAP

IMAGE INFORMATION:

IMAGE DATE: 07.02.73 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1973 PHOTO TYPE: Single Frame PHOTO COLOR: Color





HISTORICAL AERIAL MAP

IMAGE INFORMATION:

IMAGE DATE: 04.13.74 SOURCE: USGS Maps

RESOLUTION: High FLIGHT YEAR: 1974 PHOTO TYPE: Single Frame PHOTO COLOR: Black & White





IMAGE INFORMATION:

IMAGE DATE: 06.01.77 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1977 PHOTO TYPE: Single Frame PHOTO COLOR: Black & White





IMAGE INFORMATION:

IMAGE DATE: 09.30.78 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1978 PHOTO TYPE: Single Frame PHOTO COLOR: Black & White

1" = 1,500' Scale:

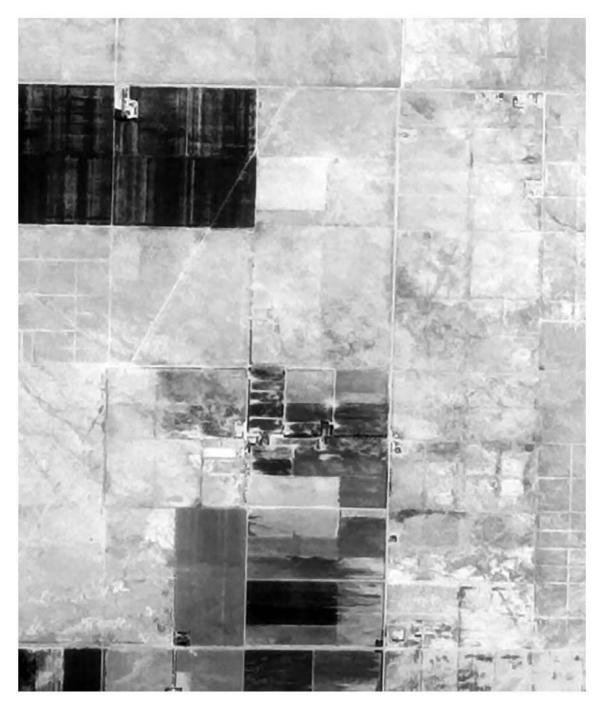


IMAGE INFORMATION:

1" = 1,500' Scale:

IMAGE DATE: 08.31.86 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1986 PHOTO TYPE: Single Frame PHOTO COLOR: NHAP



IMAGE INFORMATION:

IMAGE DATE: 07.25.87 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1987

PHOTO TYPE: NHAP PHOTO COLOR: Color 1" =1,500'

Scale:



IMAGE INFORMATION:

PHOT

IMAGE DATE: 09.04.89 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1989 PHOTO TYPE: NAPP PHOTO COLOR: Color



IMAGE INFORMATION:

IMAGE DATE: 09.07.90 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1990 PHOTO TYPE: NAPP PHOTO COLOR: Color





IMAGE INFORMATION:

IMAGE DATE: 06.01.94 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1994 PHOTO TYPE: NAPP PHOTO COLOR: Black & White



1 1

IMAGE INFORMATION:

IMAGE DATE: 10.04.95 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 1995

PHOTO TYPE: NAPP PHOTO COLOR: Color

1" = 1,000' Scale:



IMAGE INFORMATION:

IMAGE DATE: 06.07.02 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 2002

PHOTO TYPE: NAPP PHOTO COLOR: Color

1" = 750' Scale:



IMAGE INFORMATION:

IMAGE DATE: 06.05.05 SOURCE: USGS Maps

RESOLUTION: High FLIGHT YEAR: 2005 PHOTO TYPE: NAIP JPG2000 PHOTO COLOR: Color

1" = 750' Scale:



IMAGE INFORMATION:

IMAGE DATE: 06.28.09 SOURCE: USGS Maps RESOLUTION: High FLIGHT YEAR: 2009 PHOTO TYPE: NAIP JPG2000 PHOTO COLOR: Black & White

1" = 750' Scale:



IMAGE INFORMATION:

IMAGE DATE: 04.25.10 SOURCE: USGS Maps

RESOLUTION: High FLIGHT YEAR: 2010

PHOTO TYPE: NAIP JPG2000 PHOTO COLOR: Black & White

1" = 750' Scale:

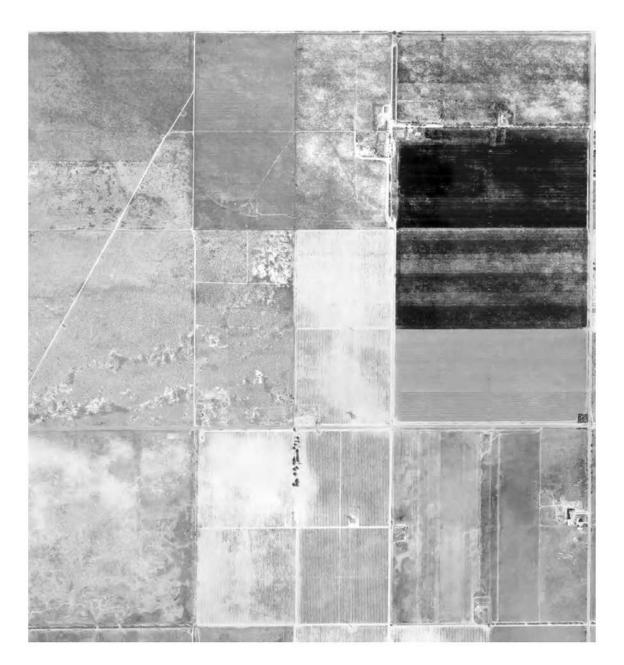


IMAGE INFORMATION:

IMAGE DATE: 04.28.12 SOURCE: USGS Maps

RESOLUTION: High FLIGHT YEAR: 2012

PHOTO TYPE: NAIP JPG2000 PHOTO COLOR: Black & White





Pless Environmental, Inc. 440 Nova Albion Way, Suite 2 San Rafael, CA 94903 (415) 492-2131 voice (815) 572-8600 fax

April 12, 2015

Via Email

Thomas A. Enslow Adams Broadwell Joseph & Cardozo 520 Capitol Mall, Suite 350 Sacramento, CA 95814 *tenslow@adamsbroadwell.com*

Re: Review of Draft Environmental Impact Report for Willow Springs Solar Array Project

Dear Mr. Enslow,

Per your request, I reviewed the air quality section of the Draft Environmental Impact Report ("Draft EIR") for the Willow Springs Solar Array Project ("Project") which was published by Kern County ("County") as the lead agency for review under the California Environmental Quality Act ("CEQA") in February 2015.¹

My qualifications include a doctorate in Environmental Science and Engineering from the University of California Los Angeles. I am a court-recognized expert with more with more than twenty years of experience in the environmental field and have provided comments on air quality for a wide variety of projects including many solar energy projects in the environmental review process under CEQA. My résumé is attached to this letter.

I. Project Description

The Project would consist of an approximately 150-megawatt ("MW") solar photovoltaic ("PV") energy generation facility on 1,402 acres in unincorporated Kern County. The Project site is located in Antelope Valley in the northwestern portion of the Mojave Desert, approximately eight miles west of the community of Rosamond. Power generated by the proposed facility would ultimately be delivered from the project substation to one of two possible interconnection points: **a**) if power is sold to 5-Q3

5-R3

¹ Kern County Planning and Community Development Department, Willow Springs Solar Array Project (PP10232) by Willow Springs Solar, LLC, Conditional Use Permit 26, Map 232, Specific Plan Amendment 15, Map 232, ZCC 32, Map 232, Draft Environmental Impact Report, SCH# 2010031023, February 2015; <u>http://pcd.kerndsa.com/planning/environmental-documents/399-willow-springs-solar-array-project.</u>

Los Angeles Department of Water and Power ("LADWP") or a municipal utility with access to their transmission system, the Project would interconnect to the LADWP Barren Ridge – Rinaldi 230 kilovolt ("kV") transmission line that crosses the project site, requiring LADWP to install new interconnection facilities on the project site which may include a 230 kV switching station and an associated approximately 500-foot generation interconnection tie line ("gen-tie line") or **b**) if power is sold to a customer that interconnects into the California Independent System ("CAISO")-controlled grid or is sold into the wholesale power market, the Project would construct approximately one mile of new gen-tie line to Rosamond Boulevard from where it would share the recently approved gen-tie line for the Rosamond Solar Array project which will interconnect to the Southern California Edison ("SCE") Whirlwind Substation.

The Project would consist of a solar field of an estimated 2,300,000 individual cadmium telluride thin-film PV panels mounted on driven posts, concrete footers, or ground anchors and arranged in a grid pattern over the site; an electrical collection system that aggregates the output from the PV panels and converts the electricity from direct current ("DC") to alternating current ("AC"); a substation; a gen-tie line; approximately 14 anemometer towers (weather monitoring stations); infrastructure including an operation and maintenance ("O&M") building, telecommunications equipment, security gates, directional lighting, and perimeter security fencing; temporary lined ponds to hold water during construction; and construction of the LADWP or SCE Interconnection Facilities, including, potentially, a new onsite LADWP switching station.

Implementation of the project would require an amendment to the Willow Springs Specific Plan to change the site land use from 5.3/4.4 (maximum 10 dwelling units per net acre/Comprehensive Planning Area) to 5.3 (maximum 10 dwelling units per net acre); a zoning amendment to change the zoning for the parcels currently zoned as C-2 PD FPS (General Commercial/Precise Development Combining/Floodplain Secondary Combining), E(1) RS FPS (Estate 5 Acres/Residential Suburban Combining/Floodplain Secondary Combining), E(2½) RS FPS (Estate 2½ Acres/ Residential Suburban Combining/Floodplain Secondary Combining), and Special Planning (SP) to all be zoned as A FPS (Exclusive Agriculture/Secondary Floodplain Combining); approval of a Conditional Use Permit ("CUP") to allow for the construction and operation of the solar electrical generating facility and for a temporary concrete batch plant on the site; and LADWP approval and construction of its interconnection facilities, if applicable.²

² Draft EIR, pp. 1-1, 3-1, 3-5, and 4.8-16.

5-R3

II. The Draft EIR's Analysis of Impacts on Air Quality due to Project Construction Is Flawed and Fails to Identify and Adequately Mitigate Significant Impacts

Construction of the Project, which would occur over the course of approximately 24 months,³ would generate air pollutant emissions from fuel combustion and exhaust from construction equipment and vehicle traffic (construction worker commute and delivery truck trips) and grading and site work (construction equipment) as well as fugitive dust particulate matter emissions due to grading, material handling, wind erosion, and re-entrained road dust from vehicle travel on paved and unpaved roads. The Draft EIR presents emission estimates for six air pollutants - reactive organic gases ("ROG"), nitrogen oxides ("NOx"), carbon monoxide ("CO"), sulfur dioxide ("SO2"), particulate matter equal to or smaller than 10 micrometers ("PM10"), and particulate matter equal to or smaller than 2.5 micrometers ("PM2.5")⁴ - and, based on a comparison with thresholds of significance established by the Eastern Kern Air Pollution Control District ("EKAPCD"), concludes that even with implementation of the recommended mitigation measures, Project construction would result in significant and unavoidable impacts on air quality due to emissions of NOx, CO, and PM10.5 As discussed below, the Draft EIR's analysis is substantially flawed and fails to identify and adequately mitigate significant impacts on air quality.

A. The Draft EIR's Estimates of Construction Emissions Were Prepared Using an Outdated Computer Model

The Draft EIR's emission estimates for the construction phase of the Project were prepared using the California Emissions Estimator Model ("CalEEMod"), version 2011.1.1.⁶ This version of the model has been superseded three times by versions 2013.2, 2013.2.1, and 2013.2 which were released in July 2013, September 2013, and October 2013, respectively. Compared to version 2011.1.1, these versions incorporated revised emission factors for entrained fugitive road dust emissions; incorporated the California Air Resources Board's EMFAC2011 and OFFROAD databases; added nitrous oxide ("N₂O") calculations from off-road and on-road sources; corrected the unmitigated fugitive dust emissions of PM10 from haul trucks; updated climate zone options; and modified the running loss equation for emissions of ROG

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³ Draft EIR, p. 3-21.

⁴ Draft EIR, Tables 4.3-5 and 4.3-6.

⁵ Draft EIR, pp. 4.3-36 and 4.3-42.

⁶ Draft EIR, Footnote 1 to Table 4.3-5, and Appx. A to Appx. E.

from on-road vehicles to match emission factors (per vehicle trip instead of per mile driven).⁷

The County's 2006 *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* specifically advise:

The latest version of all models shall be used for the appropriate application. It is the responsibility of the air quality preparer to use professional judgment in ensuring that the very latest version of a model is used. For purposes of timing, the determination of whether a model is current or not shall be based on when the EIR is being printed for distribution to the public, not when the administrative draft is submitted to the County.⁸

At the time the Draft EIR was printed for distribution to the public, February 2015, the latest version of CalEEMod was version 2013.2.2. I recommend that the Draft EIR's air quality section for construction emissions be revised using the latest CalEEMod version to ensure accurate emission estimates and analysis of associated impacts on air quality during Project construction.

B. The Draft EIR's Emission Estimates Are Improperly Phased for Determining the Significance of Project Construction Emissions

The Draft EIR relies on the EKAPCD's annual thresholds of significance to assess impacts on air quality during construction, which, according to the Draft EIR, would occur over approximately 24 months.⁹ Yet, rather than comparing construction emissions for two consecutive 12-month periods to the EKAPCD's annual thresholds of significance, the Draft EIR improperly splits the construction period into three calendar years starting in July 2013, as shown in the Figure 1. What's more, the Draft EIR estimates construction for only 21 months (July 2013 through March 2015), rather than the 24 months indicated throughout the Draft EIR's narrative.¹⁰ 5-T3

5-U3

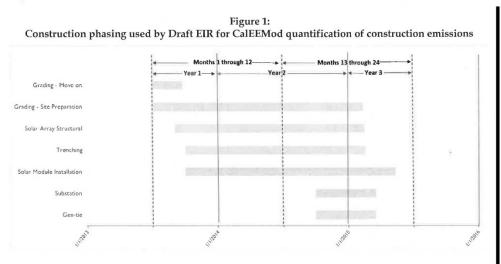
⁷ CalEEMod, List of Revisions; <u>http://www.aqmd.gov/docs/default-source/caleemod/Model/2013.2.2/revisions-2013-2-2.pdf?sfvrsn=0</u>.

⁸ County of Kern, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports, December 1, 2006;

http://www.co.kern.ca.us/planning/pdfs/AirQualityAssessmentPreparationGuidelines.pdf.

⁹ Draft EIR, pp. 1-78, 3-21, 3-24, 4.1-19, 4.3-27, 4.3-36, 4.3-34, 4.10-20, 4.12-17, 4.13-7, 4.14-9, 4.15-13, and 4.15-14.

¹⁰ Ibid.



This approach improperly distributes the construction emissions over three calendar years and, as a result, the Draft EIR incorrectly finds that mitigated construction emissions for all pollutants in Year 1 (July 2013 through December 2013) and Year 3 (January 2015 through March 2015) would be below the EKAPCD's annual significance thresholds and would therefore not be significant. Since the actual start of Project construction is obviously not foreseeable, emissions should be estimated for two consecutive 12-month periods.

I prepared mitigated construction emissions for two 12-month periods based on the Draft EIR's emission estimates, adjusting emissions for the number of months each construction phase would occur during a 12-month construction period as described by the Draft EIR (*see* Figure 1 between red dashed lines). For the second 12-month period (Months 13 through 24), I assumed that grading/site preparation, solar array structural, solar module installation, trenching, and water consumption would occur for 12 months and substation and gen-tie construction for six months. Tables 1a and 1b compare emission estimated for the two consecutive 12-month construction periods to thresholds of significance established by the EKAPCD. 5-U3

Construction Phase	Months	ROG	NOx	CO	SO_2	PM10	PM2.5
Grading - Move On	3	0.57	3.81	3.45	0.01	0.55	0.25
Grading - Site Preparation	12	2.62	16.66	13.90	0.02	14.08	2.50
Solar Array Structural	10	0.80	3.83	10.25	-	0.65	0.30
Solar Module Installation	9	1.38	5.58	8.94	-	0.93	0.36
Trenching	9	1.68	5.85	6.15	-	0.54	0.42
Substation Construction	~	-	-		-	-	-
Gen-tie Line Construction	-	-	-		-	-	-
Water Consumption	12	0.92	9.80	5.68	0.06	0.38	0.36
	Total	7.97	45.53	48.37	0.09	17.13	4.19
EKAPCD Threshold of Si	gnificance.	25	25	25	27	15	
Si	gnificant?	no	YES	YES	no	YES	

Table 1a: Mitigated construction emissions for Months 1 through 12 (in tons/year)*

Calculated as: (Draft EIR emission estimate for each construction phase in Year 1) / (Draft EIR number of months for respective construction phase in Year 1) × (number of months for each construction phase during the first 12-month construction period)

Table 1b: Mitigated construction emissions for Months 13 through 24 (in tons/year)
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Construction Phase	Months	ROG	NOx	CO	SO_2	PM10	PM2.5
Grading - Move On	-	-	-	-	-	-	-
Grading - Site Preparation	12	2.90	18.37	14.70	0.03	13.74	1.82
Solar Array Structural	12	1.02	4.98	8.50	0.01	0.86	0.38
Solar Module Installation	12	2.25	9.10	14.15	0.02	1.58	0.61
Trenching	12	3.08	10.70	10.92	0.02	1.00	0.75
Substation Construction	6	0.76	4.60	3.68		0.42	0.28
Gen-tie Line Construction	6	0.54	3.36	3.18		0.28	0.20
Water Consumption	12	0.91	9.80	5.67	0.05	0.37	0.35
	Total	11.46	60.91	60.80	0.13	18.25	4.39
EKAPCD Threshold of Sig	gnificance	25	25	25	27	15	
Si	gnificant?	no	YES	YES	no	YES	149

Calculated as: (Draft EIR emission estimate for each construction phase in Year 2) / (Draft EIR number of months for respective construction phase in Year 2) × (number of months for each construction phase during the second 12-month construction period)

As shown, based on the Draft EIR's estimates for mitigated emission, Project construction would result in emissions of NOx, CO, and PM10 exceeding the EKAPCD's annual thresholds of significance during both 12-month construction periods. These emissions will not be reduced by the proposed mitigation measures, contrary to what the Draft EIR suggests, because their control efficiency is

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already accounted for in the mitigated emission estimates.¹¹ Further, as discussed in Comment II.C below, the Draft EIR substantially underestimates emissions.

C. The Draft EIR Substantially Underestimates Construction Emissions

The Draft EIR substantially underestimates unmitigated and mitigated emissions from Project construction for a number of reasons.

Wind Speed

Construction of the Project would result in emissions of fugitive dust particulate matter particularly during grading of and cut-and-fill activities at the site as well as from wind erosion of graded areas and storage piles. Fugitive dust emissions increase with increasing wind speed. (*See Compilation of Air Pollutant Emission Factors* ("AP-42"), Sections 13.2.4 Aggregate Handling and Storage Piles¹² and 13.2.5.3 Industrial Wind Erosion,¹³ developed by the U.S. Environmental Protection Agency ("EPA").) The Draft EIR states that average wind speed in the Project area ranges from 5.1 to 7.6 miles per hour ("mph") throughout the year.¹⁴ However, the Draft EIR's estimates for emission of particulate matter, modeled with CalEEMod, rely on an average wind speed of only 2.7 mph,¹⁵ and, thus, underestimate fugitive emissions of PM10 and PM2.5.

Concrete Batch Plant

Construction of the footings and foundations for the solar arrays and concrete pads for the substation and O&M building would require large amounts of concrete.¹⁶ The Draft EIR's executive summary states that the Project includes seeking a CUP to

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¹¹ See Draft EIR, Appx. E, Mitigation Measures ("Water exposed area twice daily; 55 percent reduction for Particulate Matter (PM) (EKAPCD Rule 402 [Fugitive Dust]) (Mitigation Measure AQ-1); Water unpaved roads (EKAPCD Rule 402 [Fugitive Dust]) (Mitigation Measure AQ-1); Limit on-site vehicle speed to 15 mph; Clean paved road; 26 percent PM reduction; Use Tier 3 diesel engines for off-road equipment greater than 50 horsepower during grading and trenching phases (refer to Mitigation Measure AQ-2).")

¹² EPA, AP-42, 13.2.4 Aggregate Handling and Storage Piles, November 2006 (13.2.4.3 Predictive Emission Factor Equations include a multiplier "U" defined as "mean wind speed"); http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0204.pdf.

 $^{^{13}}$ EPA, AP-42, 13.2.5 Industrial Wind Erosion, November 2006 (13.2.5.3 Predictive Emission Factor Equation includes a multiplier "P_i" defined as "erosion potential corresponding to the observed (or probable) fastest mile of wind for the ith period between disturbances"); http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0205.pdf.

¹⁴ Draft EIR, p. 4.3-1.

¹⁵ See Draft EIR, Appx. E.

¹⁶ Draft EIR, p. 4.3-27.

allow for construction of an on-site temporary concrete batch plant.¹⁷ Yet, the Draft EIR air quality section does not quantify emissions associated with raw material delivery and operation of a concrete batch plant; instead the Draft EIR's air quality analysis assumes that concrete would be delivered to the Project site from a local source approximately 40 miles away and assuming 3,480 one-way deliveries, claiming that this assumption is conservative.¹⁸ I disagree.

First, on-site concrete batching requires delivery of a number of raw materials including cement, sand, coarse aggregate (gravel, crushed stone, iron blast furnace slag, barite, magnetite, limonite, ilmenite, iron, steel, sintered clay, shale, slate, diatomaceous shale, perlite, vermiculite, slag pumice, cinders, or sintered fly ash) and supplementary cementitious materials, also called pozzolans, (natural pozzolans, fly ash, ground granulated blast-furnace slag, and silica fume) which make the concrete mixtures more economical, reduce permeability, increase strength, or influence other concrete properties.¹⁹ These materials would likely come from considerably further distances than the 40 miles assumed by the Draft EIR for the local source of concrete. Thus, exhaust and re-entrained road dust emissions are likely substantially underestimated.

Second, on-site manufacture of concrete would require substantial amounts of water, which may be delivered via truck.²⁰ Combustion exhaust emissions from trucks delivering water to the site must be included in the emission estimates. The Draft EIR only accounts for delivery of 900 acre-feet of water for drinking water, soil conditioning, and dust suppression, but not for concrete batching.²¹

Third, in addition to off-site vehicle exhaust and entrained fugitive road dust emissions associated with material deliveries, an onsite batch plant would generate fugitive particulate matter emissions, consisting primarily of cement and pozzolan dust but including some aggregate and sand dust emissions. (In addition, there are emissions of metals that are associated with this particulate matter.) All but one of these emission points are fugitive in nature; the only point sources are the transfer of cement

¹⁹ EPA, AP-42, 11.12 Concrete Batching, June 2006;

http://www.epa.gov/ttnchie1/ap42/ch11/final/c11s12.pdf.

²¹ Ibid.

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¹⁷ Draft EIR, p. 1-1.

¹⁸ Draft EIR, p. 4.3-27.

²⁰ Draft EIR, p. 3-24. ("The project would require approximately 900 acre-feet of water during the 24 month construction phase of the proposed project, for drinking water, and soil conditioning and dust suppression. This water would be obtained by utilizing the existing onsite irrigation wells or purchased from a nearby water bank or from the Antelope Valley East Kern Water Agency or other water purveyor (the source of any purchased water is likely to be the State Water Project California Aqueduct) and trucked in.")

and pozzolan material to silos, and these are usually vented to a fabric filter. Fugitive sources include the transfer of sand and aggregate, truck loading, mixer loading, vehicle traffic, and wind erosion from sand and aggregate storage piles.²² These emissions can be estimated based on equations and emission factors contained in AP-42, Section 11.12 Concrete Batching, developed by the EPA.²³

Fourth, a concrete batch plant requires electricity to power a variety of equipment including mixers, cement batchers, aggregate batchers, conveyors, chillers, dust collectors, etc. Given the location of the Project site, electricity will likely be generated by one or more diesel-powered engines. Combustion exhaust from this/these diesel engine(s) must be included in the emission estimates.

D. The Draft EIR Fails to Properly Determine the Significance of Particulate Matter Concentrations Resulting from Project Construction

The Draft EIR recognizes that Project construction may result in exposure of sensitive receptors to substantial pollutant concentrations.²⁴ Sensitive receptors are defined as land uses where sensitive population groups (*e.g.*, children, the elderly, the acutely ill and the chronically ill) are located. These land uses include residences, schools, childcare centers, retirement homes, convalescent homes, medical care facilities, and recreational facilities.²⁵ The Draft EIR, Table 4.3-1, identifies four residences within less than half a mile of the Project site as sensitive receptors; the closest residence is located 105 feet from the Project site.

The Draft EIR presents modeled ambient concentrations of PM10 and PM2.5 at the nearest residence of about 17 and 16 micrograms per cubic meter ("µg/m³"), respectively, to assess Project construction impacts on sensitive receptors. The Draft EIR states that these pollutant concentrations in ambient air would not exceed the respective 24-hour national or state ambient air quality standards ("NAAQS" and "CAAQS"); would only be temporary in nature; would not last over the entire duration of the Project's construction period; would disperse rapidly from the construction site; would not be concentrated in any one area; and would be mitigated by Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-5, and MM 4.3-10. Thus, the Draft EIR concludes, Project construction would not expose nearby sensitive receptors to a substantial increase in

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 ²² AP-42, Section 11.12, op. cit.
 ²³ Ibid.
 ²⁴ Draft EIR, p. 4.3-42.
 ²⁵ Ibid.

PM10 and PM2.5 concentrations and, therefore, impacts on air quality would be less than significant.²⁶ This analysis is substantially flawed for a number of reasons.

First, contrary to the County's explicit instructions in its 2006 *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* to include all model outputs in EIRs,²⁷ the presented 24-hour concentrations of PM10 and PM2.5 in ambient air, allegedly modeled with EPA's AERSCREEN model,²⁸ are not supported by any modeling input/output files which would allow the reviewer to scrutinize the presented results.

Second, I note that the modeling results for the Project's construction emissions of 24-hour concentrations of PM10 and PM2.5 presented by the Draft EIR, 16.77 μ g/m³ and 16.32 μ g/m³, respectively, are exactly the same as those presented in the Recirculated Draft EIR for the nearby Rosamond Solar Array Project²⁹ (see Exhibit 1) a highly unlikely coincidence especially since the maximum daily emissions of PM10 and PM2.5 for the two projects determined with CalEEMod are considerably different while the distance to the nearest sensitive receptor is the same.³⁰ (See Exhibits 2 and 3.) Given that the respective air quality assessments for the Project Draft EIR and the Rosamond Solar Array Project Recirculated Draft EIR were prepared by the same consultant, RBF Consulting, it appears likely that the ambient air quality modeling has not been updated for the Project.

Third, assuming *arguendo*, that the modeled 24-hour concentrations of PM10 and PM2.5 presented by the Draft EIR had been modeled correctly, review of the AERSCREEN modeling for the Rosamond Solar Array Project indicates that modeling

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²⁶ Draft EIR, pp. 4.3-43 and 4.3-44.

²⁷ County of Kern, *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports*, December 1, 2006, p. 2 ("SCREEN3 or AERMOD modeling of maximum 24-hour average concentration of Primary PM10 and PM2.5 at the project boundary, with comparison to National Ambient Air Quality Standards (NAAQS), Kern County CEQA thresholds and the applicable Air District (San Joaquin Valley Air Pollution Control District and/or Kern County Air Pollution Control District) thresholds. The model output shall be included in the report.");

http://www.co.kern.ca.us/planning/pdfs/AirQualityAssessmentPreparationGuidelines.pdf. ²⁸ Draft EIR, Appx. E, p. 54.

²⁹ County of Kern, Rosamond Solar Array Project by Rosamond Solar, LLC, Recirculated Draft Environmental Impact Report, SCH# 2010031030, Revised July 2014 (hereafter "Rosamond Recirculated Draft EIR"), Table 4.3-8 and Appx. G, Table 8; <u>http://pcd.kerndsa.com/planning/environmentaldocuments/334-rosamond-solar</u>.

³⁰ Project: 105 feet to nearest sensitive receptor; Year 2 mitigated emissions: 17.90 tons/year PM10, 4.15 tons/year PM2.5; Rosamond Solar Array Project: 105 feet to nearest sensitive receptor; Year 2 mitigated emissions: 38.50 tons/year PM10, 3.76 tons/year PM2.5.

only took into account exhaust emissions of these pollutants. Specifically, the air quality assessment for the Rosamond Solar Array Project states that the "source emissions rate used in the AERSCREEN model was converted to grams per second ("g/s") from the maximum daily emissions reported in CalEEMod."³¹ The emission rate inputs for the AERSCREEN modeling were 0.1500 g/s for PM10 and 0.1460 g/s for PM2.5. (*See* Exhibit 4.) This is equivalent to emission rates of 28.6 pounds per day ("lbs/day") of PM10 and 27.8 lbs/day of PM2.5.³² Comparison of these emission rates to the CalEEMod output for the Rosamond Solar Array Project shows that they do not include fugitive dust emissions but only account for combustion exhaust emissions. (*See* Exhibit 5.) In order to determine whether Project construction emissions would result in a violation or contribute substantially to an existing violation of an ambient air quality standard, all emission sources must be accounted for.

Table 2 presents revised maximum 24-hour ambient concentrations of PM10 and PM2.5 accounting for fugitive dust and exhaust emissions for the Rosamond Solar Array Project based on the modeling presented in the Rosamond Recirculated Draft EIR.

Table 2: Revised 24-hour ambient concentrations of PM10 and PM2.5 from Rosamond Solar Array Project construction emissions at nearest sensitive receptor compared to CAAQS and NAAQS (exceedances bold)

	PM10	PM2.5
Maximum daily emissions	(lbs/day)	(lbs/day)
Fugitive dust ^a	300.04	3.87
Exhaust ^b	28.57	27.79
Total	328.61	31.70
Maximum 24-hour ambient concentration at nearest sensitive receptor	(µg/m³)	(µg/m ³)
Modeled ^c	16.77	16.32
Revised ^d	193.09	18.59
NAAQS	150	35
CAAQS	50	_e

a Rosamond Recirculated Draft EIR op. cit., Appx. G, CalEEMod Output, 2.1 Overall Construction (Maximum Daily Emissions), Mitigated Construction for 2014 (see Exhibit 5)

b Modeled emission rate, see Footnote 32; CalEEMod emission rate for PM10 and PM2.5 exhaust 28.16 lbs/day and 27.83 lbs/day, respectively

c Rosamond Recirculated Draft EIR op. cit., Appx. G, Table 8

d Calculated as: (modeled PM10 or PM2.5 ambient concentration at nearest sensitive receptor) × (total maximum daily emissions of PM10 or PM2.5) / (exhaust maximum daily emissions of PM10 or PM2.5)

e The Rosamond Recirculated Draft EIR *op. cit.*, Table 8, incorrectly cites to 35 μg/m³ as the CAAQS for 24-hour PM2.5 concentrations; no separate 24-hour PM2.5 standard has been established in California (*see* CARB, Particulate Matter – Overview, April 25, 2005; <u>http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm</u>)

³¹ Rosamond Recirculated Draft EIR op. cit., Appx. G, p. 60.

³² PM10: $(0.1500 \text{ g/s}) \times (3,600 \text{ s/hour}) / (453.592 \text{ g/lb}) = 28.57 \text{ lbs/day};$ PM2.5: $(0.1460 \text{ g/s}) \times (3,600 \text{ s/hour}) / (453.592 \text{ g/lb}) = 27.79 \text{ lbs/day}.$ 5-Z3

As shown, the revised maximum 24-hour ambient concentration of PM10 at the nearest sensitive receptor resulting from construction emissions including fugitive dust and exhaust emissions, 193 μ g/m³, are high enough to result in a violation of the state and national 24-hour ambient air quality standards for PM10 of 50 μ g/m³ and 150 μ g/m³, respectively. While these revised 24-hour concentrations of PM10 and PM2.5 are only approximate because fugitive dust emissions are not emitted at the same height as exhaust emissions (modeled at 3 meters or about 10 feet),³³ the results nevertheless provide a good approximation of ambient concentrations of PM10 and PM2.5 resulting from combined construction emissions.

Using the same approach for the Project, assuming, *arguendo*, that the PM10 and PM2.5 24-hour concentrations presented in Draft EIR, Table 4.3-8, had been correctly modeled for Project construction exhaust emissions, revised total 24-hour concentrations of PM10 and PM2.5 including fugitive dust emissions can be estimated as summarized in Table 3.

Table 3: Revised 24-hour ambient concentrations of PM10 and PM2.5 at nearest sensitive receptor from Project construction emissions compared to CAAQS and NAAQS (exceedances bold)

Maximum daily emissions (lbs/day)	PM10 Emissions	PM10 Emissions
Fugitive dust ^a	122.40	4.09
Exhaust ^b	28.57	27.79
Total	150.97	31.88
Maximum ambient concentration at nearest sensitive receptor ($\mu g/m^3$)	24-hour PM10	24-hour PM2.5
Modeled ^c	16.77	16.32
Revised ^d	88.61	18.72
NAAQS	150	35
CAAQS	50	_e

a Draft EIR, Appx. E, CalEEMod Output, 2.1 Overall Construction (Maximum Daily Emissions), Mitigated Construction for 2014

b Modeled emission rate, see Footnote 32; CalEEMod emission rate for PM10 and PM2.5 exhaust 28.44 lbs/day and 28.10 lbs/day, respectively

c Rosamond Recirculated Draft EIR op. cit., Appx. G, Table 8

d Calculated as: (modeled PM10 or PM2.5 concentration at nearest sensitive receptor) × (total maximum daily emissions of PM10 or PM2.5) / (exhaust maximum daily emissions of PM10 or PM2.5)

e Like the Rosamond Recirculated Draft EIR, the Draft EIR, Table 4.3-8, incorrectly cites to 35 µg/m³ as the CAAQS for 24-hour PM2.5 concentrations; no separate 24-hour PM2.5 standard has been established in California (see CARB, Particulate Matter – Overview, April 25, 2005; <u>http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm</u>)

As shown, the revised maximum 24-hour ambient concentration of PM10 at the nearest sensitive receptor resulting from Project construction emissions including fugitive dust and exhaust emissions, $89 \ \mu g/m^3$, are high enough to result in a violation

³³ See Exhibit 4.

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of the state 24-hour ambient air quality standard of $50 \ \mu g/m^3$. These results would not be reduced by implementation of the proposed mitigation measures as they represent mitigated emissions which already include the control efficiency of the proposed mitigation measures. This is a new significant impact that was not identified by the Draft EIR.

Fourth, the County's 2006 *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* explicitly recommend that 24-hour concentrations of PM10 and PM2.5 in ambient air be modeled at the project boundary:

SCREEN3 or AERMOD modeling of maximum 24-hour average concentration of Primary PM10 and PM2.5 *at the project boundary*, with comparison to National Ambient Air Quality Standards (NAAQS), Kern County CEQA thresholds and the applicable Air District (San Joaquin Valley Air Pollution Control District and/or Kern County Air Pollution Control District) thresholds.³⁴

Here, contrary to the guidance it allegedly relies upon, the Draft EIR presents results of modeling conducted for the nearest sensitive receptor, approximately 105 feet from the Project site.

Fifth, the Draft EIR recognizes that the MDAB is in nonattainment for particulate matter and that background concentrations already exceed the most stringent ambient air quality standards. Therefore, the Draft EIR states, background concentrations were not included in the presented PM10 and PM2.5 concentrations.³⁵ This approach improperly downplays and fails to characterize the harmful ambient concentrations of these pollutants that would occur at nearby sensitive receptors during Project construction. The determination of significance in this case is not whether Project construction emissions would by themselves result in exceedances of ambient air quality standards, which they do as demonstrated in Table 3, but rather whether they would contribute significantly to an existing violation of ambient air quality standards.

Table 4 below summarizes 24-hour ambient concentrations of PM10 and PM2.5 attributable to Project construction and including background concentrations. The latter was determined, as is typical in CEQA analyses, as the highest background concentrations for these pollutants for the three years following the Notice of Preparation for the EIR³⁶ as provided in Draft EIR, Table 4.3-3.

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³⁴ Kern County 2006 Guidelines op. cit., p. 2, emphasis added.

³⁵ Draft EIR, Footnote a) to Table 4.3-8.

³⁶ See, for example, California Energy Commission, Hydrogen Energy California, Amended Application for Certification (08-AFC-08), May 2012, p. 5.1-6 and Tables 5.1-2 through 5.1-7 and Tables 5.1-25 through 5.1-28 ("For the air quality impact analysis, the maximum background concentration from the most recently available 3 years from the most representative monitoring station was used");

Table 4: 24-hour ambient concentrations of PM10 and PM2.5 at nearest sensitive r	eceptor
compared to CAAQS and NAAQS	

	24-hour PM10 (µg/m ³)	24-hour PM2.5 (μg/m ³)
Maximum ambient concentration at nearest sensitive receptor ^a	88.61	18.72
Background concentration ^b	131.5	76.2
Total ambient concentration at nearest sensitive receptor	220.1	95.0
NAAQS	150	35
CAAQS	50	_c

a See Table 3

b Draft EIR, Table 4.3-3

c The Draft EIR, Table 4.3-8, incorrectly cites to 35 µg/m³ as the CAAQS for 24-hour PM2.5 concentrations; no separate 24-hour PM2.5 standard has been established in California (*see* CARB, Particulate Matter – Overview, April 25, 2005; <u>http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm</u>)

As shown in Table 4, total 24-hour ambient concentrations of PM10 at the nearest sensitive receptor, 220.1 μ g/m³, by far exceed the NAAQS and CAAQS of 150 and 50 μ g/m³ for this pollutant, respectively, and total 24-hour concentrations of PM2.5 by far exceed the NAAQS of 35 μ g/m³ for this pollutant. The contribution of Project emissions to these exceedances are 40 percent for PM10 and 20 percent for PM2.5, respectively,³⁷ clearly high enough to constitute a significant contribution to existing violations of ambient air quality standards for these pollutants. These significant constitute new significant impacts on air quality the Draft EIR fails to identify.

E. The Draft EIR Fails to Properly Determine Exposure of Sensitive Receptors to Toxic Air Contaminants

The Draft EIR recognizes that sensitive receptors would be exposed to emissions of toxic air contaminants ("TACs") during Project construction, in particular, to diesel particulate matter ("DPM") emissions from the operation of heavy-duty vehicle and construction equipment at the Project site.³⁸ However, the Draft EIR claims that per the guidelines for health risk assessments published by the Office of Environmental Health Hazard Assessment ("OEHHA") and the California Air Pollution Control Officers Association ("CAPCOA") "estimating the cancer risk from diesel engine particulate is typically not required for construction activities, as they occur for a short period of time and therefore would not measurably increase cancer risk. Therefore," the Draft EIR

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http://www.energy.ca.gov/sitingcases/hydrogen_energy/documents/applicant/amended_afc/Vol-1/5.01_Air_Quality.pdf.

 $^{^{37}}$ PM10: (88.61 $\mu g/m^3)$ / (220.1 $\mu g/m^3)$ = 0.40; PM2.5: (18.72 $\mu g/m^3)$ / (95.0 $\mu g/m^3)$ = 0.20. 38 Draft EIR, p. 4.3-44.

concludes, "impacts from TACs would be less than significant."³⁹ The Draft EIR's claims regarding OEHHA and CAPCOA guidance for construction projects is incorrect, and, thus, the Draft EIR's conclusion is not supported.

In fact, OEHHA's 2012 guidelines for preparation of health risk assessments explicitly recommend for evaluation of short-term projects:

We recommend that exposure from projects less than 6 months be assumed to last 6 months (e.g., a 2-month project would be evaluated as if it lasted 6 months). Exposure from projects lasting less than two months would not be evaluated for cancer risk. *We recommend that exposure from projects lasting more than 6 months be evaluated for the duration of the project*. In all cases the exposure should be assumed to start in the third trimester to allow for the use of the Age Sensitivity Factors (OEHHA, 2009). Thus, if the District is evaluating a proposed 5-year mitigation project at a hazardous waste site, the exposure duration for the residents would be from the third trimester through the first five years of life. The exposure duration for the offsite worker scenario would be five years in this case.⁴⁰

The OEHHA's new guidelines for preparation of health risk assessments, adopted February 2015, are even more explicit with respect to evaluating the potential cancer risks associated with short-term projects for the maximum exposed individual resident and worker ("MEIR" and "MEIW," respectively):

Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime. There are some studies indicating that dose rate changes the potency of a given dose of a carcinogenic chemical. In others words, a dose delivered over a short time period may have a different potency than the same dose delivered over a lifetime.

The OEHHA's evaluation of the impact of early-in-life exposure has reduced some of the uncertainty in evaluating the cancer risk to the general population for shorter-term exposures, as it helps account for susceptibility to carcinogens by age at exposure (OEHHA, 2009).

Due to the uncertainty in assessing cancer risk from very short-term exposures, we do not recommend assessing cancer risk for projects lasting less than two

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³⁹ Ibid.

⁴⁰ OEHHA, Air Toxics Hot Spots Program Risk Assessment Guidelines, Technical Support Document for Exposure Assessment and Stochastic Analysis, August 2012, p. 11-5 (*emphasis* added); <u>http://oehha.ca.gov/air/hot_spots/tsd082712.html/</u>.

> months at the MEIR. We recommend that exposure from projects longer than 2 months but less than 6 months be assumed to last 6 months (e.g., a 2-month project would be evaluated as if it lasted 6 months). Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester to allow for the use of the ASFs (OEHHA, 2009). Thus, for example, if the District is evaluating a proposed 5-year mitigation project at a hazardous waste site, the cancer risks for the residents would be calculated based on exposures starting in the third trimester through the first five years of life.

...

Finally, the risk manager may want to consider a lower cancer risk threshold for risk management for very short-term projects. Typical District guidelines for evaluating risk management of Hot Spots facilities range around a cancer risk of 1 per 100,000 exposed persons as a trigger for risk management. Permitting thresholds also vary for each District. There is valid scientific concern that the rate of exposure may influence the risk – in other words, a higher exposure to a carcinogen over a short period of time may be a greater risk than the same total exposure spread over a much longer time period. In addition, it is inappropriate from a public health perspective to allow a lifetime acceptable risk to accrue in a short period of time (e.g., a very high exposure to a carcinogen over a short period of time resulting in a 1×10-5 cancer risk). Thus, consideration should be given for very short term projects to using a lower cancer risk trigger for permitting decisions.⁴¹

Further, the CAPCOA guidance document *Health Risk Assessments for Proposed Land Use Projects* does not exempt construction activities:

This guidance does not include how risk assessments for construction projects should be addressed in CEQA. As this is intended to be a "living document", the risks near construction projects are expected to be included at a later time as the toxic emissions from construction activities are better quantified. State risk assessment policy is likely to change to reflect current science, and therefore this document will need modification as this occurs.⁴²

Elsewhere, this guidance document discusses categorically exempt projects which nonetheless require health risk assessment evaluation:

http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

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⁴¹ OEHHA, Air Toxics Hot Spots Program, Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, February 2015, pp. 8-17 and 8-18 *(emphasis added);*

⁴² CAPCOA, Health Risk Assessments for Proposed Land Use Projects, July 2009, p. 2; <u>http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf</u>.

> Although methodology for assessing health risk for construction projects is not included in this document, lead agencies under CEQA are required to identify health risk from construction activities or projects and mitigate if they are deemed significant.43

Clearly, the Draft EIR's categorical dismissal of the requirements for an analysis of air quality impacts to adjacent residents during project construction is not justified and the Draft EIR should be revised to include a proper health risk assessment for DPM emissions as well as metals emission from the concrete batch plant for Project construction.

F. The Draft EIR's Proposed Mitigation Measures for Fugitive Dust and Exhaust Emissions during Construction Are Improperly Deferred, **Unenforceable and Not Exhaustive**

Dust and ozone are enormous problems in the area where the Project would be constructed with concentrations frequently exceeding state and ambient air quality standards and the EKACPD is designated as nonattainment for PM10 and ozone.⁴⁴ The Draft EIR finds that construction-related NOx, an ozone precursor, CO, and PM10 emissions would remain individually significant and cumulatively significant due to concurrent construction projects in the area despite the implementation of a proposed extensive list of mitigation measures for fugitive dust control (MM 4.3-1 through MM 4.3-5).⁴⁵ The proposed list of mitigation measures is inadequate because it a) improperly defers development of a Fugitive Dust Control Plan, which "may" include the proposed measures (see also Comment III.B) and b) as written, some of the proposed mitigation measures are unenforceable and vague, directing the County to implement measures "whenever possible," "if permitted, "when feasible," without providing any criteria for the circumstances under which a measure will be considered "feasible" or "appropriate." Further, Draft EIR contains no discussion whether additional mitigation measures were evaluated, and if yes, whether they were rejected on the basis of technical or economic infeasibility, or both.

The California Attorney General commented on the Tulare County General Plan EIR regarding the enforceability of mitigation:

CEQA provides that a public agency should not approve a project as proposed if there are feasible mitigation measures that would substantially lessen the significant environmental effects of the project. Further, in order to ensure that

43 Ibid, p. 7.

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⁴⁴ See Draft EIR, Tables 4.3-2 and 4.3-3.

⁴⁵ Draft EIR, pp. 4.3-36 and 4.3-42.

mitigation measures are actually implemented, they must be "fully enforceable through permit conditions, agreements, or other measures... The General Plan relies on unenforceable policies that "encourage," but do not mandate that growth will occur in certain areas, with the result that all important development decisions are left to the marketplace.⁴⁶

In comments on the Santa Clarita Valley Area Plan, the California Attorney General elaborated:

When an EIR makes a finding of significant environmental harm from a project, as it does here, CEQA requires the public agency carrying out the project to adopt all feasible mitigation measures to lessen that harm, or to adopt a feasible alternative that will do less environmental damage. (Pub. Resources Code, §§ 21002, 21081 and 21081.5.) If the public agency rejects a mitigation measure or alternative as infeasible, the agency must make specific findings, supported by substantial evidence, that a mitigation measure or alternative is not feasible. (Pub. Resources Code, §§ 21081 and 21081.5.) Here, the RDEIR [Recirculated Draft EIR] does not provide substantial evidence that all feasible mitigation has been proposed. For example, the RDEIR relies on a number of measures and policies that it states will reduce air pollution, including air pollution from cars and trucks, resulting from the [One Valley, One Vision] Plan. However, most of the measures and policies identified are unenforceable or vague, directing the County only to "promote," "encourage," "support," or "investigate" various methods to reduce driving, or committing the County to use the measures only "where feasible" or "where appropriate," without providing any criteria for the circumstances under which a measure will be considered "feasible" or "appropriate." It is not clear, and the RDEIR does not specify, whether a measure is being rejected on the basis of technical or economic infeasibility, or both.

Similarly, many measures require only that the County "work with" agencies that do or may provide transit options, or to "seek" funding or other assistance to provide transportation options. While many of the listed measures appear well intentioned and might be effective if carried out, the RDEIR provides no substantial evidence – often no evidence at all – that they will be implemented or, if implemented, whether they will be effective at reducing vehicle miles traveled. The RDEIR also fails to provide substantial evidence that it is infeasible to make these non-enforceable measures binding and enforceable…

Faced with the conclusion that the serious public health threat from air pollution in the Valley will be exacerbated under the OVOV Plan, and with the finding that the mitigation proposed will not reduce impacts to insignificant levels, the

⁴⁶ Susan Fiering, Deputy Attorney General for Edmund Brown, Attorney General, Re: Tulare County General Plan and Recirculated Draft Environmental Impact, May 27, 2010; http://oag.ca.gov/sites/all/files/agweb/pdfs/environment/comments_Tulare_County_GP_DEIR.pdf.

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> County is obliged under CEQA to adopt additional measures that are enforceable or, alternatively, to provide substantial evidence that additional measures are infeasible. The RDEIR does neither.⁴⁷

The same criticism applies to the Draft EIR at hand.

For example, Mitigation Measure MM 4.3-1 refers to the "SSDCP" who "shall identify, in addition to those measures required by the air district, all measures being undertaken during construction activities and operational activities to ensure fugitive dust being blown off site is minimized."⁴⁸ This measure is incorrectly and poorly worded. *First*, presumably the mitigation measure intends to refer to the EKAPCD rather than the SSDCP. *Second* the phrasing of this measures should be changed from "being undertaken" to "to be undertaken" to ensure that the proposed measures will be, in fact, implemented.

Further, the Draft EIR proposes Mitigation Measures MM 4.3-3 and 4.3-4 to reduce exhaust emissions during Project construction. While at first glance these measures appear exhaustive and comprehensive, a closer review shows that they would do very little to reduce exhaust emissions and even permitting higher exhaust emissions than determined by the Draft EIR. Specifically, for quantification of mitigated emissions, the Draft EIR's air quality assessment already assumes the use of Tier 3 diesel engines for off-road equipment greater than 50 horsepower.⁴⁹ Yet, Mitigation Measure 4.3-3(j) as proposed by the Draft EIR requires only certification to Tier 2 rather than Tier 3 for off-road equipment over 50 horsepower.⁵⁰ Thus, the proposed mitigation does not even ensure that construction equipment exhaust emissions do not exceed emission estimates, let alone reduce emission further, as suggested by the Draft EIR.

Also, as written, Mitigation Measure MM 4.3-5, which establishes the requirements for and the responsibilities of a "construction coordinator," is entirely reactive only requiring investigation and remedy in response to local complaints about construction activities. The measure should be revised to require an on-site construction mitigation manager who oversees and enforces implementation of all specified mitigation measures to proactively ensure that construction activities to do not result in complaints.

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⁴⁷ Kamala D. Harris, Letter to Mitch Glaser, County of Los Angeles, March 17, 2011 (internal citations omitted); <u>http://oag.ca.gov/sites/all/files/agweb/pdfs/environment/santa_clarita_letter.pdf</u>.

⁴⁸ Draft EIR, p. 4.3-33.

⁴⁹ Draft EIR, Footnote 3 to Table 4.3-6 and Appx. A to Appx. E.

⁵⁰ Draft EIR, p. 4.3-35.

G. Additional Feasible Mitigation Measures to Reduce Air Pollutant Emissions during Project Construction

As discussed, Project construction may require an on-site concrete batching plant. To minimize emissions from this source, the following mitigation measures are feasible and should be required.

- Establish and maintain buffer distances >300 feet to sensitive receptors;
- Keep sand and aggregates damp;
- Cover or enclose conveyor belts and hoppers;
- Keep pavements and surfaces clean;
- Fit cement silos with high level alarms, multibag pulse jet filters, airtight inspection hatches and automatic cutoff switches on the filler lines;
- Keep duct work airtight;
- Enclose the loading bay;
- Develop and implement an inspection regime for all dust control components;
- Clean up spills immediately.

III. The Draft EIR Fails to Adequately Mitigate Potential Exposure of Construction Workers and the Public to Valley Fever

Valley Fever, also called desert fever, San Joaquin Valley fever, desert rheumatism, or coccidioidomycosis (short cocci), is an infectious disease caused by inhaling the spores of *Coccidioides immitis*, a soil-dwelling fungus. Spores, or arthroconidia, are released into the air when infected soils are disturbed, *e.g.*, by construction activities, agricultural operations, dust storms, or during earthquakes. The disease is endemic (native and common) in the semiarid regions of the southwestern United States and reported cases have been dramatically increasing in the past decades (10-fold from 1988-2011). Typical symptoms of Valley Fever include fatigue, fever, cough, headache, shortness of breath, rash, muscle aches, and joint pain. Symptoms of advanced Valley Fever include chronic pneumonia, meningitis, skin lesions, and bone or joint infections or even death. The most common clinical presentation of Valley Fever is a self-limited acute or subacute community-acquired pneumonia that becomes evident 13 weeks after infection. No vaccine or known cure exists for the disease.⁵¹

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⁵¹ See, e.g., Wikipedia, Coccidioidomycosis, <u>http://en.wikipedia.org/wiki/Coccidioidomycosis</u>; and Centers for Disease Control and Prevention, Valley Fever: Awareness Is Key; <u>http://www.cdc.gov/features/valleyfever/</u>.

A. The Draft EIR Fails to Adequately Describe the Scope of Valley Fever Impacts

The Draft EIR recognizes that nearby sensitive receptors as well as workers at the Project site could be exposed to Valley Fever from fugitive dust generated during construction.⁵² However, the potentially exposed population is much larger than just "nearby" sensitive receptors and on-site workers. Due to their small size, Valley Fever spores have been documented to travel hundreds of miles from their place of origin during windstorms.⁵³ Accordingly, the potentially exposed population includes all immediately surrounding communities and beyond, including the over 18,000 residents of Rosamond located within a few miles of the Project, the over 300,000 residents of the Palmdale / Lancaster urban area located within approximately 30 miles of the Project site, and the more than 10,000 employees of Edward Air Force Base located approximately 20 miles from the Project site.⁵⁴ By failing to accurately disclose the scope of the exposure risk, the Draft EIR fails to inform members of the public who are not nearby residents of their risk to Valley Fever exposure from Project activities. The Draft EIR should be amended to address this error.

The Draft EIR is also deficient because it fails to disclose that current drought conditions⁵⁵ have greatly exacerbated the risk that Project construction activities will expose the public to Valley Fever.⁵⁶ During drought years the number of organisms competing with *Coccidioides ssp.* decreases and the fungus remains alive but dormant. When rain finally occurs, the arthroconidia germinate and multiply more than usual because of a decreased number of other competing organisms. When the soil dries out

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http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1238466/pdf/westjmed00256-0079.pdf; see also Lawrence Schmelzer and R. Tabershaw, Exposure Factors in Occupational Coccidioidomycosis, Am. J. Public Health Nations Health, v. 58, no. 1, 1968, p. 110;

⁵⁴ Greater Antelope Valley Economic Alliance, 2014 Economic Report at pp. 1-3, <u>http://socalleadingedge.org/wp-content/uploads/2014/12/2014gaveareport.pdf</u>.

⁵² Draft EIR, p. 4.3-44.

⁵³ Demosthenes Pappagianis and Hans Einstein, Tempest from Tehachapi Takes Toll or Coccidioides Conveyed Aloft and Afar, West J Med, v.129 (Dec. 1978), pp. 527-30;

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1228046/?page=1; David Filip and Sharon Filip, Valley Fever Epidemic, Golden Phoenix Books, 2008, p. 24.

⁵⁵ State of California, Office of Governor Edmund G. Brown, Governor Brown Declares Drought State of Emergency, January 17, 2014; <u>http://gov.ca.gov/news.php?id=18368</u>.

⁵⁶ Gosia Wozniacka, Associated Press, Fever Hits Thousands in Parched West Farm Region, May 5, 2013, citing Prof. John Galgiani, Director of the Valley Fever Center for Excellence at the University of Arizona; <u>http://usa.news.net/article/272191/Top+Stories&</u>.

in the summer and fall, soil disturbances can easily release the spores into the air where they can be inhaled, leading to infections.⁵⁷

This is not an academic concern. The potential for exposure to Valley Fever is of particular concern for large-scale construction projects in the arid regions of the southwest including the Mojave Desert. The ongoing drought combined with the numerous ongoing large-scale renewable energy construction projects in Antelope Valley has resulted in a steady spate of severe dust storms and an increase in reported Valley Fever cases. A dust storm in Antelope Valley on April 8, 2013, was so severe that it resulted in multiple car pileups in the sparsely populated region, as well as closure of the Antelope Valley Freeway.⁵⁸ (*See* photographs below.)



Extreme dust storms in Mojave Desert during windy season (May 2013) (from: Peter McRae, The Mojave Dust Bowl of 2014 – Causes and Solutions, Quattro Environmental, 2014; http://www.quattroenvironmental.com/the-mojave-dust-bowl-of-2014-causes-and-solutions/)

During the 2014 March through May windy season, fugitive dust in the Western Antelope Valley negatively impacted air quality to an extent never experienced before and was likened to the Great Dust Bowl of the 1930s.⁵⁹ The increased severity in dust storms has been linked to both the historic drought of the past six years and the ongoing development of large scale solar and wind power facilities on this desert land. (Solar farms and power corridors "have undoubtedly contributed to dust emanating from large tracts of disturbed lands during construction activities.")⁶⁰ For instance,

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60 Ibid.

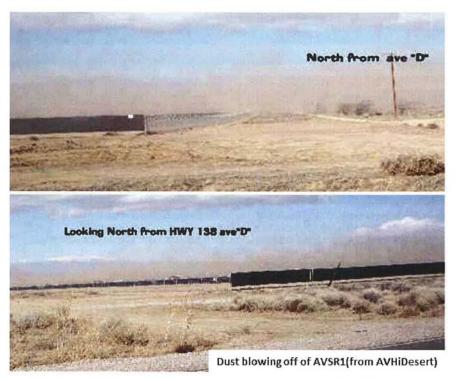
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⁵⁷ Theodore N. Kirkland and Joshua Fierer, Coccidioidomycosis: A Reemerging Infectious Disease, Emerging Infectious Diseases, Vol. 3, No. 2, July-September 1996, available at: <u>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2626789/pdf/8903229.pdf</u>.

⁵⁸ Herman K. Trabish, GreenTech Media, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013, available at: <u>http://www.greentechmedia.com/articles/read/Construction-Halted-At-First-Solars-230-MW-Antelope-Valley-Site</u>.

⁵⁹ Peter McRae, op. cit.

despite implementing similar dust mitigation measures as proposed here, construction of First Solar's Antelope Valley Solar Ranch One ("AVSR1"), a solar development in Kern County, was officially halted in April 2013, due to the company's inability to bring the facility in compliance with federal ambient air quality standards.⁶¹ The company was issued four violations by the Antelope Valley Air Quality Management District ("AVAQMD").⁶² Dust from the project, in general, has led to complaints of respiratory distress by local residents.⁶³



5-L4

(from: Herman K. Trabish, GreenTechMedia, Construction Halted at First Solar's 230 MW Antelope Valley Site, April 22, 2013; <u>http://www.greentechmedia.com/articles/read/Construction-Halted-At-</u> First-Solars-230-MW-Antelope-Valley-Site)

61 Trabish, op. cit.

62 Ibid.

63 Ibid.

Other large-scale solar projects and utility projects experienced similar problems controlling fugitive dust. The photographs below show dust emanating from the construction site for the Ivanpah Solar Electric Generating System facility.



Severe dust storm blowing off the Ivanpah Solar Electric Generating System construction site February 23, 2013 (from: Chris Clarke, KCET, Dust Problem at Ivanpah Solar February 27; <u>http://www.kcet.org/news/redefine/rewire/solar/concentrating-solar/dust-problem-at-ivanpah-solar.html</u>)



Fugitive dust lifting off bares soil along Southern California Edison utility corridor, Western Antelope Valley, May 28, 2013 (from: Peter McRae, International Erosion Control Association, Drought: Fugitive Dust or IECA Opportunity? Western Chapter News, Vol. 18, No. 1, Summer 2014; <u>http://www.wcieca.org/images/stories/newsletter/WCIECA Summer 2014.pdf</u>) 5-L4

As a result of the combination of historic drought and increased large-scale construction activities on desert land, Valley Fever cases have been increasing dramatically both in workers and the general public.⁶⁴ Health officials are calling the rise in instances of Valley Fever contraction an epidemic.⁶⁵ At two photovoltaic solar energy projects in San Luis Obispo County, Topaz Solar Farm and California Valley Solar Ranch, 28 construction workers contracted Valley Fever.⁶⁶

By failing to disclose the heightened risk that current drought conditions combined with large scale desert construction projects have created and the dramatic increase in recent cases of Valley Fever, the Draft EIR fails to adequately inform the public of the scope of risks posed by Project construction.

B. The Draft EIR lacks Substantial Evidence to Support Its Conclusion that Project's Valley Fever Impacts Will Be Less Than Significant after Mitigation

The Draft EIR finds that exposure to Valley Fever is a potentially significant impact of Project construction activities, but concludes that this impact will be reduced below a level of significance with the implementation of the dust control measures set forth in MM 4.3-1 and the Valley Fever Training and Valley Fever Dust Management Plan set forth in MM 4.3-6.

The Draft EIR Improperly Bases its Conclusion on Deferred, Voluntary and Unenforceable Mitigation Measures

The conclusion that these mitigation measures will reduce impacts below a level of significance is not supported by substantial evidence. As discussed in Section II.F, the dust control measures set forth in MM 4.3-1 are inherently inadequate and thus cannot be relied upon to ensure that workers and the general public will not be exposed to dust containing Valley Fever spores.

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⁶⁴ *Ibid; See* Center for Disease Control; Fungal Pneumonia: A Silent Epidemic, Coccidioidomycosis (Valley Fever); <u>http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf</u>.

⁶⁵ Mark Koba, CNBC, The Silent Epidemic Known as Valley Fever (Monday, January 27, 2014 at 1:33 p.m.); <u>http://www.cnbc.com/id/101362762</u>; *see also* CDC, A Silent Epidemic, *op. cit*.

⁶⁶ Julie Cart, Los Angeles Times, 28 Solar Workers Sickened by Valley Fever in San Luis Obispo County May 01, 2013; available at <u>http://articles.latimes.com/2013/may/01/local/la-me-ln-valley-fever-solar-sites-20130501</u>.

The mitigation measures set forth in MM 4.3-6 are also inherently inadequate because they include deferred, voluntary and unenforceable mitigation measures. The only mandatory measures identified in MM4.3-6 are training on Valley Fever awareness, a demonstration on how to use protective equipment, the implementation of a program to make respirators available *upon request* by the employee, and the deferred development of a Valley Fever Dust Management Plan.

The deferral of the formulation of mitigation measures to post-approval studies is generally impermissible under CEQA. Project modifications necessary to avoid significant impacts must be made *before* the lead agency issues a proposed EIR for public review.⁶⁷ Mitigation measures adopted *after* project approval cannot validate the issuance of an EIR, since this deferral denies the public the opportunity to comment on the project as modified to mitigate impacts. An agency may only defer the formulation of mitigation measures when it recognizes the significance of the potential environmental effect, commits itself to mitigating its impact, and articulates specific performance criteria for the future mitigation.

Here, specification of mitigation measures is deferred until a Valley Fever Dust Management Plan is developed after Project approval. While MM 4.3-6 sets forth a number of specific mitigation measures (Measures 4.3-6.i through 4.3-6.x) that may be included in the Plan, none of these measures are actually required. In addition to making clear that the Valley Fever Dust Management Plan is not required to include Measures 4.3-6.i through 4.3-6.x, MM 4.3-66 also states that any measures that do end up making it into the plan only need to "be implemented as practicable." Furthermore, no specific performance standards are set forth for the Valley Fever Dust Management Plan. MM 4.3-6 only requires the plan to "minimize" personnel and public exposure to Valley Fever-containing dust. It does not require reducing such exposures below any identifiable level of significance. The reliance on the future development of a plan that may or may not include the listed measures and which will only be implemented "as practicable" violates CEQA's general prohibition against deferred mitigation and CEQA's requirement that mitigation measures be specific and enforceable. Because the Draft EIR relies on deferred, vague and unenforceable mitigation measures, its finding that these measures will reduce Valley Fever Impacts below a level of significance violates CEQA and is not supported by substantial evidence.

The inadequacy of this deferred analysis is underscored by the failure of MM 4.3-6 to require the use of respirator equipment by construction workers who are likely to be exposed to dust from earth moving activities. While the MM 4.3-6 states that such a requirement may be considered in the Valley Fever Dust Management plan, if

67 Public Res. Code § 21061.

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"practicable," it contradicts this elsewhere when it explicitly states that respiratory equipment "is not mandatory during work" but shall be instead provided to employees upon request.

The failure to require the use of protective respiratory equipment directly conflicts with the Valley Fever prevention recommendations set forth by the California Department of Public Health and the California Department of Industrial Relations and in recommendations developed by the U.S. Geological Survey. (*See* below.) These agencies all recommend that respirators be *provided* to employees digging or working near earth-moving trucks or equipment, not just made available. Mandatory respiratory protection measures are essential to protect construction workers at projects that involve excavation or grading of land contaminated with Valley Fever spores.⁶⁸ One study reported, "generally 50% of the individuals who were exposed to the dust or were excavating dirt at the [Valley-Fever-contaminated] sites were infected."⁶⁹ Because the Draft EIR fails to explain how Valley Fever risks will be reduced below a level of significance if respirators are only provided upon request, it lacks substantial evidence for its conclusion that this will reduce Valley Fever impacts below a level of significance.

The Draft EIR's Conclusion that the Project's Valley Fever Impacts Will Be Less Than Significant After Mitigation Is Not Supported by Any Analysis or Substantial Evidence

Even if Measures 4.3-6.i through 4.3-6.x were determined to be "practicable" and included in the Valley Fever Dust Management Plan, the Draft EIR's conclusion that the Project's Valley Fever impacts will be less than significant after mitigation is not supported by any analysis or substantial evidence. CEQA requires conclusions in an EIR to be supported by substantial evidence.⁷⁰ Conclusory statements unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind are insufficient to support a finding of insignificance.

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5-N4

⁶⁸ Rafael Laniado-Laborin, Expanding Understanding of Epidemiology of Coccidioidomycosis in the Western Hemisphere, Ann. N.Y. Acad. Sci., v. 111, 2007, pp. 20-22; Frederick S. Fisher, Mark W. Bultman, Suzanne M. Johnson, Demosthenes Pappagianis, and Erik Zaborsky, Coccidioides Niches and Habitat Parameters in the Southwestern United States, a Matter of Scale, Ann. N.Y. Acad. Sci., No. 1111, 2007, pp. 47-72; <u>http://esp.cr.usgs.gov/projects/sw/pubs/task4/Fisher_et_al_2007.pdf</u>.

⁶⁹ Frederick S. Fisher, Mark W. Bultman, Suzanne M. Johnson, Demosthenes Pappagianis, and Erik Zaborsky, Coccidioides Niches and Habitat Parameters in the Southwestern United States, a Matter of Scale, Ann. N.Y. Acad. Sci., No. 1111, 2007, p. 47, available at:

http://esp.cr.usgs.gov/projects/sw/pubs/task4/Fisher_et_al_2007.pdf.

⁷⁰ Pub. Resources Code § 21081.5; CEQA Guidelines § 15091, subd. (b).

For example, the Draft EIR fails to provide any evidence that the half-face respirators with N-100 or P-100 filters that will be required to be available are sufficient to reduce impacts below a level of significance, even if they were required. To the contrary, the California Department of Public Health and the California Department of Industrial Relations have found that fit-tested half-mask respirators are expected to reduce exposure by only 90% and conclude that the use of these respirators can still "result in an unacceptable risk of infection when digging where Valley Fever spores are present."⁷¹

The Immunity to Valley Fever that Some Long-term Residents May Have Developed Immunity Does Not Mitigate the Impacts to Residents Who Do Not Have this Immunity

In addition to relying on the implementation of Mitigation Measure 4.3-6, the Draft EIR also bases its conclusion that impacts would be reduced to less than significant levels on "the knowledge that long-term residents have typically already developed immunity to Valley Fever." The immunity of long-term area residents is not relevant to the potential impacts on sensitive receptors that do not have this immunity. The immunity of one resident does not protect other residents or workers who do not have this immunity. Moreover, the Draft EIR does not include any requirement to hire local workers; as a result, the workforce on this Project will likely include workers from out of the area who do not have immunity to Valley Fever. In addition, the communities surrounding the Project site have experienced rapid growth over the past 10 years and, thus, are not limited to long-term residents. The recent increase in Valley Fever cases in the area also belie this claim. The Draft EIR's assumption that widespread immunity in long-term residents will help reduce Valley Fever impacts below a level of significance is, thus, purely speculative and not supported by substantial evidence.

C. The Draft EIR Fails to Evaluate Cumulative Valley Fever Impacts

The Draft EIR fails to evaluate the cumulative increase in Valley Fever risks from the huge number of solar project developments that are taking place concurrently or sequentially in Kern County. These immense desert construction projects have already resulted in enormous dust storms that have affected both Kern County and Los Angeles County and appear linked to the recent dramatic rise in Valley Fever cases. The Project will incrementally contribute to the increased risk of contracting Valley Fever. 5-N4

5-04

5-P4

⁷¹ California Department of Public Health and California Department of Industrial Relations, Preventing Work-related Coccidiomycosis (Valley Fever), June 2013; <u>http://www.cdph.ca.gov/programs/hesis/documents/coccifact.pdf</u>.

D. Additional Mitigation Measures Should Be Required Prior to Project Approval

To reduce the potential exposure to fugitive dust, which may contain the fungus spores, and likelihood of contracting Valley Fever for construction workers and the public, the Draft EIR proposes to implement Mitigation Measure MM 4.3-6:

County Planning and Community Development Department that the project operator and/or construction manager has developed a "Valley Fever Training Handout", training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Community Development Department within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The evidence submitted to the Kern County Planning and Community Development Department regarding the "Valley Fever Training Handout" and Session(s) shall include the following:

- a) A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session.
- b) Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever.
- c) Training on methods that may help prevent Valley Fever infection.
- d) A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Though use of the equipment is not mandatory during work, the equipment shall be readily available and shall be provided to employees for use during work, if requested by an employee. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.

The project operator also shall consult with the County Health Services Department to develop a Valley Fever Dust Management Plan that addresses management of dust to reduce the potential for exposure to Valley Fever. Prior to issuance of permits, the project operator shall submit the Plan to the County Services Health Department for review and approval. The Plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate dust management and safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential Valley Fever-containing dust. Measures in the Plan, which shall be implemented as practicable, may include the following:

- a) Provide HEP-filtered air-conditioned enclosed cabs on heavy equipment. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment.
- b) Provide communication methods, such as two-way radios, for use in enclosed cabs.
- c) Provide National Institute for Occupational Safety and Health (NIOSH)approved respirators for workers.
- d) Require half-face respirators equipped with N-100 or P-100 filters to be used during digging. Require employees to wear respirators when working near earth-moving machinery.
- e) Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144).
- f) Provide separate, clean eating areas with hand-washing facilities.
- g) Thoroughly clean equipment, vehicles, and other items before they are moved offsite to other work locations.
- h) Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor.
- i) Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever.
- j) Work with a medical professional, in consultation with the County Health Services Department, to develop an educational handout for on-site workers and surrounding residents within three miles of the project site, and include the following information on Valley Fever: what are the potential sources/ causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by the County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within three miles of the project boundaries.⁷²

While these mitigation measures appear at first glance comprehensive, some of the more meaningful measures are not enforceable as written. Further, these mitigation measures are not sufficiently protective to limit exposure of construction workers and the general public to Valley Fever spores. First, Mitigation Measures MM 4.3-6.i through 4.3-6.x i should be mandatory. This would be consistent with the Valley Fever mitigation measures recommended by the California Department of Public Health and the California Department of Industrial Relations. Because the potential for significant

⁷² Draft EIR, pp. 4.3-44 and 4.3-45.

Valley Fever impacts remains even with implementation of the Draft EIR's mitigation measures, additional mitigation measures should be required. The Draft EIR should also consider several additional mitigation measures also recommended by the California Department of Public Health and the California Department of Industrial Relations, including: (1) suspending work during heavy wind or dust storms; (2) continuously wetting soils when digging to keep dust levels down; and (3) positioning workers upwind when digging a trench or performing other soil-disturbing tasks.

Further, the County of San Luis Obispo's Public Health Department, in conjunction with the California Department of Public Health, developed specific recommendations in response to an outbreak of Valley Fever in construction workers at a construction site for a solar facility. These recommended measures go far beyond the dust control measures recommended in the Draft EIR:

- 1. Implement comprehensive Injury and Illness Prevention Program (required by Title 8, Section 3203) ensuring safeguards to prevent Valley Fever are included.
- 2. Work with a medical professional with expertise in cocci to develop a training program for all employees discussing the following issues: potential presence of C. immites in soils; the risks involved with inhaling spores; how to recognize common symptoms (which resemble common viral infections, and may include fatigue, cough, chest pain, fever, rash, headache, and body and joint ache); requesting prompt reporting of suspected symptoms to a supervisor and health care provider; discussing worker entitlement to receive prompt medical care if they suspect symptoms of work-related Valley Fever; and requesting the use of personal protection measures as outlined below.
- 3. Control exposure to dust:
 - Consult with local Air Pollution Control District Compliance Assistance programs and with California Occupational Safety and Health Administration ("Cal/OSHA") compliance program regarding meeting the requirements of dust control plans and for specific methods of dust control. These methods may include wetting the soil while ensuring that the wetting process does not raise dust or adversely affect the construction process.
 - Provide high-efficiency particulate ("HEP")-filtered, air-conditioned enclosed cabs on heavy equipment. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment.
 - Provide communication methods, such as 2-way radios, for use in enclosed cabs.
 - Provide National Institute for Occupational Safety and Health ("NIOSH")-approved respirators for workers without a prior history of Valley Fever.
 - Half-face respirators equipped with N-100 or P-100 filters should be used during digging. Employees should wear respirators when working near earth moving machinery.

- Employees should be medically evaluated, fit-tested, and properly trained on the use of the respirators, and a full respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144) should be in place.
- Prohibit eating and smoking at the worksite, and provide separate, clean eating areas with hand-washing facilities.
- Avoid outdoor construction operations during unusually windy conditions.
- Consider limiting outdoor construction during the fall to essential jobs only, as the risk of cocci infection is higher during this season.
- 4. Prevent transport of cocci outside endemic areas:
 - Thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.
 - Provide workers with coveralls daily, lockers (or other system for keeping work and street clothing and shoes separate), daily changing and showering facilities.
 - Clothing should be changed after work every day, preferably at the work site.
 - Train workers to recognize that cocci may be transported offsite on contaminated equipment, clothing, and shoes; alternatively, consider installing boot-washing.
 - Post warnings onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.
- 5. Improve medical surveillance for employees
 - Employees should have prompt access to medical care, including suspected work-related illnesses and injuries.
 - Work with a medical professional to develop a protocol to medically evaluate employees who have symptoms of Valley Fever.
 - Consider preferentially contracting with 1-2 clinics in the area and communicate with the health care providers in those clinics to ensure that providers are aware that Valley Fever has been reported in the area. This will increase the likelihood that ill workers will receive prompt, proper and consistent medical care.
 - Respirator clearance should include medical evaluation for all new employees, annual re-evaluation for changes in medical status, and annual training, and fit-testing.

> If an employee is diagnosed with Valley Fever, a physician must determine if the employee should be taken off work, when they may return to work, and what type of work activities they may perform.⁷³

Two other studies have developed complementary recommendations to minimize the incidence of Valley Fever. The U.S. Geological Survey ("USGS") has developed recommendations to protect geological field workers in endemic areas.⁷⁴ An occupational study of Valley Fever in California workers also developed recommendations to protect those working and living in endemic areas.⁷⁵ These two sources identified the following measures, in addition to those identified by the County of San Luis Obispo's Public Health Department, to minimize exposure to Valley Fever:

- Pretest soils to determine if each work location is within an endemic area.
- Implement a vigorous program of medical surveillance.
- Implement aggressive enforcement of respiratory use where exposures from manual digging are involved.
- Test all potential employees for previous infection to identify the immune population and assign immune workers to operations involving known heavy exposures.
- Hire resident labor whenever available, particularly for heavy dust exposure work.
- All workers in endemic areas should use dust masks to protect against inhalation of particles as small as 0.4 microns. Mustaches or beards may prevent a mask from making an airtight seal against the fact and thus should be discouraged.
- Establish a medical program, including skin tests on all new employees, retesting of susceptibles, and prompt treatment of respiratory illness in susceptibles; periodic medical examination or interview to discover a history of low grade or subclinical infection, including repeated skin testing of susceptibles.

All of the above health-protective measures are feasible for the Project and should be required in an enhanced dust control plan to reduce the risk for construction

⁷³ San Luis Obispo County Health Agency, Recommendations for Workers to Prevent Infection by Valley Fever in SLO County;

http://www.slocounty.ca.gov/Assets/PH/Epidemiology/Cocci+Recomendations.pdf.

⁷⁴ Fisher et al. 2000.

⁷⁵ Schmelzer and Tabershaw, 1968, pp. 111 - 113.

workers, on-site employees, and the public of contracting Valley Fever. As with mitigation measures for air quality, review of individual projects should amend these mitigation measures to reflect the most up-to-date recommendations by, *e.g.*, the Centers for Disease Control ("CDC") and local health districts.

IV. Recommendation

As a whole, the errors described above result in substantially underestimated emissions and pollutant concentrations in ambient air during Project construction and, consequently, the Draft EIR fails to identify and properly mitigate significant impacts on air quality impacts, rendering the Draft EIR deficient as an informational document and its findings unreliable and unsupported by substantial evidence. I recommend that the County prepare a revised Draft EIR using modeling inputs that correct these errors to ensure accurate emission estimates and analysis of associated impacts on air quality during Project construction.

Further, as discussed, the Draft EIR fails to adequately disclose the risk of contracting Valley Fever for a large number of people and fails to require implementation of sufficiently protective mitigation. I recommend that the Draft EIR's mitigation measures be revised to include the additional measures summarized in Comment III.D to reduce the public's and construction workers' potential exposure to Valley Fever spores.

Please feel free to call me at (415) 492-2131 or e-mail at petra.pless@gmail.com if you have any questions about the comments in this letter. For most cited sources not provided as exhibits, weblinks are provided in footnotes; however, I will gladly make any document available upon request.

Best regards,

Petra Pless, D

5-Q4

5-R4

Response to Comment Letter 5: Adams Broadwell Joseph & Cardozo (April 13, 2015)

5-A The commenter submitted comments on behalf of Kern County Citizens for Responsible Solar, California Unions for Reliable Energy, and other individuals and groups. This comment asserts that the Draft EIR does not comply with the requirements of the California Environmental Quality Act ("CEQA") and that the lead agency may not approve the project until an adequate Draft EIR is prepared and circulated for public review and comment. As explained in more depth in the responses to comments below, the lead agency responds that the Draft EIR satisfies all CEQA requirements.

Thank you for your comments. For a further response to the assertion that the Draft EIR is inadequate, please specifically refer to Responses to Comments 5-B through 5-I2. The comment also requests that the lead agency respond to comment letters from Petra Pless, Matt Hagemann, and Shawn Smallwood separately and individually. This comment is noted and these comments are separately addressed in Responses to Comments 5-K2 through 5-K3, 5-L3 through 5-P3 and 5-Q3 through 5-R4. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B The commenter states describes the project and other pending applications for solar projects and asserts that the projects combined will unavoidably tax the state's limited water, land, air, and biological resources to a potentially significant cumulative extent and will result in lost agricultural jobs that will not be made up by the jobs created by solar facilities. Commenter asserts further that the Draft EIR fails to analyze project impacts and provide for adequate mitigation, particularly for impacts to air quality, biological resources, agricultural resources, hazards and water supply. The comment also notes that Kern County is facing its fourth year of severe drought, which exacerbates impacts to agricultural resources, biological resources and Valley Fever. The commenter further maintains that the Draft EIR must be revised and recirculated to comply with CEQA.

Thank you for your comments. The Draft EIR is consistent with CEQA Guidelines, provides for mitigation measures, as needed and feasible, and properly discloses meaningful information about the project's environmental impacts to the public. The Draft EIR includes a robust analysis of cumulative impacts, and also includes careful analysis of all factors unique to the Western Antelope Valley. The Draft EIR mitigation measures require best management practices for mitigating all air quality impacts and health risks due to Valley Fever. The lead agency disagrees with commenter's characterization that the Draft EIR mischaracterizes or underestimates project impacts. The lead agency also maintains that the Draft EIR's conclusions regarding the significance of impacts after mitigation are accurate and supported by substantial evidence. While commenter suggests that new information may trigger the need for recirculation, this comment does not include any evidence to suggest that significant new information exists such as to warrant recirculation.

For further information concerning the drought and project and cumulative impacts to air quality, Valley Fever, agricultural resources, water supply, biological resources, and hazards see Responses to Comments 5-L through 5-O, 5-Q and 5-S (air quality); 5-U through 5-Z and 5-Q4 (Valley Fever); 5-J and 5-K (agriculture); 5-B2(a) through 5-B2(f), 5-C2 and 5-D2 (water supply); 5-G, 5-H, 5-E2 through 5-I2 (biology); and 5-F, 5-A2 and 5-P3 (hazards). This comment

has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-C The commenter notes requirements for a project description under CEQA and asserts that the Draft EIR contains an incomplete and inconsistent project description.

Thank you for your comments. The lead agency concurs with the statement regarding the necessity for a complete and accurate project description. The comment also suggests that the project may include temporary operation of a concrete batch plant on-site and that the project may sell its groundwater rights upon completion of construction. The comment also includes the definition of "project" under CEQA.

The project will not include the construction and operation of a temporary concrete batch plant on-site. The reference to the concrete batch plant was inadvertently left in the Executive Summary of the Draft EIR after the possibility of a concrete batch plant had been considered at one point. However, this option is no longer part of the project description and was inadvertently referenced in the Draft EIR Executive Summary. The lead agency notes that the temporary concrete batch plant not mentioned in the project description or anywhere else in the Draft EIR. Instead, as disclosed and analyzed in the Draft EIR, concrete will be delivered to the project site from a local source approximately 40 miles away. (Draft EIR, p. 4.3-27.) The inadvertent reference in the Executive Summary on p. 1.1 of the Draft EIR will be corrected in the Final EIR as described below:

Amending the zone to A (Exclusive Agriculture and getting a CUP would allow construction and operation of a solar facility and a temporary concrete batch plant on the site.

Commenter also maintains that the project description is inadequate because it fails to analyze the environmental consequences of a potential future sale of existing groundwater rights. The sale of existing groundwater rights is not contemplated as part of this project. The commenter is misconstruing a single sentence in the 2011 Water Supply Assessment included at Appendix C to the Draft EIR to suggest that the project description is inadequate. The 2011 Water Supply Assessment contains a statement that if existing groundwater rights were to be sold, there would be sufficient imported water to serve operational demand. This statement simply indicates that even without the existing groundwater rights, there would be sufficient water to serve the project's very minimal demand during operations. The assessment does not say that the applicant proposes such a sale as part of the project. An EIR must include an analysis of the environmental effects of a future action if: (1) it is a reasonably foreseeable consequence of the project; and (2) the future action will be significant in that it will likely change the scope or nature of the project or its environmental effects. (Laurel Heights Improvement Association of San Francisco, Inc. v. Regents of the University of California (1988) 47 Cal.3d 376, 396.) The sale of groundwater rights is not a foreseeable result of the project and it would be speculative for the County to attempt to analyze potential environmental impacts of a private sale of groundwater rights to an unknown buyer for an unknown purpose. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-D This comment contends that the Draft EIR fails to adequately establish the existing environmental setting against which the Draft EIR is required to analyze the project's potentially significant

impacts. Specifically, the comment alleges that the Draft EIR fails to accurately describe the environmental setting and omits relevant information regarding biological resources, drought and historic pesticide use. The lead agency disagrees with the commenter's assertion that the baseline established within the Draft EIR is insufficient.

Thank you for your comments. Existing conditions at the time the notice of preparation is published "will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." (CEQA Guidelines § 15125(a).) Where no NOP is published, existing conditions are those in effect at the time the environmental analysis was commenced. Here, an NOP was published in 2010. However, due to a variety of factors, the applicant was not ready to proceed in earnest on the project until 2014. Preparation of the Draft EIR was recommenced in 2014. The County has decided that use of current conditions based on updated data (where necessary) is a more appropriate baseline than the environmental setting in 2010 to establish baseline conditions for purposes of this EIR. An EIR must delineate environmental conditions prevailing absent the project, defining a "baseline" against which predicted effects can be described and quantified. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 315.) "The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives." (CEQA Guidelines § 15125(a).)

The Draft EIR properly analyzes the environmental baseline for each category of impacts, as described below:

Aesthetics	Draft EIR, pp. 4.1-2 through 4.1-7	Describes the conditions of the site and surrounding area in 2014. The project site and surrounding properties have not changed in such a way so as to require updated photographs for the purpose of analyzing impacts to aesthetics.
Agriculture and Forest Resources	Draft EIR, pp. 4.2-1 through 4.2-4	Describes the historic and current 2015 conditions of the site and surrounding area, including that the project site does not currently support active agricultural activities.
Air Quality	Draft EIR, pp. 4.3-1 through 21	Describes the most currently available data in 2014 to describe the site and the relevant air basin, including annual air quality monitoring data from 2011, 2012, and 2013.
Biological Resources	Draft EIR, pp. 4.4-1 through 4.4-19; p. 4.4-28	Describes the current setting, including results of surveys conducted in 2014.
Cultural Resources	Draft EIR, pp. 4.5-2 through 4.5-8	Describes the current conditions of the site, based on surveys conducted in 2011. There were no changed circumstances with respect to cultural resources to necessitate updates to the 2011 technical report.

Geology and Soils	Draft EIR, pp. 4.6-1 through 4.6-4,	Describes the current conditions of the site, based upon a geological engineering report prepared in 2010. There were no changed circumstances with respect to geology necessitating updates to the technical report.
Greenhouse Gas Emissions	Draft EIR, pp. 4.7-1 through 4.7-5	Describes the current setting including the most recent state-wide emissions data provided by CARB in 2013.
Hazards and Hazardous Materials	Draft EIR, pp. 4.8-1 through 4.8-4	Describes the current status of the site including the history of agricultural production and pesticide use, supported by a Phase I report prepared for the project site in 2012. The Phase I report was inadvertently omitted from the Draft EIR technical appendices. The Phase I report is included at Appendix A of the Final EIR, along with a Phase II report prepared for the project site in 2015, which is included at Appendix B of the Final EIR.
Hydrology and Water Resources	Draft EIR, pp. 4.9-1 through 4.9-5	Describes the present local and regional setting, based on technical soils and hydrology reports prepared in 2011. There were no changed circumstances necessitating updates to these technical reports.
Land Use	Draft EIR, pp. 4.10-1 through 4.10-3	Describes the existing land uses and current planning and zoning categories for the site and surrounding properties.
Mineral Resources	Draft EIR, pp. 4.11-1 through 4.11-3	Describes the present status of the property with respect to mineral resources based upon the most current data.
Noise	Draft EIR, pp. 4.12-7	Describes the existing setting relevant to noise, based on a 2011 acoustical analysis. There were no changed circumstances with respect to the noise environment to require updates to the technical acoustical analysis.
Public Services	Draft EIR, pp. 4.13-1 through 4.13-3	Describes the current setting based on data obtained from the relevant agencies in 2012.
Traffic and Transportation	Draft EIR, pp. 4.14-1 through 4.14-2	Describes the current setting based upon a traffic analysis prepared in 2014.
Utilities and Service Systems	Draft EIR, pp. 4.15-1 through 4.15-5	Describes the current local and regional setting, including analysis of a water demand memorandum prepared for the project in 2015.

For further information concerning the environmental baseline with respect to biological resources, drought, and pesticides, see Responses to Comments 5-G, 5-H and 5-M2 through 5-S2 (biology), 5-E (drought) and 5-F, 5-A2 and 5-P3 (pesticides). This comment has been noted for

the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-E The commenter states that the Draft EIR's description of the environmental setting is inadequate because it fails to account for California's current severe drought, and especially the impacts of the drought on water supply, air quality and Valley Fever impacts.

Thank you for your comments. The Draft EIR addresses drought in a number of ways. MM 4.1-3 requires drought-tolerant planting along the fence line to mitigate aesthetic impacts. On page 4.4-1, the document states that prolonged drought conditions are common in the Antelope Valley. Page 4.7-4 recognizes that climate change may result in more drought years. Section 4.3 discusses air quality and Valley Fever risks in the Antelope Valley, and accounts for changes due to drought conditions by requiring the project to impose Kern County's recently-enhanced best management practices for mitigating dust and potential Valley Fever impacts. The Draft EIR also includes discussion of how the project's limited use of water, particularly as compared to historic agricultural use, would help to alleviate on-going water shortages in the area. The Draft EIR also recognizes that the Antelope Valley basin is in a state of overdraft, based on an annual safe yield determination that accounts for multi-year droughts. (Draft EIR, Appendix C, p. 14.).

The project includes all feasible measures to mitigate air quality impacts and to control dust, including during drought conditions. Extreme dust events, especially during droughts, have occurred in the Antelope Valley prior to the development of large solar projects in the region. The Draft EIR complies with all CEQA requirements. For further information concerning impacts of the drought on air quality and Valley Fever, see Response to Comments 5-U.

Commenter cites to a March 18, 2015 article entitled "Overpumping of Central Valley groundwater creating a crisis," which discusses the adverse impacts resulting from use of groundwater in the San Joaquin Valley. The project is not in the San Joaquin Valley, but is instead in the Antelope Valley. However, the Antelope Valley is also facing water shortages and drought conditions. The project will require substantially less water that has historically been used at the project site and continues a trend in the Antelope Valley of conversion of water-intensive agricultural land uses to other uses, including renewable energy projects. It will also use less water on average than has been allocated to the project site in the draft judgment in the Antelope Valley Groundwater Basin adjudication, as described in Response to Comment 5-B2(b). (Final EIR **Appendix C**).

The commenter is incorrect that the Draft EIR fails to account for the drought in its analysis of water supply. As described in Response to Comment 5-B2(d), the Draft EIR describes the pending groundwater adjudication litigation and relies upon the annual safe yield of 110,000 acrefeet per year as determined by the Superior Court. The Court's determination of the annual safe yield was determined by evaluating the groundwater basin conditions over a baseline study period that covers precipitation in periods of drought and periods of abundant precipitation over a sufficient period of time that a reliable estimate of average future recharge based on precipitation can be made.

After publication of the Draft EIR, Governor Jerry Brown issued Executive Order B-29-15 on April 1, 2015 requiring the State Water Resources Control Board to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016. The Water Board's actions in furtherance of the executive order will apply primarily to urban and large agricultural water suppliers, which are currently evaluating plans to achieve these reductions on a local level. These restrictions shall consider the relative per capita water usage of each water suppliers' service area, and require that those areas with high per capita use achieve proportionally greater reductions than those with low use. The State Water Board is required to direct urban water suppliers to develop rate structures and other pricing mechanisms, including surcharges, fees, and penalties, to maximize water conservation and achieve reduction goals. This project proposes to use groundwater, which is not regulated by the executive order.

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, composed of Assembly Bill 1739, Senate Bill 1168, and Senate Bill 1319, collectively known as the Sustainable Groundwater Management Act. The Governor's signing message states "a central feature of these bills is the recognition that groundwater management in California is best accomplished locally." The legislation allows local agencies to tailor sustainable groundwater plans to their regional economic and environmental needs. The bills establish a definition of sustainable groundwater management and require local agencies to adopt management plans for the state's most important groundwater basins. The legislation prioritizes groundwater basins that are currently overdrafted and sets a timeline for implementation:

- By 2017, local groundwater management agencies must be identified;
- By 2020, overdrafted groundwater basins must have sustainability plans;
- By 2022, other high and medium priority basins not currently in overdraft must have sustainability plans; and
- By 2040, all high and medium priority groundwater basins must achieve sustainability.

The Antelope Valley will be well ahead of the schedule established by the groundwater legislation. As described in the Draft EIR and in Response to Comment 5-B2(b), the Antelope Valley groundwater basin has been the subject of a groundwater adjudication and it is anticipated that a final judgment in that litigation will be reached shortly. A draft judgment has been stipulated to by most of the parties, which will ensure that the local groundwater basin is managed sustainably. The draft judgment is included at **Appendix C** of this Final EIR.

The project is consistent with general goals to reduce water usage in California, including converting water-intensive agriculture in areas where water is scarce. The project will reduce water demand at the site over historic agricultural water use and proposes to use less water than the property is allocated in a draft judgment in the Antelope Valley groundwater adjudication. The adjudication accounts for the long-term sustainability of the local groundwater basin. Further, after construction, the project will use less water to generate energy than is used in other forms of energy production, including concentrated solar power, geothermal and fossil fuel generated energy.

The lead agency also notes for informational purposes that periods of drought in California have been cyclical. While the lead agency does not purport to predict future weather cycles, drought conditions may cease by the time construction begins. For further information concerning impacts of the drought on water supply, see Responses to Comments 5-B2(d). This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-F This comment claims the Draft EIR is inadequate because it fails to meaningfully investigate or disclose the existence of contaminated soils or other hazards that may exist on-site. Commenter contends that a Phase I Environmental Site Assessment ("Phase I") is typical for a project of this size and with its history of agricultural use. Commenter asserts that failure to conduct a Phase I has resulted in a curtailed, inadequate and misleading description of the project setting and baseline. Commenter further states, based only on historical aerial photographs showing past agricultural activities back to 1963, that organochlorine pesticides such as DDT, DDE and chlordane may have been applied to the project site before they were banned in 1972 and that they may persist in soil at the site. Commenter asserts that the Draft EIR must be revised to include the results of a Phase I and to assess if past uses have resulted in soil contamination that may pose a risk to construction workers and nearby residents.

Thank you for your comments. The Draft EIR discloses the past agricultural activities at the site and at page 4.8-4 discloses that it is likely that pesticides and herbicides have been applied to the crops and soils. The Draft EIR further discloses that older pesticides can linger in the soil for many years. Based on studies of the project site, the Draft EIR concludes that, while pesticides, herbicides and associated metals may be present in near-surface soils at residual concentrations, there is no evidence of pesticide misuse and no recognized environmental conditions with respect to pesticides. This conclusion was based upon the results of a Phase I prepared by URS prepared on May 24, 2012. The findings and conclusions of the Phase I are incorporated into the Draft EIR on page 4.8-4, as described above. The Phase I is attached to the Final EIR as **Appendix A**.

The Phase I prepared for the project and the Draft EIR find no evidence of pesticide misuse on the project site. The Draft EIR includes Mitigation Measure 4.8-1, which requires that a Hazardous Materials Business Plan be prepared. The plan would, among other things, describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction, including contaminated soil. Accordingly, the Draft EIR includes the results of a Phase I, imposes appropriate mitigation, and assesses properly the risks posed to construction workers and nearby residents by potential soil contamination from past agricultural activities.

The lead agency does not agree with the commenter's suggestion that construction work on land previously used for agricultural production nonetheless presents a special risk to workers or neighbors due to residual pesticide contamination. According to the McIntosh and Associates 2011 Soil Characterization Study performed for the project site, Kern County Agriculture Permit records, and information provided by the growers, no agricultural crops have been grown on subject property since 2011. Therefore, possible pesticide residue from former agricultural use has been subject to degradation for over four years. Pesticides degrade by microbial activity, chemical activity, or sunlight; all three processes may participate in the breakdown of pesticides. The rate of degradation depends on pesticide chemistry, as well as on environmental conditions. Distribution between foliage and soil, as well as temperature, soil and water pH, microbial activity, and other soil characteristics may affect pesticide persistence. The complete breakdown of pesticides and other organic substances is called mineralization, a process resulting in carbon dioxide, water, and minerals. Pesticides usually form many break-down products, which further break down to other products; at some point in a pesticide's break down the products are no longer of concern, as they are not biologically active (toxic). Given the relatively short half-life of most modern pesticides, after four or more years of degradation, residual pesticide levels are likely to be very low and to therefore impose only minimal risk to construction workers.

Although not recommended by the Phase I, in an abundance of caution, applicant's consultant URS sampled soils in a horse barn stall where debris had been discarded, including empty and partially filled agricultural chemical containers as part of the Phase II Environmental Site Assessment for the project ("Phase II"). This testing concluded, with one exception, that no organochlorine pesticides were present at concentrations in exceedance of applicable thresholds. A single sample detected toxaphene at a concentration of 0.20 J mg/kg in soil sample FS-WS-B1-0.5, exceeding the Industrial ESL (0.00042 mg/kg) but beneath the Industrial CHHSL (1.8 mg/kg) and Industrial RSL (1.6 mg/kg). In this small area, the applicant shall excavate and remove surface soils to a depth of approximately 0.5 feet. Given only this single sample exceeding only one of three thresholds, and given that impacted soil will be removed from the project site in accordance with all applicable laws, the Draft EIR correctly determined that potential impacts due to pesticide exposure are less than significant.

The commenter suggests that DDT, DDE, or chlordane may be present, without providing any substantial evidence to support this speculation. Commenter recommends soil sampling for the presence of pesticides, and such testing has now occurred in the horse barn stall. Soil sample testing did not detect any of these organochlorine pesticides in excess of any regulatory threshold. It is therefore highly unlikely that DDT, DDE, or chlordane would be found outside the horse barn where the agricultural chemicals were stored. Neither the Phase I nor the Phase II for the site has identified any indication of improper use of such pesticides. Even if DDT, DDE, or chlordane were used in small concentrations, these pesticides would not be likely to still be present at a concentration that would create a worker exposure issue, particularly given the number of years since DDT was banned. The lead agency concludes that there exists substantial evidence to conclude that DDT, DDE, and chlordane are not present in levels exceeding the applicable thresholds, and that commenter has failed to provide any substantial evidence to rebut this conclusion.

While the Phase I did not identify any recognized environmental condition with respect to pesticides, it did identify a condition with respect to potential hydrocarbon soil staining. To evaluate this condition, the Phase I recommended the performance of a Phase II to determine whether fuel or hazardous materials were released in connection with a potential former underground storage tank and the historical use of the project. (Phase I, Final EIR Appendix A, p. 5-1, Section 5.3, first paragraph). To conduct the Phase II, URS sampled soil for the presence of petroleum hydrocarbons. The Phase II report is attached to this Final EIR at Appendix B. As part of the Phase II, URS selected 22 soil samples for laboratory analysis. (Phase II, Final EIR **Appendix B**, ES-1.) Based on the results of the Phase II testing, petroleum hydrocarbon impacts to soils at concentrations exceeding California Regional Water Quality Control Board San Francisco Bay Region 2 Industrial Environmental Screening Levels were identified in surface staining at eight locations on the site. At one location, benzo(a)pyrene levels exceeding the applicable thresholds were identified. In response to these issues, the applicant will conduct shallow excavation and removal of impacted soil followed by off-site disposal of the material to a licensed waste facility, in accordance with all applicable California and federal laws. This removal will ensure that workers and nearby residents are not subjected to any unsafe exposure.

To effectuate the removal of all soils exceeding applicable thresholds, the lead agency adopts the following new mitigation measure:

MM 4.8-4: Prior to issuance of a grading permit, shallow excavation and removal of soils impacted with chemicals of potential concern shall be conducted, as identified by the project Phase II Report, followed by off-site disposal of the material to a licensed waste facility, in accordance with all applicable California and federal laws. Soil excavation and removal depths shall be consistent with those provided in the Phase II Report.

With respect to the characterization of the Phase I results in the Draft EIR, the lead agency clarifies the following sentence on page 4.8-4:

"While pesticides, herbicides, and associated metals may be present in the near-surface soils at residual concentrations, studies of the project site have found no evidence of pesticide misuse and no recognized environmental conditions with respect to pesticides or herbicides."

Further, when considering whether a chemical may result in a health concern, a receptor, such as a site worker, neighbor, or resident, must first be subjected to an unsafe exposure over a particular duration. Exposure pathways primarily include ingestion, inhalation and dermal contact. The project design and mitigation measures include an array of requirements and conditions to ensure the safety of construction workers and nearby residents, including dust control, erosion and storm water control, personal protective equipment, and a hazardous materials business plan, as described below:

Dust Control: Minimal grading would be performed for the project, as the photovoltaic pedestals allow for installation on uneven ground, and overall construction grading will be limited to the minimum area necessary for construction and operation of the project. Typical land preparation and grading would be limited to the preparation of the main access driveway and construction of the foundations of the few site buildings. Mitigation Measures 4.3-1 through 4.3-5 require that all standard dust control and dust-related air pollution measures be employed during construction activities, particularly site grading and land preparation. These measures include the application of water and dust suppressants to bare soil to reduce dust generated by vehicles or grading, a requirement to cease ground disturbance work during high winds, and a requirement to re-seed bare soil with a native plant blend. Mitigation Measure 4.3-6 imposes additional requirements designed to mitigate Valley Fever impacts that would also minimize other dust-related impacts. In the unlikely event that residual pesticides remain in shallow soil at the site, exposure pathways to on-or off-site sources, including construction workers or down-wind residents, would be primarily incomplete via the effective application of project dust control measures.

Erosion and Storm Water Control: To reduce the off-site migration of shallow site soil via erosion, Mitigation Measure 4.6-1 requires that final plans shall include best management practices ("BMPs") to limit on-site and off-site erosion and a plan to treat disturbed areas during construction and reduce dust. These plans would be submitted to the Kern County Planning and Community Development Department for review and approval. To reduce the migration of shallow site soil via storm events, Mitigation Measure 4.9-1 requires the submission of a Stormwater Pollution Prevention Plan (SWPPP) to the County that specifies BMPs to prevent soil from moving off-site or into receiving waters. SWPPPs typically include protections such as temporarily blocking storm drain inlets and stabilizing disturbed areas. Such measures would further reduce exposure pathways of residual pesticides and herbicides, to the extent they exist in the soil, to on-or off-site receptors.

Personal Protective Equipment: As is noted in Section 4.8 and Mitigation Measure 4.3-6 of the Draft EIR, the project would operate in accordance with federal and California Occupational Safety and Health Administration (OSHA and Cal-OSHA) requirements for worker notification, the use of personal protective equipment (PPE), and employee training. Further, the project would also be required to follow the OSHA requirements for construction and operation of the Project, which will include a Project-specific health and safety program to protect project workers. (Draft EIR, p. 3-26.)

Minimal Soil Export: Minimal export of soil would be necessary for the project and thus only a small quantity of soil potentially containing residual pesticides would be transported from the site, in accordance with all applicable laws and regulations. As the project is not designed to generate waste soil, no additional soil containing residual pesticides would not be created. Mitigation Measure 4.8-1 requires that a Hazardous Materials Business Plan be prepared. The plan would, among other things, describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction, including contaminated soil.

The lead agency properly determined that project impacts related to hazard and hazardous materials have been fully disclosed, adequately analyzed and appropriately mitigated to the extent feasible under CEQA. No further analysis or revisions are required.

The EIR adequately analyzes and mitigates for potential hazards, including those potentially caused by pesticides. Accordingly, the lead agency rejects commenter's claim that the EIR fails to provide adequate baseline information. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-G This commenter asserts that the Draft EIR inaccurately describes the environmental setting for Swainson's hawk, burrowing owl and other special-status bird species. Commenter disagrees with the Draft EIR's assessment that the project site provides low-quality foraging habitat for these bird species because they were observed during biological surveys. With respect to Swainson's hawk, commenter claims that the vegetation types on-site are preferred and that the Draft EIR fails to disclose the particular vulnerability of the Antelope Valley population. Commenter claims also that suitable habitat was found on the site for burrowing owl, Cooper's hawk, ferruginous hawk, loggerhead shrike, northern harrier, prairie falcon and yellow-headed blackbird.

Thank you for your comments. The Draft EIR correctly describes the environmental setting with respect to biological resources, including special status bird species. The results of surveys conducted on the property as recently as 2014 were disclosed and discussed. Table 4.4-1, pp. 4.4-5 through 4.4-6 of the Draft EIR, discloses that individual Swainson's hawk, burrowing owl, Cooper's hawk, ferruginous hawk, loggerhead shrike, northern harrier, prairie falcon, and yellow-headed blackbird were all observed on the project site during surveys. However, with the exception of Swainson's hawk, no nests were observed for these species. The Draft EIR at pp. 4.4-10 through 4.4-16 describes each of these species, their habitat preferences, and the results of the biological surveys conducted on the property. Detailed descriptions of the focused field surveys for Swainson's hawk and burrowing owl are further described in the Draft EIR at pp. 4.4-31 through 4.4-32. The Draft EIR at pp. 4.4-35 through 4.4-37 analyzes the suitability of the site and project impacts for each species. To the extent there are species that are foraging on-site, these activities are fully disclosed in the Draft EIR and the technical biological reports and

surveys included in the Draft EIR appendices. The Draft EIR accordingly provides detailed information about how exactly the various species use the project site. The Biological Resources Technical Report (Ironwood, 2011) prepared for the project was inadvertently omitted from the Draft EIR Appendices, and is included at **Appendix D** to this Final EIR.

<u>Swainson's hawk</u>. As described in the Draft EIR, Swainson's hawk breed in grasslands with scattered trees, juniper-sage flats, riparian areas, and agricultural areas. They require adjacent suitable foraging habitat such as grasslands, alfalfa or grain fields supporting rodent populations. The native desert landscape of the Antelope Valley supported a very sparse population of Swainson's hawk due to limited nesting opportunities and prey. With the introduction of irrigated agriculture to the Antelope Valley over a hundred years ago, Swainson's hawk were able to exploit the new habitat opportunities. The agricultural fields, particularly the primary crop during the middle part of the 20th century, alfalfa, provided foraging habitat and non-native trees planted along the perimeter of agricultural fields provided nesting opportunities. As a result of these fundamental man-made changes to the ecology of the Antelope Valley, the local population of Swainson's hawk increased, though it remained small and isolated from other populations, and dependent on the irrigated alfalfa fields. (Estep 2015, Final EIR **Appendix E**) The Draft EIR describes the threatened status of Swainson's hawk, and its analysis of impacts to Swainson's hawk was supported by focused protocol surveys conducted over three years. The vulnerability of the species is properly described and accounted for in this Final EIR.

Agriculture production in the Antelope Valley is almost entirely dependent on groundwater. With the increasing scarcity of water and subsidence of land due to overdraft of the groundwater basin, agricultural activities in the Antelope Valley have declined and will continue to decline regardless of the development of these sites for solar energy production. This decline is not new and long predates solar energy development. (See, for example, "Farmland Fading From Scene in Antelope Valley", Los Angeles Times, July 6, 1990.) In addition, because of global warming, the Pacific subtropical high is becoming stronger resulting in fewer and less intense winter storms at this latitude. The summers are becoming increasingly hot and the "dry" season increasingly longer. The pending Antelope Valley groundwater adjudication (which has been going on since approximately 2000) will impose permanent limitations on groundwater use, which will is anticipated to bring about a permanent shift away from large-scale irrigated agriculture in the Antelope Valley.

The project site is part of this long, historic decline, and has been fallow for five years. As described in the water demand memorandum for the project, historic water usage data for the project site from 2004 and prior years show that 2,283 acre-feet per year was required to support agriculture on the site. The water supply assessment for the project estimates, based on crop requirements for carrot, barley and alfalfa, that approximately 1,400 acre-feet per year would be required to support cultivation of those crops on the site. As described in Response to Comment 5-B2(b), a draft judgment in the groundwater adjudication litigation has been stipulated to by the vast majority of the litigants. The draft judgment allocates 923 acre-feet per year to the project site. This allocation is more than is needed for the construction and operation of the project, but is far less than what was required to support agriculture on the site historically. Accordingly, due to groundwater restrictions that are expected to be permanent as part of the groundwater litigation, it is unlikely that the project site can support water-intensive agricultural uses necessary to provide

high-quality foraging habitat for Swainson's hawk, regardless of whether this project is approved. (Estep 2015, Final EIR Appendix E).

As the native desert landscape reclaims agricultural fields fallowed by the water shortage, the Antelope Valley will provide fewer nesting and foraging opportunities for Swainson's hawk. Many of the fields in the Antelope Valley, like the project site, have been fallow for several years, which has decreased the quality of the foraging habitat. Accordingly, the Draft EIR appropriately finds that the project site provides low-quality foraging habitat for Swainson's hawk despite the observation of Swainson's hawk individuals and nesting sites. The Draft EIR fully discloses the biological value of the project property and adequately describes the environmental setting with respect to Swainson's hawk.

The applicant requested that Dr. Jim Estep prepare an evaluation confirming the analysis and findings of the Draft EIR with respect to Swainson's hawk and supporting the inclusion of compensatory mitigation as described in Response to Comment 5-E2. Dr. Estep's analysis has been independently reviewed by the lead agency and is included at **Appendix E** to this Final EIR. In addition, Ironwood Consulting prepared a similar analysis with respect to Swainson's hawk, which is included at **Appendix F** to this Final EIR.

<u>Burrowing owl</u>. As stated in the Draft EIR, burrowing owls prefer perennial grasslands, deserts, and shrub lands characterized by low-ground vegetation. In the west, their preferred habitats are deserts, plains and open grasslands, and in many cases, urban and agricultural landscapes. The project property consists of fallowed agricultural land. The Draft EIR discloses the biological value of the site as foraging habitat for the burrowing owl, including the observed presence of burrowing owl during biological surveys, and adequately describes the environmental setting with respect to burrowing owl.

<u>Cooper's hawk</u>. As stated in the Draft EIR, Cooper's hawk prefer open woodlands and forests, though desert regions with areas of dense vegetation can also serve as habitat. The project site provides only low-quality foraging habitat because high-quality forging habitat for Cooper's hawk is located near water sources, including riparian deciduous or other forest habitat, and the project site does not support such habitat. The Draft EIR discloses the biological value of the site and adequately describes the environmental setting with respect to Cooper's hawk.

<u>Ferruginous hawk.</u> As stated in the Draft EIR, ferruginous hawk over-winters in the southern desert region of the United States, and are typically associated with grassland and agricultural areas. The ferruginous hawk typically uses the majority of California as a non-breeding wintering range. With such a large range, the project site is not an important foraging habitat resource for the ferruginous hawk. The Draft EIR discloses the biological value of the site and adequately describes the environmental setting with respect to ferruginous hawk.

Loggerhead shrike. As stated in the Draft EIR, loggerhead shrike is a wide-ranging species that occupies open habitats including grasslands, scrub, and open woodland communities. According to the CDFW species account from 1980 to 2004, studies have shown relatively stable numbers of loggerhead shrike, especially in the desert region. With such a wide range and stable numbers in deserts, the project site does not provide important foraging habitat for the loggerhead shrike. The Draft EIR discloses the biological value of the site and adequately describes the environmental setting with respect to the loggerhead shrike.

<u>Northern harrier</u>. As stated in the Draft EIR, northern harrier occur in a wide range of habitats throughout North America. In southern California, northern harriers typically nest and forage in open habitats that provide adequate vegetative cover, suitable prey, and scattered perches. Northern harriers in this area are typically associated with active agriculture fields, riparian habitat and undisturbed desert scrub. The fallow lands on the site are not considered ideal forging habitat for the species. The Draft EIR discloses the biological value of the site and adequately describes the environmental setting with respect to the northern harrier.

<u>Prairie falcon</u>. As stated in the Draft EIR, prairie falcon are found in all vegetation types throughout the desert and their overall distribution appears to be stable. Prairie falcon are usually associated with desert habitats and active agriculture and their nests sites are usually associated with cliff ledges or high dirt banks. The fallow lands on the site do not fit this criteria and are not considered ideal foraging habitat for the prairie falcon. The Draft EIR discloses the biological value of the site and adequately describes the environmental setting with respect to the prairie falcon.

<u>Yellow-headed blackbird</u>. As stated in the Draft EIR, the yellow-headed blackbird occurs primarily as a migrant and summer resident of California, and breeds almost exclusively in marshes with tall emergent vegetation, generally in open areas and edges over relatively deep water. The fallow lands on the site do not fit this criteria and do not provide suitable nesting habitat for the species. The project site is not suitable foraging habitat because this species typically forages near open water sources, agricultural fields near such water sources, and riparian vegetation. Such habitat is not present on the project site. The Draft EIR discloses the biological value of the site and adequately describes the environmental setting with respect to the yellowheaded blackbird.

Thank you for your comments. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration

5-H This comment states that the Draft EIR fails to adequately disclose or analyze the likely occurrence of the following eleven special status species with geographic ranges overlapping with the project site: pallid bat; western mastiff bat; long-eared myotis; fringed myotis; long-legged myotis; Yuma myotis; northern harrier; sharp-shinned hawk; merlin; peregrine falcon; and barn owl. Commenter asserts further that findings of low likelihood for occurrence are unsupported because directed surveys and other specified searches were not performed for following five special-status species: Townsend's western big-eared bat, desert kit fox, Tehachapi pocket mouse, silvery legless lizard, and coast horned lizard.

Thank you for your comments. The lead agency disagrees that the Draft EIR failed to properly assess the environmental setting with respect or likely biological resources. As described in the Draft EIR, prior to conducting site surveys, a literature search was performed, which included searches of the California Natural Diversity Database and the California Native Plant Society's Electronic Inventory to determine special-status species likely to occur within the project vicinity. Biological survey information from nearby proposed renewable energy projects was also considered. Using this information, followed by on-site observations in the field, the Draft EIR presented a comprehensive list of all special-status species that were observed on-site or within the vicinity as well as the relative potential of various other species to occur within the project area and vicinity even if they were not observed. Multiple on-site surveys were performed to

confirm the absence of additional special-status species. The fact that the project site may overlap with the geographic range of certain species does not necessarily mean that these species exist or are even likely to exist on the project site. The analysis in the Draft EIR followed standard, widely-accepted protocols for identifying those species likely to be present on-site based not just on geographic ranges but also on site-specific conditions such as the availability of water, topography, elevation, vegetation and proximity to other development.

The commenter also stated that the designation "low likelihood of occurrence" for some species is not sufficiently supported by directed surveys. Directed surveys are not always necessary to reach an educated judgment as to whether a particular species is likely to be present. For the species determined likely to be absent, the project site was considered to provide marginal habitat due to the absence of water, cover, and forage opportunities needed to support these species. Beyond the observation that the site may be within their range, commenter provides no evidence to support a conclusion that these species are in fact be present.

With respect to the specific species with overlapping ranges, they are not likely to be on site for the following reasons:

<u>Pallid bat</u>: Pallid bats are known to roost in caves, crevices mines and occasionally hallow trees. They fly only a few miles from the roost, according to CDFW species account information. Thus, the site does not support habitat known to be associated with this species. It is possible that site offers some foraging opportunities, but there are not any known roosts within a few miles of the project. Accordingly, it is improbable that this species utilizes the site.

<u>Western mastiff bat</u>: According to CDFW species account information, suitable habitat for western mastiff bats consists of extensive open areas with abundant roost locations provided by crevices in rock outcroppings and high buildings. This site is not located near outcroppings or tall structures and therefore does not provide suitable habitat for the western mastiff bat.

<u>Long-eared myotis</u>: Although long-eared myotis have been found in many different types of habitat, caves are used primarily as night roosts. There are no caves located near the project site. Therefore, the long-eared myotis is not expected to be found on the project site.

<u>Fringed myotis</u>: The fringed myotis roosts in caves, mines, buildings and crevices. Optimal habitats include pinyon-juniper, valley foothill hardwood, and hardwood-conifer in elevations between 4,000 and 7,000 ft asl. Fringed myotis are usually associated with open water sources for part of their life cycle. The project site does not provide any open water sources or the types of vegetation or structures favored by the fringed myotis. Accordingly, the fringed myotis is not expected to be found on the project site.

<u>Long-legged myotis</u>: The long-legged myotis is common in California, except for the Central Valley, the Colorado and Mojave deserts (except mountain ranges), and from eastern Lassen and Modoc cos. As a tree-dwelling species, long-legged mytois tend to live in rugged habitat ranges in or near coniferous forest and woodlands. Long-legged myotis are uncommon in desert and grassland habitats and are usually associated with open water sources within these areas. The project site does not offer the habitat typically associated with the species and the species is not expected to be found on the project site.

<u>Yuma myotis:</u> The Yuma myotis is common and widespread in California, but uncommon in the Mojave and Colorado Desert regions, except for the mountain ranges bordering the Colorado

River Valley. Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water, which it uses as foraging sites and sources of drinking water. The Yuma myotis roosts in buildings, mines, caves or crevices. The project site does not offer the habitat typically associated with the species and the Yuma myotis is not expected to be found on the project site.

Furthermore, the California Wildlife Habitat Relationships System developed by CDFW through the California Interagency Wildlife Task Group states that the above-listed bats, although species of concern, remain common throughout California within the habitats associated with the species. There are no roosts or maternity colonies on the site. Due to the wide dispersion of these bat species and the varying foraging habitat types that could be utilized, removal of this site as potential habitat for these species would not create a significant impact to any of the bat species listed. As per the EIR, night-time work is limited and with the implementation of Mitigation Measure 4.4-2 through 4.4-4 and 4.4-12, direct impacts to individual bats would be minimal.

<u>Northern harrier</u>: As described in Response to Comment 5-G, the fallow lands on the site are not considered ideal foraging habitat for the northern harrier. The Draft EIR discloses that the northern harrier was observed on-site, and the analysis accurately describes the habitat value of the site and the environmental setting with respect to the northern harrier.

<u>Sharp-shinned hawk</u>: Sharp-shinned hawks are primarily found in higher elevations in drier regions of the United States near deciduous and montane evergreen forests. There is no breeding habitat for the species on the project site. Wintering sharp-shinned hawk could migrate through the area and utilize the area as foraging habitat. However, these fallows lands are not usually associated as sustainable foraging habitat for the species. Accordingly, sharp-shinned hawk are not expected to be present on-site.

<u>Merlin</u>: Merlin are a small falcon that migrate and winter in California, usually in areas with active agricultural and in open fields. Although the site may constitute foraging habitat for the species, merlin are not expected to be present on-site because they favor dense trees close to sources of water, such as wetlands and coastline. These resources are not available on the project site. It should be noted that according to the North American Breeding Bird Survey, this species, from 1966 to 2010, has increased or stabilized in most areas where it exists.

<u>Peregrine falcon</u>: In desert regions, Peregrine falcon are usually associated with riparian or desert wash areas. The project site does not provide habitat usually associated with peregrine falcons. Accordingly, peregrine falcon is not expected to be found on-site.

<u>Barn owl</u>: The barn owl is a common year-long species in California that is often associated with human disturbance throughout its range. The species, although usually associated with grasslands, chaparral, riparian and other wetlands, is commonly known around areas of active agricultural and other areas have open water sources, such as golf courses. It feeds primarily on rodents, reptiles, amphibians and small birds. Only one barn owl has been detected on site. Because barn owls are so pervasive throughout California and it is unlikely that a significant number of owls would be affected by the project, any potential impacts would not significantly impact the species.

Focused surveys are not warranted for the following species for the reasons provided:

<u>Townsend's western big-eared bat</u>: The site was not surveyed for potential Townsend's western big-eared bat habitat because, unlike many species which take refuge in crevices, this bat only roosts in the open, hanging from walls and ceilings, where it is relatively easily detected and particularly vulnerable to disturbance. Thus, abandoned structures on the site could have housed this particular bat; however, no such evidence was found.

Use of acoustic detection methods for bats is not warranted for this project because of the low probability of use of the site by any bat species and the lack of direct impacts from project construction and operation on bat species. Acoustic detection would serve little to no purpose for the project because there is no direct impact to a roost/maternity colony and the site is not located near rock crevices or near habitat that would provide habitat for the species. While bats may use the area for foraging, the project would avoid significant impacts to the species by limiting night-time work.

<u>Desert kit fox</u>: There is no specific survey protocol for desert kit fox. The general biological surveys and focused burrowing owl surveys include identifying all special status species on the project site and identifying burrows. The multiple surveys performed were adequate to observe evidence of desert kit fox that may be using or have been present on site for extended periods of time.

<u>Tehachapi pocket mouse</u>: Populations of Tehachapi pocket mouse have not been found within Kern County since 1998. Historical populations within the Kern and Los Angeles counties have been associated with the foothills of the Tehachapi Mountain range within Joshua tree and pinyo-juniper woodland. At lower elevations, the species is reported in chaparral and sage scrub and rangelands dominated by non-native grasses. Because the project site is not in the foothills of the Tehachapi Mountains, the site does not support habitat for the Tehachapi pocket mouse. Accordingly, searches for their burrows and trail drags followed by live trapping was not warranted.

<u>Silvery legless lizard</u>: This species is usually found near sources of water in the desert. The closest known habitat to the project site is the Tehachapi Mountains, west of this area. Silvery legless lizard is usually found under leaf litter and in soft soils. It needs moist substrates. While there is at least some potential for the vegetative layers and soft soils present in desert scrub habitats on portions of the site and in the gen-ties lines to provide habitat for the species, focused surveys were not required because Mitigation Measure 4.4-5 is adequate to ensure that the project results in less than significant impacts to the species.

<u>Coast horned lizard</u>: This species occurs in valley-foothill hardwood, conifer, mountain, and riparian habitats, and occasionally in grasslands. It occurs historically in the Sierra Nevada foothills of Kern County. This site does not support habitat associated with these species. While wind blow sand and washes within Kern County make it possible that coast horned lizard could use sandy soils on-site and within the gen-tie, focused surveys were not required because Mitigation Measure 4.4-5 is adequate to ensure less than significant impacts to the species.

The lead agency concludes that all impacts to biological resources have been properly analyzed and adequately mitigated. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration. 5-I This comment generally asserts that the lead agency lacks substantial evidence to support its significance findings and fails to incorporate all feasible mitigation. The lead agency believes it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (Pub. Res. Code § 21081; CEQA Guidelines § 15092(b)(2)(A)-(B).)

Thank you for your comments. For further information concerning substantial evidence supporting the Draft EIR's conclusions with respect to air, agriculture, biology, water supply, and hazards and hazardous materials, see Responses of Comments 5-M through 5-S and 5-Q4 (air quality); 5-G, 5-H and 5-E2 through 5-I2, 5-K2 through 5-K3 (biology); 5-B2(a) though 5-B2(f), 5-C2 and 5-D2 (water supply); and 5-F, 5-A2 and 5-P3 (hazards). This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-J Commenter asserts that the Draft EIR's agricultural resource analysis contradicts the County's threshold of significance, relies upon an incorrect and misleading baseline, violates the County's own policies for evaluating conversion of agricultural land to solar use, and arbitrarily ignore the expert opinion of the California Department of Conservation (DOC). The Draft EIR acknowledges that the 2012 maps of Important Farmland designate 119.5 acres of Prime Farmland, 198.1 acres of Farmland of Statewide Importance, and 113.2 acres of Unique Farmland.

Thank you for your comments. Commenter is incorrect that the County's thresholds of significance require a determination of significance based solely on past state map designations. While the portions of the project site were designated as Prime, Unique and Farmland of Statewide Importance on the 2012 map of Important Farmland, as discussed on page 4.2-11 through 4.2-12 of the Draft EIR, the land would not currently meet the criteria for these categories in forthcoming maps of Important Farmland.

The County also relied on its own guidance document, Pathway for Processing Conversion of Agricultural Land to Solar PV Use, to conclude the property does not constitute productive farmland. The Kern County Board of Supervisors approved the Pathway for Processing in 2012. The applicant has made the required showing that the property is no longer productive farmland by demonstrating it has not been farmed more than five of the previous ten years and does not appear to have long-term viability for farmland use due to scarcity and increasing cost of water to support water-intensive agriculture. The County is permitted to adopt its own CEQA standards and thresholds for what constitutes impacts to farmland. (*Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068.) Therefore, despite the 2012 designations, the lead agency properly invoked the Pathway for Processing to conclude the project would have a less than significant impact to loss of farmland.

Commenter suggests without evidence that agricultural activity ceased on the project site only because this application was filed. The County's Pathway for Processing requires an analysis of a site's long-term viability for farmland use, including consideration of recent use of the property, water availability, soils, and surrounding land uses. The property has not been actively farmed in the past five years due to scarcity and increasing cost of water to support agriculture. As described in Response to Comments 5-G and 5-B2(b), the draft judgment in the groundwater adjudication litigation allocates to the project site far less water than was needed historically to

support agricultural activities. Accordingly, due to groundwater restrictions that are expected to be permanent as part of the groundwater litigation, it is unlikely that the project site can support water-intensive agricultural uses.

The recent cessation of agriculture at the site, combined with the reduced water availability to support agriculture, provides substantial evidence to support the lead agency's finding that the property is no longer viable for agricultural purposes. The inability to farm the property since 2010 is not the result of an arbitrary choice, but instead resulted from a reasoned analysis of the availability and cost of water necessary to support an agricultural operation versus the revenue that would be obtained by farming.

Commenter asserts that the baseline analysis for agricultural resources contradicts that baseline for analysis for water supply. As described in Response to Comment 5-D, the lead agency decided that the environmental setting in 2014 is a more appropriate date than the environmental setting in when the NOP was released in 2010 to establish baseline conditions for purposes of this EIR. In addition, as described in Responses to Comment 5-B2(d), the Draft EIR does not utilize a baseline from 2005 to 2009 and does not rely upon a baseline water use of 1,400 acre-feet per year for the water supply analysis, as Commenter claims, but instead accounts for current drought conditions in its reliance on the Superior Court's determination of the safe yield of the groundwater basin. The safe yield determination required a comprehensive analysis of the long-term sustainability of the basin accounting for multi-dry and abundant wet years.

The County appropriately considered the long-term historic agricultural use (ten years), consistent with its Pathway for Processing Conversion of Agricultural Land policy, to support its analysis of impacts to agricultural resources. Commenter is incorrect that this consideration is inconsistent with the analysis of water supply in the Draft EIR. As described above and in Response to Comments 5-B2(d), the water supply analysis accounted for the long-term pumping and recharge history of the groundwater basin in its consideration of the safe yield determined by the Superior Court in the groundwater adjudication litigation.

Commenter assumes that the potential ability to extract water in sufficient amounts to support agricultural use is the sole driver for a farmer in determining whether to farm their land or to let it lay fallow. Water scarcity and cost to extract water is weighed against potential revenues from farming. Had farming been a profitable endeavor in the last decade, the land would have been farmed.

The Draft EIR appropriately considers that the proposed solar use has a limited life that does not foreclose the possibility of future use of the land for agricultural purposes. Technological innovations may occur within the next 25 years that would once again make the property appropriate for agricultural use. Such a possibility is not inconsistent with a finding that the property is not currently considered appropriate for agricultural use.

b i buinnary of bightheante	5-1: Summary of Significant and Onavoluable Impacts of the Proposed Project					
Resources	Project Impacts	Cumulative Impacts				
Agricultural Resources	The project would convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance as shown on <u>2012</u> maps pursuant to the Farmland	The project would have significant and unavoidable impacts related to agriculture. after implementation of mitigation. Even with implementation of Mitigation				
	Mapping and Monitoring Program of the California Resources Agency, to non- agricultural land uses. However, the land would not meet criteria for designation today and, consistent with the County's Pathway for Processing Conversion of Agricultural Land, these parcels would not contribute to the agricultural economy or be deemed important farmland to the state. Therefore, the project would result in less than significant	Measures MM 4.2-1-and MM 4.2-2, cumulative impacts from the loss of Prime, Unique, or Important Farmland <u>in the Western</u> <u>Antelope Valley resulting from</u> the proposed project, when combined with other proposed projects in the area, would be considered significant and unavoidable.				
	impacts. Even after implementation of Mitigation Measures MM 4.2-1 and 4.2- 2, impacts are considered significant and unavoidable.					

Table 5-1: Summary of Significant and Unavoidable Impacts of the Proposed Project

The lead agency did not ignore the DOC or its April 7, 2010 letter submitted in response to the NOP, which was inadvertently omitted from the Draft EIR and is included as **Appendix G** to the Final EIR. The Draft EIR accounts for the designations on the 2012 maps and then appropriately analyzes its Pathway for Processing policy and the decline in agricultural use of the site. The County is permitted to adopt its own CEQA standards and thresholds for what constitutes impacts to farmland. (*Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1068.) A disagreement among experts does not render an EIR inadequate as long as lead agency's reasoning is supported by substantial evidence. (*North Coast Rivers Alliance v. Marin Mun. Water Dist.* (2013) 216 Cal.App.4th 614, 642 (failure to follow agency recommendations on water sampling did not render EIR inadequate; that argument is inconsistent with substantial evidence standard of review); *California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603; 626 (the fact that other agencies disagreed with lead agency finding that

biology impacts were mitigated does not show that there was insufficient evidence in the record to support the lead agency finding)). Therefore, despite the 2012 designations, the lead agency properly invoked the Pathway for Processing to conclude the project would have a less than significant impact to loss of farmland. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-K Commenter asserts that the Draft EIR finds that the conversion of the Project site from agricultural land to non-agricultural uses would have a significant and unavoidable cumulative impact on the loss of agricultural land, but fails to impose feasible mitigation including compensatory land mitigation.

Thank you for your comments. As described in Response to Comment 5-J, the Draft EIR found, based on substantial evidence, that the project will result in less than significant impacts to agriculture and forest resources because the project site has not been actively farmed for five of the last ten years and the regional water supply to support agriculture is scarce. Because the project will not convert important farmland under current criteria and consistent with the County's Pathway for Processing, the loss of non-farmable land from the project is not considered a significant impact and no mitigation is required. The County has imposed and will continue to require mitigation for the cumulative loss of agricultural land in the County where a project's contribution to that cumulative loss is cumulatively considerable. Here, where there is no project-specific impact, it would not be appropriate to impose mitigation for the cumulative loss caused by other projects.

This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-L The comment states that the analysis fails to disclose, analyze, and mitigate significant air quality impacts and briefly summarizes the air quality analysis in the Draft EIR.

Thank you for your comments. Draft EIR Section 4.3, Air Quality, analyzes the project-related air quality impacts associated with construction and operations of the project, in accordance with Kern County Planning Department Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports (Guidelines) and the Eastern Kern Air Pollution Control District (EKAPCD) CEQA Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines). The comment does not raise a specific issue related to the analysis. Refer to Responses to Comments 4-M through 5-S for further information regarding the substantial evidence supporting the air quality analysis in the Draft EIR. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-M The comment states that construction emissions were modeled using an outdated computer model, which, combined with other errors in the air quality analysis, results in underestimated emissions and render the Draft EIR unreliable and unsupported by substantial evidence.

Thank you for your comments. The air quality analysis for the project commenced when the NOP was released in 2010 and it has been revised numerous times as the project has undergone refinements and modifications. The primary work effort associated with the construction emissions modeling for the proposed construction activities were modeled with CalEEMod in

2012 using the 2011 version of the model (CalEEMod Version 2011.1.1), prior to the release of the latest CalEEMod version (CalEEMod Version 2013.2.2).

The major differences between the 2013 version of CalEEMod and the 2011 version is that the 2013 version includes EMFAC2011 on-road emissions factors (instead of EMFAC2007), and the construction equipment includes the latest California Air Resources Board (CARB) off-road emissions inventory updates for in-use off-road diesel fleets. It should be noted that although the 2011 version of CalEEMod was used in the Draft EIR, in anticipation of a model revision, the load factors were updated to match CARB's off-road emissions inventory updates. Additionally, the EMFAC2007 generally assumes higher emissions rates than EMFAC2011 because EMFAC2011 incorporates emissions reductions from various improvements to fuel economy and due to new regulations, such as the recently adopted diesel regulations (including the Truck and Bus Rule and other diesel truck fleet rules: the Pavley Clean Car Standard, and the Low Carbon Fuel Standard). As a result, emissions modeled with CalEEMod 2013.2.2.

Although the emissions modeled in the Draft EIR are conservative for the reasons noted above, the project's construction emissions have been updated in CalEEMod 2013.2.2 in the interest of full disclosure and to fully respond to the comment. The CalEEMod 2013.2.2 emissions are provided at **Appendix H** to this Final EIR. Use of CalEEMod 2013.2.2 does not significantly change the modeling results, as ROG and PM_{10} would decrease, while NOx and CO would increase slightly. However, mitigated construction emissions would decrease for all pollutants because EMFAC2011 incorporates emissions reductions from various improvements to fuel economy and due to new regulations, and PM_{10} impacts would be reduced to below EKAPCD thresholds. As such, the emissions in the Draft EIR are not underestimated and the results of the updated modeling do not present significant new information such as to warrant recirculation. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-N Commenter contends that the Draft EIR fails to accurately estimate annual emissions by improperly phasing the project over three calendar years and accounted for only 21 months of the 24-month construction schedule. Commenter claims that this approach leads to the incorrect conclusion that mitigated construction emissions would be below EKAPCD's annual significance thresholds. Commenter refers to its air quality expert's emissions estimates assuming construction in only two calendar years, and asserts that mitigated construction emissions would exceed EKAPCD's annual significance thresholds for NOx, CO and PM₁₀. Commenter asserts that these exceedances would not be reduced by the proposed mitigation measures because their control efficiency is already accounted for in the mitigated construction emissions.

Thank you for your comments. Construction emissions were conservatively modeled based on consultation with the applicant and based on past project experience with the actual development of other large-scale solar projects. The modeled construction fleet assumed a conservative amount of equipment and hours of daily operation. The timing and phasing included in the model was also based on a conservative, yet practical development timeline (i.e., it is unlikely that a project would begin on January 1 and end on December 31 of any year). The modeling represents a worst-case scenario, taking into account reasonable assumptions based on what the applicant believes is most likely to occur.

The proposed schedule described in the comment arbitrarily assumes a January 1 start date in an attempt to manipulate the modeling results. Commenter's assumption of two consecutive 12-month construction periods is not consistent with the likely development schedule for the project. It should be noted that neither the EKAPCD, CEQA Guidelines, nor the Kern County Guidelines require construction activities to be modeled assuming a January 1 start date. The Kern County Guidelines require all assumptions to be clearly presented, including length of each construction phase. The analysis in the Draft EIR was prepared in accordance with the EKAPCD CEQA Guidelines and the Kern County Guidelines.

Additionally, although there is a discrepancy between the overall construction duration in the project description and the air quality modeling (i.e., 24 months versus 21 months), the modeled emissions are conservative. The discrepancy is due to the timing of when the individual construction sub-phases would overlap. As the EKAPCD construction thresholds are in tons per year, the timing and overlap do not affect the annual emissions. The construction air quality modeling actually anticipates longer construction phases with greater overlap to fit into the 21 month period. For example, the Draft EIR project description identifies a total of 68 months of construction (18 months for site preparation/grading, 18 months for underground work/trenching, 18 months for system installation, six months for substation construction, four months for generation tie line installation, and four months for testing/cleanup). The air quality modeling uses 94 total months of construction activity (three months for move-on/site preparation, 21 months for grading, 18 months for underground work/trenching, 19 months for installation of solar module structural components, 21 months for solar module installation, six months for substation installation, and six months for generation tie line installation). The differences in phasing in the air quality modeling are primarily due to how the phasing needed to be input into the model to ensure a conservative emissions inventory. As a result, whether construction ultimately takes 24 months or 21 months, the significance conclusions will remain the same. The modeling does not underestimate construction emissions. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-O Commenter maintains that the Draft EIR underestimates construction emissions by failing to use the correct wind speed in its air modeling calculations.

Thank you for your comments. The commenter incorrectly identifies the wind speed as 2.7 miles per hour, when the model used 2.7 meters per second. It should be noted that 2.7 meters per second is 6.04 miles per hour, which is squarely within the wind speed range (5.1 miles per hour to 7.6 miles per hour) for the area identified by the commenter. Therefore, fugitive dust emissions were not underestimated in the model or Draft EIR. Additionally, the wind speed used in the model is the CalEEMod default value, which is based on data supplied by the various air districts throughout the state and derived from nearby weather stations. Use of this wind speed is therefore reasonable and appropriate and did not render the Draft EIR deficient as an informational document. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-P This comment contends that the Draft EIR underestimates construction emissions by failing to analyze the construction and operation of a temporary concrete batch plant. As stated in Response to Comment 5-C, the project does not propose a concrete batch plant. Concrete would be trucked to the project site during the construction phase, and truck trips associated with concrete delivery

were included in the modeling conducted for the project analysis. For further information, please see Response to Comment 5-C. Because no batch plant is proposed, no further response is required. Thank you for your comments.

5-Q Commenter contends that the Draft EIR fails to properly determine the significance of particulate matter concentrations resulting from project construction and its impacts on nearby sensitive receptors because: (1) the presented 24-hour concentrations of PM₁₀ and PM_{2.5} are not supported by any modeling files; (2) the modeling results presented in the Draft EIR appear to be the results for another project (Rosamond); (3) modeling for the Rosamond project took into account only exhaust emissions and did not include fugitive dust emissions and recalculated emissions for both Rosamond and the project are high enough to result in a violation of the state and national 24-hour ambient air quality standards; (4) modeling was conducted at the nearest sensitive receptor instead of the project boundary; and (5) the Draft EIR fails to account for the background concentrations of PM 10 and PM 2.5 emissions and recalculated, those concentrations exceed the National Ambient Air Quality Standards (NAAQS). Accordingly, commenter states that there is a new significant impact that was not identified by the Draft EIR and a revised Draft EIR must be prepared to disclose the impact and identify feasible mitigation.

Thank you for your comments. As requested in the comment, the AERSCREEN model outputs are provided in **Appendix H** of this Final EIR. These modeling outputs are consistent with and confirm the analysis in the Draft EIR. The *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* requires that modeling outputs be included in the Draft EIR analysis, but it does not state that this information need be made available in the Draft EIR. Dispersion data is often not included in Kern County Draft EIRs. Moreover, not including highly technical modeling output data, which is itself consistent with the analysis in the Draft EIR, does not deprive the public of an opportunity to review and comment.

The concentrations in Draft EIR Table 4.3-8 were reported in error. However, while commenter is correct that the 24-hour PM₁₀ and PM_{2.5} construction modeling for Rosamond Solar Array were inadvertently included here, the projected PM_{10} and $PM_{2.5}$ construction emissions for Rosamond and the project are both less than the applicable thresholds. AERSCREEN reports concentrations at 25 meter intervals from the source and includes concentrations at the project boundary and identifies the maximum concentration. Generally, the maximum concentration occurs at a distance farther away from the source than the project boundary. The maximum concentration is greater than the concentration at the project boundary, so reliance on maximum concentration data provides the most conservative analysis. The project boundary concentrations for this project are 17.71 micrograms (one-millionth of a gram) per cubic meter air (μ g/m3) for PM₁₀ and 3.81 µg/m3 for PM_{2.5}, which do not exceed the California Ambient Air Quality Standards (CAAQS) or the NAAQS. The maximum concentrations are 23.91 μ g/m3 for PM₁₀ and 5.15 μ g/m3 for PM_{2.5}, which also do not exceed the thresholds. The analysis conclusions and significance determinations remain unchanged from that reported in the Draft EIR. It should be noted that these concentrations include both exhaust and fugitive dust emissions. The dispersion modeling accounted for all sources of emissions, despite the conclusions drawn from the modeling conducted by commenter. The statements in the Draft EIR that the emissions would be temporary in nature and would disperse rapidly from the construction site are intended to provide a background on how pollutant concentrations occur and move throughout the air. The analysis does not rely on these statements alone for the impact determination.

The model outputs provided in **Appendix H** support the finding in the Draft EIR that construction emissions would not exceed the applicable CAAQS and NAAQS. As the erroneously reported concentrations are similar to the actual concentrations, the model outputs do not change the Draft EIR analysis. The lead agency rejects commenter's suggestion that recirculation of the Draft EIR is required.

	Pollutant (µg/m ³) ^a		
	PM_{10}	PM _{2.5} 24-Hour	
Emissions Source	24-Hour		
Maximum Modeled Concentrations	16.77 <u>23.91</u>	16.32 <u>5.15</u>	
NAAQS	150	35	
CAAQS	50	35	
Exceed NAAQS or CAAQS?	No	No	

The following corrections are made to Table 4.3-8 on Draft EIR p. 4.3-43:

Therefore, the conclusions and significance findings on the Draft EIR would remain unchanged.

As stated in the comment, the Mojave Desert Air Basin is nonattainment for particulate matter, and background concentrations already exceed the most stringent standards. Therefore, rather than consider the impact upon background concentrations, the determination of significance in this case is if the project would contribute significantly to an existing violation of ambient air quality standards. The EKAPCD developed their annual construction thresholds in order to achieve attainment of the PM_{10} standard. The Draft EIR determined that construction-related PM_{10} would be significant and unavoidable despite the implementation of mitigation. EKAPCD does not have a threshold with respect to $PM_{2.5}$. The Draft EIR fully discloses PM_{10} and PM 2.5 emissions and the lead agency has required feasible mitigation to minimize significant impacts. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-R Commenter asserts that the Draft EIR fails to adequately analyze potential exposure of sensitive receptors to toxic air contaminants ("TACs"), and further suggests that a health risk assessment should have been prepared. Commenter asserts that the guidelines for requiring a health risk assessment published by the Office of Environmental Health Hazard Assessment ("OEHHA") and the California Air Pollution Control Officers Association ("CAPCOA") would recommend preparation of a health risk assessment because the project's construction phase should be viewed as a short-term project and the CAPCOA guidance document does not exempt construction activities.

Thank you for your comments. The acute, chronic, and carcinogenic health risks of pollutants, including TACs, that would be emitted during project operations under certain circumstances. As described in the Draft EIR, the project involves a solar facility with a nominal amount of operational trips. Any operational trips would not include heavy truck trips. Generally, more than 100 truck trips per day would trigger an analysis of mobile source TAC. The project would

include occasional operational and maintenance trips and would not require 100 daily truck trips. Therefore, a health risk assessment would not be triggered for operational impacts.

A health risk assessment would also not be required for the construction phase of the project under either EKAPCD or Kern County rules. While commenter appears to assume construction may constitute a "short-term project" triggering a health risk assessment under OEHHA's 2012 guidelines regardless whether it exceeds a threshold, commenter provide no support for this contention and the lead agency disagrees that such a trigger exists. The CAPCOA guidance document cited by commenter expressly does not address how analysis for construction projects should be conducted, and nothing in the either guidance document cited by commenter suggests that the construction phase of a decades-long project is considered to be a "short-term project" requiring preparation of a health risk assessment. Indeed, the OEHHA guidance document cited by commenter states that a health risk assessment is not required and that the CEQA document need only identify construction health risks and mitigate as required. The Draft EIR has done this here.

Even if a health risk assessment were required for construction emissions, the greatest daily exhaust emissions for construction would result in a maximum 1-hour concentration of $1.86 \times 10^{-5} \mu g/m3$ (please refer to the modeling outputs in Final EIR **Appendix H**). Assuming an exposure frequency of 245 working days per year for two years, the cancer risk would be 9.8×10^{-5} in one million, which is far below the OEHHA threshold of 10 in one million.

Also, refer to Response to Comment 5-C, regarding the concrete batch plant. As described above, the project does not propose a temporary batch concrete plant. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-S The comment states that dust is a significant problem in the project area and the increased severity of dust storms has been linked to the drought and ongoing development of renewable energy projects in the region. The comment states that the Draft EIR includes voluntary, unenforceable, and vague mitigation measures, including Mitigation Measures 4.3-1, 4.3-3, 4.3-4, 4.3-5. Commenter points to California Attorney General comments discouraging deferred, unenforceable, or vague mitigation requirements. Commenter further states that the Draft EIR's air quality analysis assumes the use of Tier 3 diesel engines for off-road equipment greater than 50 horsepower, but Mitigation Measure 4.3-3(j) requires only Tier 2 equipment, and therefore does not ensure that emissions estimates will not be exceeded.

Thank you for your comments. The EKAPCD and Kern County have established a comprehensive set of rules to minimize fugitive dust, which would apply to the project. For example, EKAPCD Rule 402 (Fugitive Dust) is intended to prevent, reduce, and mitigate ambient concentrations of anthropogenic fugitive dust emissions to an amount sufficient to attain and maintain the NAAQS and CAAQS. Rule 402 requires stockpiles to be covered and the use of soil stabilizers/suppressants to minimize fugitive dust. Additionally, construction activities are required to cease during wind events when dust emanates beyond the property line.

EKAPCD Rule 419 (Nuisance) is also required to prevent or correct specific public nuisances and health hazards. Additionally, EKAPCD Rule 210.1 (New and Modified Stationary Source Review [NSR]) provides for preconstruction review of new and modified stationary sources of affected pollutants to insure emissions will not interfere with attainment of ambient air quality standards.

Applicants are required to provide Best Available Control Technology for all affected pollutants expected to be emitted from a new emissions unit and for all affected pollutants expected to increase from a modified existing emissions unit.

To assist in compliance with EKAPCD rules, the EKAPCD is requesting each solar facility to install upwind and downwind particulate matter air monitoring. The particulate matter air monitors will be utilized to assist solar facility operators in showing and maintaining compliance with EKAPCD Rules and Regulations.

Mitigation Measure 4.3-1 requires the project operator to develop a Fugitive Dust Control Plan in compliance with EKAPCD Rule 402 to reduce fugitive dust emissions. Mitigation Measure 4.3-1 also includes additional measures to minimize fugitive dust, such as minimizing grading areas, using water/soil stabilizers, ceasing construction activities during wind events, cleaning trackouts, covering/stabilizing stockpiles, construction dust screening, limiting on-site vehicle speeds, among numerous others. Mitigation Measure 4.3-2 requires the project operator to stabilize unpaved roads and limit vehicle speeds to 15 miles per hour to reduce fugitive dust. Mitigation Measure 4.3-5 requires a construction coordinator to be established to receive local complaints and respond to and resolve any issues. Mitigation Measure 4.3-6 adds additional measures to control dust and minimize potential Valley Fever risks.

Compliance with the EKAPCD Rules and Mitigation Measures 4.3-1, 4.3-2, and 4.3-5, 4.3-6 would ensure that fugitive dust emissions are minimized to the maximum extent practicable. As described in Draft EIR Section 4.3, construction emissions related to fugitive dust and particulate matter would not be reduced to a less than significant level. However, as the EKAPCD rules and Draft EIR mitigation measures require construction to cease during wind events and soils to be stabilized, the project would not contribute to impacts from dust storms.

The cumulative analysis determines that cumulative construction emissions would represent a cumulatively considerable increase in NO_X , CO, and PM_{10} . In compliance with Kern County Guidelines, the cumulative analysis identifies concurrent construction emissions from related projects as well as the project to set forth the magnitude of the cumulative impact. (Draft EIR Table 4.3-9.)

The mitigation required for the project includes the necessary performance standards and timing and enforcement mechanisms. None of the mitigation measures in Draft EIR Section 4.3 include the terms "promote," "encourage," "support," or "investigate", as suggested by commenter. The phrase "when feasible" is used in Mitigation Measure 4.3-3 regarding using existing power sources and regarding limiting the hours of operation of heavy-duty equipment and/or the amount of equipment is in use. Both of these measures are best management practices that would further reduce construction exhaust emissions from what is identified in Table 4.3-6. As these measures would be performed on a discretionary basis and depend on various construction circumstances, it is not practical to quantify these measures or require specific criteria. It should be noted that Mitigation Measure 4.3-3 includes the timing (i.e., during construction and decommissioning) to direct when these measures should be implemented and enforced.

Mitigation Measure 4.3-1 requires the Site Specific Dust Control Plan (SSDCP) to include various dust control measures. The SSDCP is required to be submitted to the Kern County Planning and Community Development Department for their review and approval prior to the issuance of any grading permit for the project. These timing and enforcement mechanisms built in

to the mitigation measure will ensure that the measures will be implemented in accordance with set performance standards.

The requirement for a construction coordinator in Mitigation Measure 4.3-5 is in addition to the implementation of Mitigation Measures 4.3-1 through 4.3-4, which require the implementation and enforcement of numerous measures that would already minimize construction emissions and adopt feasible mitigation to mitigate significant impacts. The lead agency believes that Mitigation Measure 4.3-5 is adequate.

Mitigation Measure 4.3-1 through 4.3-5 include timing and enforcement mechanisms consistent with CEQA Guidelines Section 15126.4. The mitigation measures are required to be included on project plans and specifications and submitted to the Kern County Planning and Community Development Department prior to the issuance of any grading permit or during construction or operations, as applicable. The mitigation measures identify performance standards, such as compliance with EKAPCD rules.

Finally, the applicant will be required to complete an application for authority to construct with EKAPCD. The project will not be permitted to proceed without this approval. The approval gives EKAPCD a mechanism for ensuring compliance with all air quality requirements. The project will implement all feasible dust mitigation. Furthermore, all similar cumulative projects in the area are being subjected to similar requirements.

The lead agency strives to ensure that all project contractors hire at least 50 percent of their workers from the local Kern County communities. Many local contractors cannot afford to replace their fleets as regulatory requirements are amended to require higher-rated equipment. The lead agency makes the following changes to Mitigation Measure 4.3-3(j) to ensure that construction emissions are mitigated to the maximum extent feasible, while still maintaining the County's goal of ensuring that the project benefits the local economy by providing for local employment opportunities:

j) Off-road equipment engines over 50 horsepower shall be Tier 32 certified or higher, (unless Tier 2 equipment has been determined to not be available). Tier 3 construction equipment is not locally available. Construction equipment shall be considered "not locally available" if local contractors with their principal place of business within Kern County certify in writing to Kern County that such equipment cannot be secured at a regionally competitive price without materially delaying the project's construction schedule.

This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-T This comment maintains that the Draft EIR must be revised to evaluate and mitigate particulate matter impacts from a concrete batch plant.

Thank you for your comment. However, as described in Response to Comment 5-C, no concrete batch plant is proposed as part of the project. For a further response this comment, please see Response to Comment 5-C. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-U This comment asserts that the Draft EIR fails to adequately describe the scope of Valley Fever impacts. Commenter suggests the Draft EIR should have done more to disclose (1) the potential

for Coccidioides spores to spread through the air; and (2) the potential for increased danger due to drought conditions. Commenter asserts that the potentially exposed population extends beyond nearby sensitive receptors all the way to Palmdale and Lancaster and Edwards Air Force Base located 30 and 20 miles away, respectively.

Thank you for your comments. Coccidioides spores become airborne when the soil is disturbed by winds, construction, farming, and soil disturbing activities. This type of fungus is endemic to the southwestern United States, including Kern County. As a result, the Draft EIR identifies Mitigation Measure 4.3-6 to protect construction workers and the community from Valley Fever. Mitigation Measure 4.3-6 requires the project operator to consult with the County Health Services Department to develop a Valley Fever Dust Management Plan that addresses management of dust to reduce the potential for exposure to Coccidioides spores. The project operator is required to submit the plan to the County Services Health Department for review and approval prior to issuance of permits. The plan is required to include a program to evaluate the potential for exposure to Coccidioides spores from construction activities and to identify appropriate dust management and safety procedures that shall be implemented to minimize personnel and public exposure to potential Coccidioides spores.

The Kern County Guidelines require a discussion of Valley Fever and provide an example of the typical scope of discussion in Attachment C of the Guidelines. Attachment C provides a general description of pollutants and their health effects. Neither the EKAPCD, nor the County recommend or require a methodology or thresholds to analyze Valley Fever impacts. Draft EIR pages 4.3-19 through 4.3-21 and 4.3-44 through 4.3-46 clearly describe and disclose the potential impacts from Valley Fever. The Draft EIR includes a thorough discussion of how the disease is contracted, typical symptoms, susceptibility factors, and the specific risks that the project may pose. The analysis within the Draft EIR was prepared in accordance with the Kern County Guidelines. Mitigation Measure 4.3-6 provides extensive measures to mitigate the potential Valley Fever impacts set forth in the Draft EIR.

It is unlikely that significant concentrations of Coccidioides spores would spread beyond nearby sensitive receptors due to the project, particularly given the applicable EKAPCD rules and regulations and mitigation measures that will minimize the risk of exposure to all people. Accordingly, as disclosed on page 4.3-44 of the Draft EIR, construction workers and nearby sensitive receptors are the most at risk for being exposed to the disease. Notably, because the project site is relatively flat, the project will also involve only minimal grading and earth-moving activities, meaning that disturbance of Coccidioides spores is even less likely for this project than many other types of projects that involve widespread soil disturbance, including use of the site for agricultural purposes.

Commenter refers to a 2013 news article to suggest that current drought conditions have increased the risk that project construction could expose the public to Coccidioides spores. The lead agency first notes that news articles are not necessarily authoritative sources of information. The article states that reported cases of Valley Fever significantly increased between 1998 and 2011, a period preceding the current drought. It also notes that a significant part of this increase may be due to increased reporting and improved diagnosis of the disease. While it also notes that periods of rain followed by prolonged drought can lead to increased risk, this risk can be mitigated by minimizing potential exposure to dust. The comment references another solar project in the region, but it fails to recognize that the project here is subject to numerous distinct

dust and Valley Fever mitigation measures. The project here includes all feasible measures to control dust, including Kern County's newly enhanced best management practices. It is also noteworthy that extreme dust events, especially during droughts, have occurred prior to the development of large solar projects in the region. The Draft EIR complies with all CEQA requirements. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-V Commenter suggests that the Draft EIR lacks adequate mitigation to ensure that Valley Fever impacts will be less than significant. Commenter criticizes Mitigation Measure 4.3-1, claiming that it is inadequate to eliminate dust and that nearby residents may still be exposed to spores even if dust is below significance for particulate matter. Commenter also criticizes Mitigation Measure 4.3-6, claiming that its requirements violate CEQA's general prohibition against deferred mitigation.

Thank you for your comments. With respect to commenter's criticism of Mitigation Measure 4.3-1, according to the Kern County Public Health Services Department, some of the recommended measures to prevent exposure to the Coccidioides spore are to avoid activities in which large amount of dust are generated, minimize exposed soil, keep disturbed soil wet especially when working directly with the soil, and to provide filtered and conditioned air to living and work spaces whenever possible. These measures would be largely implemented by the project's compliance with the applicable rules and regulations of EKAPCD, in particular Rules 402 and 419. These rules require watering and other dust prevention measures. Compliance with the dust prevention measures of Rules 402 and 419 (e.g., watering, use of ground cover, storage pile stabilization, cleaning haul roads, covering transported materials, etc.) would also reduce the spread of Coccidioides spores. Compliance with EKAPCD Rules 402 and 419 is required by Mitigation Measure 4.3-1 and would minimize construction dust and Valley Fever impacts.

To assist in compliance with implementing fugitive dust control, the EKAPCD is requesting each solar facility to install upwind and downwind particulate matter air monitoring. The particulate matter air monitors will be utilized to assist solar facility operators in showing and maintaining compliance with EKAPCD Rules and Regulations.

With respect to commenter's criticism of Mitigation Measure 4.3-6, as an initial matter, the Valley Fever Dust Management Plan required by Mitigation Measure 4.3-6 is a best management practice. While often not required in other jurisdictions, it has been implemented by the lead agency to provide an additional layer of safety for project construction workers. MM 4.3-6 goes well beyond merely setting forth some general goal. It specifically includes an array of detailed requirements that the lead agency shall require be incorporated in the Valley Fever Dust Management Plan as necessary to ensure the protection of all construction workers. In addition to the Valley Fever Dust Management Plan, and as required under the California occupational health laws found in Title 8 CCR 1509 and/or 3380, hazard assessments will be performed by each employer for all job classifications employed on site. The hazard assessments will assess the potential for exposure to the Coccidioides spore relative to work activity, proximity to other forms of work activity, weather conditions and other relevant variables and will identify appropriate PPE based on current working conditions. The hazard assessment process focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment to eliminate or reduce risks to an acceptable risk level.

Mitigation Measure 4.3-6 requires the project operator to consult with the County Health Services Department to develop a Valley Fever Dust Management Plan that addresses management of dust to reduce the potential for exposure to Valley Fever. Requirement of a future Valley Fever Dust Management Plan within Mitigation Measure 4.3-6 is not improper deferral because the mitigation measure includes timing and verification mechanisms as well as performance standards. For example, the Valley Fever Dust Management Plan is required to be approved by the County prior to the issuance of permits. Additionally, Mitigation Measure 4.3-6 includes a list of measures that shall be included in the plan. The Valley Fever Dust Management Plan also works hand-in-hand with the Valley Fever Training Handout, which include specific requirements to ensure that employees understand how to protect themselves against the risk of Valley Fever infection.

While the lead agency believes that existing mitigation is adequate to ensure that Valley Fever related impacts are mitigated to less than significant levels, the following clarifications to Mitigation Measure 4.3-6 will be made in the Final EIR.

MM 4.3-6: Prior to ground disturbance activities, the project operator shall provide evidence to the Kern County Planning and Community Development Department that the project operator and/or construction manager has developed a "Valley Fever Training Handout", training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Community Development Department within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The evidence submitted to the Kern County Planning and Community Development Department regarding the "Valley Fever Training Handout" and Session(s) shall include the following:

a) A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session.

b) Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever.

c) Training on methods that may help prevent Valley Fever infection.

d) A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Though use of the equipment is not mandatory during work, Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work, if requested by an employee. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.

The project operator also shall consult with the County Health Services Department to develop a Valley Fever Dust Management Plan that addresses management of dust to reduce the potential presence of the Coccidioides spore and mitigates for the potential for Coccidioidomycosisfor exposure to (Valley Fever). Prior to issuance of permits, the project operator shall submit the Plan

to the County Services Health Department for review and approval. The Plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate dust management and safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to <u>Coccidioides</u> sporespotential Valley Fever-containing dust. Measures in the Plan, which shall be implemented as practicable, may include the following:

a) Provide HEP-filters for heavy equipment equipped with factory-ed air conditioned enclosed cabs <u>capable of accepting the filters</u>. Cause contractors <u>utilizing applicable</u> <u>heavy equipment to furnish proof of worker training on heavy equipment</u>. Train workers on proper use of <u>applicable heavy equipment</u> cabs, such as turning on air conditioning prior to using the equipment.

b) Provide communication methods, such as two-way radios, for use in enclosed cabs.

c) <u>Provide Require</u> National Institute for Occupational Safety and Health (NIOSH)approved respirators for workers.

d) Require National Institute for Occupational Safety and Health (NIOSH) approved half-face respirators equipped with <u>minimum</u> N-<u>95 protection factor for use</u>100 or P-100 filters to be used during worker collocation with surface disturbance activities, as required per the hazard assessment process. digging. Require employees to wear respirators when working near earth-moving machinery.

<u>d)</u>*e*)Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144).

<u>e)</u> **f** Provide eating areas with hand-washing facilities.

<u>(1)g</u>) Thoroughly clean equipment, vehicles, and other items before they are moved offsite to other work locations. Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off-site.

<u>g)</u>h)Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor.

<u>h)</u>:) Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever.

<u>i)</u>;) Work with a medical professional, in consultation with the County Health Services Department, to develop an educational handout for on-site workers and surrounding residents within three miles of the project site, and include the following information on Valley Fever: what are the potential sources/ causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by the County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within three miles of the project boundaries.

j) When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks.

<u>k)</u> Prohibit smoking at the worksite outside of designated smoking areas; designated smoking areas will be equipped with handwashing facilities.

<u>1)</u> Post warnings on-site and consider limiting access to visitors, especially those without adequate training and respiratory protection.

m) Audit and enforce compliance with relevant Cal OSHA health and safety standards on the jobsite.

Prior to the Notice to Proceed for decommissioning, the project operator will follow the above process for all decommissioning work. In addition to the Valley Fever Dust Management Plan, hazard assessments required under 8 CCR 1509 and/or 3380 will be performed by each employer for all job classifications employed on site. The hazard assessments will comprehend the potential for exposure to the Coccidioides spore relative to work activity, proximity to other forms of work activity, weather conditions and other relevant variables and will identify appropriate personal protective equipment based on current working conditions.

Half-face respirators would protect workers. Title 8, Section 5144 (Respiratory Protection) of the California Code of Regulations includes the applicable regulations with regard to work-related Valley Fever protection and exposure. NIOSH recommends half-face respirators with N-95 or better filters to provide adequate protection against Coccidioides spores. OSHA also specifies the use of at least a 95-rated filter efficiency (29 Code of Federal Regulations (CFR) 1910.134). P-rated filters are normally used in environments containing oil or oil mists so generally are not applicable to PV installations. Half-face respirators with N-95 filters reduce the risk of exposure by 90 percent, and the many other required measures reduce any remaining risk. Because N-95 are recommended for preventing exposure to Coccidioides spores, the lead agency concludes that requiring these respirators, along with the rigorous suite of other measures, will ensure less than significant impacts.

While complete prevention of this disease is not possible, the project would implement appropriate measures to reduce the exposure of workers and nearby receptors to Valley Fever. The dust control measures required as part of EKAPCD Rule 402 and the mitigation measures recommended for the proposed project would reduce the exposure of the local population to Valley Fever to the extent feasible. The commenter has not provided substantial evidence that the projects may still have a significant impact with the rigorous measures already imposed on the project, and the Lead Agency concludes that additional site-specific study is not necessary. CEQA Guidelines Section 15204(a) ("CEQA does not require a Lead Agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters"); *Laurel Heights Improvement Assn., supra,* 47 Cal.3d at 410 (claim that additional studies might elucidate a particular subject does not provide basis for challenging an EIR).

Although commenter's focus is on construction workers, adequate measures are being taken to protect nearby residents as well. The applicant shall post warnings on-site and will consider limiting access to visitors. Aggressive measures are required to minimize dust, including wedding

soils and using dust suppressants. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour. Disturbance activities shall be limited to the minimum area feasible. The project will minimize grading activities to the extent necessary to construct the project. On-site vehicle speed shall be limited to 15 miles per hour, and all areas with vehicle traffic shall be graveled or treated with dust palliatives. Streets adjacent to the project shall be kept clean, and project-related accumulated silt shall be removed on a regular basis. Construction equipment shall be cleaned as appropriate before leaving the project site. These measures will ensure that Valley Fever impacts on nearby residents are less than significant.

Please also see Response to Comment 5-Z and 5-Q4. The applicant has submitted a letter from Dr. Gary Fujimoto, indicating that the proposed measures are adequate to protect the health of construction workers and nearby residents. (See FEIR **Appendix I**). This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-W This comment asserts that the Draft EIR's conclusion that Valley Fever impacts will be less than significant after mitigation is not supported by substantial evidence.

Thank you for your comments. The lead agency disagrees. The Draft EIR provides an analytic route for determining that mitigation measures will reduce Valley Fever impacts to less than significant. The Draft EIR at pages 4.3-19 through 4.3-21 and 4.3-44 through 4.3-46 describe and disclose the potential impacts from Valley Fever. The Draft EIR requires the project to implement dust control measures to reduce the spread of Valley Fever spores in Mitigation Measure 4.3-1, and implementation of Mitigation Measure 4.3-6 would minimize the exposure and spread of Valley Fever and require the applicant to develop a Valley Fever Dust Management Plan to educate employees and minimize impacts. For a further response, please see Responses to Comments 5-U, 5-V, 5-X, 5-Y, and 5-Z.

Specifically with respect to commenter's criticism of half-face respirators, please see Response to Comment 5-V.

According to the letter from Dr. Gary Fujimoto including at **Appendix I**, these measures are adequate to protect worker health. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-X This comment suggests that the Draft EIR improperly relies on the Valley Fever immunity of some long-term residents in the area.

Thank you for your comments. The lead agency gives proper weight to the fact that some individuals may have gained immunity to Valley Fever due to previous exposure. The Draft EIR does not assume that Valley Fever is less of a risk in areas where residents are more likely to have been exposed to Valley Fever. Rather, the Draft EIR recognizes that a certain segment of the local population may not be at risk of contracting the disease. Nevertheless, the project will be required to implement an aggressive suite of EKAPCD and Kern County regulations, rules, and mitigation measures designed to mitigate dust impacts generally and Valley Fever specifically. These various requirements are specifically designed to minimize and mitigate all significant impacts, particularly to construction workers. For further response to this comment, please see Response to Comment 5-V. Thank you for your comments. This comment has been noted for the record and

has been provided to the Kern County Planning Commission and Board of Supervisors for consideration

5-Y This comment maintains that the Draft EIR fails to adequately analyze potential cumulative Valley Fever impacts. As support for this assertion, commenter points to dust storms that have affected the region.

Thank you for your comments. The commenter fails to account for the lead agency's enhanced air quality mitigation measures. In summer 2013, solar developers and planners from Los Angeles and Kern Counties began a series of meetings to discuss the best practices for protecting air quality and minimizing construction impacts from solar projects in the Antelope Valley. The process incorporated feedback from the Mojave Air and Space Port, members of the Mojave Chamber of Commerce, Rosamond Municipal Advisory Council, and numerous other community leaders. Coming out of these meetings, Kern County has developed a new approach to best control fugitive dust emissions and improve air quality in the high desert.

The lead agency's approach recognizes that effective dust control management must be sitespecific and cannot be one-size-fits-all, because standard methods do not adequately meet the challenges of such a unique environment as the Mojave Desert region. An effective strategy has to be based on soil conditions, topography, adjacent land uses, and wind direction.

As described in the Draft EIR, the lead agency has required recent projects in the Western Antelope Valley to incorporate enhanced air quality mitigation measures and has recently begun to require both Valley Fever training and Valley Fever dust management plans, as with the project. Taken together, the lead agency is requiring mitigation be adopted to minimize cumulative Valley Fever risks. Accordingly, the lead agency concludes that with the implementation of mitigation, the project would not result in a project-level or cumulatively significant impact on the existing exposure level of people to this fungus. (Draft EIR, p. 4.3-45.)

Draft EIR, p. 4.3-45, will be clarified in the Final EIR as follows:

"With the implementation of the mitigation measures, and the knowledge that long-term residents have typically already developed immunity to Valley Fever, dust from the construction of the proposed project would not add significantly to the existing exposure level of people to this fungus <u>on a project-level or cumulative basis.</u>" This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-Z Commenter maintains that with existing mitigation there may still be the potential for significant Valley Fever impacts and therefore recommends additional mitigation measures. As a preliminary matter, commenter's list of additional measures appears to be at least partially informed by the County of San Luis Obispo's Health Department. The lead agency notes that it has devised best management practices for minimizing air quality and Valley Fever impacts in Kern County.

Thank you for your comments. Commenter also appears to suggest measures that are already required for the project. For example, while commenter suggests a measure to suspend construction during heavy wind events, pursuant to Mitigation Measure 4.3-1, "All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour." Use of watering and dust suppressants is required to keep dust levels to a minimum. Under that Valley Fever Dust Management Plan, the lead agency may require separate,

clean eating areas with hand-washing facilities, as needed to protect health. The lead agency may also require that applicant thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations, and that applicant work with a medical professional to develop an educational handout that would inform both workers and surrounding residents of the risks associated with Valley Fever. Taking all EKAPCD and Kern County rules, regulations, and mitigations measures into account, many of commenter's proposed additional measures are either entirely redundant or unnecessary because a comparable measure is already proposed.

Further, to the extent that commenter proposes measures not already incorporated as a mitigation measure, commenter has failed to provide substantial evidence to contradict the lead agency's conclusion that Valley Fever-related impacts will be less than significant. Accordingly, no additional mitigation is required. However, in an abundance of caution, the lead agency has proposed changes to Mitigation Measure 4.3-6, as discussed in Response to Comments 5- V. These changes to the Valley Fever Dust Management Plan ensure that all appropriate mitigation has been adopted.

Commenter's proposed additional measures (1) and (2) are redundant with Mitigation Measure 4.3-1(b). To the extent measure (2) recommends wetting soils above and beyond what is already required, such watering could actually promote growth of the spore and is therefore inappropriate.

Proposed measures (3), (4), (6), and (7) are being incorporated, to the maximum extent feasible, into Mitigation Measure 4.3-6, as described in Response to Comment 5-V. With respect to proposed measure (4) specifically, job sites are often remote and due to air quality concerns, projects are often required to limit the amount of worker trips to/from the job site. Therefore, only allowing off-site eating is not practical and additionally can increase the amount of vehicle-created dust. Eating areas will be provided on-site and shall comply with all applicable laws and regulations. With respect to proposed measure (6), the applicant's Valley Fever expert, Dr. Fujimoto, is not aware of any studies that have documented cases "brought home" on dusty clothes. Knowing the source of an infection is difficult given the relatively high frequency of these infections in the general public. Commenter fails to provide any evidence that this measure is warranted or would do anything to reduce risks.

Commenter fails to provide the rationale for proposed measure (5), and the lead agency therefore has no evidence that restrictions on fall construction are needed or would protect health. While the lead agency notes a single 1996 academic article cited by commenter that states the incidence of the Valley Fever is highest in late summer and early fall, the lead agency is aware of no recommendation there or elsewhere that fall construction be limited as commenter suggests. Moreover, commenter does not set forth any evidence to suggest the project site poses any greater risk of exposure than any other project or agricultural activities in the area, and it would be impracticable to limit fall activities on all Kern County projects and all earth-moving agricultural activities. It may actually be the case that the summer months, particularly after a wet winter, pose greater risks of new infections than fall months. However, given the extensive mitigation required, impacts will be less than significant throughout the year.

Proposed measure (8) is not an industry standard or regulatory requirement for construction projects within endemic areas, and is also not feasible because there are no commercially-available Coccidioides spore tests. To the extent that any testing for Coccidioides spore currently occurs, it is generally done for scientific research and available methods do not always detect

spores even if they are present. Moreover, pretesting is not required because the applicant has presumed the presence of Coccidioides spores based on CDC and CDPH epidemiology information. Indeed, the lead agency is requiring the Valley Fever Dust Management Plan without making the Plan contingent upon confirmation of the spores' presence.

Proposed measure (9) is redundant and unnecessary, because an OSHA-approved Respiratory Protection program will be in place in addition to other controls including dust suppression, air monitoring, heavy equipment cab isolation and a formal hazard and risk assessment evaluation (First Solar Job Hazard Analysis Program) process. Based on very strict requirements of a workers' right to privacy in and around California (HIPAA & DFEH), along with lack of documented proof from the Department of Public Health or Cal-OSHA, it would not be reasonable or feasible to require the applicant to conduct pre-employment medical testing for Valley Fever until more information can be provided from medical directives.

Proposed measure (10) appears to be redundant with Valley Fever Dust Management Plan measures (c) and (m) required by Mitigation Measure 4.3-6 as revised in Response to Comment 5-V. With respect to proposed measures (11) and (12), based on very strict requirements of a workers' right to privacy in and around California (HIPAA & DFEH), along with lack of documented proof of usefulness from the Department of Public Health or Cal-OSHA, pre-employment medical testing for Valley Fever is not feasible or warranted. It is also unclear that hiring resident labor whenever available would decrease risks. In any case, the project will encourage the hiring of Kern County residents, consistent with the County's local hire policy.

5-A2 Commenter repeats many of his prior assertions in Comment 5-F regarding disclosure of prior pesticide use, including the potential for use of organochlorine pesticides such as DDT, DDE, and chlordane decades ago that may persist in the soil for many years.. Commenter further asserts that organochlorine pesticides such as DDT, DDE and chlordane could be applied to the project site without misuse of pesticides and that the project site must be sampled for the presence of pesticides in the soil in accordance with California Department of Toxic Substances Control guidance. Commenter claims that the sampling results should be compared to human health screening levels and evaluated in the Draft EIR, with mitigation imposed if concentration levels exceed the screening levels.

Thank you for your comments. Please see Response to Comment 5-F for a response to the repeated assertions. Also, as described in Response to Comment 5-F, a Phase II was prepared for the project site. Please see Responses to Comments 5-F and 5-P2 for a response to the comments addressing the presence of organochlorine pesticides and the request for sampling. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B2(a) Commenter asserts that the water supply assessment prepared for the Project fails to comply with Senate Bill 610. The California Legislature in 2001 enacted three water-related bills, which became effective on January 1, 2002.

Thank you for your comments. One of those bills, Senate Bill 610, added Section 10910 to the California Water Code to require the County, at the time it conducts the environmental review required by the CEQA, to identify the public water systems that will serve certain large projects specified in Water Code Section 10912 and request that the system prepare a water supply assessment detailing, among other things, existing water supply entitlements and the amount of

water received in prior years. If no public water system will serve the project, the County is required to prepare the water supply assessment.

In 2011, Water Code Section 10912 was amended by Senate Bill 267 to exempt photovoltaic and wind energy projects from the requirement of preparing a water supply assessment if the project will consume no more than 75 acre-feet of water annually. The Project proposes to consume 900 acre-feet for the two-year construction period and 35 acre-feet per year during the anticipated operation for the project. The solar equipment proposed for the Project generally lasts from 25 to 40 years. Assuming conservatively that the Project will have a 25-year life in addition to two years of construction, the Project as a whole would consume an average of 66 acre-feet per year. Accordingly, pursuant to Section 10912(8), because the Project would consume on average less that 75 acre-feet of water annually, the Project is exempt from the requirement that a water supply assessment be prepared.

Although not required, a water supply assessment was prepared for the Project in 2011 and was included at Appendix C of the Draft EIR because it provides useful background information about the Project site and historical water use. A Project water demand memorandum was prepared in 2015 to update the water supply information for the Project. The water demand memorandum was included at Appendix Q of the Draft EIR. The analysis of water supply at pages 4.15-13 through 4.15-14 of the Draft EIR relied upon the updated information in the water demand memorandum to support its conclusion that Project impacts to water supply would be less than significant. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B2(b)Commenter asserts that the water supply assessment prepared for the Project does not comply with Water Code Section 10910 because it identifies the amount of water estimated to have been utilized for the Project parcels historically, but fails to specify the water source and the water rights associated with the water source.

Thank you for your comments. As stated in Response 5-B2(a), the Project is exempt from the water supply assessment requirement. For projects that are required to prepare a water supply assessment, Water Code Section 10910(d)(1) requires that the water supply assessment include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years under the existing water supply entitlements, water rights, or water service contracts. The water supply assessment prepared for the Project in 2011 complies with this requirement. Section IX of the water supply assessment explains that litigation to adjudicate the Antelope Valley Groundwater Basin is ongoing, but the basin is not yet adjudicated. It explains further that the Project applicant holds Option to Purchase Agreements, which include Vacant Land Purchase Agreements that would grant the applicant mineral and water rights associated with the Project site. Such an overlying right to groundwater is not evidenced by a contract. It is a right appurtenant to the ownership of land overlying the groundwater basin, which allows use of groundwater for overlying reasonable and beneficial uses. Section VII describes the historic agricultural groundwater use at the Project site, as required by Water Code Section 10910(d)(1).

The Project water demand memorandum updates the information in the 2011 water supply assessment, describes that the Project proposes to obtain water from two existing on-site wells

and/or new wells drilled on the Project site, and explains that the water adjudication is ongoing and that the effect of the adjudication on individual wells cannot yet be determined with any accuracy. The water demand memorandum states further that the pending adjudication proceedings could result in changes in the cost of water and that, based on results from the adjudication proceedings to date, it is anticipated that even if the adjudication is finalized prior to or during Project construction, the Project would still be able to secure rights to groundwater (although the cost could be substantially higher than at present).

Since the release of the Draft EIR for the Project, a draft judgment has been prepared in the groundwater adjudication litigation, which has been stipulated to by approximately 120 of the 139 litigants. The draft judgment allocates 923 acre-feet per year to the Project site, which is substantially more water than is required for the 900 acre-feet of water needed for two years of construction and the 35 acre-feet per year of water needed for Project operation. Please see the draft judgment at **Appendix C** to the Final EIR. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B2(c) Commenter asserts that the water supply assessment does not comply with Water Code Section 10910 because it states that the Project will be supplied by groundwater wells, but fails to specify the amount of water that the Project is entitled to extract from those wells.

Thank you for your comment. As stated in Response to Comment 5-B2(a), the Project is exempt from the water supply assessment requirement. As described in Response 5-B2(c), both the water supply assessment and Project water demand memorandum describe the ongoing groundwater adjudication litigation and acknowledge that the impact of the adjudication on individual wells is uncertain. The Project site has an overlying right to the groundwater, which is not limited by the court until a final judgment is issued in the groundwater adjudication litigation. As described in Response 5-B2(c), a draft judgment has been prepared in the groundwater basin adjudication litigation, which allocates to the Project site substantially more water than is needed for the Project, which is included as **Appendix C** to this Final EIR. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B2(d) Commenter asserts that the Draft EIR's water supply analysis is inadequate because it relies on an out-of-date baseline of 2005-2009 and fails to take into consideration significant new information regarding California's drought.

Thank you for your comment. While the 2011 water supply assessment described 2005-2009 historical crop planting and estimated water demand data for the Project site, the Draft EIR did not use 2005-2009 as the baseline for analysis of sufficiency of water supply. The Draft EIR relied on the updated information contained in the 2015 Project water demand memo included at Appendix Q. The Project water demand memorandum explains that the Project site has been fallow since 2010, and that historic water usage data is estimated at 2,283 acre-feet per year. The Project water demand memorandum and the Draft EIR at pages 4.15-13 through 4.15-14 describe that water demand from the Proposed solar facility is substantially less than historic water use for agriculture, but also explain that the water demand associated with the Project is .0003 percent (operation) and .004 percent (construction) of the currently estimated annual safe yield of the groundwater basin as determined by the Superior Court in the groundwater adjudication

litigation. The Project water demand memorandum also describes that the Project could theoretically pipe water from the nearby Rosamond project site, where more recent agricultural operations have occurred, and that even assuming a worst-case scenario where construction of the Project and the Rosamond project overlap for the entirety of construction, the proposed water use for both projects would represent approximately 36 percent of historic annual water use levels for agricultural operations at the Rosamond project site. Lastly, the Draft EIR describes the overall decline in water use in the Antelope Valley as agriculture land is converted to less water-intensive uses, including renewable energy projects. Further, as described in Response to Comment 5-B2(c), a draft judgment has been prepared in the groundwater basin adjudication litigation, which allocates to the Project site substantially more water than is needed for the Project.

The commenter is incorrect that the Draft EIR fails to account for the drought in its analysis of water supply. The Draft EIR describes the pending groundwater adjudication litigation and relies upon the annual safe yield of 110,000 acre-feet per year as determined by the Superior Court. As described in the court's Statement of Decision Phase Three Trial (Antelope Valley Groundwater Cases, Judicial Council Coordination Proceeding No. 4408, Los Angeles County Superior Court Case No. BC 325 201), "safe yield" is the amount of annual extractions from the aquifer over time equal to the amount of water needed to recharge the groundwater aquifer and maintain it in equilibrium, plus any temporary surplus. Temporary surplus is defined as the amount of water that may be pumped from an aquifer to make room to store future water that would otherwise be wasted and unavailable for use.

The Court explains that "neither overdraft nor safe yield can be determined by looking at a groundwater basin in a single year but must be determined by evaluating the basin conditions over a sufficient period of time to determine whether pumping rates have or will lead to eventual permanent lowering of the water level in the aquifer and ultimately depletion of the water supply or other harm. Recharge must equal discharge over time." The Court explains further that "a determination of safe yield requires an initial determination of average natural or native recharge to the aquifer from all sources. The only source of natural or native recharge for the Antelope Valley is precipitation that recharges the aquifer and it is therefore necessary to ascertain average annual precipitation. The calculation of annual average precipitation can only be determined by using a baseline study period that covers precipitation in periods of drought and periods of abundant precipitation over a sufficient period of time that a reliable estimate of average future recharge based on precipitation can be made." Accordingly, the Court appropriately accounted for drought years in its safe yield determination, which was relied upon in the Draft EIR. (Final EIR, **Appendix C**). This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B2(e) Commenter asserts that the Draft EIR's assumption that back-up water from AVEK is available is not supported by substantial evidence.

Thank you for your comment. This potential option was discussed in the 2011 water supply assessment, but the 2015 water demand memorandum and the Draft EIR do not discuss AVEK as a potential water source. The Draft EIR states on page 4.15-14 that, in the unlikely event that groundwater becomes unavailable to the Project following completion of the adjudication process, trucking water from a local purveyor to the site remains a possibility. In addition, page 3-24 indicates that AVEK or other water purveyor could be a source for trucked water. Accordingly, AVEK is one of many potential sources of water that could be available in the very

unlikely event that groundwater becomes unavailable. As described in Response to Comment 5-B2(b), a draft judgment has been prepared in the groundwater basin adjudication litigation, which allocates to the Project site substantially more water than is needed for the Project. Accordingly, it is very unlikely that the adjudication process will result in groundwater being unavailable for the Project. The draft judgment is provided at **Appendix C** to this Final EIR. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B2(f) Commenter asserts that the Draft EIR fails to evaluate normal, single-dry, and multiple-dry year scenarios for groundwater availability and overdraft, inappropriately relies upon AVEK's urban water management plan, and therefore fails to comply with Senate Bill 610.

Thank you for your comments. As described in Response 5-B2(b), the Project is exempt from the water supply assessment requirement and is not required to comply with Senate Bill 610. Commenter is incorrect that the Draft EIR fails to evaluate normal, single-dry and multiple-dry years. As described in Response to Comment 5-B2(d), the Draft EIR relies upon the annual safe yield of the groundwater basin as determined by the Superior Court, which accounts for normal, single-dry and multiple-dry years and the long-term sustainability of the groundwater basin. Lastly, while the water supply assessment describes AVEK's urban water management plan, it acknowledges that the Project and the Project site are not accounted for in the plan and the 2015 water demand memorandum and Draft EIR do not rely upon AVEK's urban water management plan to support the analysis of sufficiency of water supply for the Project. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-C2 Commenter asserts that the Draft EIR is inadequate because it fails to account for water used by the proposed temporary concrete batch plant.

Thank you for your comments. The Project does not propose a temporary concrete batch plant and therefore the Draft EIR was not required to analyze water demand associated with a temporary concrete batch plant. For a further response this comment, please see Response to Comment 5-C. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-D2 Commenter asserts that the Draft EIR is inadequate because it fails to evaluate impacts associated with the sale of groundwater rights, including analysis of delivery of water from AVEK resulting from the Project divesting itself of all groundwater rights. Commenter points to a single reference on page 12 of the 2011 water supply assessment to suggest that such sale is part of the project.

Thank you for your comments. There is no current proposal to sell groundwater rights and such sale is not a part of the Project or a foreseeable consequence of the Project. The Project proposes to use groundwater, as described in the Draft EIR. Accordingly, there is no requirement that the delivery of water to the Project site by AVEK in the event all groundwater rights are sold be analyzed. For a further response to this comment, please see Response to Comment 5-C. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-E2 The comment states that the Draft EIR is deficient because it lacks substantial evidence for its conclusion that impacts to Swainson's hawk will be mitigated to less-than-significance and fails

to include all of the mitigation measures set forth in CDFW mitigation protocol, including compensation for direct and cumulative loss of foraging habitat. The comment states further that the Draft EIR fails to take into account the critical nature of the Swainson's hawk habitat on the project site and that the population of Swainson's hawk is particularly vulnerable in the Antelope Valley.

Thank you for your comments. As stated in Response to Comment 5-G, the Draft EIR describes the threatened nature of Swainson's hawk and thereby accounts for the vulnerability of the species in the Antelope Valley. The native desert vegetation of the Antelope Valley did not support more than a very sparse population of Swainson's hawk. It was not until irrigated agriculture was introduced that the local population increased due to new opportunities for foraging in farmlands and nesting in non-native trees. With the increasing scarcity of water and pending groundwater adjudication promising permanent restrictions on pumping, irrigated agricultural activities have been declining in the Antelope Valley.

The project site is part of this decline, and has been fallow for five years. As described in the Response to Comment 5-G, the groundwater rights proposed to be allocated to the project site in the draft judgment in the groundwater adjudication litigation is far less than what was required historically to support agriculture at the site. Accordingly, due to groundwater restrictions that are expected to be permanent, it is unlikely that the project site can be used for water-intensive agricultural uses. The project site therefore provides low value as foraging habitat for Swainson's hawk. (Estep 2015, Final EIR **Appendix E**).

Higher-quality foraging habitat may be available elsewhere in the Antelope Valley and is certainly available in in the Central Valley. Although the lead agency believes that the mitigation for impacts to Swainson's hawk in the Draft EIR is sufficient, Mitigation Measure 4.4-9 will be revised in the Final EIR to require compensatory mitigation. Due to the low quality of the foraging habitat on-site, the lead agency finds that off-site compensatory mitigation at a ratio of 0.5:1 is sufficient if the off-site mitigation land is higher-quality habitat preferred by Swainson's hawk such as native desert scrub, agricultural areas, grasslands with scattered trees, juniper-sage flats, or riparian areas. On-site mitigation is also authorized, but must be provided at a 1:1 ratio. (Estep 2015, Final EIR **Appendix E**; Ironwood 2015, Final EIR **Appendix F**)

The revisions to Mitigation Measure 4.4-9 are provided below:

MM 4.4-9: Prior to the issuance of grading or building permits the following shall be implemented with respect to the area to be covered by such permit:

1. The project proponent shall mitigate for the loss of acres of Swainson's hawk foraging habitat by providing high-quality off-site habitat management lands suitable for Swainson's hawk such as native desert scrub, agricultural areas, grasslands with scattered trees, juniper-sage flats, or riparian areas (as identified by a qualified biologist in consultation with Kern County) at a 0.5:1 ratio, on-site lands at a 1:1 ratio, or some combination thereof. Completion of the selected measure must be within the Antelope Valley (Kern or Los Angeles County) or within the Central Valley. A priority shall be placed on replacement habitat within the Antelope Valley (Kern or Los Angeles County), if feasible. If the County finds that suitable replacement land is not available within the Antelope Valley at commercially reasonable prices, replacement habitat may be located within the Central Valley. Any such mitigation shall be within at most ten miles of an

active nest and within suitable foraging habitat for Swainson's hawk as identified by a qualified biologist. The following options can be completed in any combination:

- a) <u>Fund and purchase conservation easements, to be held by an entity qualified to hold such easements under Section 815 of the California Civil Code;</u>
- b) <u>Place deed restrictions on qualifying land;</u>
- c) <u>Provide in lieu fees to a qualified person, entity or agency for the acquisition of</u> conservation easements covering land satisfying the requirements of this measure or otherwise adequate to mitigate the project's impact on Swainson's hawk.

42. Preconstruction clearance nesting surveys for Swainson's hawk shall be conducted by a qualified biologist within 0.5 mile of the project site no more than 30 days prior to construction. The survey methodology shall be consistent with the Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimizations Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California prepared by the State of California, California Energy Commission, and California Department of Fish and Wildlife. A copy of the survey results shall be submitted to the California Department of Fish and Wildlife and Kern County Planning and Community Development Department.

23. If surveys locate a nest site, a Swainson's Hawk Monitoring and Mitigation Plan shall be prepared in consultation with California Department of Fish and Wildlife and the County. Plans should be prepared by a qualified biologist approved by California Department of Fish and Wildlife and the Kern County Planning and Community Development Department. The following detailed measures to avoid and minimize impacts to Swainson's hawks in and near the construction areas shall be included in the plan:

- a. If a nest site is found, design the project to allow sufficient foraging and fledging area to maintain the nest site.
- b. During the nesting season, ensure no new disturbances, habitat conversions, or other projectrelated activities that may cause nest abandonment or forced fledging occur within 0.5 mile of an active nest between March 1 and September 15. Buffer zones may be adjusted in consultation with California Department of Fish and Wildlife and the Kern County Planning and Community Development Department.
- c. Do not remove Swainson's hawk nest trees unless avoidance measures are determined to be infeasible. Removal of such trees should occur only during the timeframe of October 1 and the last day in February.
- 34. The monitoring plan shall also include measures for injured Swainson's hawks:

a. For hawks found injured during project-related activities on the project site, the plans shall call for immediate relocation to a raptor recovery center approved by a California Department of Fish and Wildlife regional representative.

b. The plan shall include a system in which the costs associated with the care or treatment of such injured Swainson's hawks will be borne by the project developer.

c. The plan shall include appropriate contact information for immediate notification of California Department of Fish and Wildlife and the Kern County Planning and Community Development Department of a hawk injury incident. The plan shall have approved procedures in place to notify California Department of Fish and Wildlife and the Kern County Planning and Community Development Department outside normal business hours. Appropriate personnel shall be notified via telephone or email, followed by a written incident report. Notifications shall include the date, time, location, and circumstances of the incident in the reports.

The applicant requested that Dr. Jim Estep prepare an evaluation confirming the analysis and findings of the Draft EIR with respect to Swainson's hawk and supporting the inclusion of compensatory mitigation as described in in this response. Dr. Estep's analysis has been independently reviewed by the lead agency and is included at **Appendix E** to this Final EIR. In addition, Ironwood Consulting prepared a similar analysis with respect to Swainson's hawk, which has also been independently reviewed by the County. Ironwood Consulting's report is included at **Appendix F** to this Final EIR. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-F2 Commenter asserts that the Draft EIR fails to consider or recommend feasible mitigation to minimize the cumulative impact of loss of habitat for Swainson's hawk, burrowing owl and other special-status bird species. Commenter suggests that compensatory mitigation at a minimum 2:1 ratio be imposed for Swainson's hawk and that compensatory mitigation must also be evaluated for cumulative impacts to burrowing owl and other special status birds. The comment states further that the analysis of cumulative impacts is inadequate because it fails to identify the species that would be impacted by the cumulative loss of habitat.

Thank you for your comments. As stated in Response to Comments 5-G and 5-E2, the project site provides low quality foraging habitat for Swainson's hawk. Although the lead agency believes that the mitigation for impacts to Swainson's hawk in the Draft EIR is sufficient, Mitigation Measure 4.4-9 will be revised as described in Response to Comment 5-E2 to require compensatory mitigation. Due to the low quality of the foraging habitat on-site, the lead agency finds that off-site compensatory mitigation at a ratio of 0.5:1 is sufficient provided the mitigation land is higher-quality habitat preferred by Swainson's hawk such as native desert habitat, agricultural land, grasslands with scattered trees, juniper-sage flats, or riparian areas. (Estep 2015, Final EIR Appendix E; Ironwood 2015, Final EIR Appendix F) On-site mitigation is also authorized, but must be provided at a 1:1 ratio. A 1:1 ratio is appropriate for on-site mitigation because the habitat value is the same as the project site. For the foregoing reasons, the lead agency declines to impose a 2:1 compensatory mitigation requirement for Swainson's hawk as suggested by the commenter. The lead agency finds that the analysis of cumulative impacts is adequate. Mitigation Measure 4.4-9 will reduce project-level impact to less than significant levels; however, it even with implementation of Mitigation Measure 4.4-9, cumulative impacts will remain significant and unavoidable.

The technical reports at **Appendix E** and **Appendix F** to this Draft EIR provide further support for the proposed mitigation measure for Swainson's hawk.

As stated in the Draft EIR and in Response to Comment 5-G, the project site provides foraging habitat for burrowing owl and burrowing owl were observed on-site during project surveys. The

Draft EIR analyzes impacts to burrowing owl habitat and finds that project-level impacts will be mitigated to less than significant levels through implementation of Mitigation Measures 4.4-2 through 4.4-4, 4.4-8 and 4.4-13.

Although the lead agency believes that the mitigation for impacts to burrowing owl in the Draft EIR is sufficient, Mitigation Measure 4.4-8 will be revised in the Final EIR to specify that compensatory mitigation, if required, will be provided at a ratio of 10 acres for every occupied burrow found during pre-construction surveys, as follows:

MM 4.4-8: The following measures are based on the recently updated California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (CDFG, 2012) and shall be implemented to ensure potential effects on burrowing owl resulting from project construction, operations and maintenance, and decommissioning will be avoided and minimized to less-than-significant levels.

1. A project Lead Biologist shall be on-site during all initial construction activities in potential burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas, plus a 150-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to construction. The survey methodology will be consistent with the methods outlined in the Staff Report and will consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls (and may be combined with desert tortoise pre-construction surveys). As each burrow is investigated, biologists will also look for signs of American badger and kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Community Development Department.

2. If burrowing owls are detected, no ground-disturbing activities, such as road construction or ancillary facilities, shall be permitted within the distances listed below in Table 4.4-3, unless otherwise authorized by California Department of Fish and Wildlife. Burrowing owls shall not be moved or excluded from burrows during the breeding season.

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1-Aug 15	656 ft	1640 ft	1640 ft
Nesting sites	Aug 16-Oct 15	656 ft	656 ft	1640 fi
Any occupied burrow	Oct 16-Mar 31	164 ft	328 ft	1640 ft

Table 4.4-3: Burrowing Owl Burrow Buffers (California Department of Fish and Wildlife Staff Report 2012)

3. If avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the 2012 Staff Report on Burrowing Owl Mitigation. Burrowing owls should not be excluded from burrows unless or until:

a. Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist meeting the Biologist Qualifications set forth in the May 2012

California Department of Fish and Wildlife Staff Report, verifies through noninvasive methods that either: (1) the owls have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls will not be moved or excluded from burrows during the breeding season.

b. A Burrowing Owl Exclusion Plan is developed and approved by the applicable local California Department of Fish and Wildlife office and submitted to the Kern County Planning and Community Development Department. The plan shall include, at a minimum:

i. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;

ii. Type of scope and appropriate timing of scoping to avoid impacts;

ii. Occupancy factors to look for and what will guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and can't escape i.e., look for sign immediately inside the door);

iv. How the burrow(s) will be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);

v. Removal of other potential owl burrow surrogates or refugia on-site;

vi. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;

vii. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;

viii. How the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.

c. Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the measures described below

d. Temporary exclusion is mitigated in accordance with the measures described below.

e. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion will occur immediately after the end of the breeding season.

f. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).

4. In accordance with the Burrowing Owl Exclusion Plan a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow.

5. During construction activities, monthly and final compliance reports shall be provided to the California Department of Fish and Wildlife, the Kern County Planning and Community Development Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.

6. Should burrowing owls be found on-site, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented on-site or off-site in accordance with Burrowing Owl Staff Report guidance and in consultation with California Department of Fish and Wildlife. At a minimum, the following recommendations shall be implemented:

a. <u>If passive relocation is required, the project operator shall conserve foraging</u> habitat suitable for burrowing owl at a ratio of at least 10 acres of foraging habitat per passively relocated burrowing owl pair. Land identified to mitigate for passive relocation of burrowing owl may be combined with other off-site mitigation requirements of the project if the compensatory habitat is deemed suitable to support the species. If the project is located within the service area of a burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits in lieu of providing off-site habitat.

<u>ab.</u> Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including decompacting soil and revegetating. If restoration is not feasible, then the applicant shall implement b below.

b<u>c</u>. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat will be mitigated such that the habitat acreage, number of burrows and burrowing owls impacted are replaced based on a site specific analysis and <u>The habitat to be protected</u> shall include.

i. Permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. Conservation shall occur in areas that support burrowing owl habitat and can be enhanced to support more burrowing owls

d-ii. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. d. Develop and implement a mitigation land management plan in accordance with Burrowing Owl Staff Report guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.

e. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.

f. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Wildlifeapproved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.

g. Mitigation lands should be on, adjacent to, or in proximity to the impact site, where feasible, and where habitat is sufficient to support burrowing owls.

h. Consult with California Department of Fish and Wildlife when determining offsite mitigation acreages.

This measure ensures that burrowing owl impacts fully mitigated to less than significant levels, while still allowing CDFW to make specific recommendations to protect the burrowing owl. Burrowing owl mitigation has not been improperly deferred, and burrowing owl impacts will be less than significant.

Commenter is incorrect that the Draft EIR does not adequately identify the species that would be impacted by the cumulative loss of habitat. The Draft EIR on page 4.4-54 describes that the project would have an incremental contribution to a cumulative loss of low-quality foraging habitat for Swainson's hawk, burrowing owl and other special-status bird species. The Draft EIR analyzes Swainson's hawk, burrowing owl, and the following eight specified special-status birds: golden eagle; Cooper's hawk; ferruginous hawk; northern harrier; prairie falcon; loggerhead shrike; purple martin; and yellow-headed blackbird. The Draft EIR on page 4.4-37 is clear that no other special-status birds were identified on or adjacent to the project site. Therefore, the Draft EIR sufficiently identifies the relevant special-status bird species impacted by the project, both on a project-level and on a cumulative basis. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-G2 This comment states that the Draft EIR improperly defers the determination of the amount of compensatory mitigation required to mitigate for impacts to burrowing owl.

Thank you for your comments. The burrowing owl mitigation in the Draft EIR does not impermissibly defer formulation of a mitigation ratio. Instead, consistent with guidance from CDFW, the mitigation requires the applicant to consult with CDFW to determine mitigation ratios if compensatory mitigation is required. (Draft EIR at 4.4-48.) Consultation would ensure that mitigation lands are provided sufficiently to mitigate project impacts to the species to a less than significant level. CDFW's guidance on burrowing owl mitigation provides performance standards and guiding principles to ensure that mitigation is adequate and appropriate, but declines to adopt a general mitigation policy because site-specific analysis allows for better protection of burrowing owl. Reliance on pre-construction surveys for determining the appropriate mitigation is proper because it is difficult to devise a mitigation strategy without understanding exactly what impacts construction will have on burrowing owl. The amount of compensatory mitigation should depend upon where, and how many, burrowing owl are on-site at the time construction is about to begin. Reliance on pre-construction surveys does not defer mitigation to some unspecified, future analysis, but instead allows the applicant, in consultation with CDFW, to make informed decisions to protect the species.

While the lead agency believes that the current mitigation is sufficiently specific and provides adequate performance criteria, Mitigation Measure 4.4-8(6)(i) will be revised as described in Response to Comment 5-F2 to specify the amount of compensatory mitigation required to mitigate for impacts to burrowing owl. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-H2 This comment contends that the Draft EIR fails to adequately evaluate and mitigate avian collision impacts. The comment also states that the Draft EIR fails to disclose or mitigate for potential impacts associated with project fencing.

Thank you for your comment. Please see Responses to Comments 5-V2 through 5-Y2 for responses to these comments. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-AI The commenter claims that the Draft EIR does not adequately assess habitat fragmentation impacts. Referencing the comments of its expert biologist, commenter claims that the project would contribute to a lengthening east-west corridor of solar projects along the Kern and Los Angeles County line and with additional solar projects, the projects may eventually block completely the north-south and east-west movement of wildlife through the Antelope Valley. Commenter differentiates between habitat fragmentation within an existing habitat and wildlife corridors, concluding that the Draft EIR is adequate for failing to consider habitat fragmentation. Commenter further criticizes the Draft EIR analysis for assuming that a project cannot interfere with habitat movement if the land being developed was previously used as agricultural land because fenced solar projects are much more likely to impede wildlife movement than farmland. Commenter criticizes Los Angeles County's regional wildlife linkages map as just showing regional habitat linkages, which does not address habitat movement within the region.

Thank you for your comments. As noted on p. 4.4-18 of the Draft EIR, the project is located in a landscape that is already fragmented by agricultural uses. Because of the existing fragmentation, wildlife in the area are likely adapted to life in close association with human activities, and the similarity between the project site and adjacent lands suggests that the project site is not of significant value to wildlife in the area. The most likely areas for wildlife movement in this portion of the Mojave Desert would be outside the project area within larger drainages, uninterrupted spans of native vegetation (creosote scrub, Joshua tree woodland, etc.), or along the foothills of the Tehachapi Mountains to the north and San Gabriel Mountains to the south.

Although no known or identified wildlife corridors exist within the project sites and the project sites do not lie within a wildlife connectivity area as identified by the California Essential Habitat Connectivity project, the project sites and surrounding area contain expanses of open habitat with little development, and local wildlife movement may occur within the sites. To facilitate continued movement, the project would use perimeter security fencing which would have the first rung raised 5-7 inches to allow wildlife to move through the project site.

Further, the Draft EIR also notes on p. 4.4-18 that Los Angeles County has concluded that the project site is not within an existing, known habitat corridor. Rather, north-south habitat corridors exist several miles east and several miles west of the project site. Commenter appears to primarily take issue with potential connectivity impacts within the Antelope Valley, and this map shows that the project would not impact any known regional habitat corridor. Similarly, the project site does not lie within a West Mohave Multiple Species Habitat Conservation Plan area. To the extent that commenter suggests the lead agency should also be concerned with movement between different regions, commenter fails to provide substantial evidence that any interregional corridor would be impacted. To the extent that commenter argues that the lead agency improperly focuses on corridors instead of movement more generally, commenter fails to provide substantial evidence that the project will actually cause significant obstacles to animal movement, particularly given the raised project fencing allowing for movement through the project site.

Commenter also argues that the project fails to recognize that the project's impacts on connectivity will be different than the impacts caused by other types of development. Commenter fails to provide any substantial evidence to suggest that a solar project with wildlife-friendly fencing would restrict movement any more than agricultural operations or residential development. Moreover, commenter does not provide any evidence to suggest that solar facilities using wildlife-friendly fencing would cause significant impacts. Because the project is not located in an area that experiences significant wildlife movement and the project includes wildlife-friendly fencing, the Draft EIR has relied on substantial evidence to conclude the project will not significantly impact wildlife movement or habitat fragmentation. Commenter fails to provide any substantial evidence to contradict this conclusion. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-J2 This comment contends that the Draft EIR's project description lacks analysis of certain project components, the environmental setting is inadequate, and the project's potentially significant impacts are not adequately analyzed. The comment also asserts that the Draft EIR's conclusions lacks substantial evidence, and the Draft EIR must be revised and recirculated.

Thank you for your comments. The lead agency responds that the Draft EIR satisfies all CEQA requirements, for the reasons described in the responses above. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-K2 The commenter states his expert qualifications and experience.

Thank you for your comments. The participation of the commenter in the public review of this document is appreciated. The commenter sets forth his expert qualifications and experience. Because the commenter makes no comment on the Draft EIR, no further response is required. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-L2 The commenter asserts that the EIR fails as an informational document because it does not fully embrace the precautionary principle and thereby minimizes the likely occurrence of special-status species.

Thank you for your comments. The precautionary principle to risk management states that if an action or policy has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus that the action or policy is not harmful, the burden of proof that it is not harmful falls on those taking an action. The precautionary principle is not required by CEQA or case law interpreting the statute. The EIR follows the principles that have been established by the statute, CEQA Guidelines, and courts for conducting adequate analyses under CEQA—good faith disclosure, reasonable inquiry, exploration of feasible alternatives and mitigation and conclusions based on substantial evidence.

In fact, contrary to commenter's suggestion, where an EIR has been prepared, the burden of proof is on the challenger to show that the lead agency's conclusions are not supported by substantial evidence. (*State of California v. Superior Court* (1990) 222 Cal.App.3d 1416, 1419.) The Commenter is also incorrect that the Draft EIR does not fully disclose potential project impacts. The Draft EIR is conservative in its analysis, appropriately analyzes all potential impacts, and relies on substantial evidence in reaching its conclusions. The lead agency rejects commenter's suggestion that the Draft EIR fails as an informational document. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-M2 The commenter asserts that the site is important foraging habitat for the ferruginous hawk, and that the absence of nests on-site does not discount the importance of the site for the species.

Thank you for your comments. The lead agency agrees that this species is a migrant and would be not expected to nest on-site. As stated in Response to Comment 5-G, ferruginous hawk overwinters in the southern desert region of the United States, and typically uses the majority of California as a non-breeding wintering range. This project site is therefore only an very small part of the hawk's large range and there is no evidence to suggest that the that the site provides important foraging habitat to ferruginous hawk. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-N2 The commenter states that the site is important to foraging habitat for the Cooper's hawk, without which habitat the species cannot persist, but does not give evidence for the statement.

Thank you for your comment. As described in Response to Comment 5-G, the project site provides only low-quality foraging habitat for the Cooper's hawk. There is no substantial evidence to suggest use of the site for generation of solar energy would result in a significant impact to the Cooper's hawk. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-O2 The commenter states that pedestrian transects with short inter-transect spacing would be needed during the nesting season to find the nests of northern harrier.

Thank you for your comments. The lead agency disagrees. There are no set survey guidelines specific to the northern harrier. As stated in Response to Comment 5-G, the project site does not provide high-quality foraging habitat for the northern harrier. Pre-construction nesting bird surveys required by Mitigation Measures 4.4-4 and 4.4-10 are adequate to detect any nests that might be on the site. There is no evidence to suggest that use of the site for generation of solar energy would result in a significant impact to the northern harrier. This comment has been noted

for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-P2 This comment states that the project site is obviously used by the prairie falcon for foraging, even if it is not a nesting site.

Thank you for your comments. As stated in Response to Comment 5-G, the project site is not considered high-quality foraging habitat for the prairie falcon. There is no evidence to suggest the project site is particularly important to the species, and there is no substantial evidence to suggest that use of the site for generation of solar energy would result in a significant impact to the prairie falcon. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-Q2 The commenter asserts that loggerhead shrikes likely nest on-site in spring, even though no nests were observed during biological surveys. Commenter infers that because loggerhead shrike were observed on or flying over the site that nests associated with this species are probably on-site.

Thank you for your comments. The avian biologist noted loggerhead shrike nests adjacent to the project site, but did not observe nests on-site. As stated in Response to Comment 5-G, the project site does not provide important foraging habitat for the loggerhead shrike. While Loggerhead shrike nests are not known to be present on the project site, they are present near the project site and will be addressed through implementation of Mitigation Measures 4.4-1 and 4.4-10 for nesting bird species. There is not substantial evidence to suggest that use of the site for generation of solar energy would result in a significant impact to the loggerhead shrike. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-R2 Commenter asserts that directed surveys for American badger and desert kit fox would be required to confirm their absence on the project site.

Thank you for your comments. There is no specific survey protocol for American badger and desert kit fox. The general biological surveys and focused burrowing owl surveys include identifying all burrows and special-status species on the project site, including American badger and desert kit fox. The multiple surveys performed on the project site were adequate to observe evidence of any American badger or desert kit fox that may be using or have been present on-site.

Commenter also provides a table of species that may occur on-site, which includes the Draft EIR's conclusions and commenter's view of the likelihood of occurrence for each species. Commenter's table includes ten bird of prey species that could potentially occur or travel through the project site that are protected under Fish and Game Code 3503.5. MM 4.4-10 addresses potential impacts to these birds. Similarly, while the list includes several bat species, no suitable habitat for bat maternity roots was located within the site during surveys; however, MM 4.4-12 specifically addresses bats if they are located on-site in the future. Commenter fails to specifically elaborate on the table of species, and fails to provide the justifications for the likelihood of occurrence he suggests for each species. This table does not provide substantial evidence of a potential significant impact to any of the listed species. Further, the multiple surveys performed and other resources relied on in the preparation of the biological resources analysis of the EIR provide substantial evidence to support the determinations regarding likelihood of occurrence of these species in the Draft EIR. Please refer also to Response to Comments 5-G, 5-H, 5-M2

through 5-Q2, and 5- S2 through 5-U2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-S2 This comment contends that the Draft EIR fails to disclose the extent and nature of the project site's biodiversity because 16 special-status species were observed on-site during biological surveys.

Thank you for your comments. The lead agency disagrees. The project's biologists spent extensive time assessing the biological condition of the area during multiple site visits in 2010, 2011, and 2014. The results of these surveys were described in the Draft EIR and utilized in the analysis of biological impacts. The biologists reviewed the appropriate literature and documentation regarding potential wildlife species, and qualified biologists conducted multiple biological assessments to determine whether special-status species existed or could exist on the project site and in the surrounding area. Special-status species lists produced by database and literature searches were cross referenced with the described habitat types within the Project site to identify all potential special status species that could occur on or near the site.

The 2011 BRTR characterized the majority of the proposed solar facility as consisting of fallow and abandoned agricultural lands. These areas are dominated by herbaceous plant species such as cheatgrass (Bromus tectorum), redstem filaree (Erodium cicutaium), and fiddleneck (Amsinkia menziessii), with scattered rubber rabbitbrush (Ericameria nauseosa) shrubs. The remaining approximate one-third of the solar facility was characterized as supporting a Mixed Saltbush Series community. Dominant plant species associated with this community include fourwing saltbush (Atriplex canescens), shadscale (Atriplex confertifolia), and spinescale (Atriplex spinifera). The areas that were actively farmed in 2010 are now dominated by invasive plant species including Russian thistle (Salsola tragus) and tumble mustard (Sisymbrium altissimum). The project biologists took into consideration which species could occur within such habitats. Where surveys detected certain special status species at the project site, these species' presence was noted, and the project biologists determined whether focused surveys should be conducted. The biologists' decisions regarding which surveys to conduct are supported by substantial evidence, and commenter does not provide substantial evidence to the contrary.

5-T2 This comment maintains that there are eleven special-status species that may occur on the project site that were not analyzed in the Draft EIR.

Thank you for your comments. Please refer to Response to Comment 5-I. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-U2 This comment argues that the Draft EIR improperly concludes a low likelihood of occurrence for five species, the Townsend's western big-eared bat, desert kit fox, Tehachapi pocket mouse, silvery legless lizard, and coast horned lizard.

Thank you for your comment. Please refer to Response to Comment 5-I. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-V2 This comment asserts that in addition to the project's potential impacts on wildlife due to habitat loss and fragmentation, the project may also result in operational impacts, such as fatalities due to avian collisions and terrestrial animal eloctrocution and entrapment with project structures and

fencing. The comment asserts that operational impacts should be identified, analyzed, and mitigated before construction. It also states that post-construction impact monitoring is required to ensure that impacts do not exceed those anticipated.

Thank you for your comments. For a discussion of post-construction impact monitoring, please see Response to Comment 5-W2. The Draft EIR adequately considers the potential for avian collision and impacts to birds and terrestrial animals. The project includes wildlife-friendly lighting and fencing with the first rung raised 3.5 to 7 inches from the ground to allow free movement of small wildlife species across the project site. The Draft EIR analyzes wildlife movement and corridors, impacts to special-status species and requires implementation of Mitigation Measures 4.4.-2 and 4.4-4 through 4.4-8 to mitigate impacts to special-status terrestrial species to less than significance.

While commenter suggests that collision and impacts could be significant, commenter fails to provide any substantial evidence to support this assertion. Commenter recommends that the Draft EIR provide a predicted rate of collisions and a confidence range. However, there is no requirement for the lead agency to predict the rate of collisions where there is no evidence of a significant impact to a species. Such a requirement would only be triggered if the project could result in population-level impacts. No evidence has been presented that birds collide with PV solar installations or other structures such as to create a population-level impact. CEQA does not include such a requirement, particularly where, as here, there is no evidence to suggest that PV solar technologies present a significant risk to avian species. For a further response to this comment, please see Responses to Comments 5-W2 through 5-Y2, 5-E3, 5-F3 and 5-I3 through 5-K3. Regarding habitat fragmentation, please see Response to Comment 5-I2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-W2 This comment contends that the Draft EIR fails to adequately evaluate and mitigate impacts due to birds colliding with PV panels. Commenter claims that the Draft EIR should predict the fatality rate of birds due to avian collision, that individual special-status species have been harmed at other solar projects, that surveys were necessary to determine that the project site is not within known migratory routes, and that scientific data is not available on avian collision at other solar farms because it has not been made public. Commenter proposes that impacts be extrapolated from the Solar One project, which he calculates at anywhere from 131 birds to 1,600 bird fatalities per year, and recommends that compensatory mitigation be provided.

The potential for avian collisions and impacts are adequately considered in the Draft EIR on pages 4.4-38 and 4.4-39. The lead agency notes also that Spain and Germany have the largest amount of installed solar energy facilities in the world, yet no literature is available to indicate that excessive numbers of bird mortalities are occurring at these facilities. Furthermore, the Kobern-Gondorf PV facility (300 MW) in Germany is used as a nature reserve for endangered species of plants and animals. Because there is no scientific information linking PV facilities with bird mortalities causing population-level impacts, and anecdotal reports have discussed only a minimal number of bird mortalities relative to bird populations, the lead agency considers significant impacts to migratory birds from collisions with PV panels to be speculative.

The lead agency rejects the commenter's speculation regarding mortality levels based on comparison to the Solar One project, a 10 MW solar thermal project not located in the Antelope

Valley. Facilities that use solar power tower technology cause avian mortality when birds collide with project heliostats or when birds are burned while flying through areas where heliostats are focusing the sun's energy. In contrast, PV facilities use panels that do not use mirrored surfaces to reflect the sun's energy. PV panels are highly absorptive of light. The references McCrary Solar One study also made no attempt to account for background avian mortality in the absence of the facility. Occasionally, a waterbird or waterfowl may mistake a PV facility for a water body on which it could land, but there are no records of large or significant mortality events at solar thermal or PV solar facilities. Further, the commenter arbitrarily assumed that a PV facility would account for 10 percent of the fatalities identified at the Solar One solar thermal project. The commenter provides no justification for this and admits that he does not know avian fatality rates likely to occur at solar facilities. Commenter appears to make a number of assumptions and extrapolations and has analyzed data collected in a non-robust, non-systematic fashion, using data gathered regarding a solar power tower facility that is, in many ways, unlike the project. For these reasons, the lead agency rejects the commenters' suggestions that the project will result in significant impacts resulting from avian collision with the project's PV panels. The Draft EIR properly concludes that "[t]he potential for significant impacts to result from avian collisions at the project site is unlikely, and collision risk is not expected to adversely affect avian populations." (Draft EIR, p. 4.4-39.)

Nonetheless, even though the project is expected to result in a less than significant impact to avian species, the applicant has voluntarily proposed to commit to an additional measure to ensure that the project will minimize any impacts to avian species. The following paragraph will be added to page 3-26 of the Draft EIR.

Avian Post-Construction Monitoring

The applicant intends to prepare an Avian Post-Construction Monitoring (PCM) Plan to monitor the potential operational effects of the project on bird and bat species. Under the PCM Plan, the applicant will conduct surveys of the solar arrays for the first year of the operations and maintenance phase based on 15 to 20 percent sampling. The Plan will contain protocols for data collection, documentation, assessment of searcher efficiency, and scavenging bias trials. The applicant will use qualified monitoring personnel to conduct the surveys and will make the results of the surveys available upon request.

This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-X2 Commenter asserts that the Draft EIR does not adequately describe project fencing so as to allow for meaningful analysis of its potential impacts on wildlife.

Thank you for your comments. Security fencing would include a six-foot-tall, chain-linked perimeter fence topped barbed wire. As described in the Draft EIR, project fencing will be wildlife-friendly, with the first rung raised 3.5 to 7 inches from the ground, to allow free movement of small wildlife species across the project site. The use of barbed wire is not unique to solar power facilities, and commenter offers no substantial evidence to support his suggestion that the fencing could result in a significant impact. Similarly, commenter fails to set forth an alternative to the fencing that would achieve its purpose of securing the site, while reducing risks to avian species. Under these circumstances, the proposed security fencing is adequately

described and analyzed, no feasible alternative is set forth, and no further mitigation is required. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-Y2 Commenter states that impacts may result from birds colliding with the project gen-tie line and that the Draft EIR should have predicted the annual number of collisions and provided for compensatory mitigation. Commenter cites a 1992 Hartman et al. study of bird collisions at a 115-kV transmission line strung across Mare Island in Vallejo, California. Based on estimates of bird fatalities per linear mile of line, commenter estimates that 7.5 to 9.5 miles of transmission line will kill 64 to 81 birds per year.

Thank you for your comments. Commenter's assumption that the project will require 7.5 to 9.5 miles of transmission line is unfounded. If the project interconnects to the Los Angeles Department of Water and Power grid, interconnection would require a 500-foot gen-tie line. If, in the alternative, the project interconnects to the Southern California Edison Whirlwind Substation, the project would require an approximately one-mile-long gen-tie line. Thereafter, the line would join the interconnection facilities already analyzed by the County under CEQA and found to have no significant environmental impacts in the Rosamond Solar Project EIR. Therefore, commenter's assumption of an up to 9.5 mile transmission line is incorrect.

In addition, there are considerable differences in habitat, topography, weather, and, as admitted by commenter, avian use, between Mare Island and Kern County. The transmission line analyzed in the referenced Hartman study is located on San Pablo Bay, north of the San Francisco Bay. The habitat in the area of the transmission line includes salt evaporation ponds, estuarine and marine habitats, and active agricultural land (Hunting, 2002). Migratory birds, water birds, and raptors are numerous at this site; furthermore, conditions are windy and varying degrees of fog are a regular occurrence. The project will be distant from marine and estuarine habitats, is unlikely to experience weather conditions comparable to Mare Island.

To the extent that the transmission at the project will pose some threat to local and migratory avifauna, the project will be required to comply with MM 4.4-11, which requires that all power transmission lines meet the 2006 Avian Power Line Interaction Committee Guidelines. The Draft EIR properly concludes that impacts will be less than significant after mitigation. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-Z2 This comment asserts that the project will result in the loss of 1,402 acres of foraging habitat for multiple special-status species, particularly the burrowing owl and Swainson's hawk.

Thank you for your comment. This comment describes the project biological survey results for Swainson's hawk and asserts that the loss of foraging habitat on the project site could be the final blow to the Swainson's hawk population in the Antelope Valley because the population is already so low. Please see Responses to Comments 5-G, 5-H, and 5-E2 through 5- I2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-A3 The commenter claims that the Draft EIR does not adequately assess habitat fragmentation impacts.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-I2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B3 Commenter argues that the Draft EIR's cumulative impacts analysis is inadequate because it fails to disclose the magnitude of the cumulative impacts and does not analyze the spatial distribution of the cumulative projects with respect to habitat fragmentation. Commenter asserts that there is no evidence to support the finding that the habitat impacts for birds will affect only low-quality habitat and that protocol level surveys are necessary to support a finding that the project site does not contain suitable foraging or breeding habitat for the desert kit fox and American badger. Commenter asserts that the raven management plan required by Mitigation Measure 4.4-13 improperly defers mitigation.

The Draft EIR includes a thorough analysis of cumulative impacts, including a complete list and map of all related projects in the Western Antelope Valley and a justification of the geographic scope for cumulative projects at pages 3-28 through 3-38. An analysis of the spatial distribution of cumulative projects with respect to wildlife movement is not required by CEQA, for the reasons set forth in Response to Comment 5-I2. With respect to the quality of on-site foraging habitat for Swainson's hawk and other birds, please see Responses to Comments 5-G, 5-H, 5-E2 through 5-G2. With respect to the need for protocol surveys for desert kit fox and American badger and the, please see Responses to Comments 5-H and 5-R2.

"An EIR may not defer the formulation of mitigation measures to a future time, but mitigation measures may specify performance standards which would mitigate the project's significant effects and may be accomplished in more than one specified way." (*Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 280.) With respect to the Raven Management Plan required by Mitigation Measure 4.4-13, mitigation for raven management are known to be feasible and the mitigation measure requires that the plan meet specified performance standards. Accordingly, Mitigation Measure 4.4-13 does not impermissibly defer mitigation.

Commenter fails to provide substantial evidence to show that applicant's methodology for analyzing potential biological impacts is in any way inadequate. Because commenter cannot identify any specific failings, the lead agency finds that no additional studies are required. See 14 C.C.R. § 15204(a) ("CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters."); *Laurel Heights Improvements Assn. v. Regents of the Univ. of Cal., supra*, 47 Cal.3d at 410 (claim that additional studies might elucidate a particular subject does not provide basis for challenging an EIR). This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-C3 The commenter states that the Draft EIR fails to adopt all feasible mitigation to address significant and unavoidable impacts on biological resources. Commenter further contends that the Draft EIR failed to rely upon the Desert Renewable Energy Conservation Plan ("DRECP") or the Draft West Mojave Habitat Conservation Plan ("HCP") as vehicles for mitigating the impacts of the project. Commenter also takes issue with the lack of compensatory mitigation generally, and specifically with respect to Swainson's hawk and burrowing owl, and the claims that mitigation for impacts to the Alkali mariposa lily is vague and does not explain how success will be achieved.

With respect to mitigation for biological resources generally and for burrowing owl and Swainson's hawk specifically, please see Responses to Comments 5-G, 5-H, 5-E2 through 5-G2, 5-M2 through 5-R2, and 5-Z2.

The DRECP is a draft document and the Draft West Mojave HCP has also not been finalized. Accordingly, the lead agency acted properly by not relying upon either of these two documents.

With respect to the Alkali mariposa lily, the lead agency disagrees that Mitigation Measure 4.4-1 is vague and fails to include success criteria. Mitigation Measure 4.4-1 requires a Habitat Management Plan that must include compliance with clear performance standards to ensure that impacts would be mitigated to less than significant levels. Although the lead agency believes that the existing mitigation is sufficient, Mitigation Measure 4.4-1 will be revised in the Final EIR as follows:

MM 4.4-1: The project shall be designed to avoid alkali mariposa lily concentrations to the extent feasible. Pre-construction surveys should shall be conducted during the blooming period for alkali mariposa lily (April-June) to determine the most current limits of distribution within the project site. If construction is planned for outside the blooming period, the project will attempt to avoid those areas where the highest concentrations of this species were found during the focused surveys in 2010 and 2011. If avoidance is not feasible, a Habitat Management Plan shall be developed by a qualified biologist and approved by Kern County Planning and Community Development Department to ensure adequate management and conservation of botanical resources over the long term. The Habitat Management Plan shall provide for compensatory mitigation and include the following:

- 1. Identification of on-site or off-site restoration or enhancement locations and avoidance of those locations through the establishment of preservation areas and buffers.
- 2. Methods for preservation, restoration, enhancement, and/or population translocation.
- 3. A replacement ratio and success standard of 1:1 for every plant (or population) that would be impacted.
- 4. A five-year monitoring program to ensure success in accordance with the <u>following</u> <u>survivorship percentage</u> performance standard<u>:</u>s outlined below
- 5. Survivorship Percentage Performance Standards
 - All plantings shall have a Because the plant lives above-ground during only a portion of its lifecycle, a minimum of 80-90 percent survival during one or more of the each year through the five-year monitoring periods shall be considered success for this species.
 - b. The site shall attain 75 percent plant cover after 3 years and 90 percent cover after five years.
 - c. Replacement plants shall be monitored with the same survival and growth requirements for five years after planting.
- 6. Funding sources
- 7. Adaptive management strategies

A 1:1 mitigation ratio is considered sufficient because alkali mariposa is not federally or state listed as threatened or endangered and is relatively common in the project area. Copies of all surveys and reports shall be submitted to the Kern County Planning and Community Development Department.

Commenter lastly suggests that the lead agency should require additional mitigation for operational impacts resulting from collisions, potentially in the form of a monetary payment. Please see Responses to Comments 5-V2 through 5-A4 regarding collision impacts. Commenter fails to provide any substantial evidence to support its suggestion that operational impacts are not adequately mitigated. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-D3 The commenter asserts the project will be larger and more complex than can be reasonably expected to be handled by the lead biologist.

Pursuant to Mitigation Measure 4.4-2, the lead biologist must meet the qualifications of an authorized biologist as defined by USFWS. The lead biologist is responsible for ensuring compliance with the mitigation measures. The biologist would be able to determine what resources would be required to meet all requirements. While commenter suggests a Technical Advisory Committee should be established, commenter fails to explain why the lead biologist would not be able to secure any and all additional resources needed to comply with all project requirements. The use of a lead biologist is also standard practice for solar projects of this size. The lead agency concludes that no changes to the lead biologist requirement are necessary. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-E3 This comment maintains that the Draft EIR fails to describe pre-construction bird and bat surveys and suggests the need for a full year of behavior of surveys prior to project development and approval and another year of surveys in the year after construction to inform potential collision risks and impacts.

The pre-construction survey techniques recommended within the Draft EIR will be performed to the latest established guidelines by the resource agencies. Pre-construction bird surveys shall cover all potential nesting locations on and within 500 feet of the project site, including grounded nesting species. If active nests are found, no-disturbance buffers shall be established and clearly delineated in the field with visible flagging or fencing material. Avian nesting surveys shall occur no more than five days prior to initial vegetation clearing. No more than 30 days prior to the commencement of construction activities, a preconstruction survey shall be conducted in areas considered suitable habitat for bats. A 300-foot buffer shall be established if an active maternity roost is identified. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Post-construction monitoring will also be conducted as described in Response to Comment 5-W2.

While commenter suggests two years of surveys, one before and one after construction, this approach is not recommended by any resource agency. Such surveying is not required because existing mitigation will ensure less than significant impacts. Commenter's approach also raises questions of feasibility. The required pre-construction surveys and post-construction monitoring are appropriate tools for ensuring less-than-significant impacts and informing all required

mitigation. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-F2 The commenter states that nocturnal surveys should be completed for before construction and for an additional year after construction.

Thank you for your comments. This project does not have bat species directly on site; however, it is possible that some species might fly over the site at night. As per the Draft EIR, night time work would be limited. With the implementation of Mitigation Measures 4.4-2 through 4.4-4 and 4.4-12, direct impacts to individual bats would be avoided to the extent feasibly possible. For a further response this comment, please see Responses to Comments 5-G and 5-E3. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-G3 The commenter suggests post-construction monitoring and provides possible methodologies the applicant could adopt.

The lead agency disagrees that post-construction monitoring is required for the reasons outlined in Responses to Comments 5-V2 through 5-Y2. Nevertheless, the applicant has agreed voluntarily to conduct post-construction monitoring, as discussed in Response to Comment 5-W2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-H3 Commenter contends that a biological monitoring plan should be developed, and the Draft EIR should be recirculated once it is completed. Commenter does not identify the purpose or contents of this proposed monitoring plan, and fails to identify what impacts the plan would seek to mitigate.

Thank you for your comments. While commenter suggests the Draft EIR does not include any monitoring plans, the lead agency disagrees. Mitigation Measures 4.4-1 through 4.4-13 require implementation of detailed requirements and plans to mitigate impacts to biological resources. The mitigation plans required by these mitigation measures are feasible and must conform to specific performance standards. Accordingly, the plans do not constitute deferred mitigation, as the public has full opportunity to review and consider the standards to which the plan must conform. Please see Responses to Comments 5-G, 5-H, 5-E2 through 5-H2, 5-M2 through 5-R2, 5-Z2, 5-B3, 5-E3 through 5-G3 for further information concerning impacts and mitigation for biological resources. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-I3 Commenter asserts that the lead biologist should develop a plan and a place to send birds injured as a result of collisions with project facilities. Commenter suggests requiring annual payment to local rehabilitation facilities.

Project impacts to bird species will be less than significant, as described in the Draft EIR and Responses to Comments 5-V2 through 5-Y2. A post-construction avian monitoring plan will also be employed as discussed in Response to Comment 5-W2. Commenter attempts to use Ivanpah Solar and Altamount Pass Wind project as examples for likely impacts at the project site. The Ivanpah project utilizes solar thermal technology known to pose greater risks to bird species and is in a far different location of the desert. The wind project uses windmills and is not comparable. Existing solar projects within the Antelope Valley that would serve as a better predictor for the

project have not resulted in significant impacts and do not require mitigation such as commenter suggests. Therefore, an additional annual payment is not necessary or required. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-J3 The commenter states that the Draft EIR fails to require compensatory mitigation measures to offset impacts caused by bird collisions with the project facilities and for impacts to 16 special-status species detected on-site or other species the commenter believes are likely to occur on site.

Thank you for your comments. Compensatory mitigation is not required to bring a level of impact to less than significant. The Lead Agency believes the mitigation measures as proposed are adequate. For a further response this comment, please see Responses to Comment 5-G, 5-H, 5-E2 through 5-H2, 5-M2 through 5-R2, 5-Z2, 5-B3, and 5-E3 through 5-G3. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-K3 The commenter states concerns that project mitigation may not occur as required. Commenter requests the applicant provide performance bonds to ensure that mitigation is properly carried out.

Thank you for your comments. The commenter fails to raise any substantial evidence to suggest that the applicant here will fail to comply with all mitigation requirements. Moreover, the lead agency has several mechanisms to ensure that the various requirements are met, including not issuing grading or other construction permits and temporarily or permanently withdrawing the project's conditional use permit. The lead agency will carefully monitor the project, as required, to ensure that the applicant complies with all mitigation. No performance bond is required or necessary. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-L3 The commenter briefly describes the project and suggests that the project has undisclosed foreseeable impacts, requiring further analysis and the recirculation of the Draft EIR.

Thank you for your comments. The participation of the Matt Hagemann in the public review of this document is appreciated. As explained in Responses to Comments 5-F, 5-A2 and 5-M3 through 5-Q3, the lead agency responds that the Draft EIR satisfies all CEQA requirements and recirculation is not required.

5-M3 This comment states that a Phase I is typically done to determine the presences of residual pesticides.

Thank you for your comments. For a response to this comment, please see Response to Comments 5-F. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-N3 This comment states that one function of a Phase I is to identify any "recognized environmental conditions" that may trigger the need for a Phase II.

Thank you for your comment. For a response to this comment, please see Response to Comments 5-F. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-O3 This comment maintains that failure to conduct a Phase I could result in risk to construction workers and nearby residents at risk during construction.

Thank you for your comment. For a response to this comment, please see Response to Comments 5-F. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-P3 This comment states that the need to conduct a Phase I is supported by historical aerial photographs showing a history of agricultural use on the project property. The comment further states that the Draft EIR should incorporate additional analysis regarding DDT, DDE, and chlordane.

Thank you for your comments. For a response to these comments, please see Response to Comments 5-F and 5-A2. In addition, the lead agency notes that the DTSC guidance cited by Mr. Hagemann is from 2008 and primarily relates to former agricultural properties subject to DTSC oversight that are to be used for schools or residential purposes. Here, the site is proposed for solar energy production. Therefore, generalized soil sampling for historic pesticide use is not warranted. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-Q3 This comment includes introductory remarks and provides the commenter's background.

Thank you for your comment. The comment does not raise a specific issue related to the analysis. As such, the letter does not provide specific comments regarding information presented in the Draft EIR, and no response is required. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-R3 This comment summarizes the project description and does not raise a specific issue related to the analysis.

Thank you for your comment. The letter does not provide specific comments regarding information presented in the Draft EIR, and no response is required. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-S3 This comment suggests that the Draft EIR's analysis of construction impacts on air quality fails to identify and adequately mitigate significant impacts and generally repeats the claims set forth by Adams Broadwell in Comment 5-L.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-L. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-T3 This comment states that the Draft EIR improperly relied upon in outdated computer model and generally repeats the claims set forth by Adams Broadwell in Comment 5-M.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-M. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-U3 This comment states that the Draft EIR's emission estimates are improperly phased for determining the significance of project construction emissions, recalculates emissions based on the commenter's assumptions, and generally repeats the claims set forth by Adams Broadwell in Comment 5-N.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-N. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-V3 This comment maintains that the project's modeling failed to apply the correct wind speed and therefore underestimated fugitive emissions and generally repeats the claims set forth by Adams Broadwell in Comment 5-O.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-O. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-W3 This comment posits that the Draft EIR underestimates construction emissions by failing to include impacts resulting from a temporary concrete batch plant and generally repeats the claims set forth by Adams Broadwell in Comment 5-P.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-C and 5-P. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-X3 This comment states that the Draft EIR fails to properly determine the significance of particulate matter concentrations resulting from project construction and generally repeats claims set forth by Adams Broadwell in Comment 5-Q.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-Q. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-Y3 This comment expresses concern that certain modeling results are exactly the same as those presented for another project and generally repeats claims set forth by Adams Broadwell in Comment 5-Q.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-Q. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-Z3 This comment asserts that the Draft EIR fails to account for all emissions, including fugitive dust emissions, and generally repeats claims set forth by Adams Broadwell in Comment 5-Q.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-Q. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-A4 This comment takes issue with the Draft EIR's omission of specific background concentrations of PM_{10} and $PM_{2.5}$ and generally repeats claims set forth by Adams Broadwell in Comment 5-Q.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-Q. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-B4 This comment argues that the Draft EIR fails to properly determine the exposure of sensitive receptors to toxic air contaminants and generally repeats claims set forth by Adams Broadwell in Comment 5-Q.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-Q. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-C4 Commenter contends that fugitive dust and exhaust emission mitigation is improperly deferred, unforeseeable, and inadequate, and generally repeats claims set forth by Adams Broadwell in Comment 5-R.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-R. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-D4 This comment quotes the California Attorney General's comments on the Tulare County General Plan EIR and the Santa Clarita Valley Area Plan and generally repeats claims set forth by Adams Broadwell in Comment 5-S.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-S. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-E4 This comment requests clarifications and changes to MM 4.3-1 and generally repeats claims set forth by Adams Broadwell in Comment 5-S.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-S. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-F4 This comment states that MM 4.3-3 and MM 4.3-4 are inadequate to properly mitigate exhaust emissions and generally repeats claims set forth by Adams Broadwell in Comment 5-S.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-S. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-G4 This comment asserts that MM 4.3-5 should be revised to require an on-site construction mitigation manager who oversees and enforces implementation of all specified mitigation measures and generally repeats claims set forth by Adams Broadwell in Comment 5-S.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-S. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-H4 This comment recommends incorporation of additional mitigation measures to reduce emissions from a concrete batch plant and generally repeats the claims set forth by Adams Broadwell in Comment 5- S.

Thank you for your comment. For a response to this comment, please see Response to Comment 5-S. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-I4 This comment recommends incorporation of additional mitigation measures to reduce emissions from a concrete batch plant and generally repeats the claims set forth by Adams Broadwell in Comment 5-T.

Thank you for your comments. For a response to this comment, please see Responses to Comment 5-C and 5-T. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-J4 This comment provides background information on Valley Fever, including how the disease is spread, where it occurs, typical symptoms, and the lack of a known cure. The comment also claims that the Draft EIR fails to adequately describe the scope of Valley Fever impacts.

Thank you for your comments. For a response to this comment, please see Responses to Comment 5-U. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-K4 This comment maintains that the Draft EIR is deficient because it fails to disclose the effect of the current drought on Valley Fever risks and generally repeats claims set forth by Adams Broadwell in Comment 5-U.

Thank you for your comments. For a response to this comment, please see Responses to Comment 5-U. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-L4 This comment raises concerns that drought conditions may give rise to dust storms that could spread Valley Fever spores and generally repeats claims set forth by Adams Broadwell in Comment 5-U.

Thank you for your comments. For a response to this comment, please see Responses to Comments 5-S and 5-U. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-M4 This comment argues that the Draft EIR lacks substantial evidence to conclude that Valley Fever impacts will be less than significant after mitigation and generally repeats claims set forth by Adams Broadwell in Comment 5-V. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-V. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-N4 This comment states that Draft EIR lacks empirical or experimental data, scientific authorities or explanatory information to support its conclusions regarding Valley Fever impacts and generally repeats the claims set forth by Adams Broadwell in Comment 5-W.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-W. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-O4 This comment asserts that the Draft EIR improperly relies on the Valley Fever immunity of some long-term residents to conclude that impacts will be less than significant and generally repeats claims set forth by Adams Broadwell in Comment 5-X.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-X. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-P4 Commenter suggests the Draft EIR fails to analyze cumulative Valley Fever impacts. Commenter claims that existing mitigation for Valley Fever is inadequate and generally repeats the claims set forth by Adams Broadwell in Comment 5-Y.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-X. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-Q4 Commenter repeats Mitigation Measure 4.3-6, asserts that the mitigation is not enforceable, and recommends the adoption of additional mitigation measures to Valley Fever risks. Commenter suggests the lead agency should adopt measures supposedly adopted by the San Luis Obispo Public Health Department.

Thank you for your comments. As a threshold matter, commenter does not explain why measures adopted for some unspecified project in San Luis Obispo County would be appropriate here. Moreover, the lead agency is requiring identical or similar measures to those proposed by commenter.

The first recommended measure involves complying with an OSHA requirement. The project will comply with all applicable OSHA requirements and will implement a range of different safeguards. The second recommended measure involves developing a Valley Fever training program, which is already required pursuant to Mitigation Measure 4.3-6. The applicant is also required to work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever, to train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Appropriate personal protective equipment shall also be provided.

With respect to the third measure, the lead agency is already requiring the use of water and dust suppressants to minimize dust, HEP-filters for heavy equipment, half-face respirators, communication methods, such as two-way radios, for use in enclosed cabs, and other feasible and effective measures to control dust. The project shall also comply with all applicable regulatory requirements, including Cal/OSHA Respiratory Protection Standard (8 CCR 5144). With respect to commenter's arguments regarding work during windy conditions, eating and smoking, and fall construction activities, please see Responses to Comments 5-V and 5-Z.

The lead agency has addressed commenter's fourth recommendation by requiring installation of equipment inspection stations at each construction equipment access/egress point. At these stations, construction vehicles and equipment shall be examined for excess soil material and clean, as necessary, before equipment is moved offsite. Hand washing stations and warnings to visitors are also included as part of the Valley Fever mitigation. As discussed in Response to Comment 5-Z, commenter fails to provide any evidence to support the need for clothing changes or providing workers with coveralls. Commenter has not provided, and the lead agency is not aware, of any studies documenting cases of spores being brought home on dusty clothes. The applicant's Valley Fever expert, Dr. Fujimoto, is not aware of any studies that have documented cases "brought home" on dusty clothes. (Final EIR, **Appendix I**).

With respect to the fifth recommended measure, the lead agency is already requiring several measures to ensure that proper medical care is available. For example, the applicant is required to work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever. Workers shall be medically evaluated and fit-tested and shall have reasonably prompt access to medical care. While commenter also suggests contracting with local clinics and ensuring a physician determines appropriate work restrictions for any employee diagnosed with Valley Fever, health care shall be provided as needed and as directed by the appropriate health care providers. Mitigation Measure 4.3-6 also already requires the applicant to provide training on all personal protective equipment. Finally, because construction will last only two years, workers will be medically evaluated and fit-tested before beginning work, and because procedures will be in place to ensure prompt detection of the disease, annual re-evaluation is not required. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Commenter also goes on to provide a list of seven additional measures, each of which is addressed by Response to Comment 5-Z. Please see Responses to Comments 5-V and 5-Z generally for more information relevant to the issues raised in this comment. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

5-R4 This comment provides concluding remarks and summarizes the previous comments and does not raise a specific issue related to the analysis.

Thank you for your comments. This comment does not provide specific comments regarding information presented in the Draft EIR, and no response is required. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.



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April 8, 2015

Mr. Rob Dmohowski Kern County Planning and Community Development Department 2700 "M" Street, Suite 100 Bakersfield, CA 93301-2323

By email: planning@co.kern.ca.us

Re: Draft Environmental Impact Report, Willow Springs Solar Array Project (PP10232) by Willow Springs Solar, LLC, Conditional Use Permit 26, Map 232 Specific Plan Amendment 15, Map 232 ZCC 32, Map 232

Dear Mr. Hall:

On behalf Audubon California's 150,000 members and supporters, Kern Audubon Society. Kerncrest Audubon Society, and San Fernando Valley Audubon Society we thank you for the opportunity to submit our comments on the Draft Environmental Impact Report (DEIR) for a plan amendment and conditional use permit for Willow Springs Solar Array Project (PP10232), a large scale solar project proposed by Willow Springs Solar LLC, in Kern County.

Audubon California supports renewable energy to reduce emissions from the energy sector to mitigate the impacts of climate change. Solar energy is an important component of this effort. However, solar energy should be sited properly to avoid, minimize and mitigate effectively for the impacts on wildlife and habitat.

National Audubon Society has recognized Antelope Valley as a *Globally Important Bird Area*^{1,2}. The Important Bird Areas Program, administered by the National Audubon Society in the United States, is part of an international effort to designate and support conservation efforts at sites that provide significant breeding, wintering, or migratory habitats for specific species or concentrations of birds. Sites are designated based on specific and standardized criteria and supporting data.

Antelope Valley was labeled as "globally important" for several reasons. "The remnant Joshua Tree Woodland in this area supports one of the farthest-west populations of Le Conte's Thrasher in the state. The grassland bird community is most impressive in winter, when large numbers of raptors concentrate in the area. Large flocks of Vesper Sparrows, Horned Lark and Mountain Bluebirds also occur here, widely extirpated elsewhere in the Los Angeles area. The agricultural fields, especially alfalfa, are productive year round.

6-A

6-B

¹ National Audubon Society. 2010. <u>http://iba.audubon.org/iba/viewState.do?state=US-CA</u>

² National Audubon Society, 2008. Important Bird Areas in the U.S. Available at http://web4.audubon.org/bird/iba/usibac/2009_P8/CA270m_AntelopeValley08.pdf

Winter brings Mountain Plover, whose flocks are among the last in southern California. After wet winters, nesting grassland species like Northern Harrier linger well into spring, and occasionally even breed. Swainson's Hawk maintains its southernmost breeding outpost in the state here. As this IBA lies in the path of a major spring migrant route for songbirds, windbreaks can host hundreds of vireos, thrushes and warblers during April and May. Fields that receive effluent from local water treatment facilities can support hundreds of White-faced Ibis and shorebirds, and these fields support a group of around 200 Long-billed Curlews in fall and winter.³³

Sensitive species in the Antelope Valley include state-threatened Swainson's Hawk, and species of special concern Burrowing owl, Loggerhead Shrike, LeConte's Thrasher, and Tricolored Blackbird among others.

Our comments are as follows:

1. Swainson's Hawk (Buteo swainsonii).

We are very concerned about the impacts of the project in Antelope Valley on the unique local population of Swainson's hawk, a population considered "imperiled" (CEC and CDFG 2010), and more generally on nesting and foraging Swainson's hawk habitat in the area.

The Lead Agency has concluded that with mitigation measure 4.4-9 the impacts on Swainson's hawk would be reduced to a less than significant level. This conclusion is not supported by the evidence in the DEIR.

Specifically, population level impacts on Swainson's hawk nesting and foraging habitat have not been mitigated to less than significant in the DEIR.

Lead agency can require mitigation in the form of off-site mitigation lands suitable as Swainson's hawk foraging habitat for the impacts of this solar project on nesting and foraging habitat of Swainson's hawk as 1) it is feasible, 2) mitigation lands are readily available in the Antelope Valley, 3) Lead Agency has required mitigation lands for impacts on foraging habitat of other solar projects in the Antelope Valley (Antelope Valley Solar Project, Rosamond Solar Project among others), and 4) there are standards for mitigation outlined in the document <u>Swainson's Hawk Survey Protocols, Impact Avoidance, and</u> <u>Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (State of California – California Energy Commission and Department of Fish and Game, 2010.</u>

a. The project site has at least 1,402 acres of suitable Swainson's Hawk foraging habitat within five-miles and the DEIR acknowledges this.

Four Swainson's hawk nests were observed in the 2014 Swainson's Hawk Study Area. Swainson's hawk

³ National Audubon Society, 2008. <u>http://iba.audubon.org/iba/profileReport.do?siteId=270</u>

6-C

6-D

components	tinson's hawk nests were located between approximately 0.5-4.7 miles of the Project facility solar farm site and/or gen-tie). (DEIR, Vol II, p. 383). knowledges that there are active nests within 5 miles of the project	6
	inson's hawk nests were located between approximately 0.5-4.7 miles of the Project onents (solar farm site and/or gen-tie). (DEIR, Vol II, p. 383).	
Period II on Swainson's I by breeding to be abando were observ a well-hidde	plays and nest building were observed by one of the four pairs of Swainson's hawks during April 19-21, 2014 (Figure 4). The remaining three nests were identified as occupied by awks during Period IV surveys from June 10-12, 2014. All nests were observed to be occupied airs of Swainson's hawks during the initial Period IV survey in June. One nest was observed ned/failed during the additional Period IV survey in July. Two of the three remaining nests d to have produced young during the final July Period IV survey. The closest nest of these was nest across from a pistachio orchard located approximately 0.5 mile east of the southeastern solar facility site. (DEIR, Vol II, p. 383).	6
the document	y has rightly adopted the protocol for surveys for Swainson's Hawk outlined in wainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures nergy Projects in the Antelope Valley of Los Angeles and Kern Counties, California nia – California Energy Commission and Department of Fish and Game, 2010	6
for Swainson's	ad Agency has not adopted any mitigation measures for loss of foraging habitat hawk, nor for the loss of Swainson's hawk nesting habitat, and fails to attempt	
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for Swainson's to reduce the in cumulatively fit cumulative imp threatened Swa have been requ (i) Lead Ag <i>Pre</i> <i>bioi</i> <i>con</i> However, th within 5 mi proposed fit This mitiga attempt to r <u>Swainson's</u> <u>Renewable</u>	 ad Agency has not adopted any mitigation measures for loss of foraging habitat hawk, nor for the loss of Swainson's hawk nesting habitat, and fails to attempt nacts of the project to less than significant individually for this project, and om this and other projects in the Antelope Valley, and fails to analyze the acts of solar projects in the Antelope Valley on a unique population of state inson's hawk even though mitigation measures are feasible and available and ired before. ency's Mitigation Measure 4.4-9 in the DEIR requires: construction clearance nesting surveys for Swainson's hawk shall be conducted by a qualified ogist within 0.5 mile of the project site and generation-tie lines no more than 30 days prior to truction. (DEIR MM 4.4-9) e DEIR has already clearly documented multiple active Swainson's hawk nests es of the project site, and adjacent to the project site, and there is no mitigation r loss of foraging habitat or nesting habitat from impacts of the project. ion measure may be adequate for avoidance measures before construction but do not duce the impacts to less than significant on foraging habitat of Swainson's hawk. Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California ifornia – California Energy Commission and Department of Fish and Game, 2010 	6

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will be considered significant and to have the potential to "take" Swainson's hawks as that term is defined in §86 of the DFG Code." (document attached to comments)	
"Mitigation plans should focus on providing habitat management (HM) lands. Lands which are currently in urban use or lands that have no existing or potential value for foraging Swainson's hawks will not require mitigation nor would they be suitable for mitigation. The plans should call for mitigating loss of Swainson's hawk foraging habitat by providing HM lands within the Antelope Valley Swainson's hawk breeding range at a minimum 2:1 ratio for such habitat impacted within a five-mile radius of active Swainson's hawk nest(s). DFG considers a nest active if it was used one or more times within the last 5 years." (document attached to comments)	6-G
e.) Mitigation for loss of foraging habitat for Swainson's hawk is feasible.	
There are opportunities to acquire lands suitable as foraging habitat for Swainson's hawk in the Antelope Valley as well as for Prime Farmland or Farmland of Statewide Importance, where the impact is occurring, that are available for conservation purposes including an accredited mitigation bank, and lands owned by willing sellers identified by land trusts.	6-H
f.) Lead Agency has set a precedent for requiring mitigation for loss of foraging habitat for Swainson's hawk.	
In the FEIR for the Antelope Valley Solar Project and Rosamond Solar Project, and others, Lead Agency required mitigation for loss of foraging habitat for Swainson's hawk.	6-I
g.) Lead Agency must not defer the mitigation until after the DEIR is certified.	
In the analysis of the significance of the impact and whether it can be reduced to less than significant, Lead Agency cannot make the statement that the impact has been reduced to less than significant by requiring a future re-assessment and a mitigation measure that is deferred until after the document has been certified.	
The DEIR contains an analysis of the impacts of the project on foraging habitat of Swainson's hawk that is based on the information in the DEIR, which is, that there are active nests within 5 miles of the project site, and that 1,402 acres of the project site are acknowledged as agricultural and other lands that are foraging habitat for Swainson's Hawk.	6-J
Conclusion: Lead agency should require mitigation for loss of Swainson's hawk foraging habitat in a ratio of 2:1 as recommended by <u>Swainson's Hawk Survey Protocols, Impact</u> Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (State of California – California Energy Commission and Department of Fish and Game, 2010 as well as avoid impacts to Swainson's hawk nests during construction.	
h.) Loss of foraging habitat and disturbance of a nest of Swainson's Hawk in Antelope Valley can be considered "take" by California Department of Fish & Wildlife and a permit under California Endangered Species Act may be required.	6-K

Lead agency should advise Proponent that "take" of foraging habitat, nesting habitat as well as mortality of Swainson's hawk may considered "take" under California Endangered Species Act (CESA) and may require Proponent to seek an Incidental Take Permit under California Endangered Species Act.

2. Burowing Owl (Athene cunicularia)

The impacts of the project on Burrowing owl have not been mitigated to less than significant.

The DEIR reports finding active burrowing owl burrows:

The 2010 focused surveys identified two burrows within the buffer of the proposed solar facility and one within the boundaries of the proposed solar facility with visible owl sign including whitewash and pellets. These burrows were located within the desert saltbush scrub habitat adjacent to the proposed project. One burrow (Gaskell Burrow), which was determined to be active, was located within the proposed solar facility boundaries on the northwest corner of the intersection of Gaskell Road and 110th Street West on the west side of a dirt road across from a residence. The burrow consists of a complex with several entrances located within a large mound of dirt on fallow agriculture land. The burrow was active by the presence of a burrowing owl standing on top of the burrow mound (Ironwood Consulting, 2011). Figure 8 in Appendix F depicts the locations of this burrow as well as the inactive burrowing owl burrows identified during Phase II surveys. Figure 8 in Appendix F also includes the locations of all observations of burrowing owl individuals recorded within the project area. The 2011 focused surveys identified five active burrows with visible burrowing owl sign including whitewash, pellets, and/or owls on the proposed gen-tie corridor and associated buffer areas, and two active burrowing owl burrows within the buffer areas surveyed on the alternative gen-tie corridor. The locations of these burrows identified during 2011 Phase II surveys are depicted in Figure 8 of Appendix F. Figure 8 of Appendix F also includes the locations of all observations of burrowing owl individuals recorded within the project area. (DEIR, 4-4-111)

Mitigation Measure 4.4-8 however does not propose mitigation for loss of these active burrows or the foraging habitat around the burrows, or the presence of wintering burrowing owls in the burrows but instead requires another survey prior to construction after the FEIR has been certified and when construction of the project is ready to begin.

A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas, plus a 150-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to construction. (DEIR, 1-57) and only requires mitigation "if Burrowing owls are detected" (DEIR, 1-57)

Even though the mitigation measure states that "The following measures are based on the recently updated, California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game, 1995; California Department of Fish and Game, 2012b) the measures that follow, in fact, are not based on the document cited.

We thank the Lead Agency for requiring the proponent to follow the recommendations in the above document.

These surveys are very helpful to avoid impacts during construction, but these surveys are redundant to those already contained in the DEIR on which the analysis of significance is based and for which the approval of the DEIR and the project relies.

6-K

6-L

6-M

,	
The analysis of significance and the proposal of mitigation measures to bring the level of significance to less than significant which is required by CEQA and which Lead Agency states will be accomplished through the mitigation measure cannot be based on a projection of a future finding after the document is certified, especially when the document presents data that it is analyzing for impacts.	6-M
Burrowing owls and burrows have already been detected, and the mitigation for the data of impacts of the project presented in the DEIR must be specific, and enforceable in the FEIR.	
These burrows and the foraging habitat can be mitigated to less than significant based on the document cited by the Lead Agency in Mitigation Measure 4.4-7, <i>California Department of Fish and Game Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game, 1995; California Department of Fish and Game, 2012b)</i>	
"Where there is insufficient habitat on, adjacent to, or near project sites where burrowing owls will be excluded, acquire mitigation lands with burrowing owl habitat away from the project site. The selection of mitigation lands should then focus on consolidating and enlarging conservation areas located outside of urban and planned growth areas, within foraging distance of other conserved lands. If mitigation lands are not available adjacent to other conserved lands, increase the mitigation land acreage requirement to ensure a selected site is of sufficient size. Offsite mitigation may not adequately offset the biological and habitat values impacted on a one to one basis. Consult with the Department when determining offsite mitigation acreages." (p.12)	
And the same document regarding burrow exclusion:	6-N
"Burrow exclusion is a technique of installing one-way doors in burrow openings during the non-breeding season to temporarily exclude burrowing owls, or permanently exclude burrowing owls and close burrows after verifying burrows are empty by site monitoring and scoping. Exclusion in and of itself is not a take avoidance, minimization or mitigation method. Eviction of burrowing owls is a potentially significant impact under CEQA." (p. 10)	
Lead Agency must base the mitigation measure on the data contained in the EIR that is used in the analysis.	
Conclusion: Since 9 burrows have been detected, Lead Agency must provide mitigation for this impact on nesting and foraging habitat off-site in the form of conservation lands in order to reduce the impacts to less than significant.	
3. The impacts of the project on loss of Prime Farmland and Farmland of Statewide Importance has not been mitigated to less than signfican.	
The DEIR reports that no mitigation is necessary for the loss of Prime Farmland or Farmland of Statewide Importance so there is no significance, but the DEIR clearly states that the project site contains these Farmlands, which must be mitigated for.	6-0
Thank you for the opportunity to comment on the DEIR for the Willow Springs Solar Array project.	

Sincerely,

Ba

Garry George Renewable Energy Director Audubon California

ang Jone

Harry Love Conservation Chair Kern Audubon Society

1 Work

David Weeshoff President San Fernando Valley Audubon Society

Brenda Burnett

Brenda Burnett President Kerncrest Audubon Society

Response to Comment Letter 6: Audubon California (April 8, 2015)

6-A The commenter summarizes the Audubon California's support base and mission statement.

Thank you for your comments. The participation of Audubon California in the public review of this document is appreciated. The lead agency notes commenter's organizational purpose. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-B This comment states that commenter has recognized the Antelope Valley as a Globally Important Bird Area. The comment further explains why the region is important to various bird species.

Thank you for your comments. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-C This comment expresses concern that the project may have significant impacts on the Swainson's hawk and that the lead agency could require compensatory mitigation.

Thank you for your comment. For a response to this comment, please see Responses to Comments 5-G, 5-H, 5-E2, 5-F2, and 5-Z2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-D This comment asserts that the project site has at least 1,402 acres of suitable Swainson's hawk foraging habitat and that Swainson's hawks have been observed within five miles of the project site.

Thank you for your comment. The applicant's biological experts have noted that the project site provides relatively low-quality foraging habitat, as discussed further in Responses to Comments 5-G, 5-E2, 5-F2. The project adequately mitigates for its impacts to this foraging habitat. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-E This comment also states that Swainson's hawks have been observed within five miles of the project site. This comment describes the findings of the Draft EIR.

Thank you for your comments. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-F This comment states that the lead agency has properly considered and relied upon the applicable Swainson's hawk survey protocols.

Thank you for your comments. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-G This comment contends that the lead agency has not adopted any compensatory mitigation for the loss of Swainson's hawk foraging habitat, and fails to analyze the cumulative impacts on the Antelope Valley Swainson's hawk population.

Thank you for your comments. For a response to this comment, please see Responses to Comments 5-G, 5-H, 5-F2, 5-Z2.In addition to the compensatory and other mitigation required

for this project, the lead agency has required other projects in the surrounding area to adopt feasible mitigation measures to protect the Swainson's hawk. Moreover, cumulative biological resource impacts are analyzed on Draft EIR pages 4.4-54 and 4.4-55. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-H This comment notes that compensatory mitigation for Swainson's hawk is feasible.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-E2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration

6-I This comment notes that the lead agency has previously required compensatory mitigation for Swainson's hawk.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-E2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-J This comment states that the lead agency must not defer compensatory mitigation for Swainson's hawk and recommends compensatory mitigation at 2:1.

Thank you for your comments. Please refer to Responses to Comments 5-G, 5-H, 5-E2, 5-F2 and 5-Z2. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-K Commenter suggests that loss of foraging habitat and nest disturbance could result in a take of Swainson's hawk pursuant to the California Endangered Species Act.

Thank you for your comments. Loss of foraging habitat does not constitute take under the California Endangered Species Act. (*Environmental Council of Sacramento v. City of Sacramento* (2006) 142 Cal.App.4th 1018, 1040 ["We reject any insinuation that the definition of 'take' under Fish and Game Code section 2081, subdivision (b)(2) encompasses the taking of habitat alone..."].) Mitigation Measure 4.4-9 prohibits new disturbance, habitat conversion or other project-related activities within ½-mile of a nest during nesting season and requires that the project be designed to allow sufficient foraging and fledging area to maintain a nest site. For a further response to this comment, please see Responses to Comments 5-G, 5-H, 5-E2, 5-F2, and 5-Z2.This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-L This comment argues that burrowing owl impacts have not been mitigated to less than significant levels because Mitigation Measure 4.4-8 does not propose mitigation for loss of burrows for foraging habitat.

Thank you for your comments. Please see Response to Comment 5-F2, requiring off-site compensatory mitigation for burrowing owl at a ratio of at least 10 acres per passively relocated burrowing owl pair. Accordingly, compensatory mitigation is required and impacts to burrowing owl will be mitigated to less than significant levels. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-M This comment asserts that mitigation for burrowing owl should not be deferred until after certification of this environmental impact report.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-F2, requiring off-site compensatory mitigation for burrowing owl at a ratio of at least 10 acres per passively relocated burrowing owl pair. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-N This comment states that burrowing owls have already been detected on-site and that foraging habitat mitigation must be required, consistent with the *California Department of Fish and Game Staff Report on Burrowing Owl Mitigation*.

Thank you for your comments. For a response to this comment, please see Response to Comment 5-F2, requiring off-site compensatory mitigation for burrowing owl at a ratio of at least 10 acres per passively relocated burrowing owl pair. The lead agency also notes that the Staff Report does not provide a specific mitigation measure for loss of foraging habitat. The lead agency has determined that a ratio of at least 10 acres per passively relocated burrowing owl pair will mitigate impacts to less than significant levels. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

6-O This comment states that the project fails to mitigate impacts to loss of farmland.

Thank you for your comments. For a response to this comment, please see Responses to Comments 5-J and 5-K. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Comment Letter 7: James and Dorothy Moore (March 4, 2015)

James & Dorothy Moore 1760 100St W Rosamond, CA 93560

DATE: March 4, 2015

TO: Kern County Planning Development Dept 2700 "M" Street Suite 100 Bakerfields, CA 93301-2323

RE: Willow Springs Solar Photovoltaic Project (PP10232) Amendment No. 15

I have received the Draft Environment Impact report and have several issues/comments. There is a significant impact to residential properties in the area by the proposed change.

1. I live at 1760 100th West which boarders the project. I have a one acre property with a single family home. On the Zoning maps it does not appear to b included. Figures 1-6, 1-7, 3-6 3-7 only address 2.5 acres properties east of 100	e 7-A st.
2. Aesthetics - Mitigation Measures for Glare do not address Residents directly of street. Section 4-1-35 states it can be reduced but no plan addressed. There should be a mitigation plan for the glare impact on residents directly on 100st West.	
Section 4-1-35Glare. "for most residents, glare effects would be further reduced by intervening elements in the immediate view-shed, such as vegetative screening Created by mature landscape trees, ornamental planting, and other homes or structures, which would obstruct views of the panels. "	7-0
3. Biological Impact: This area is known for a large Mojave Green Rattlesnake population. The report does address the impact the Construction activities will have on this snake population. The plan needs to address how snake movement onto our properties will be mitigated.	7-C
4. Noise _ As displayed on Figure 4-12-2 Our residence is within 60 feet of project. We are expecting the birth of Child in summer on 2015. We our fearful the noise impact to an infant. There needs to be mitigation plan addressing the	of 7-D

potential dangers to infant and toddlers this close to the project.

5. Water Quality - I have a private water well. I am directly across from project. The mitigation plan should address private well impacts and correction measures if private water wells are impacted.

6. Aesthetics : At no point does the plan address my loss in property value do to loss in natural view. The man made items will now be directly in front of my house impacting the value.

Before approving this plan these concerns need to be addressed.

Sincerely yours

James W. Moore II Dorothy A Moore

Response to Comment Letter 7: James and Dorothy Moore (March 4, 2015)

7-A The commenter states they have received the Draft EIR for the Willow Springs Solar Project. The commenter states that there is a significant impact to residential properties in the area by the proposed project and that their one acre property borders the proposed project but is not recognized in Draft EIR.

Thank you for your comments. The participation of James and Dorothy Moore in the public review of this document is appreciated. All general areas encompassing specific properties bordering the project area are recognized in the Draft EIR. Your property, like all other properties bordering the project, is not recognized in Figures 1-6, 1-7, 3-6 or 3-7 because these maps depict zoning and general plan areas, however, your property is considered in the analyses of the Draft EIR. For example, Page 4.1-12 states, "In addition, small clusters of residences are found in a few areas, most notably to the northeast and along the eastern edge of the site, on the opposite site of 100th Street West." This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

7-B The commenter states that mitigation measures for glare do not address residents directly on the street, particularly Section 4.1-35. The commenter states that there should be a mitigation plan for the glare impact on residents directly on 100 Street West.

Thank you for your comments. On page 4.1-12 of the Draft EIR, it describes the sensitive receptors as being located along the northeast and along the eastern edge of the site, on the opposite side of 100th Street West. Your residence is noted as part of the area considered to contain sensitive receptors. Mitigation Measures MM 4.1-1 through MM 4.1-3 are incorporated to reduce visual impacts that could occur from the collection of debris along the site's boundaries and to minimize views of project equipment by installing view-screening materials in fencing and requiring the planting of trees. These measures would also help reduce glare for residents directly adjacent to the project site across the street. In addition, the solar panels are not expected to cause extreme visual discomfort or impairment of vision for residents because the panels are designed to absorb as much sunlight as possible and therefore would have minimal reflectivity. Therefore, the project vicinity and no additional mitigation measures are considered necessary. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration

7-C The commenter states that area project area is known to have a large Mojave Green Rattlesnake population. The commenter states that the report does address the impact the construction activities will have on this snake population. The commenter expresses concern that no plan exists to address how snake movement onto their property will be mitigated.

Thank you for your comments. On page 4.4-2, the Draft EIR recognizes that the Mojave rattlesnake (*Crotalus scutulatus*) is native to the project area. As described in Impact 4.4-4 on page 4.4-53, the project site is not located within a known wildlife migration corridor or linkage. While there may be some movement in the area of species that are adapted to life in association with human activities, the land use on the project site and surrounding areas does not indicate any particular value of the project site for movement by these common species. Therefore, substantial

wildlife movement would not be expected. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

7-D The commenter states that James and Dorothy Moore's property is located within sixty feet of the proposed project. James and Dorothy Moore are expecting a child to be born in summer of 2015. The commenter expresses fear of the noise impact on the infant. The commenter requests that a mitigation plan address the potential dangers of the project on infants and toddlers.

Thank you for your comments. As described in Section 4.12, Noise, "Land uses deemed sensitive by the State of California include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others because of the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Many jurisdictions also consider residential uses particularly noise-sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with those activities."

As described in Impact 4.12-1 on page 4.12-17, Project construction work is expected to last for approximately 24 months, including one month of site move-on activities and 23 months for the PV facility grading, installation, testing, and cleanup work. Construction would be completed in discrete steps, each of which would have its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the project site and, therefore, the noise levels surrounding the site as construction progresses. A reasonable worst case construction assumption of three scrapers (the loudest pieces of equipment identified in Table 4.12-3) operating simultaneously and continuously within a focused area would result in a composite construction noise level of 94 dBA at 50 feet (RBF, 2011). The Willow Springs Specific Plan provides that the maximum desired ambient exterior daytime noise levels for sensitive receptors is 55 L₅₀ dBA L_{dn} and requires attenuation measures for all new commercial, industrial, and residential development where noise levels exceed these standards. However, the Willow Springs Specific Plan acknowledges that construction noise will occur as part of the build-out of the Specific Plan and that such construction noise represents a short-term impact on ambient noise. The project operator would implement Mitigation Measures MM 4.12-1 through MM 4.12-3 to ensure that noise effects on nearby sensitive receptors would be minimized to the extent practicable. On page 4.12-22, Mitigation Measure MM 4.12-2 states that a "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint and shall be required to implement reasonable measures to resolve the complaint. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

7-E The commenter states that James and Dorothy Moore have a private water well located on their property, and that their property is located directly across from the project. The commenter expresses their concern that the mitigation plan does not address private well impacts and correction measures if private water wells are impacted.

Thank you for your comments. The project would require approximately 900 acre-feet of water during the 24 month construction phase of the proposed project, for drinking water, and soil

conditioning and dust suppression. This water would be obtained by utilizing the existing onsite irrigation wells or purchased from a nearby water bank or from the Antelope Valley East Kern Water Agency or other water purveyor (the source of any purchased water is likely to be the State Water Project California Aqueduct) and trucked in. The estimated water consumption for operation of the facility, including periodic PV module washing, is 35 acre-feet annually, which would be supplied by the existing onsite wells. The project would reduce water demand below what was historically used for agricultural operations. Historic water use averages were approximately 2,283 AFY. As a result, the water use of the project would not adversely affect the available water supply in the project area and is not anticipated to negatively impact adjacent wells. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

7-F The commenter states that the plan should address loss in property value due to loss in a natural view from their property.

The project area's visual quality, currently dominated by open spaces and abandoned and recently fallowed and active agricultural land, would be substantially altered by the addition of solar panels, mechanical equipment, power lines, and other facilities on thousands of acres. The rural visual character of the site would be substantially replaced with an industrial character. Specifically, there would be potentially significant impacts associated with "cultural modifications," or manmade features, which strongly impact the area's visual resources, "vegetation" due to the replacement of desert and abandoned and fallowed agricultural land with solar panels, and "adjacent scenery" because views of hills to the north would be partially blocked by fencing and solar panels associated with the project. The entire project site would be surrounded by a six-foot-tall, chain-link perimeter security fence topped with three rows of barbed wire (for a total of seven feet in height). The fence's first rung will be raised 3.5 to 7 inches from the ground to allow free movement of small wildlife species across the project site. Mitigation Measures MM 4.1-1 through MM 4.1-3 are incorporated to reduce visual impacts that could occur from the collection of debris along the site's boundaries and to minimize views of project equipment by installing view-screening materials in fencing and requiring the planting of trees. However, because there are no feasible mitigation measures that can be implemented to preserve the existing open space landscape character while at the same time developing a solar energy facility, impacts to visual resources would remain significant and unavoidable despite implementation of these mitigation measures.

Regarding the value of surrounding property, the lead agency notes that loss of property value and potential effects can only be tested through data from parcel sales. There are a number of factors that have the potential to affect property value; as a result, it is not possible to identify exactly how the proposed solar project would potentially affect private property values. Propertyspecific factors such as neighborhood features, square footage, size of lot, and irrigation potential are substantially more likely than the presence of energy infrastructure to be major determinants of the sales price of property. The lead agency is of the opinion that there is no evidence presented to Staff that would conclude that the installation of a solar facility would lead to a decrease in neighboring property values.

Additionally, the *CEQA Guidelines* provide that "economic and social effects of a project shall not be treated as significant effects on the environment" (Section 15131(a)). CEQA is concerned only with a project's economic impacts where there is the potential for such impacts to result in an indirect physical impact to the environment. Accordingly, *CEQA Guidelines* Section 15131(a)

provides that "intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effects. The focus of the analysis shall be on the physical changes." As part of the overall environmental analysis, the lead agency has incorporated all reasonable and feasible mitigation measures to reduce potential physical impacts to the environment as a result of this project. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Comment Letter 8: Donna Pugh (March 4, 2015)

Page 1 of 1

Robert Dmohowski - Willow Springs Array Project

From:Donna Pugh <ddpugh@att.net>To:<dmohowskir@co.kern.ca.us>Date:03/04/2015 10:42 AMSubject:Willow Springs Array Project

Mr. Dmohowski,

I left a message on your answering machine, but I also wanted to write to you. My brother, Richard Graniere, received a letter regarding the Willow Springs Array Project. We have 40 acres right adjacent to this property. We have concerns about our property. We have been trying to sell it for a number of years. It's been in the family for too long and it is worth nothing..nobody wants it. A few years ago we agreed to sell off a portion to the electric company. They put up the huge power towers. We didn't really have a choice to sell and we knew then the property would never be worth much. Well now, with this project we will never be able to sell it.

8-A

We want to voice our concerns but all of us live too far away from the planning meeting in Bakersfield. So what we need to know is if we can send letters to be viewed at the meeting, the address to send them and to whom to address them.

Also, who is the company that is doing this project? Maybe they would like to expand? We have 40 acres we would sell at a reasonable price!

Sincerely, Donna Pugh <u>661 252-2420</u> 27218 Oakgale Ave. Canyon Country, CA 91351 <u>ddpugh@att.net</u>

Rick Graniere 21236 Hillgate Circle Trabuco Canyon CA 92679 rgraniere@cox.net

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Response to Comment Letter 8: Donna Pugh (March 4, 2015)

8-A The commenter expresses concern that their 40-acre property adjacent to the project site will go down in value as a result of construction of the proposed project. The commenter states that her family has been unable to sell their property for several years after another large power project was installed nearby. The commenter believes that construction of the proposed project will prevent any chance of being able to sell this property in the future. The commenter requests that this concern be addressed at the public meeting, because the commenter lives too far away to attend. The commenter asks which company is constructing the project, and asks if expansion might occur. The commenter states that she would like to sell the property in question to the company if possible.

Thank you for your comments. The participation of Donna Pugh in the public review of this document is appreciated. The Willow Springs Solar Array project is proposed by Willow Springs Solar, LLC (project operator). Refer to the attached cover letter which details when and where the public hearing for this project will occur. Public comments will be accepted at this meeting.

Regarding the value of surrounding property, the lead agency notes that loss of property value and potential effects can only be tested through data from parcel sales. There are a number of factors that have the potential to affect property value; as a result, it is not possible to identify exactly how the proposed solar project would potentially affect private property values. Propertyspecific factors such as neighborhood features, square footage, size of lot, and irrigation potential are substantially more likely than the presence of energy infrastructure to be major determinants of the sales price of property. The lead agency is of the opinion that there is no evidence presented to Staff that would conclude that the installation of a solar facility would lead to a decrease in neighboring property values.

Additionally, the *CEQA Guidelines* provide that "economic and social effects of a project shall not be treated as significant effects on the environment" (Section 15131(a)). CEQA is concerned only with a project's economic impacts where there is the potential for such impacts to result in an indirect physical impact to the environment. Accordingly, *CEQA Guidelines* Section 15131(a) provides that "intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effects. The focus of the analysis shall be on the physical changes." As part of the overall environmental analysis, the lead agency has incorporated all reasonable and feasible mitigation measures to reduce potential physical impacts to the environment as a result of this project. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Comment Letter 9: Robert Mundy (March 9, 2015)

Page 1 of 2

Robert Dmohowski - Re: Draft Environment Impact Report

From:trebor1024 <trebor1024@gmail.com>To:Robert Dmohowski <DmohowskiR@co.kern.ca.us>Date:03/10/2015 2:52 PMSubject:Re: Draft Environment Impact Report

Mr Dmohowski, OK -- Thanks for the feedback. Guess we'll just have to wait until mid-April, then, to see what may come of all of this.

If electronic versions of the response to comments cannot be sent, I would still like to receive a copy at the following mailing address:

Robert Mundy 9 Kimball Court #403 Burlington, MA. 01803

Thanks, Robert Mundy

On Mar 9, 2015, at 18:28, Robert Dmohowski < DmohowskiR@co.kern.ca.us> wrote:

Mr. Mundy:

Thank you for your inquiry. Your comments have been added to the record. Questions of this nature will be addressed during the response to comments once the comment period ends on April 13th. If you would like to receive a copy of the response to comments, please provide me with your mailing address. Thanks you.

Sincerely,

Rob Dmohowski Planner III, Advanced Planning Kern County Planning Department (661) 862-8608 Fax (661) 862-8601

>>> Bob Mundy <<u>trebor1024@gmail.com</u>> 03/03/2015 2:40 PM >>> Hello Mr. Dmohowski ...

I've tried to call you a couple of times, but I guess my timing isn't so great (I did leave you a message on the last one). My name is Robert Mundy and I received a "Draft Environmental Impact Report" recently from the Planning and Community Development Department in Bakersfield.

9-A

Turns out I own a couple of small, non-contiguous parcels of land in Rosamond, one of which is within the square acreage of the area described for the installation of solar

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panels, and another which is very near this location.	ľ
The primary questions I have are as follows:	
1. What are the chances the planned Photovoltaic Project will not commence (due to the environmental impacts mentioned)?	9-A
2. If the project does go forward, will affected property owners be compensated for the value of their land?	

Thanks,

Robert Mundy <u>trebor1024@gmail.com</u> <u>617-816-4332</u>

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Response to Comment Letter 9: Robert Mundy (March 9, 2015)

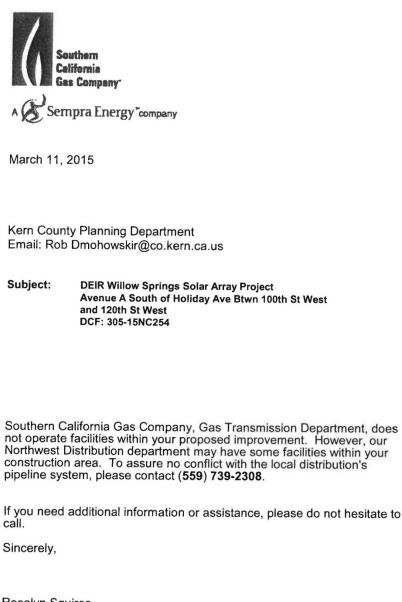
- 9-A The commenter states that he has received the Draft EIR. The commenter states that he owns non-contiguous parcels in Rosamond, one of which is within the square acreage described for the installation of the solar panels, and another which is in close proximity to the proposed project. He asks two questions:
 - 1. What are the chances that the planned Photovoltaic project will not commence?
 - 2. If the project does go forward, will affected property owners be compensated for the value of their land?

Thank you for your comments. The participation of Robert Mundy in the public review of this document is appreciated. The project site is comprised of nine separate Assessor Parcel Numbers (APNs): APN 359-052-02; 359-031-02; 359-031-03; 359-031-04; 359-031-05; 359-031-15; 359-031-06; 359-032-01; and 359-032-17; also shown in Table 3-1 of the Draft EIR on page 3-1. The project does not include any other parcels.

Refer to the attached cover letter which details when and where the public hearing for this project will occur. The Planning Commission will make a recommendation to the Board of Supervisors regarding approval or denial of the project. The Board of Supervisors will then hear the project and either approve or deny the project. The Board of Supervisors meeting is tentatively scheduled for July 14, 2015.

This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Comment Letter 10: Southern California Gas Company (March 11, 2015)



Rosalyn Squires Pipeline Planning Assistant Transmission Department (818) 701-4546 Southern California Gas Company

9400 Oakdale Avenue Chatsworth, CA

Mailing Address:

P. O. Box 2300

Chatsworth, CA

91313-2300

M.L.9314 tel 818-701-4546 fax 818-701-4554

10-A

91311

Response to Comment Letter 10: Southern California Gas Company (March 11, 2015)

10-A The commenter states that Southern California Gas Company, Gas Transmission Department, does not operate facilities within the proposed project area, but that their Northwest Distribution department may have some facilities within the proposed project area. The commenter requests that the local distribution be contacted at (559) 739-2308 to ensure that no conflict with the pipeline system occurs.

Thank you for your comments. The participation of the Southern California Gas Company in the public review of this document is appreciated. The project proponent shall obtain all required permits and ensure no conflicts with the Northwest Distribution Department exist prior to construction. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Comment Letter 11: RD Commercial Real Estate (April 9, 2015)

RD Commercial Real Estate 43770 15th Street West, Suite 300 Lancaster, CA 93534 661 942-2000 off 661 886-2143 cell rdcommercial.bobdennis@verizon.net

April 9, 2015

Mr. Rob Dmohowski Planning Department County of Kern 2700 "M" Street, Suite 100 Bakersfield, CA 93301 Via: Fax 661 862-8600 E-Mail and USPO

Re: Willow Springs Solar Project PP10232

Dear Mr. Dmohowski:

I am the owner of two properties located adjacent to the above referenced project and shown on the attached map. The first is an approximately 40 ac. parcel located at the Northwest Corner of Gaskell Rd. and 115th Street West (Marked as #1). The second is **my principle residence**, approximately an 80 ac. parcel located at the Northeast corner of Ave A and 110th Street West (Marked as #2). I have marked these parcels in yellow on the attached map, with a blue mark showing approximately where my home is located (Marked as #3).

I have two agricultural wells on parcel #2. The first I have marked as #4, the other is located in the proximity to my home on the western edge of the property. Both wells are located approximately 60 feet from 110th Street West.

To give you a brief history, my father moved to this property in 1963 where we farmed the land. I moved away in my youth but came back in 1978 after I married and chose to raise my future family. I have two boys, both born and raised on the ranch with a farming life style. They were home schooled until off to different California Universities (UCSD & UCSB). The oldest is a Naval Aviator flying an F-18 and my youngest is a professional photographer. I am telling you this to give you a sense of our rich history there, and get you to try and understand how a project like this will greatly change life, as I know it. 11-A

I am only one of maybe seven homes out there to be affected. Certainly one of three that will be GREATLY AFFECTED! Rob, as my representative for County of Kern, protecting the rights and lives of its citizens, I am calling on the county to consider the changes to just a few of us the will be living with these projects.	
Recognizing the benefits of employment, economic affect to the area and energy production for Kern, my goal is not to attempt to delay or impede this project, but only to protect my rights to live relatively undisturbed by what I have been seeing, hearing and enduring with other projects that are being developed. These following items are some of what will be affecting me now and on into the future:	11-A
 A. Heavy Equipment. B. 200-300 employees. C. Trucks in and out. D. Bright lights all night. E. Equipment that will be pile driving supports into the ground. F. Heavy truck and trailers delivering items. G. Reflections off these arrays. H. Dust ** If you had to live with the dust that I have for the last few years.** I. Noise Noise 	
1. Noise Noise Noise	
You will not have to suffer these consequences, I will.	
You will not have to suffer these consequences, I will. The issues that are of initial concern and foremost in my mind, but shall not be limited to and may be amended from time to time as I consider how this project will affect my life	11-В

- 6. Hundreds of people around my property. A loss of privacy certainly.
- 7. Hundreds of storage containers with associated banging of doors and equipment and tools moved in and out.
- 8. During the windy season the dust was crazy bad. I am sure that the Kern County Agencies are aware of this.

These are only a few of the initial concerns I have. I would like to get the namse of contacts or representative to the developer, to discuss mitigation or some solutions to my concerns. Further, I invite contact directly with you to discuss remedies and these concerns.

Thank you for considering my letter of concerns and forwarding this to the appropriate parties. Please contact me on my cell, as it is the best number 661 886-2143. I will look forward to speaking with you regarding this very important matter.

Sincerely,

Robert Dennis

RD/msf

11-C

Response to Comment Letter 11: RD Commercial Real Estate (April 9, 2015)

11-A The commenter states that he owns two properties located adjacent to the proposed project, one of which is his principle residence. He also has two agricultural wells on the property. The commenter and his family have lived on the property since 1963, and have farmed the land since then as well. The commenter is expressing his concern for parts of the project that will likely affect him and his family from now on, including heavy equipment, hundreds of employees, truck traffic, bright lights, the use of pile driving equipment, reflections off the solar arrays, dust, and noise.

Thank you for your comments. The participation of RD Commercial Real Estate in the public review of this document is appreciated. The Draft EIR identifies significant and unavoidable impacts related to aesthetics, air quality (construction only), and noise. While Mitigation Measures have been identified and included for the project, not all aesthetics, air quality (construction only), and noise impacts can be mitigated to below levels of significance. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

11-B The commenter states that the well at the northern edge of parcel #2 is his only primary drinking water. The well runs through one quarter mile of concrete pipe to his house to fill storage tanks, and then continues to Ave A, another quarter mile to the edge of his property. The other well is a backup and potential fire backup well. The commenter is concerned that with the heavy equipment and pile driving vibrations, the health and conditions of his wells and delivery system will be adversely affected. He is concerned that the amount of work required for the project could seriously disturb, crack, destroy or collapse the concrete lines and/or casing to the wells, potentially affecting the quality of water.

Thank you for your comments. The participation of RD Commercial Real Estate in the public review of this document is appreciated. Construction of the proposed project would not require blasting, which is a vibration-intensive activity; however, impact-post driving or drilling may be utilized for installation of the PV array support posts and could cause vibration impacts at close distances. While these construction activities would result in some minor amounts of groundborne vibration, such groundborne noise or vibration would attenuate rapidly from the source and would not be generally perceptible outside of the construction areas. As such, no sources of groundborne vibration would be expected to affect receptors outside of the work areas and no impact to aforementioned concrete water lines and water well would be expected. This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

11-C The commenter states that his initial concerns about how the project will affect his life and his property include: noise, bright lights all night, theft, destruction of his current windbreak, hundreds of people around his property, hundreds of storage containers with associated noise of using them, and severe dust problems. The commenter requests the names of contacts for the developer to discuss mitigation or some solutions to the above concerns, and provides his contact information for further discussion.

Thank you for your comments. Construction of the project would create noise impacts, particularly from traffic noise, that will remain significant and unavoidable. However, Mitigation

Measures MM 4.12-1 through MM 4.12-3 will be enforced to ensure impacts are kept to a minimum as much as possible throughout the construction phase of the project (Draft EIR, page 4.12-21 - 4.12-22).

The proposed project would include security lighting, likely to be installed around the perimeter of the site, near the O&M building, and near the on-site substation. Impacts resulting from lighting would be minimized through compliance with all development standards; the Kern County Zoning Ordinance; and the goals, policies, and implementation measures of the Kern County General Plan and Willow Springs Specific Plan. Compliance with the Kern County Dark Skies Ordinance would be required, as included in Mitigation Measure MM 4.1-4 and would minimize the potential for spillover lighting to adversely affect residents and motorists to a less-than-significant level.

During construction, the project would exceed the significance thresholds for emissions established in the EKAPCD guidelines for implementing CEQA and as adopted by the Kern County Board of Supervisors. However, the project operator would implement Mitigation Measures MM 4.3-1 through MM 4.3-10 in conformance with applicable air quality plans in order to reduce fugitive dust and exhaust emissions. A Site Specific Dust Control Plan would be required as part of Mitigation Measure MM 4.3-10, serving to minimize fugitive dust emissions during project construction.

Once constructed, the project would be operated by approximately 16 employees, and vehicle trips associated with project operation and maintenance would be minimal (Draft EIR, page. 4.3-39).

This comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

Comment Letter 12: Renald and Eleanor Showers (NO DATE)

Renald & Eleanor Showers

633 Glover Drive

Lancaster, PA 17601

KERN COUNTY DEVELOPMENT SERVICES AGENCY

PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT

2700 "M" Street, Suite 100

Bakersfield, CA 93301-2323

To whom it may concern,

We are writing to receive information related to the plot of land that we purchased in 1983. It is Parcel 1 of Parcell Map 6346 in book 29, Page 154 of Parcel Maps, in the office of the County Recorder of Said Kern County, California.

In light of the proposed Willow Springs Solar Photovoltaic Project, we would appreciate your honest recommendation concerning what we should do with our ownership of the land.

Sincerely Yours,

Renald Showers

Renald Showers

12-A

Response to Comment Letter 12: Renald and Eleanor Showers (NO DATE)

12-A The commenter states that in light of the Willow Springs Solar Photovoltaic Project, the commenter would like to receive a honest recommendation concerning the plot of land purchased in 1983 (Parcel 1 or Parcel Map 6346 in book 29, Page 154 of Parcel Maps in the office of the County Recorder of the County of Kern).

Thank you for your comments. The participation of Renald and Eleanor Showers in the public review of this document is appreciated. This comment does not state a specific concern about the adequacy of the Draft EIR or otherwise comment on the contents of the Draft EIR. Therefore, a response is not required. However, this comment has been noted for the record and has been provided to the Kern County Planning Commission and Board of Supervisors for consideration.

7.5 References

Agricultural Resources

Kern County Board of Supervisors. 2012. Pathway for Processing: Conversion of Agricultural Land to Solar PV Use.

Air Quality

- CAPCOA. 2009. Health Risk Assessments for Proposed Land Use Projects. Accessed at http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.
- OEHHA. 2012. Air Toxics Hot Spots Program Risk Assessment Guidelines, Technical Support Document for Exposure Assessment and Stochastic Analysis. Accessed at http://oehha.ca.gov/air/hot_spots/tsd082712.html.
- OEHHA. 2015. Air Toxics Hot Spots Program, Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments. Accessed at http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

Appendix A Phase I Environmental Site Assessment, by URS for First Solar, dated May 24, 2012

PHASE I ENVIRONMENTAL SITE ASSESSMENT

FOR THE FIRST SOLAR WILLOW SPRINGS PROJECT SITE

KERN COUNTY, CALIFORNIA

Prepared for:

First Solar 525 Market Street 15th Floor San Francisco, California 94105

Prepared by:

URS

URS Project Number 28907337

May 24, 2012 (Revised)

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EXECUTIVE SUMMARY

This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted by URS Corporation (URS) of the First Solar Willow Springs Project Site, an approximately 1,450-acre property located in an unincorporated area of Kern County, California (property). The purpose of the Phase I ESA was to gather information concerning the property and surrounding areas in order to identify conditions indicative of releases or threatened releases of hazardous substances, pollutants, contaminants, petroleum or petroleum products, and controlled substances in order to identify and evaluate Recognized Environmental Conditions (RECs) affecting the property. This Phase I ESA was accomplished by, and limited to, a site reconnaissance, a site vicinity perimeter survey, and review of agency databases and other reasonably ascertainable records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the property.

The Scope of Services performed was in accordance with the Technical Services Agreement dated November 24, 2009 between First Solar and URS, URS' proposal/scope of work dated February 3, 2012, and First Solar Purchase Order #4800007754. The format and content of this Phase I ESA are in general accordance with the American Society of Testing Materials (ASTM) Standard Practice for *Environmental Site Assessments: Phase I Site Assessment Process E 1527-05* (ASTM 2005) and the U.S. Environmental Protection Agency All Appropriate Inquiries *Standards and Practices for All Appropriate Inquiries – Final Rule: [40 CFR Part 312]*, approved November 1, 2005.

At the time of the site reconnaissance, the property was observed to be approximately 1,450 acres of primarily agricultural land. The property consists of Assessor Parcel Numbers (APNs) 359-031-02, 359-031-03, 359-031-04, 359-031-06, 359-031-15, 359-032-01, 359-032-17, and 359-052-02 located northeast of the intersection of 120th Street West and West Avenue A in Sections 24, 25, 26, and 35, Township 9 North, Range 14 West, in an unincorporated area of Kern County, in the Antelope Valley. The property is bounded by 120th Street West, 100th Street to the east, West Avenue A to the south and undeveloped land to the north.

Historical data indicate that the property has remained primarily undeveloped and used for agricultural purposes. Two areas with residential and farm-related structures were observed on the property during the site reconnaissance. Storage of hazardous materials, piles of debris, and staining were observed on the property associated with farm operations and maintenance.

The property (Wil Mar Farms at 1747 100th Street West) was identified on the underground storage tank (UST) database searched by Environmental Data Resources, Inc. (EDR). No violations were reported on the database. No additional information was provided. One

facility in the site vicinity was identified on the databases searched by EDR. Based on the regulatory status of this facility is not anticipated to impact the property (See Section 4.1, Database List Search for additional information).

Based on the ESA results described herein, the following conclusions are made.

ES.1 ON-SITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on URS' site reconnaissance and review of historical information, the following RECs from on-site sources were identified:

• The observed areas of soil staining on the property, the potential of a historic underground storage tank on the property, the use and storage of fuel and hazardous materials for the maintenance of farm-related equipment, and areas of debris on the property have the potential to impact the surface and subsurface of the property.

ES.2 OFF-SITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on URS' review of historical information and the environmental database search, RECs from off-site sources having the potential to affect the property were not identified.

This Executive Summary is not intended to be a "stand-alone" document, but a summary of findings as described in the Phase I ESA report. Its use is intended to be in conjunction with the findings and limitations described therein.

SECTION 1.0 INTRODUCTION

Presented in this report are the results of the Phase I Environmental Site Assessment (ESA) conducted by URS Corporation (URS) of the First Solar Willow Springs Project Site, an approximately 1,450-acre property located in an unincorporated area of Kern County, California (property).

This assessment was accomplished by, and limited to, a reconnaissance of the site, a perimeter survey of the site vicinity, and review of agency databases and other reasonably ascertainable information regarding past and current land use for indications of the manufacture, generation, use, storage, and/or disposal of hazardous substances at the property.

1.1 AMERICAN SOCIETY OF TESTING MATERIALS STANDARD AND ALL APPROPRIATE INQUIRY

The format and content of this Phase I ESA are in general accordance with the American Society of Testing Materials (ASTM) Standard Practice for *Environmental Site Assessments: Phase I Site Assessment Process E 1527-05* (ASTM 2005) and the U.S. Environmental Protection Agency (USEPA) All Appropriate Inquiries (AAI) *Standards and Practices for All Appropriate Inquiries – Final Rule: [40 CFR Part 312]*, approved November 1, 2005.

1.1.1 All Appropriate Inquiry Standards

The USEPA Rule on AAI was developed to establish landowner liability protections to property owners under the Comprehensive Environmental Response, Compensation, and Liability Act as innocent landowners, bona-fide prospective purchasers, and/or contiguous property owners. The AAI Rule expands the records review requirements by increasing the search distances beyond the recently superseded ASTM Standard E 1527-05, incorporating mandatory searches for engineering and institutional controls, and mandatory review of local government and tribal records. The records review also requires a search of reasonably ascertainable land title and lien records to identify environmental liens or activity and use limitations, if any, which are recorded against the property. The historical sources review requires that a search of the property go as far back in history as it can be shown that the property contained structures or was first used for residential, agricultural, commercial, industrial, or governmental purposes. Data gaps for the property should be identified and their significance reported. The AAI Rule also requires taking into account commonly known or reasonably ascertainable information within a local community. AAI requires that inquiries be conducted by an environmental professional as specifically defined within the Rule.

1.1.2 American Society of Testing Materials Standard

The ASTM Standard was approved November 18, 2005, and was established and updated to reflect industry requirements brought about by AAI.

The goal of the ASTM Standard is to identify Recognized Environmental Conditions (REC) (see Section 5.0 of this Phase I ESA). Under the ASTM Standard, "recognized environmental condition" is defined as the presence, or likely presence, of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. RECs include hazardous substances or petroleum products even under conditions in compliance with laws. RECs are not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions.

1.2 PURPOSE

The purpose of the Phase I ESA is to gather information concerning the property and surrounding areas in order to identify conditions indicative of releases or threatened releases of hazardous substances, pollutants and contaminants, petroleum or petroleum products, and controlled substances.

1.3 SCOPE OF SERVICES

The Scope of Services performed was in accordance with the Technical Services Agreement dated November 24, 2009 between First Solar and URS, URS' proposal/scope of work dated February 3, 2012, and First Solar Purchase Order #4800007754. The format and content of this Phase I ESA are in general accordance with the ASTM Standard and the USEPA AAI.

The site reconnaissance included a driving and walking tour of the property and a perimeter survey of surrounding and accessible adjacent properties. To meet the objective of this Phase I ESA, URS completed the following tasks:

- Performed a reconnaissance survey of the property to make visual observations of existing site conditions and activities, and a perimeter survey of the area within 0.5 mile of the property (as practical) to observe types of general land use. Photographs of the property are provided in Appendix A.
- Reviewed and interpreted archival topographic maps of the property and the area within 0.5 mile of the property for information regarding historical land use potentially involving the manufacture, generation, use, storage and/or disposal of hazardous

substances. Environmental Data Resources (EDR) historical topographic maps are included in Appendix B.

- Reviewed and interpreted available historical aerial photographs of the property and vicinity for evidence of previous site activities and development that would suggest the potential presence of hazardous substances at the property. A copy of the EDR Aerial Package is included in Appendix C.
- Reviewed pertinent, available documents and maps regarding local physiographic and hydrogeologic conditions in the property vicinity.
- Reviewed the federal, state, and local database list search provided by EDR of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations. The agency lists and area search results are provided in Appendix D.
- Conducted an environmental lien search through EDR databases to determine potential environmental liens or other activity and use limitations associated with the property. The EDR environmental lien search report is provided in Appendix E.
- Conducted inquiries in person, by telephone, or in writing to the appropriate regulatory agencies for information regarding environmental permits, violations or incidents, and/or the status of enforcement actions at the property.
- Conducted an interview with Mr. Elias Shokrian, owner of APNs 359-031-02, 359-031-03, 359-031-04, 359-031-06, and 359-052-02 using the AAI User Questionnaire. A copy of the AAI User Questionnaire is included in Appendix F.
- Conducted an interview with Mr. Elliott Joelson, owner of APN 359-032-01 and 359-032-17, using the AAI User Questionnaire. A copy of the AAI User Questionnaire is included in Appendix F.
- Contacted John Reeder site representative for APN 359-031-15 to conduct an interview. Mr. Reeder was not available for interview.
- Prepared this report describing the research performed and presenting URS' findings and professional opinions regarding the potential for adverse environmental impacts to the property.

1.4 USER RELIANCE

This report was prepared for use by First Solar, and shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of URS.

1.5 LIMITATIONS AND EXCEPTIONS

This report and the associated work were provided in accordance with the principles and practices generally employed by the local environmental consulting profession. This is in lieu of all warranties, expressed or implied.

Discussions of the ASTM Standard or AAI data gaps, if any, including sources reviewed, the significance of each data gap, and an opinion if the data gap inhibits the environmental professional's ability to reach an opinion about contamination at the property, are incorporated into the appropriate sections of the report.

It should be recognized that this Phase I ESA was not intended to be a definitive investigation of potential contamination at the property and the recommendations provided are not necessarily inclusive of all the possible conditions. This Phase I ESA is not a regulatory compliance audit or an evaluation of the efficiency of the use of any hazardous materials at the property. Soil and/or groundwater sampling was not undertaken as part of this investigation. Sampling for asbestos, radon, lead-based paint, and lead in drinking water was also not performed as part of this Phase I ESA. Given that the Scope of Services for this investigation was limited, it is possible that unobserved contamination might exist.

The conclusions presented are professional opinions based solely upon indicated data described in this report, visual site and vicinity observations, and the interpretation of the available historical information and documents reviewed, as described in this report. Unless URS has actual knowledge to the contrary, information obtained from interviews or provided to URS by the client was assumed to be correct and complete. URS does not assume any liability for information that was misrepresented to URS by others or for items not visible, accessible or present on the property during the time of the site reconnaissance. The conclusions are intended exclusively for the purpose outlined herein and the site location and project indicated. The executed Scope of Services may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Opinions and recommendations presented herein apply to the site conditions existing at the time of this assessment and cannot necessarily apply to site changes of which URS is not aware and has not had the opportunity to evaluate. Changes in the conditions of this property may occur with time due to natural processes or the works of man on the property or adjacent properties. Changes in applicable standards may also occur as a result of legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond URS' control. Opinions and judgments expressed herein are based on URS' understanding and interpretation of current regulatory standards, and should not be construed as legal opinions.

SECTION 2.0 SITE DESCRIPTION

2.1 LOCATION

The property is located northeast of the intersection of 120th Street West and West Avenue A in an unincorporated area of Kern County in the Antelope Valley. The property consists of Assessor Parcel Numbers (APNs) 359-031-02, 359-031-03, 359-031-04, 359-031-06, 359-031-15, 359-032-01, 359-032-17, and 359-052-02 in Sections 24, 25, 26, and 35, Township 9 North, Range 14 West within the San Bernardino Base and Meridian (U.S. Geological Survey [USGS] Little Buttes 7.5-minute quadrangle). The property is bounded by 120th Street West, 100th Street to the east, West Avenue A to the south and undeveloped land to the north.

A topographic map and an aerial photograph of the Project Area are included as Figures 1 and 2, respectively.

2.2 INTERVIEWS AND SPECIALIZED USER KNOWLEDGE

URS conducted an interview with Mr. Elias Shokrian owner of APNs 359-031-02, 359-031-03, 359-031-04, 359-031-06, and 359-052-02 using the AAI *User Questionnaire*. Mr. Shokrian stated that, to his knowledge, there are no known environmental concerns associated with the property. A copy of the *User Questionnaire* is included as Appendix F. Mr. Shokrian provided information regarding the historical and current conditions of the property. Mr. Shokrian indicated that the property consists of agricultural land with a historic homestead.

URS conducted an interview with Mr. Elliott Joelson, owner of APN 359-032-01 and 359-032-17 using the AAI *User Questionnaire*. Mr. Joelson stated that, to his knowledge, there are no known environmental concerns associated with the property. A copy of the *User Questionnaire* is included as Appendix F. Mr. Joelson provided information regarding the historical and current conditions of the property. Mr. Joelson indicated that the property consists of agricultural land with an abandoned homestead.

2.3 SITE RECONNAISSANCE

On April 20, 2012, Mr. Anthony Scheutze of URS conducted an unescorted reconnaissance of the property. The reconnaissance consisted of the observation and documentation of existing site conditions and the nature of the neighboring property development within approximately 0.5 mile of the property. Photographs taken during the site reconnaissance are provided in Appendix A.

The property was accessed by vehicle from 120th Street West, 110th Street West, 100th Street West, Sue Avenue, Willow Avenue, Gaskell Road and West Avenue A.

2.3.1 Site Conditions

The property was observed to be primarily undeveloped land used for agricultural purposes Residential and farm-related structures consistent with agriculture production were observed on areas of the property as described below.

APN 359-031-02

This parcel was observed to be undeveloped land. Debris consisting of wood was observed on the northeast corner of Willow Avenue and 115th Street West.

APNs 359-031-03/359-031-04

Five residential structures, a horse barn, a warehouse, a storage structure, and a large steel canopy cover were observed on Sue Avenue within these parcels as a homestead area. Storage of hazardous materials (oil, gasoline, paint, agricultural chemicals) was observed within these parcels. A water supply well and associated equipment (a structure, pump, and two AST's) was observed on APN 359-031-03, and two water supply wells and associated equipment (a structure, pump, and two AST's) were observed on APN-359-031-04. Stained soil consisting of apparent hydrocarbons were observed throughout the homestead area, primarily around the warehouse/storage structure

APN 359-031-06

A water supply well and electric pump were observed in the southwest corner of the parcel. An electric panel, a reservoir, concrete irrigation standpipe, pining water supply lines and utility vaults and fencing were observed on the parcel. Apparent hydrocarbon staining on vegetation and soil were observed on the northwest corner of Gaskell and 100th Street West.

APN 359-031-15

This parcel was observed to the undeveloped land.

APN 359-032-01

This parcel was observed to the undeveloped land. A water supply line and utility vaults were observed on the property. A meteorological station was observed on the parcel. An area of concrete overfill was also observed on the parcel. Water supply lines and utility vaults were observed on the parcel.

APN 359-032-17

The parcel was observed to be primarily undeveloped land. A homestead area with two residential structures and one garage/warehouse were observed on 115th Avenue. Large amounts of trash and debris including electronic components, paint, and fuel cans were observed to be scattered throughout the homestead area. Debris consisting of trash, paint cans and cans were also observed on the parcel at the southeast corner of Kingbird and 120th Street. A water supply well that appeared to be capped was observed on the parcel. A water supply well (observed to be capped) was observed near the southwest corner of the parcel. Debris/furniture was also observed along Kingbird. Soil staining was observed throughout the homestead area.

APN 359-052-02

The parcel was observed to be undeveloped land

2.3.2 Hazardous Substances

Hazardous substances were observed primarily in the homestead areas on the property. Hazardous materials consisted of an AST and drums of fuels and oils and 5-gallon and smaller containers of oils, paints, and agricultural chemicals.

2.3.3 Storage Tanks

A 1,000-gallon AST labeled as containing 500 gallons of diesel fuel was observed on APN 359-031-03. No leaks or stains were observed beneath the AST. The tank appeared near empty.

Evidence of underground storage tanks (USTs) was not observed on the property. The property (Wil Mar Farms at 1747 100th Street West) was identified on the UST database. URS was not able to verify if the UST is associated with the property. Mr. Shokrian, owner of the property was not aware of any USTs on the property.

2.3.4 Polychlorinated Biphenyls and Mercury

Electrical transformers, hydraulic equipment, capacitors, and similar equipment may contain polychlorinated biphenyls (PCBs) as operating or dielectric insulating fluids within the units. The Federal Toxic Substances Control Act generally prohibited the domestic manufacture of PCBs after 1976; therefore, there is a potential for the dielectric fluid in electrical and hydraulic equipment manufactured prior to that date to contain PCBs.

Transmission lines were observed along almost every road along the perimeter and throughout the property. Approximately 40 pole-mounted transformers were not observed throughout the property. Leaks or stains were not observed associated with the transformers.

Other equipment, such as capacitors, that may contain PCBs, was not observed on the property.

Additionally, a Los Angeles Department of Water and Power Easement oriented approximately northeast-southwest and approximately 200 feet wide bisects much of the property. This appears to contain electrical towers and access roads.

Mercury was used in the mining industry to separate precious metals from crushed ore. In addition, mercury is used in analog timers and data loggers that are common in oil field production and other industrial operations. Based on the site reconnaissance, conditions for the use of mercury were not evident.

2.3.5 Waste Disposal

No waste generating activities were observed at the time of the site reconnaissance.

2.3.6 Drums and Other Chemical Containers

Drums and chemical containers were observed to be associated with the residential/agricultural structures on the property. Several containers appeared to contain fluids while many were empty.

2.3.7 Dumping

Large piles or debris including trash, wood, electronic components, paint, and fuel cans were observed on APN 359-032-17 associated with the homestead property. Debris consisting of trash, paint and cans were observed on the southeast corner of Kingbird and 120th Street (359-032-17). Trash and furniture were also observed along Kingbird (359-032-17).

Wood debris was observed on APN 359-031-02.

A tree debris pile was observed on APN 359-031-03.

2.3.8 Pits, Ponds, Lagoons, Septic Systems, Cisterns, Sumps, Drains, and Clarifiers

Septic systems may be associated with the residential or barn/warehouse structures located within the two homestead areas.

Several irrigation reservoirs were observed on APN 359-031-06 and 359-032-17.

No evidence of pits, ponds, lagoons, septic systems, cisterns, sumps, drains, and/or clarifiers was observed at the property during the site reconnaissance. Sumps or drains may be associated with barn or warehouse structures located within the two homestead areas that may not have been visible during site reconnaissance due to debris or dirt floors.

2.3.9 Pesticide Use

URS reviewed the California Department of Pesticide Regulation (DPR) Licensing and Certification Program database for licenses and/or certificates for pesticide applicators that use or supervise the use of restricted pesticides. The property owners were not listed in the DPR database.

Agricultural chemicals were observed on the property. Based on the historical agricultural use of the property, chemical retention in subsurface soils could be of concern. Based on the use of surrounding properties for agricultural purposes, there is the potential of historical agricultural use on the property, and therefore, the potential for residual pesticide concentrations in the surface and subsurface soils.

2.3.10 Staining and Discolored Soil

Staining and discolored soil were observed during the site reconnaissance on APN 359-031-03, 359-031-04, and 359-032-17 within the homesteads.

Apparent hydrocarbon staining was observed on the southern edge of an irrigation reservoir on the northwest corner of Gaskell and 100^{th} Street.

2.3.11 Stressed Vegetation

Stressed vegetation was not observed during the site reconnaissance.

2.3.12 Unusual Odors

No unusual odors were detected during the site reconnaissance.

2.3.13 On-site Wells

A water supply well (observed to be capped) was observed on the southwest corner of APN 359-032-17.

A water supply well with associated electric pump and equipment was observed on APN 359-031-06.

Two water supply wells with pumps were observed on APN 359-031-04.

A water supply well and associated equipment (pump, 2 ASTs, structure) was observed on APN 359-031-03.

A USGS observation well was observed on APN 359-032-17.

Groundwater monitoring or oil and gas wells were not observed on the property.

URS reviewed the California Division of Oil, Gas, and Geothermal Resources database to evaluate oil and gas exploration in the vicinity of the property. No oil and gas wells were identified on the property.

2.3.14 Asbestos

An asbestos survey was not included in the Scope of Services performed for this Phase I ESA. The use of asbestos was primarily discontinued after the late 1970s. There is the potential for asbestos-containing material (ACM) to be located within the residential and farm-related structures and equipment including the concrete irrigation standpipes located throughout the property.

2.3.15 Lead-based Paint

A lead-based paint (LBP) survey was not included in the Scope of Services performed for this Phase I ESA. Concern for LBP is primarily related to older structures. There is the potential for LBP associated with the residential and farm-related structures and equipment including water supply lines, utility vaults, and fencing.

2.3.16 Radon

A USEPA survey by state and county of indoor radon concentrations indicated the radon zone level for Kern County is 2. Zone 2 areas are predicted to have an indoor radon screening potential of greater than 2.0 picocuries per liter of air (pCi/l) and less than 4.0 pCi/l. The USEPA action level for radon is 4.0 pCi/l. Further assessment for radon appears unwarranted, based on regional background levels.

2.3.17 Other Concerns

No other environmental concerns were noted at the time of the site reconnaissance.

2.4 SITE VICINITY AND ADJACENT PROPERTIES

The property is located within an area that is primarily developed for agriculture and rural residences in a remote portion of eastern Kern County. In general, prominent adjoining land uses are as follows:

- North: Undeveloped/agricultural land
- South: West Avenue A, undeveloped land
- East: 100th Street West, undeveloped land
- West: 120th Street West, undeveloped land

URS did not observe activities that would indicate the potential for surface or subsurface impacts to the property from adjoining properties.

2.5 HISTORICAL USE

URS reviewed readily available historical data pertaining to the property. These references were reviewed for evidence of activities that would suggest the potential presence of hazardous substances at the property and to evaluate the potential for the property to be impacted by off-property sources of contamination. The following subsections present a summary of the review results.

2.5.1 Historic Topographic Maps

URS reviewed the following USGS 7.5-minute Quadrangle maps of California provided in the EDR Historical Topographic Map Report: Elizabeth Lake (1917), Little Buttes (1934, 1965 and 1974), and Willow Springs (1947), to provide topographic map coverage of the property and site vicinity (see Appendix B). The following is a summary of the review:

• The maps depict the property as undeveloped/agricultural land within the Antelope Valley. Several farm-related structures, wells and reservoirs are depicted on the property. Electric transmission lines transect the property. Adjacent properties and the surrounding area are depicted primarily as undeveloped or agricultural land. Various unnamed, unimproved roads and water supply wells are evident in the site vicinity.

2.5.2 Historic Aerial Photographs

The general type of activity and land use can often be discerned from the type and layout of structures visible in an aerial photograph; however, specific elements of a property operation cannot normally be determined from the photographs. Considering these conditions, URS reviewed historical aerial photographs dated 1948, 1954, 1968, 1974, 1990, 1994, and 2002 that were provided by EDR (see Appendix C). The following is a summary of the review:

- **1948** The property appears to be primarily undeveloped or used for agricultural purposes for farming or cattle grazing. What appear to be several structures are observed on APNs 359-031-03 and 359-01-04. An improved road is observed along the eastern boundary of the property (100th Street West). Several unimproved roads are observed throughout the property. The adjacent properties and surrounding area appear to be undeveloped or used for agricultural purposes.
- **1954** The property remains undeveloped or used for agricultural purposes. What appears to be an irrigation reservoir is observed on the southwest corner of APN 359-032-17. What appears to be an irrigation reservoir and several farm-related structures are observed on the central portion of APN 359-032-17. The current Los Angeles Department of Water Easement electric lines are now depicted to transect the

property. No other significant changes are observed to the property. Additional unimproved roads are observed on the adjacent properties and in the site vicinity.

- **1968** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **1974** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **1990** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **1994** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **2002** No significant changes are observed to the property.

2.5.3 Sanborn Fire Insurance Maps

URS contracted with EDR to obtain Sanborn Fire Insurance Maps for the property. Based on EDR's search, Sanborn Fire Insurance Maps were not available for the property.

2.5.4 Previous Environmental Investigations

URS was not provided previous environmental investigations for the property.

2.5.5 Title Records/Environmental Liens or Activity and Use Limitations

URS requested EDR to perform an Environmental Lien Search for the Project Site. Results of the EDR Lien Search indicate that there are no reported environmental liens or activity and use limitations associated with the property.

APNs 359-031-02, 359-031-03, 359-031-04, and 359-031-06 are reportedly vested in Rosamond Ranch LP.

APN 359-031-15-00 is reportedly vested in William L Merry and Barbara Ann Merry, Trustees.

APN 359-032-01 is reportedly vested in Rosamond 300.

APN359-032-17-00 is reportedly vested in Copa De Oro Land Co.

A Copy of the EDR Environmental Lien Report is included in Appendix E, Environmental Lien Report.

2.5.6 Valuation Reduction for Environmental Issues

URS was not provided information to indicate that the value of the property decreased due to environmental issues.

2.5.7 Data Gaps

URS was not able to interview all of the property owners regarding current or historic conditions on the property. Based on the site reconnaissance, a review of historical information, the database search report, and an environmental lien search conducted by EDR, URS does not consider the data gaps identified herein to be significant.

SECTION 3.0 PHYSICAL SETTING

URS reviewed pertinent maps and readily available literature for information on the physiography and hydrogeology of the property. A summary of this information is presented in the following subsections.

3.1 TOPOGRAPHY

The property region lies within the Antelope Valley and is bound by the San Gabriel Mountains to the south and southwest and the Tehachapi Mountains to the northwest and is relatively flat. Based on review of the USGS topographic maps of the site and vicinity, the elevation of the site ranges from approximately 2,475 to 2,500 feet above mean sea level (msl). Figure 1 presents the site topography at a 1:24,000 scale using recent USGS data.

3.2 AREA GEOLOGY

The property is located on the western portion of the Mojave Desert Geomorphic Province, bordering the Transverse Ranges. The Mojave Desert Geomorphic Province is characterized by broad expanses of desert with localized mountains and dry lakebeds. The province is bounded by the San Bernardino Mountains and the Pinto Fault to the south, the San Andreas Fault to the west, the Garlock Fault to the north and the Basin and Range Province to the east (Norris and Webb 1976).

The major faults of the region are the San Andreas and Garlock Faults that are located approximately 15 miles south and 10 miles north of the property, respectively. Most of the faults within the Antelope Valley trend to the northwest, parallel to the San Andreas Fault Zone, and truncate against the Garlock Fault, trending to the northeast. The geologic units of the Antelope Valley are divided into consolidated nonwater-bearing rocks and water-bearing unconsolidated deposits. Consolidated rocks underlie the unconsolidated deposits and are exposed in the Fairmont and Antelope Buttes. Composition consists of igneous intrusive and metamorphic rocks of pre-Tertiary age, basalt, continental volcanic and marine, and continental sedimentary rocks of Tertiary age. Unconsolidated deposits form alluvial plains in the site area, composed of alluvial deposits from surrounding mountain ranges, and the Fairmont and Antelope Buttes (Norris and Webb 1976).

Soils within the area are composed of various sandy loams and are typically poorly drained.

3.3 GROUNDWATER

The property is located in the Lancaster subunit of the Antelope Valley Groundwater Basin. The basin is located within the South Lahontan Hydrologic Region and is designated as Basin Number 6-44. Antelope Valley Groundwater Basin underlies an extensive alluvial

valley in the western Mojave Desert with elevations ranging from 2,300 to 3,500 feet above msl. The basin is bounded on the northwest by the Garlock Fault at the base of the Tehachapi Mountains and on the southwest by the San Andreas Fault at the base of the San Gabriel Mountains. Ridges, buttes, and low hills bind the basin of the east, forming a surface and groundwater drainage divide. The Fremont Valley Groundwater Basin binds the basin on the north (DWR 1975).

The primary water-bearing materials are Pleistocene and Holocene age alluvial and lacustrine deposits consisting of compact gravels, sand, silt, and clay. Coarse alluvial deposits form the two main aquifers, the principal unconfined upper aquifer and a secondary semiconfined lower aquifer. The main source of recharge to the Lancaster subunit is streamflow from the Big and Little Rock Creeks off the San Gabriel Mountains. Depth to groundwater in the area of the property is reported to be approximately 300 to 400 feet below ground surface (DWR 1975).

SECTION 4.0 AGENCY RECORDS REVIEW

URS reviewed readily available records regarding past and current property use, contacted applicable agencies regarding potential environmental concerns at the property, and reviewed the agency database list search for potential environmental concerns at surrounding properties. The information obtained during the records review is provided in the following sections.

4.1 DATABASE LIST SEARCH

URS contracted with EDR to conduct a search for facilities listed by regulatory agencies as potentially having environmental concerns. The complete list of databases reviewed is provided in the EDR DataMap Area Study, included as Appendix D, and is summarized in Sections 4.1.1 and 4.1.2. It should be noted that this information is reported as received by URS from EDR, which in turn reports information as provided in various government databases. It is not possible for either URS or EDR to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence.

4.1.1 Property

Wil Mar Farms at 1747 100th Street West was identified on the UST database. No violations were reported. No additional information was provided.

4.1.2 Site Vicinity

Weaver Ranch at 100th Street West and Gaskell Road, located adjacent to the east of the property was identified on the UST database. No violations were reported. No additional information was provided. Based on the regulatory status, this facility is not anticipated to impact the property.

4.1.3 Orphan Sites

URS reviewed EDR's Orphan Summary, which is a listing of sites that have not been geocoded (coded and plotted on EDR maps) based on lack of sufficient data regarding their exact location within the general area. The property was not identified as an Unmapped Site. No additional Unmapped Sites identified on the Orphan Summary appear to be located within the ASTM-designated radii of the property, and, therefore, URS has no evidence that these sites had an impact on the property.

4.2 AGENCY CONTACTS

During the performance of an environmental assessment, state and local regulatory agencies having jurisdiction over the property are contacted to assess the following information: the status of relevant environmental permits; whether there has been any violations, or other similar correspondence from such agencies; whether corrective action or remediation is planned, currently taking place, or was completed at the property; whether there were any reported violations or complaints that the property is not in compliance with environmental laws, regulations, or standards, and whether the property is under investigation for such non-compliance; whether the property is listed on any of the regulatory agencies regarding the property or surrounding sites of concern. URS contacted the agencies listed in this section. One agency did not respond to the information request within the timeframe of the project. URS will continue to follow up with such agency to obtain any available information regarding the property. Should URS obtain information that would change the conclusions of this Phase I ESA, an addendum report will be prepared. The following agencies were contacted:

- The California Department of Toxic Substances Control (DTSC) was contacted. The DTSC does not maintain any files regarding the property. No cases were cited in the EnviroStor database at or near the property.
- The Regional Water Quality Control Board (RWQCB) was contacted. The RWQCB does not maintain any files regarding the property. No cases were cited in the State Water Quality Control Board GeoTracker[®] database at or near the property.
- The Kern County Environmental Health Services Department (KCEHSD) was contacted. The KCEHSD does not maintain any files for the property.
- The Kern County Air Pollution Control District (KCAPCD) was contacted. The KCAPCD has not responded to our request form information.

SECTION 5.0 CONCLUSIONS

5.1 ON-SITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on URS' site reconnaissance and review of historical information, the following RECs from on-site sources were identified:

• The observed areas of soil staining on the property, the potential of a historic UST on the property, the use and storage of fuel and hazardous materials for the maintenance of farm-related equipment, and areas of debris on the property have the potential to impact the surface and subsurface of the property.

5.2 OFF-SITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on URS' review of historical information and the environmental database search, RECs from off-site sources were not identified.

5.3 **RECOMMENDATIONS**

Based on the storage of fuel and hazardous materials in agricultural storage and maintenance areas as well as debris located on the property, a Phase II ESA is warranted to assess these areas for potential subsurface impacts. The Phase II ESA should describe the proposed approach and methods to be used in characterizing shallow soil. The Phase II ESA should include the proposed sampling locations, sample collection procedures, analytical methods, quality control measures, and site-specific health and safety measures.

Farmland structures and debris were observed on the property. This debris should be removed from the property and disposed of in accordance with appropriate regulations, prior to any land use changes. Should hazardous materials or impacts to soil from drums or containers be identified on the property during removal of debris, additional investigation would be required.

An ACM/LBP Survey should be performed on the property prior to demolition of structures or equipment. If ACM/LBP is confirmed on the property, it should be handled by a licensed ACM/LBP contractor and disposed of according to appropriate regulations.

Water supply wells are located on the property. If these wells are not planned for future use, they should be properly abandoned in accordance with Kern County regulations for the construction, modification, or destruction and inactivation of water wells.

SECTION 6.0 PREPARER SIGNATURES AND QUALIFICATIONS

This section includes qualification statements of the environmental professionals responsible for conducting the Phase I ESA and preparing this report.

Ms. Tricia Winterbauer of the URS Santa Barbara, California office directed the site reconnaissance by qualified URS personnel, conducted the data review for the project, and wrote the Phase I ESA report. Ms. Winterbauer has 15 years of experience in environmental site investigations, characterizations, and assessments.

The work conducted and the report written by Ms. Winterbauer was reviewed by Mr. David Bernal, PG, with over 20 years of experience with Phase I Environmental Site Assessments.

Ms. Winterbauer declares that, to the best of her professional knowledge and belief, she meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

Mr. Bernal declares that, to the best of his professional knowledge and belief, he meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

Ms. Winterbauer has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of this property. With the assistance of Mr. Bernal, they have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

un Winterbauer

Tricia Winterbauer Senior Environmental Specialist

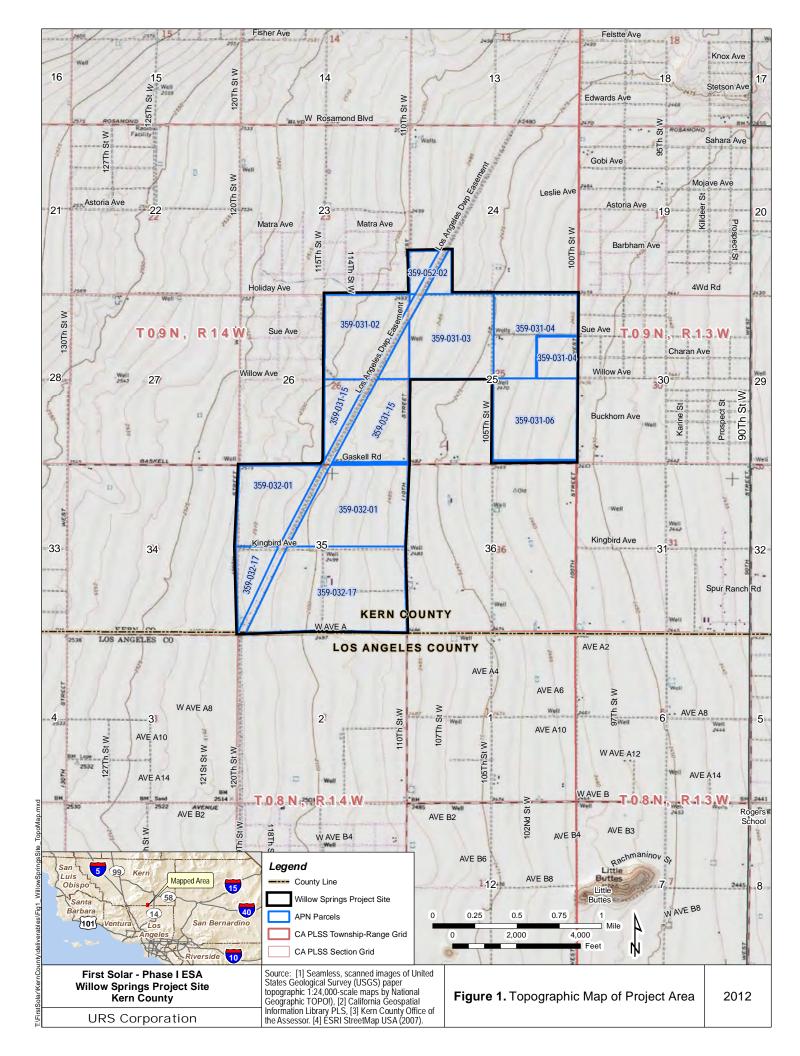
David M. Bernal

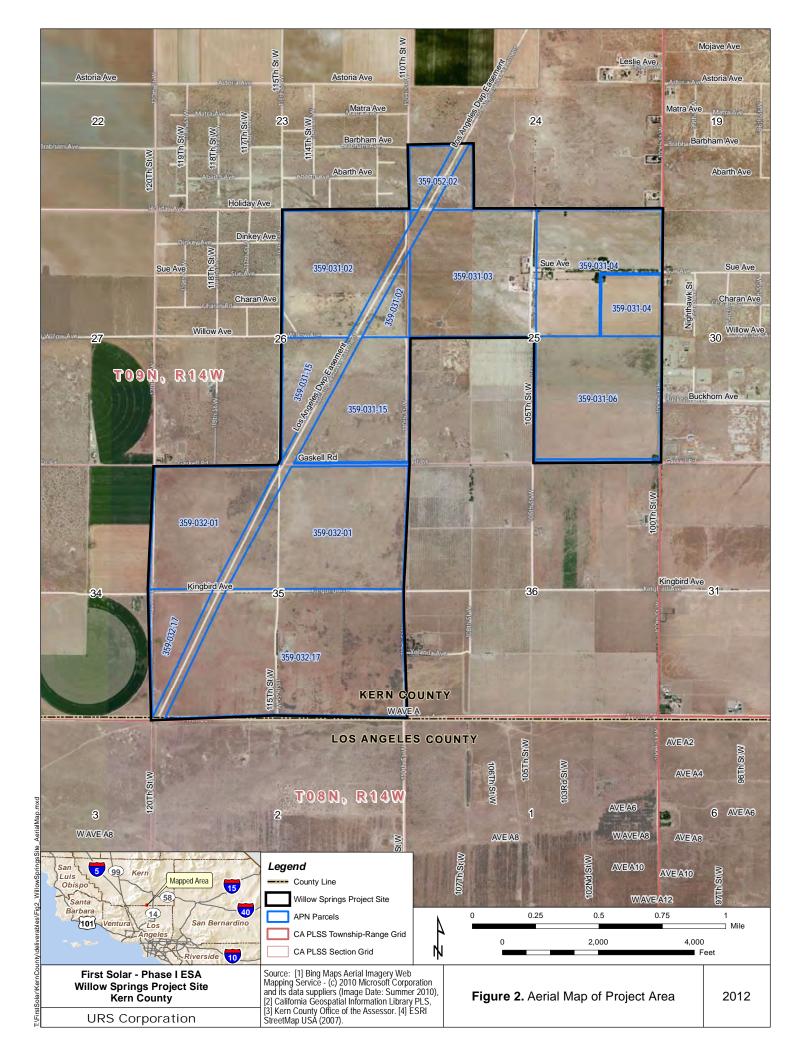
David Bernal, PG #5554 Principal Geologist

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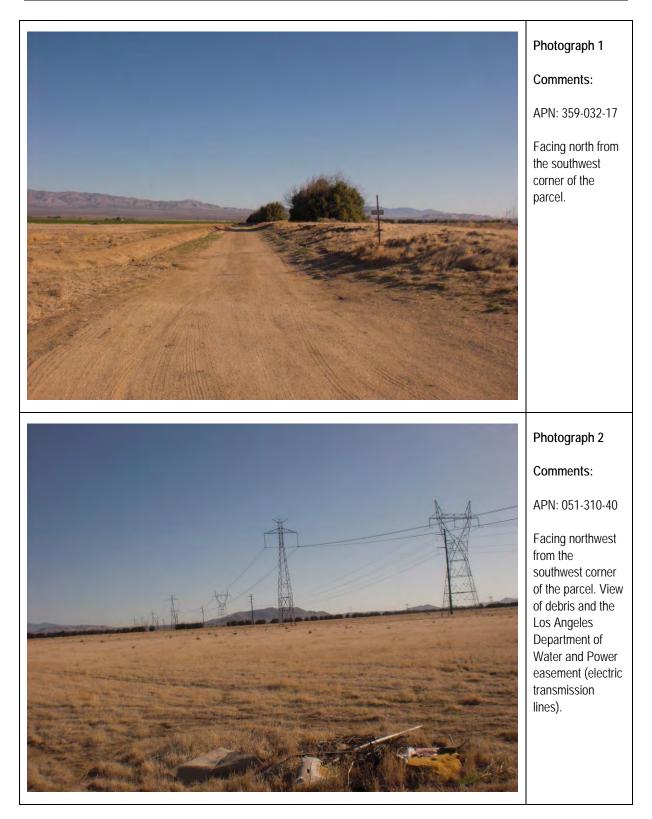
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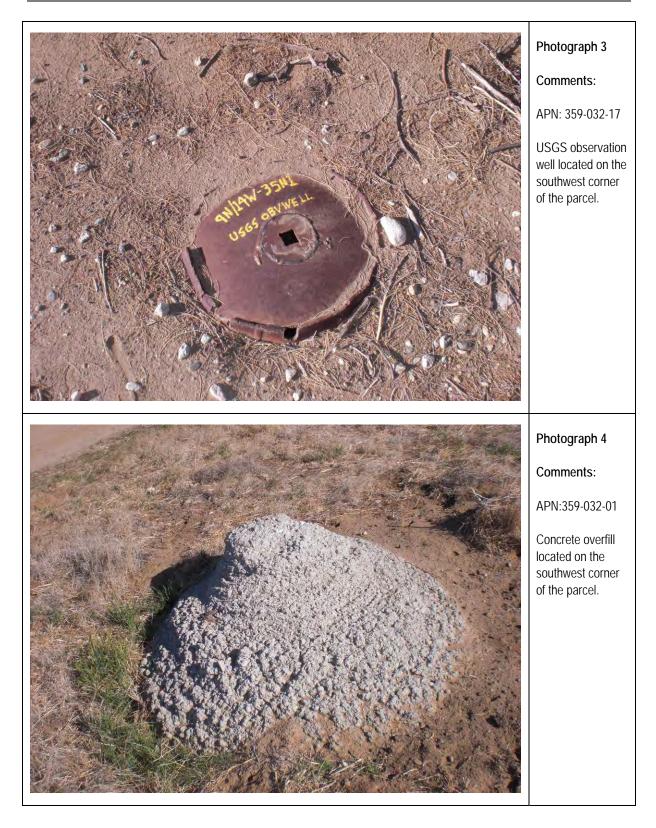


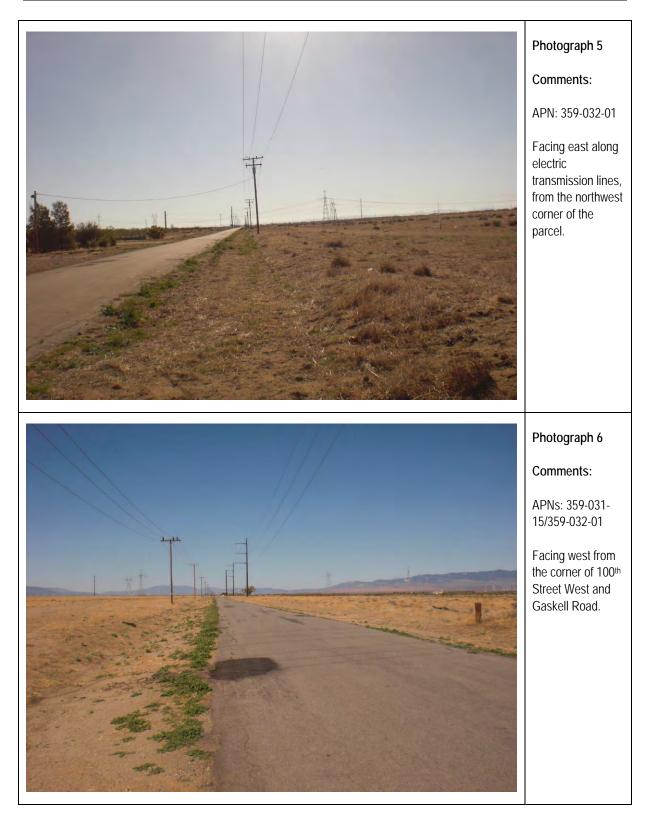


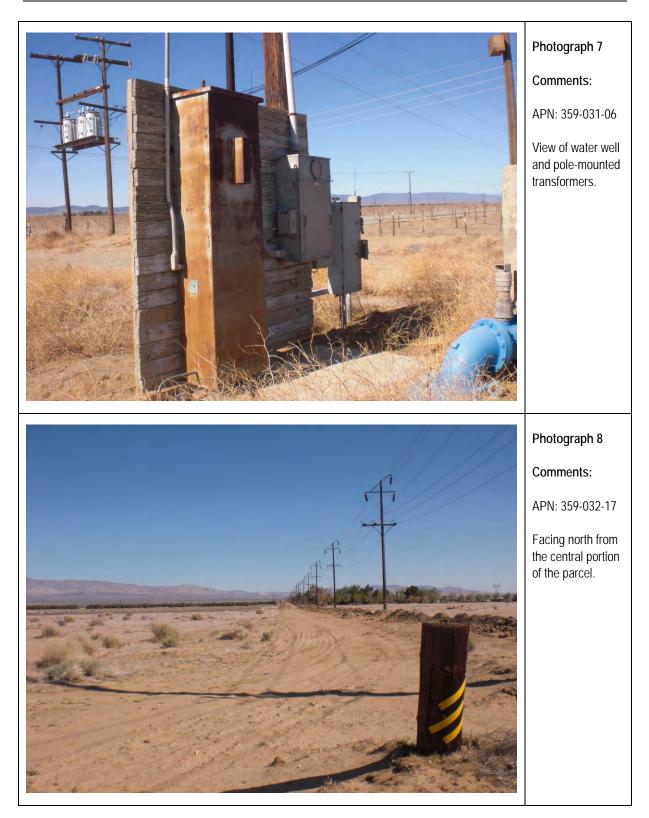
APPENDIX A SITE PHOTOGRAPHS

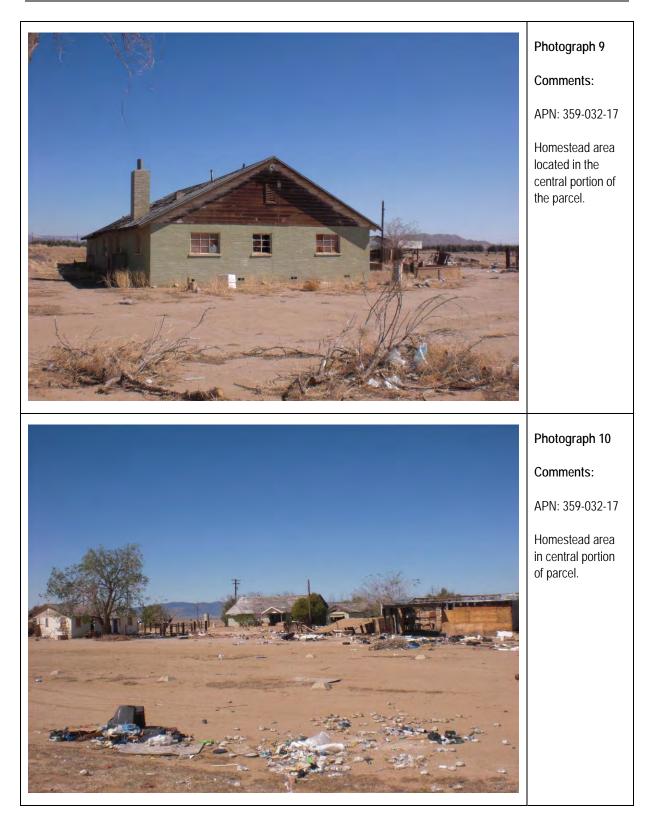
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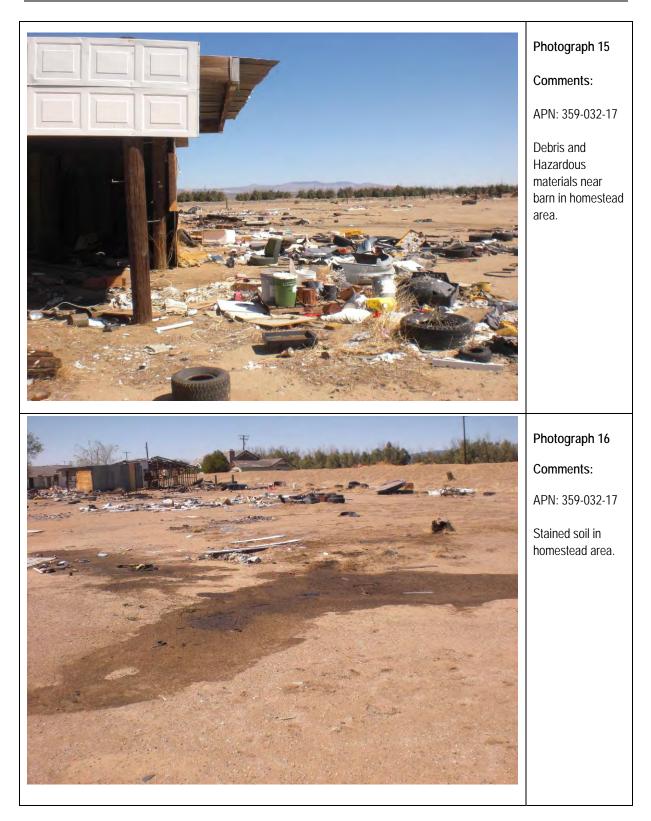


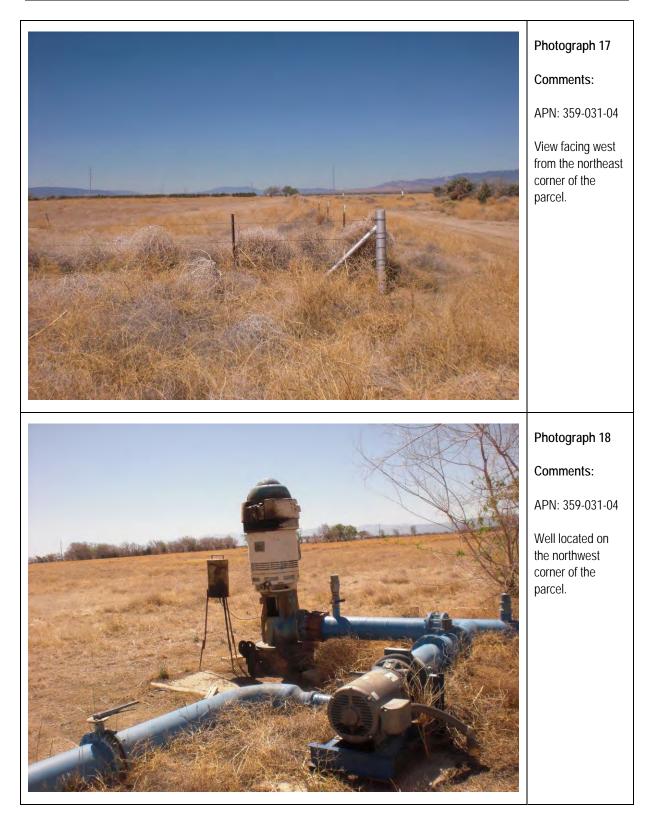


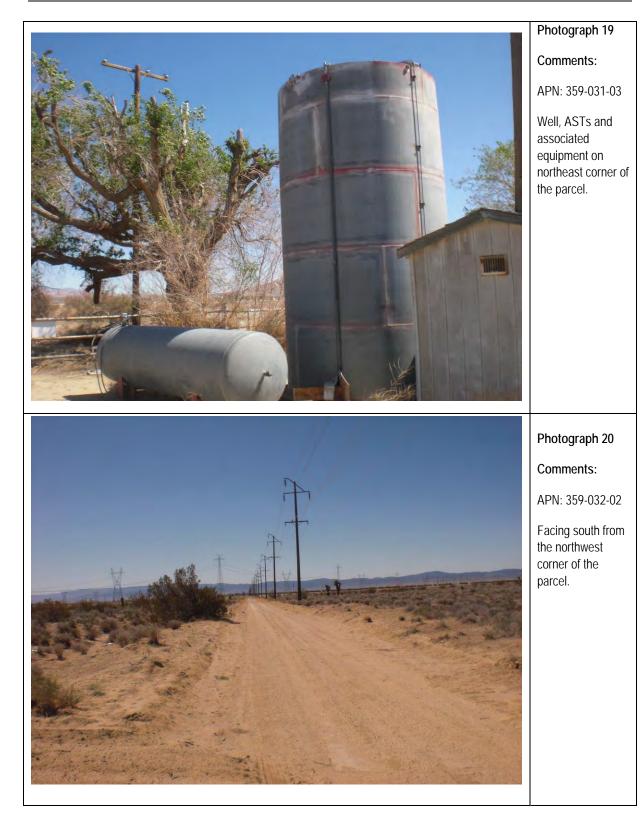




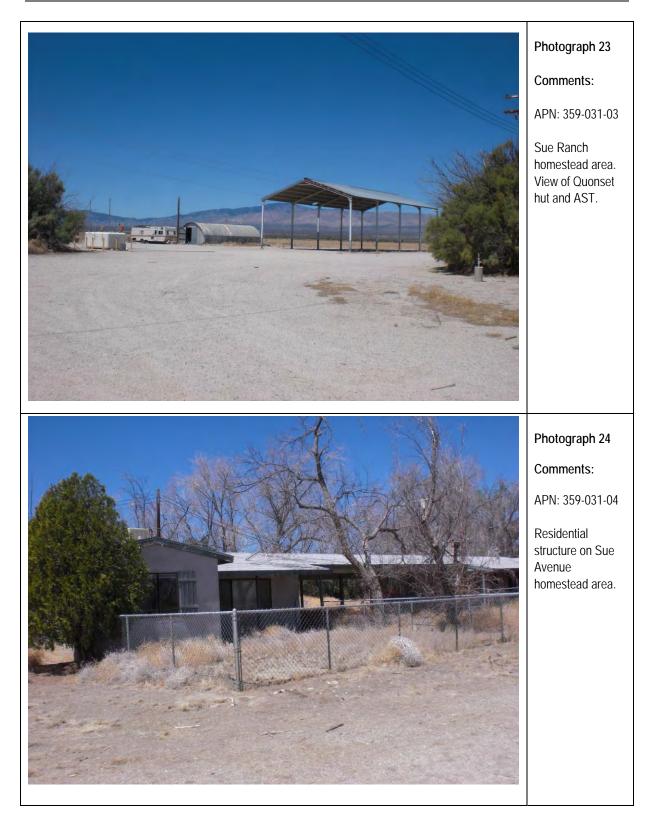






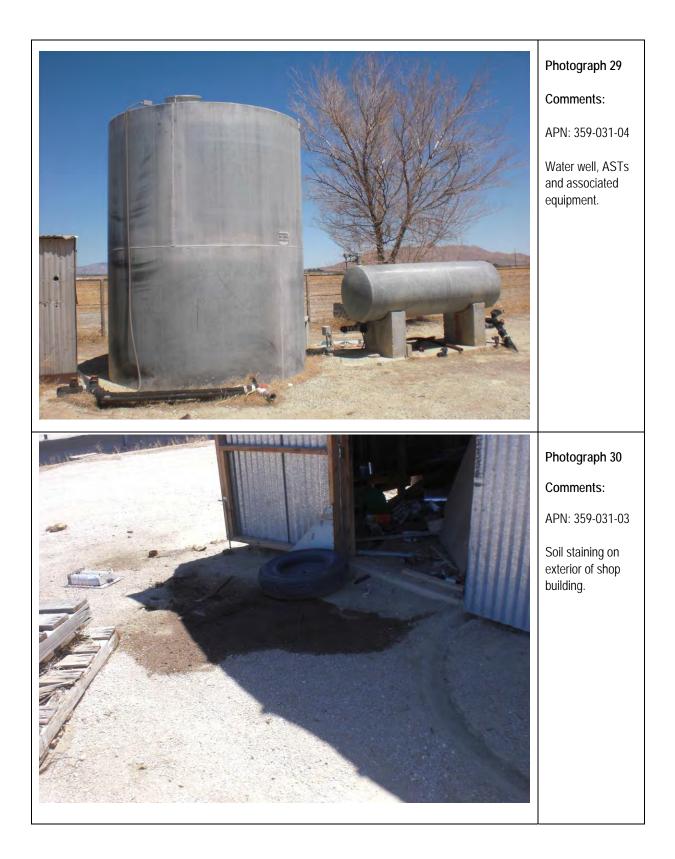


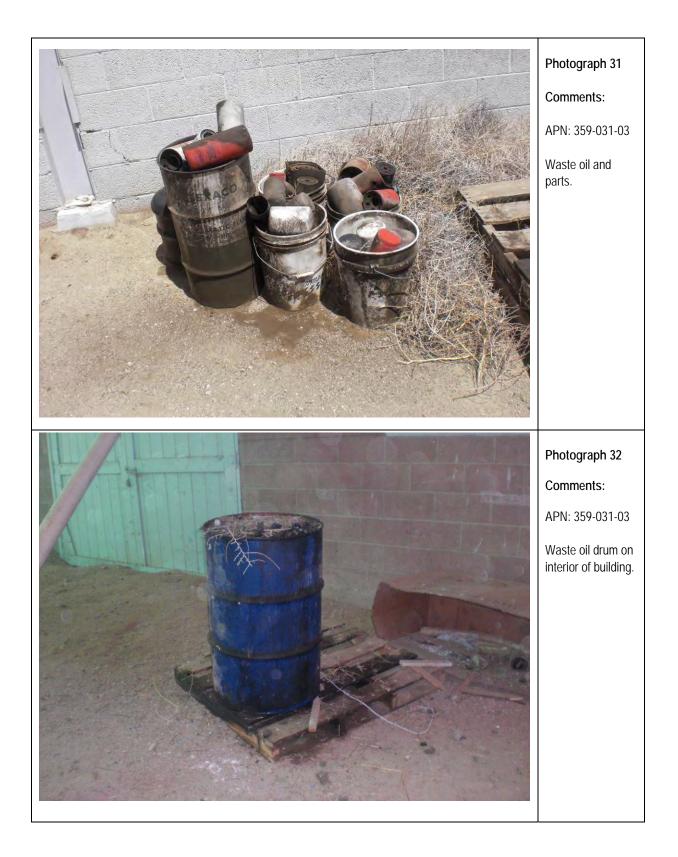












APPENDIX B EDR HISTORICAL TOPOGRAPHIC MAP REPORT

First Solar Willow Springs

First Solar Willow Springs Rosamond, CA 93560

Inquiry Number: 3305875.2 April 20, 2012

EDR Historical Topographic Map Report



440 Wheelers Farms Road Milford, CT 06461 800.352.0050 www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

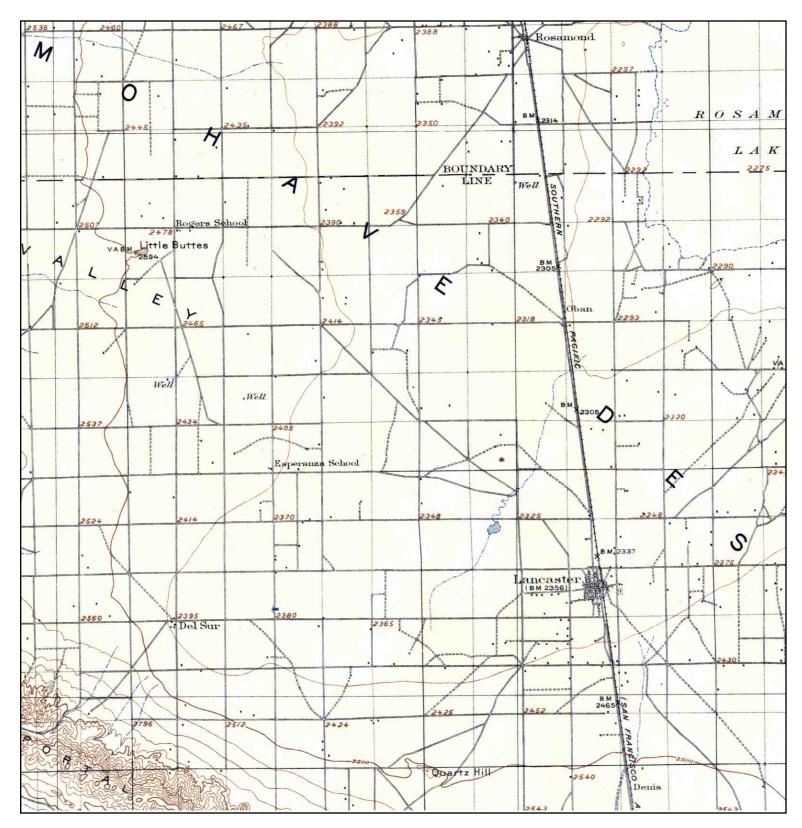
Thank you for your business. Please contact EDR at 1-800-352-0050 with any questions or comments.

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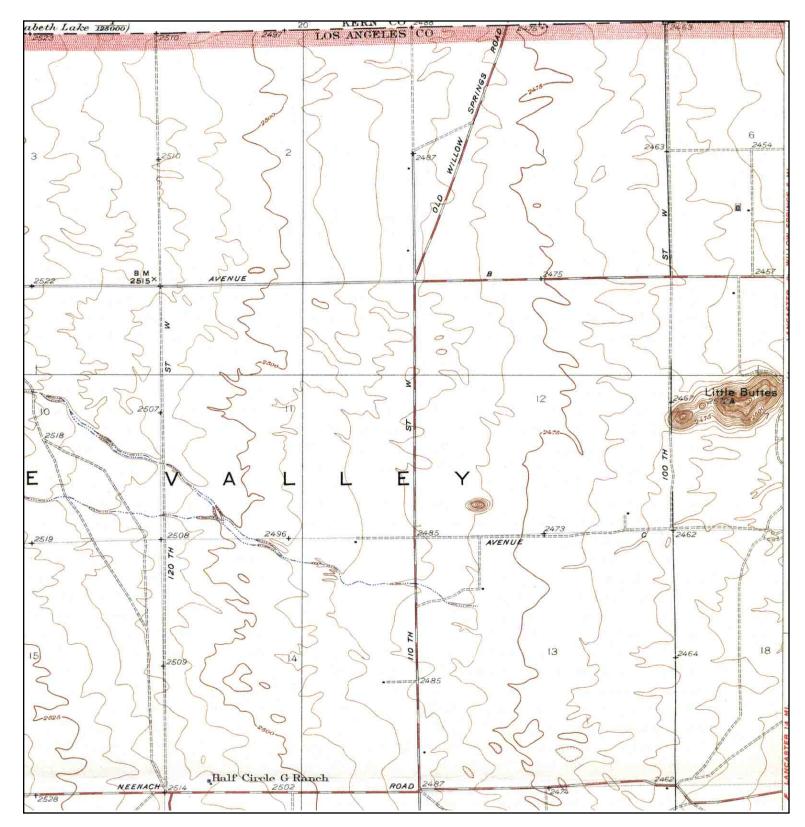
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> SERIES: 30 SCALE: 1:125000

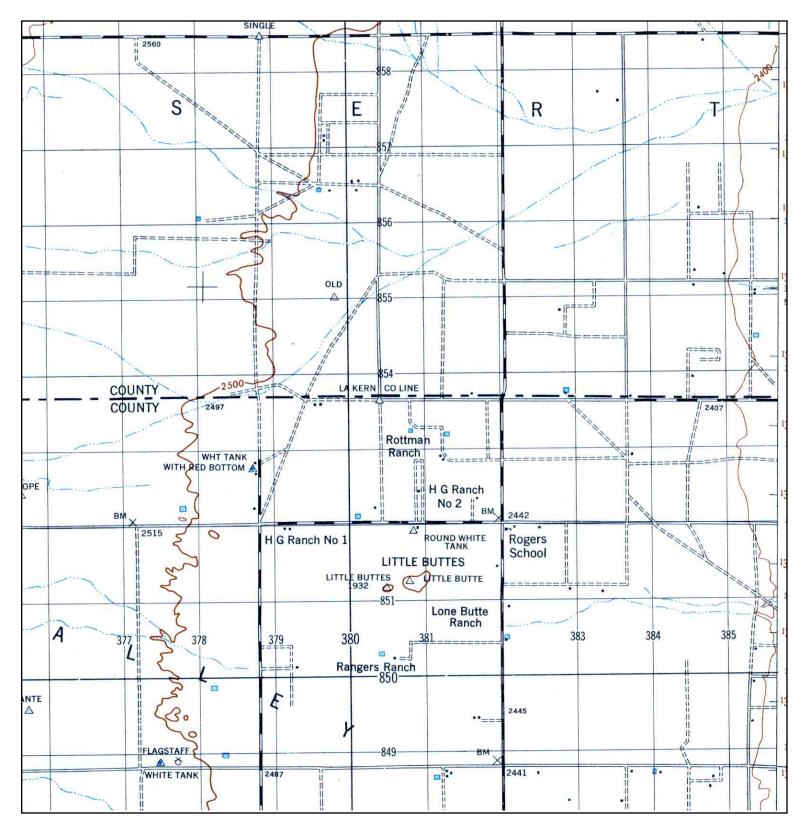
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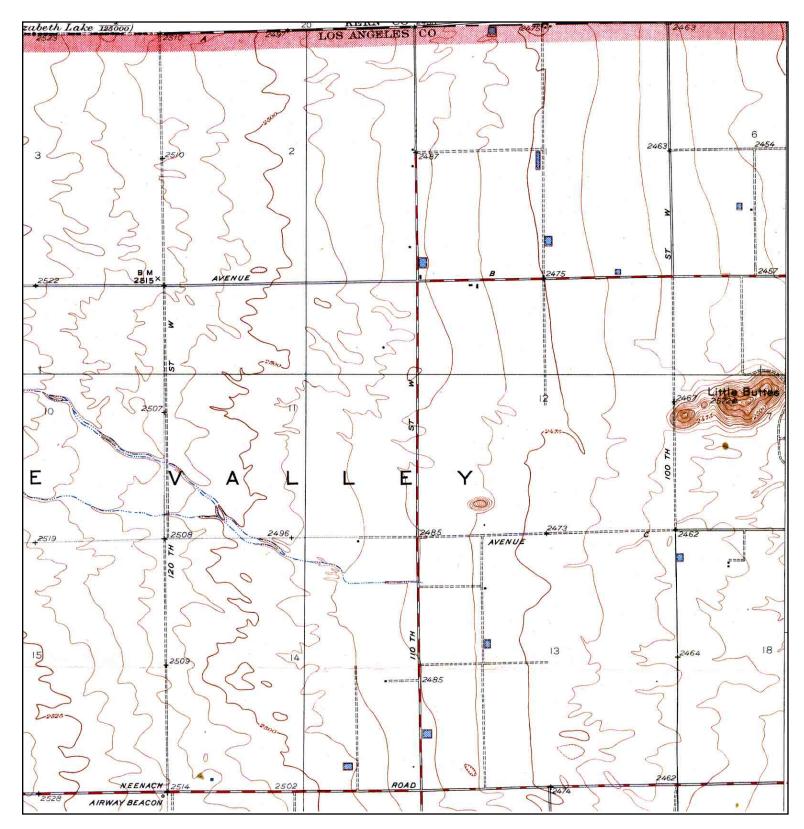
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CLIENT: **URS** Corporation CONTACT: Tricia Winterbauer INQUIRY#: 3305875.2 RESEARCH DATE: 04/20/2012



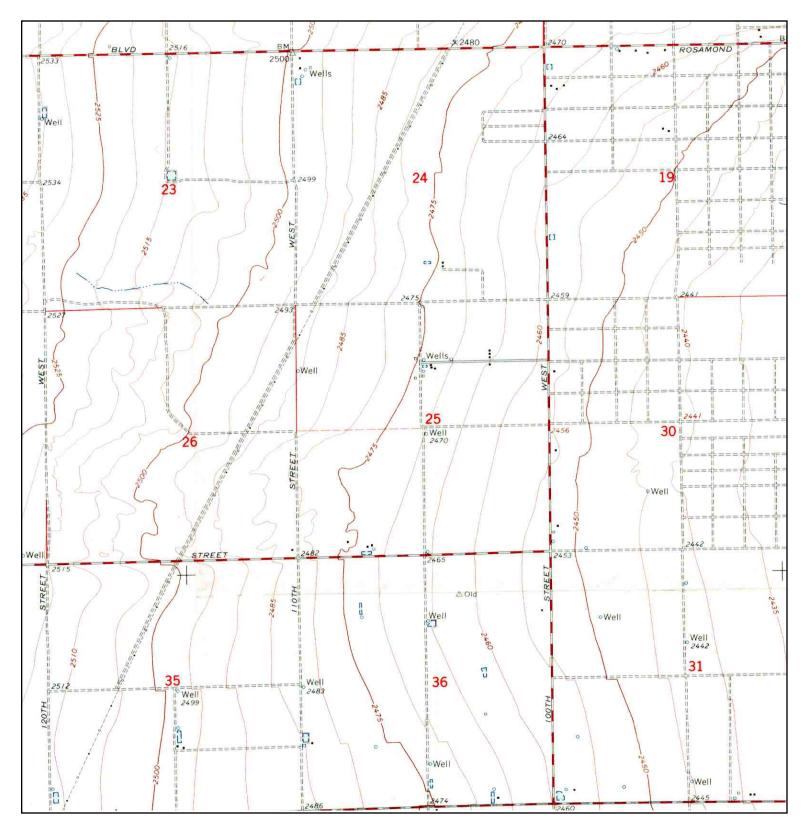
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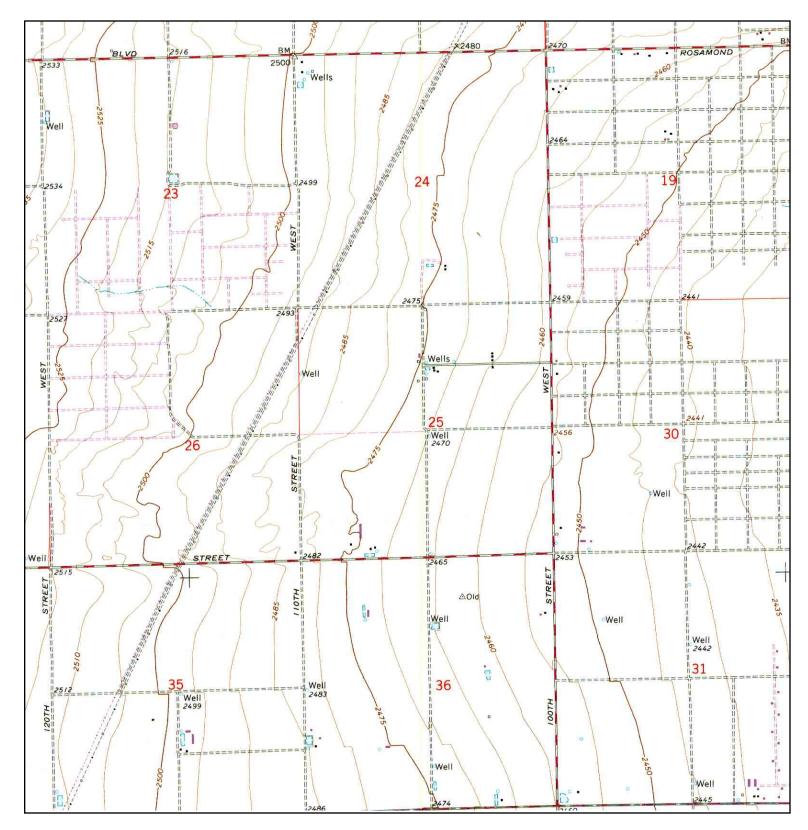
TARGET QUADNAME:LITTLE BUTTESMAP YEAR:1951REVISED FROM :1934SERIES:6SCALE:1:24000

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SITE NAME: First Solar Willow Springs ADDRESS: First Solar Willow Springs Rosamond, CA 93560 LAT/LONG: 34.8432 / -118.3343 CLIENT: URS Corporation CONTACT: Tricia Winterbauer INQUIRY#: 3305875.2 RESEARCH DATE: 04/20/2012



N A	TARGET QU NAME: MAP YEAR: SERIES: SCALE:	LITTLE BUTTES	ADDRESS:	First Solar Willow Springs First Solar Willow Springs Rosamond, CA 93560 34.8432 / -118.3343	CLIENT: CONTACT: INQUIRY#: RESEARCH I	URS Corporation Tricia Winterbauer 3305875.2 DATE: 04/20/2012
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NAME: LITTLE BUTTES MAP YEAR: 1974 PHOTOREVISED FROM :1965 SERIES: 7.5 SCALE: 1:24000

SITE NAME: First Solar Willow Springs ADDRESS: First Solar Willow Springs Rosamond, CA 93560 LAT/LONG: 34.8432 / -118.3343 CLIENT: URS Corporation CONTACT: Tricia Winterbauer INQUIRY#: 3305875.2 RESEARCH DATE: 04/20/2012

APPENDIX C EDR AERIAL PHOTO DECADE PACKAGE

First Solar Willow Springs

First Solar Willow Springs Rosamond, CA 93560

Inquiry Number: 3305875.3 April 24, 2012

The EDR Aerial Photo Decade Package



440 Wheelers Farms Road Milford, CT 06461 800.352.0050 www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Date EDR Searched Historical Sources:

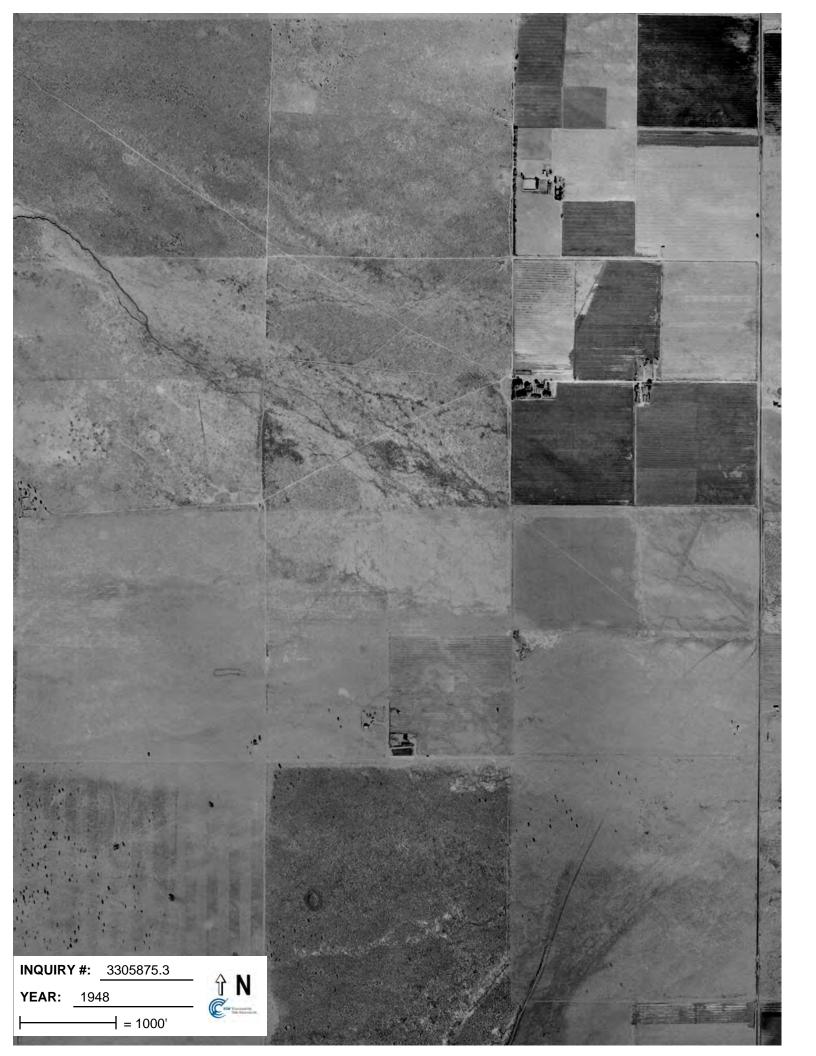
Aerial Photography April 24, 2012

Target Property:

First Solar Willow Springs Rosamond, CA 93560

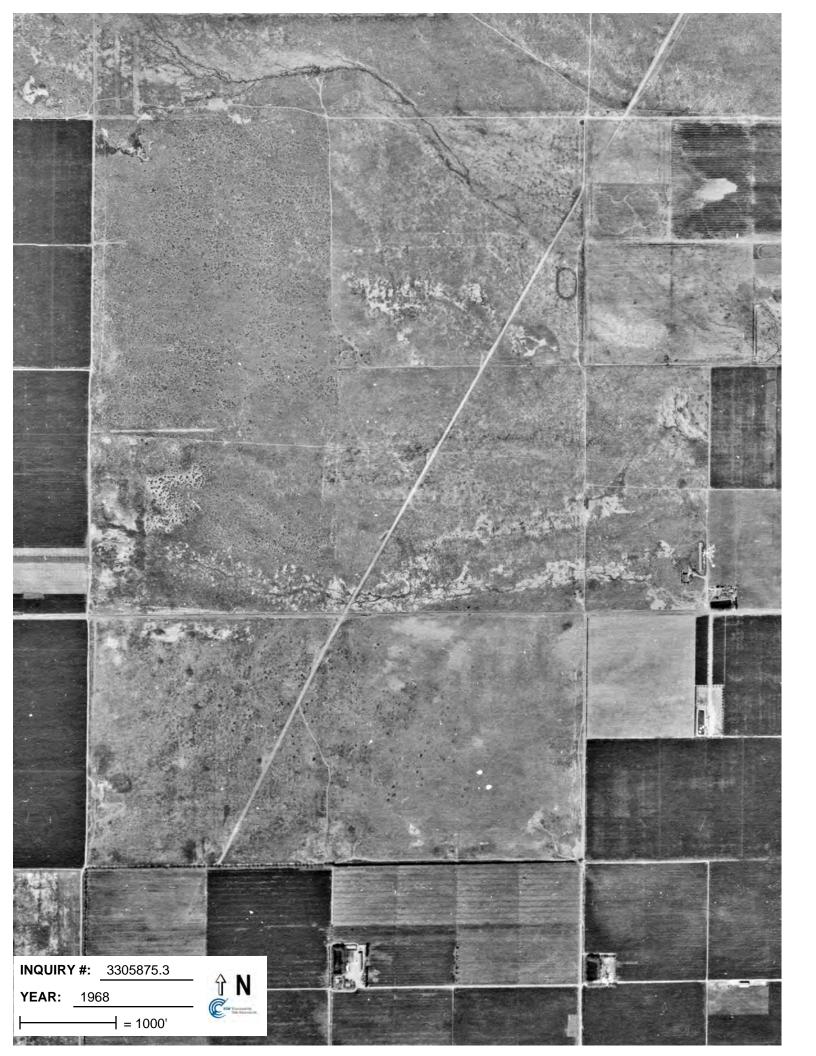
<u>Year</u> 1948	<u>Scale</u> Aerial Photograph. Scale: 1"=1000'	<u>Details</u> Flight Year: 1948	<u>Source</u> usgs
1948	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1948	USGS
1954	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1954	Pacific Air
1954	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1954	Pacific Air
1968	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1968	Teledyne
1968	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1968	Teledyne
1974	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1974	Nasa
1974	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1974	Nasa
1990	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1990	USGS
1990	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1990	USGS
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	USGS
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2002	USGS
2002	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2002	USGS

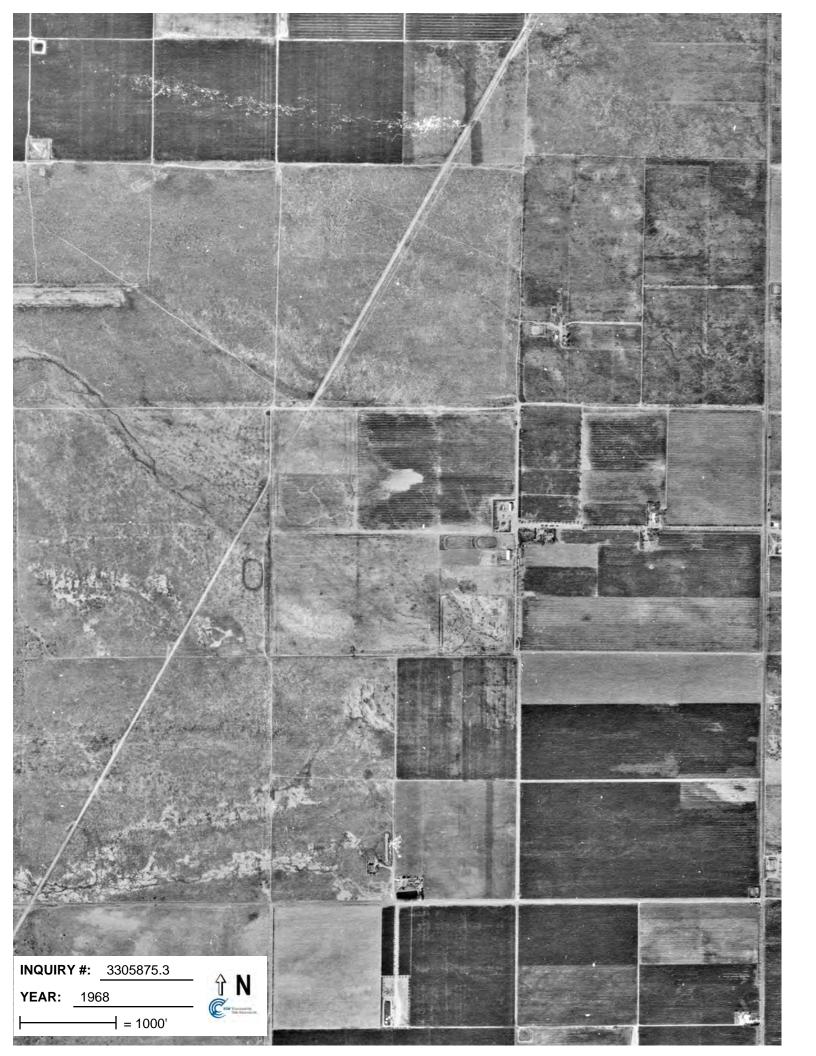




















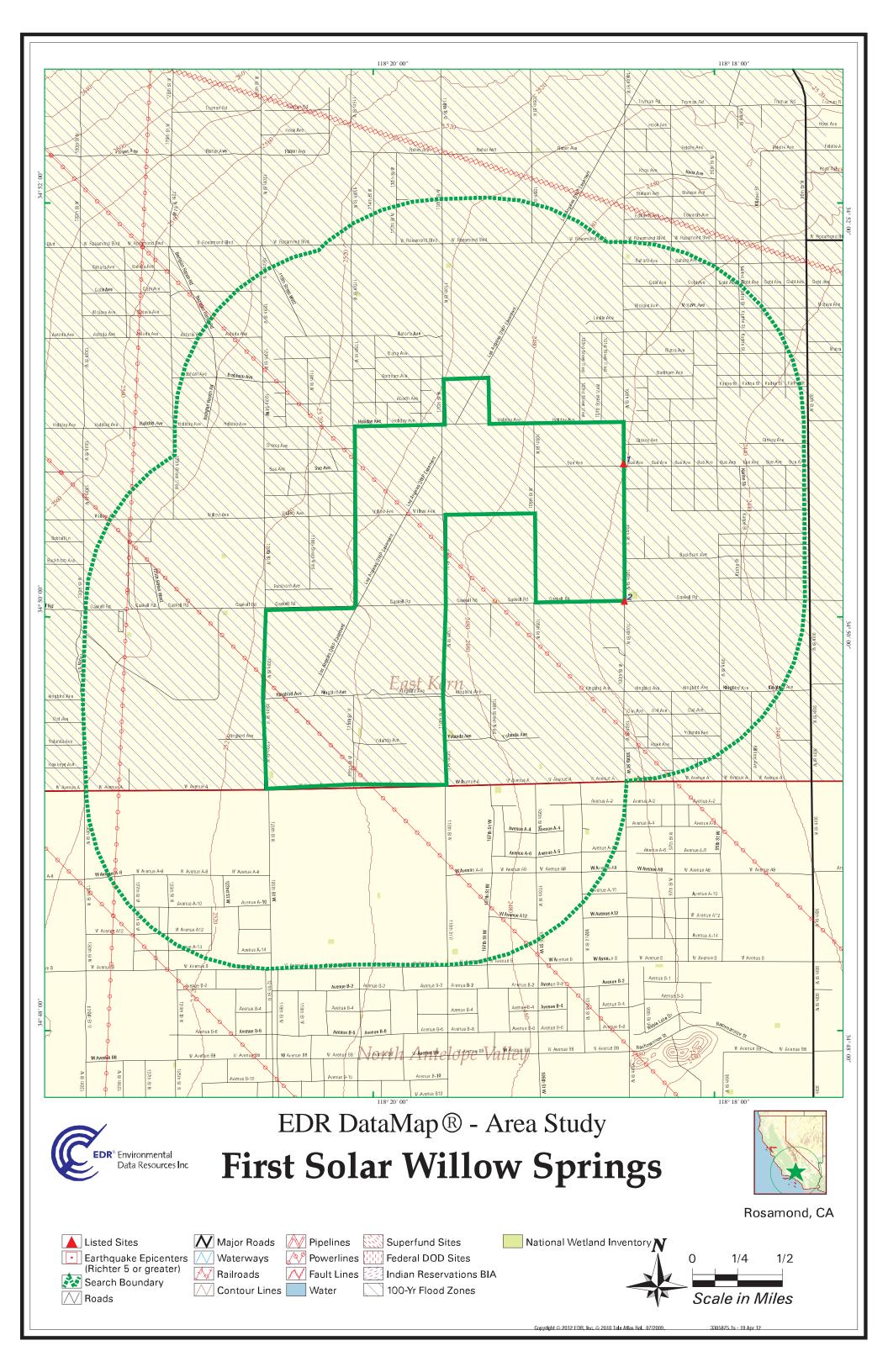








APPENDIX D EDR DATAMAP AREA STUDY



First Solar Willow Springs

Rosamond, CA 93560

Inquiry Number: 3305875.1s April 19, 2012

EDR DataMap[™] Area Study



440 Wheelers Farms Road Milford, CT 06461 Toll Free: 800.352.0050 www.edrnet.com *Thank you for your business.* Please contact EDR at 1-800-352-0050 with any questions or comments.

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TARGET PROPERTY INFORMATION

ADDRESS

ROSAMOND, CA 93560 ROSAMOND, CA 93560

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

NPL	National Priority List
	Proposed National Priority List Sites
Delisted NPL	_ National Priority List Deletions
NPL LIENS	
	Comprehensive Environmental Response, Compensation, and Liability Information System
	CERCLIS No Further Remedial Action Planned
LIENS 2	
CORRACTS	- Corrective Action Report
	RCRA - Treatment, Storage and Disposal
	RCRA - Large Quantity Generators
	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA-NonGen	RCRA - Non Generators
US ENG CONTROLS	. Engineering Controls Sites List
US INST CONTROL	. Sites with Institutional Controls
	- Emergency Response Notification System
	- Hazardous Materials Information Reporting System
DOT OPS	
US CDL	- Clandestine Drug Labs
US BROWNFIELDS	_ A Listing of Brownfields Sites
DOD	_ Department of Defense Sites
FUDS	Formerly Used Defense Sites
	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	
UMTRA	_ Uranium Mill Tailings Sites
	Torres Martinez Reservation Illegal Dump Site Locations
ODI	
MINES	
	_ Toxic Chemical Release Inventory System
	_ Toxic Substances Control Act
	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide
	Act)/TSCA (Toxic Substances Control Act)
	- FIFRA/TSCA Tracking System Administrative Case Listing
SSIS	. Section 7 Tracking Systems

FINDS. RAATS SCRD DRYCLEANERS. US HIST CDL PCB TRANSFORMER. FEDERAL FACILITY. COAL ASH DOE. FEMA UST.	 PCB Activity Database System Material Licensing Tracking System Radiation Information Database Facility Index System/Facility Registry System RCRA Administrative Action Tracking System State Coalition for Remediation of Drycleaners Listing National Clandestine Laboratory Register PCB Transformer Registration Database Federal Facility Site Information listing Sleam-Electric Plan Operation Data Underground Storage Tank Listing
	Underground Storage Tank Listing Coal Combustion Residues Surface Impoundments List
CUAL ASH EPA	- Coal Compusition Residues Surface Impoundments List

STATE AND LOCAL RECORDS

Toxic Pits SWF/LF WDS WMUDS/SWAT NPDES Cortese HIST CORTESE SWRCY LUST CA FID UST SLIC HIST UST LIENS SWEEPS UST CHMIRS LDS AST MCS Notify 65 DEED VCP DRYCLEANERS WIP CDL ENF RESPONSE HAZNET EMI ENVIROSTOR HAULERS	 Bond Expenditure Plan School Property Evaluation Program Toxic Pits Cleanup Act Sites Solid Waste Information System Waste Discharge System Waste Management Unit Database NPDES Permits Listing "Cortese" Hazardous Waste & Substances Sites List Hazardous Waste & Substance Site List Recycler Database Geotracker's Leaking Underground Fuel Tank Report Facility Inventory Database Statewide SLIC Cases Hazardous Substance Storage Container Database Environmental Liens Listing SWEEPS UST Listing California Hazardous Material Incident Report System Land Disposal Sites Listing Proposition 65 Records Deed Restriction Listing Voluntary Cleanup Program Properties Cleaner Facilities Well Investigation Program Case List Clandestine Drug Labs Enforcement Action Listing State Response Sites Facility and Manifest Data Emissions Inventory Data EnviroStor Database Registered Waste Tire Haulers Listing
HAULERS	. Registered Waste Tire Haulers Listing
FINANCIAL ASSURANCE	EnviroStor Permitted Facilities Listing Financial Assurance Information Listing
	Medical Waste Management Program Listing
PROC	Certified Processors Database
HWT	Registered Hazardous Waste Transporter Database

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations

INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land
INDIAN VCP	Voluntary Cleanup Priority Listing

EDR PROPRIETARY RECORDS

Manufactured Gas Plants EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in **bold italics** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STATE AND LOCAL RECORDS

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 01/20/2012 has revealed that there are 2 UST sites within the searched area.

Site	Address	Map ID	Page
WIL MAR FARMS	1747 100TH ST WEST	1	3
WEAVER RANCH	100TH W/GASKELL RD	2	3

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

	Database	Total Plotted
FEDERAL RECORDS		
	NPL	0
	Proposed NPL	0
	Delisted NPL NPL LIENS	0 0
	CERCLIS	0
	CERC-NFRAP	0
	LIENS 2	0
	CORRACTS	0
	RCRA-TSDF	0
	RCRA-LQG RCRA-SQG	0 0
	RCRA-CESQG	0
	RCRA-NonGen	0
	US ENG CONTROLS	0
	US INST CONTROL	0
	ERNS	0
	HMIRS DOT OPS	0 0
	US CDL	0
	US BROWNFIELDS	Õ
	DOD	0
	FUDS	0
		0
	CONSENT ROD	0 0
	UMTRA	0
	DEBRIS REGION 9	0
	ODI	0
	MINES	0
	TRIS	0
	TSCA FTTS	0 0
	HIST FTTS	Ő
	SSTS	0
	ICIS	0
	PADS	0
	MLTS RADINFO	0 0
	FINDS	0
	RAATS	Ő
	SCRD DRYCLEANERS	0
	US HIST CDL	0
		0
	FEDERAL FACILITY COAL ASH DOE	0 0
	FEMA UST	0
	COAL ASH EPA	Ő
	20	

STATE AND LOCAL RECORDS

HIST Cal-Sites

0

MAP FINDINGS SUMMARY

	Database	Total Plotted
	Database CA BOND EXP. PLAN SCH Toxic Pits SWF/LF WDS WMUDS/SWAT NPDES Cortese HIST CORTESE SWRCY LUST CA FID UST SLIC UST HIST UST LIENS SWEEPS UST CHMIRS LDS AST MCS Notify 65 DEED VCP DRYCLEANERS WIP CDL ENF RESPONSE HAZNET EMI ENVIROSTOR HAULERS HWP FINANCIAL ASSURANCE MWMP PROC	Plotted 0 0 0 0 0 0 0 0 0 0 0 0 0
TRIBAL RECORDS	HWT	0
	INDIAN RESERV INDIAN ODI	0 0
	INDIAN LUST INDIAN UST INDIAN VCP	0 0 0
EDR PROPRIETARY RECOR	DS	
	Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

Map IE		MAP FINDINGS		
Directi	on			EDR ID Number
Distan Distan	ce ce (ft.)Site		Database(s)	EPA ID Number
1	WIL MAR FARMS 1747 100TH ST WEST ROSAMOND, CA 93560		UST	U004113246 N/A
	KERN CO. UST:			

WEAVER RANCH 100TH W/GASKELL RD ROSAMOND, CA 93560

KERN CO. UST:

2

Region:

Owner Id:

Tank Num:

Owner Name:

Tank Capacity: Common Name:

Region:	Kern
Owner Id:	550062
Owner Name:	WEAVER, LESLIE
Tank Num:	1

Kern 550074

1

0

KECK, WILLIAM III

Not reported

Tank Num:TTank Capacity:0Common Name:Not reported

UST U004113236 N/A Count: 21 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
KERN COUNTY	M300000909	NATIONAL CEMENT CO	LEBEC (LOS ROBLES PLANT)		MINES
KERN COUNTY	M300006767	CALIFORNIA PORTLAND CEMENT CO.	MOJAVE QUARRY		MINES
KERN COUNTY	M30000920	CALIFORNIA PORTLAND CEMENT CO	MOJAVE PLANT		MINES
LANCASTER	1014672128	ALPINE SOLAR	N ADDRESS ON RECORD	93536	FINDS
LANCASTER	A100345193		5 MI NW OF HWY 138 & 300TH ST W	93536	AST
ROMOLAND	S105025908	AVENUE A UNAUTHORIZED DIS	AVE A 11/2 MI E. HWY 14	93560	HIST CORTESE
ROMOLAND	S105025909	UNION SUGAR	CORNER OF ROSAMOND BLVD A	93560	HIST CORTESE
ROSAMOND	S106927871	JOHN CALANDRI FARMS INC	065TH ST W / GASKELL	93560	SWEEPS UST
ROSAMOND	U001587135	NORTHROP CORPORATION, ADVANCED	170TH STREET WEST, ROSAMOND BO	93560	HIST UST
ROSAMOND	S106929982	NORTHROP CORPORATION, ADVANCED	170TH ST W ROSAMOND	93560	SWEEPS UST
ROSAMOND	A100338715	JOHN CALANDRI FARMS	W 65TH ST AND GASKELL	93560	AST
ROSAMOND	A100337006	TAPIA BROS INC	8425 W AVENUE A	93560	AST
ROSAMOND	S106934512	WILLOW SPRINGS RACEWAY	PO BOX X	93560	SWEEPS UST
ROSAMOND	S106923210	BEERY RANCH	7531 W GASKELL	93560	SWEEPS UST
ROSAMOND	U004113218	ROSAMOND AIRPORT	ROSAMOND AIRPORT	93560	UST
ROSAMOND	U004113238	JIM GOLTCHE PROPERTY	110 W ROSAMOND BLVD W	93560	UST
ROSAMOND	S106932256	SINGAMAMMY CORP.	STAR RT 1 BOX 352	93560	SWEEPS UST
ROSAMOND	A100324785	RICHARD MINER	TEHACHAPI WILLOW SPRINGS	93560	AST
ROSAMOND	1003879424	AVENUE A	1/2 MI W OF W 10TH ST ALONG AVENUE A	93560	CERC-NFRAP
ROSAMOND	A100324679	PHILIP GIBA FARMS	WILLOW AND 55TH ST WEST	93560	AST
ROSAMOND	A100339002	GRIMMWAY - WILLOW SPRINGS YARD	WILLOWSPRINGS	93560	AST

_

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/07/2011 Date Data Arrived at EDR: 10/12/2011 Date Made Active in Reports: 03/01/2012 Number of Days to Update: 141 Source: EPA Telephone: N/A Last EDR Contact: 04/05/2012 Next Scheduled EDR Contact: 07/23/2012 Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC) Telephone: 202-564-7333

EPA Region 1 Telephone 617-918-1143

EPA Region 3 Telephone 215-814-5418

EPA Region 4 Telephone 404-562-8033

EPA Region 5 Telephone 312-886-6686

EPA Region 10 Telephone 206-553-8665 EPA Region 6 Telephone: 214-655-6659

EPA Region 7 Telephone: 913-551-7247

EPA Region 8 Telephone: 303-312-6774

EPA Region 9 Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/07/2011 Date Data Arrived at EDR: 10/12/2011 Date Made Active in Reports: 03/01/2012 Number of Days to Update: 141 Source: EPA Telephone: N/A Last EDR Contact: 04/05/2012 Next Scheduled EDR Contact: 07/23/2012 Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/07/2011 Date Data Arrived at EDR: 10/12/2011 Date Made Active in Reports: 03/01/2012 Number of Days to Update: 141

Source: EPA Telephone: N/A Last EDR Contact: 04/05/2012 Next Scheduled EDR Contact: 07/23/2012 Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/27/2011 Date Data Arrived at EDR: 02/27/2012 Date Made Active in Reports: 03/12/2012 Number of Days to Update: 14 Source: EPA Telephone: 703-412-9810 Last EDR Contact: 04/05/2012 Next Scheduled EDR Contact: 06/11/2012 Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/28/2011 Date Data Arrived at EDR: 02/27/2012 Date Made Active in Reports: 03/12/2012 Number of Days to Update: 14 Source: EPA Telephone: 703-412-9810 Last EDR Contact: 04/05/2012 Next Scheduled EDR Contact: 06/11/2012 Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/09/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/16/2011	Telephone: 202-564-6023
Date Made Active in Reports: 09/29/2011	Last EDR Contact: 01/30/2012
Number of Days to Update: 13	Next Scheduled EDR Contact: 05/14/2012
	Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 08/19/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 132

Source: EPA Telephone: 800-424-9346 Last EDR Contact: 02/13/2012 Next Scheduled EDR Contact: 05/28/2012 Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/10/2011 Date Data Arrived at EDR: 01/05/2012 Date Made Active in Reports: 03/12/2012 Number of Days to Update: 67 Source: Environmental Protection Agency Telephone: (415) 495-8895 Last EDR Contact: 04/04/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/10/2011 Date Data Arrived at EDR: 01/05/2012 Date Made Active in Reports: 03/12/2012 Number of Days to Update: 67 Source: Environmental Protection Agency Telephone: (415) 495-8895 Last EDR Contact: 04/04/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/10/2011 Date Data Arrived at EDR: 01/05/2012 Date Made Active in Reports: 03/12/2012 Number of Days to Update: 67 Source: Environmental Protection Agency Telephone: (415) 495-8895 Last EDR Contact: 04/04/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/10/2011 Date Data Arrived at EDR: 01/05/2012 Date Made Active in Reports: 03/12/2012 Number of Days to Update: 67 Source: Environmental Protection Agency Telephone: (415) 495-8895 Last EDR Contact: 04/04/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Varies

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/10/2011 Date Data Arrived at EDR: 01/05/2012 Date Made Active in Reports: 03/12/2012 Number of Days to Update: 67 Source: Environmental Protection Agency Telephone: (415) 495-8895 Last EDR Contact: 04/04/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Varies

	List blace. Engineering controls include various forms of caps, building create pathway elimination for regulated substances to enter environmental
Date of Government Version: 12/30/2011 Date Data Arrived at EDR: 12/30/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 11	Source: Environmental Protection Agency Telephone: 703-603-0695 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Varies
such as groundwater use restrictions, constru	ols lace. Institutional controls include administrative measures, iction restrictions, property use restrictions, and post remediation ure to contaminants remaining on site. Deed restrictions are generally
Date of Government Version: 12/30/2011 Date Data Arrived at EDR: 12/30/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 11	Source: Environmental Protection Agency Telephone: 703-603-0695 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Varies
ERNS: Emergency Response Notification System Emergency Response Notification System. E substances.	RNS records and stores information on reported releases of oil and hazardous
Date of Government Version: 10/03/2011 Date Data Arrived at EDR: 10/04/2011 Date Made Active in Reports: 11/11/2011	Source: National Response Center, United States Coast Guard Telephone: 202-267-2180
Number of Days to Update: 38	Last EDR Contact: 04/03/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Annually
Number of Days to Update: 38 HMIRS: Hazardous Materials Information Reportin	Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Annually
Number of Days to Update: 38 HMIRS: Hazardous Materials Information Reportin	Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Annually g System
Number of Days to Update: 38 HMIRS: Hazardous Materials Information Reportin Hazardous Materials Incident Report System Date of Government Version: 10/04/2011 Date Data Arrived at EDR: 10/04/2011 Date Made Active in Reports: 11/11/2011	Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Annually g System HMIRS contains hazardous material spill incidents reported to DOT. Source: U.S. Department of Transportation Telephone: 202-366-4555 Last EDR Contact: 04/03/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Annually

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 10/07/2011 Date Data Arrived at EDR: 12/09/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 32 Source: Drug Enforcement Administration Telephone: 202-307-1000 Last EDR Contact: 03/06/2012 Next Scheduled EDR Contact: 06/18/2012 Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/27/2011 Date Data Arrived at EDR: 06/27/2011 Date Made Active in Reports: 09/13/2011 Number of Days to Update: 78 Source: Environmental Protection Agency Telephone: 202-566-2777 Last EDR Contact: 04/03/2012 Next Scheduled EDR Contact: 07/09/2012 Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 11/10/2006 Date Made Active in Reports: 01/11/2007 Number of Days to Update: 62 Source: USGS Telephone: 888-275-8747 Last EDR Contact: 04/16/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 08/12/2010 Date Made Active in Reports: 12/02/2010 Number of Days to Update: 112 Source: U.S. Army Corps of Engineers Telephone: 202-528-4285 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005 Date Data Arrived at EDR: 12/11/2006 Date Made Active in Reports: 01/11/2007 Number of Days to Update: 31 Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 04/03/2012 Next Scheduled EDR Contact: 06/04/2012 Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/01/2011 Date Data Arrived at EDR: 01/25/2012 Date Made Active in Reports: 03/01/2012 Number of Days to Update: 36 Source: Department of Justice, Consent Decree Library Telephone: Varies Last EDR Contact: 04/02/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Varies

ROD: Records Of Decision

Number of Days to Update: 131

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

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	Date of Government Version: 09/28/2011 Date Data Arrived at EDR: 12/14/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 27	Source: EPA Telephone: 703-416-0223 Last EDR Contact: 03/14/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Annually	
UMT	RA: Uranium Mill Tailings Sites Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.		
	Date of Government Version: 09/14/2010 Date Data Arrived at EDR: 10/07/2011 Date Made Active in Reports: 03/01/2012 Number of Days to Update: 146	Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 02/28/2012 Next Scheduled EDR Contact: 06/11/2012 Data Release Frequency: Varies	
ODI: Open Dump Inventory An open dump is defined as a disposal facility that does not comply with one or more of the Part Subtitle D Criteria.		that does not comply with one or more of the Part 257 or Part 258	
	Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004 Number of Days to Update: 39	Source: Environmental Protection Agency Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned	
DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.			
	Date of Government Version: 01/12/2009 Date Data Arrived at EDR: 05/07/2009 Date Made Active in Reports: 09/21/2009 Number of Days to Update: 137	Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 03/26/2012 Next Scheduled EDR Contact: 07/09/2012 Data Release Frequency: No Update Planned	
MIN	ES: Mines Master Index File Contains all mine identification numbers issued violation information.	for mines active or opened since 1971. The data also includes	
	Date of Government Version: 08/18/2011 Date Data Arrived at EDR: 09/08/2011 Date Made Active in Reports: 09/29/2011 Number of Days to Update: 21	Source: Department of Labor, Mine Safety and Health Administration Telephone: 303-231-5959 Last EDR Contact: 03/07/2012 Next Scheduled EDR Contact: 06/18/2012 Data Release Frequency: Semi-Annually	
TRIS	5: Toxic Chemical Release Inventory System Toxic Release Inventory System. TRIS identifie land in reportable quantities under SARA Title	es facilities which release toxic chemicals to the air, water and III Section 313.	
	Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 09/01/2011 Date Made Active in Reports: 01/10/2012	Source: EPA Telephone: 202-566-0250 Last EDR Contact: 02/28/2012 Next Scheduled EDR Contact: 06/11/2012	

Next Scheduled EDR Contact: 06/11/2012 Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006	Source: EPA
Date Data Arrived at EDR: 09/29/2010	Telephone: 202-260-5521
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 03/28/2012
Number of Days to Update: 64	Next Scheduled EDR Contact: 07/09/2012
	Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 02/27/2012
Number of Days to Update: 25	Next Scheduled EDR Contact: 06/11/2012
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 02/27/2012
Number of Days to Update: 25	Next Scheduled EDR Contact: 06/11/2012
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007 Number of Days to Update: 40 Source: Environmental Protection Agency Telephone: 202-564-2501 Last EDR Contact: 12/17/2008 Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

	Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 12/10/2010 Date Made Active in Reports: 02/25/2011 Number of Days to Update: 77	Source: EPA Telephone: 202-564-4203 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Annually
		m (ICIS) supports the information needs of the national enforcement e needs of the National Pollutant Discharge Elimination System (NPDES)
	Date of Government Version: 07/20/2011 Date Data Arrived at EDR: 11/10/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 61	Source: Environmental Protection Agency Telephone: 202-564-5088 Last EDR Contact: 03/26/2012 Next Scheduled EDR Contact: 07/09/2012 Data Release Frequency: Quarterly
PADS: PCB Activity Database System PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.		
	Date of Government Version: 11/01/2010 Date Data Arrived at EDR: 11/10/2010 Date Made Active in Reports: 02/16/2011 Number of Days to Update: 98	Source: EPA Telephone: 202-566-0500 Last EDR Contact: 04/17/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Annually
MLTS: Material Licensing Tracking System MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.		
	Date of Government Version: 06/21/2011 Date Data Arrived at EDR: 07/15/2011 Date Made Active in Reports: 09/13/2011 Number of Days to Update: 60	Source: Nuclear Regulatory Commission Telephone: 301-415-7169 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Quarterly
	RADINFO: Radiation Information Database The Radiation Information Database (RADINI Environmental Protection Agency (EPA) regu	FO) contains information about facilities that are regulated by U.S. lations for radiation and radioactivity.
	Date of Government Version: 01/10/2012	Source: Environmental Protection Agency

Date Data Arrived at EDR: 01/12/2012	Telephone: 202-343-9775
Date Made Active in Reports: 03/01/2012	Last EDR Contact: 04/10/2012
Number of Days to Update: 49	Next Scheduled EDR Contact: 07/23/2012
	Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/23/2011 Date Data Arrived at EDR: 12/13/2011 Date Made Active in Reports: 03/01/2012 Number of Days to Update: 79 Source: EPA Telephone: (415) 947-8000 Last EDR Contact: 03/13/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995 Number of Days to Update: 35 Source: EPA Telephone: 202-564-4104 Last EDR Contact: 06/02/2008 Next Scheduled EDR Contact: 09/01/2008 Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 03/01/2011 Date Made Active in Reports: 05/02/2011 Number of Days to Update: 62 Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 02/27/2012 Next Scheduled EDR Contact: 06/11/2012 Data Release Frequency: Biennially

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010 Date Data Arrived at EDR: 02/16/2010 Date Made Active in Reports: 04/12/2010 Number of Days to Update: 55

Source: FEMA Telephone: 202-646-5797 Last EDR Contact: 04/10/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 04/16/2012
Number of Days to Update: 76	Next Scheduled EDR Contact: 07/30/2012
	Data Release Frequency: Varies

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010 Date Data Arrived at EDR: 01/11/2011 Date Made Active in Reports: 02/16/2011 Number of Days to Update: 36 Source: Environmental Protection Agency Telephone: 703-603-8704 Last EDR Contact: 04/12/2012 Next Scheduled EDR Contact: 07/23/2012 Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011 Date Data Arrived at EDR: 10/19/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 83 Source: Environmental Protection Agency Telephone: 202-566-0517 Last EDR Contact: 02/03/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007 Date Data Arrived at EDR: 11/19/2008 Date Made Active in Reports: 03/30/2009 Number of Days to Update: 131 Source: Drug Enforcement Administration Telephone: 202-307-1000 Last EDR Contact: 03/23/2009 Next Scheduled EDR Contact: 06/22/2009 Data Release Frequency: No Update Planned

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011 Date Data Arrived at EDR: 03/09/2011 Date Made Active in Reports: 05/02/2011 Number of Days to Update: 54 Source: Environmental Protection Agency Telephone: 615-532-8599 Last EDR Contact: 02/06/2012 Next Scheduled EDR Contact: 05/07/2012 Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010 Date Data Arrived at EDR: 01/03/2011 Date Made Active in Reports: 03/21/2011 Number of Days to Update: 77 Source: Environmental Protection Agency Telephone: N/A Last EDR Contact: 03/16/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Varies

STATE AND LOCAL RECORDS

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005 Date Data Arrived at EDR: 08/03/2006 Date Made Active in Reports: 08/24/2006 Number of Days to Update: 21 Source: Department of Toxic Substance Control Telephone: 916-323-3400 Last EDR Contact: 02/23/2009 Next Scheduled EDR Contact: 05/25/2009 Data Release Frequency: No Update Planned

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989 Date Data Arrived at EDR: 07/27/1994 Date Made Active in Reports: 08/02/1994 Number of Days to Update: 6 Source: Department of Health Services Telephone: 916-255-2118 Last EDR Contact: 05/31/1994 Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 03/14/2012SoDate Data Arrived at EDR: 03/15/2012TeDate Made Active in Reports: 04/02/2012La:Number of Days to Update: 18Ne

Source: Department of Toxic Substances Control Telephone: 916-323-3400 Last EDR Contact: 03/15/2012 Next Scheduled EDR Contact: 05/21/2012 Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/30/1995	Telephone: 916-227-4364
Date Made Active in Reports: 09/26/1995	Last EDR Contact: 01/26/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/20/2012	Source: Department of Resources Recycling and Recovery
Date Data Arrived at EDR: 02/20/2012	Telephone: 916-341-6320
Date Made Active in Reports: 03/29/2012	Last EDR Contact: 02/20/2012
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/04/2012
	Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000	Source: State Water Resources Control Board
Date Data Arrived at EDR: 04/10/2000	Telephone: 916-227-4448
Date Made Active in Reports: 05/10/2000	Last EDR Contact: 02/13/2012
Number of Days to Update: 30	Next Scheduled EDR Contact: 05/28/2012
	Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/20/2012	Source: State Water Resources Control Board
Date Data Arrived at EDR: 02/20/2012	Telephone: 916-445-9379
Date Made Active in Reports: 03/29/2012	Last EDR Contact: 02/20/2012
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/04/2012
	Data Release Frequency: Quarterly

WDS: Waste Discharge System	
Sites which have been issued waste dischar	ge requirements.
Date of Government Version: 06/19/2007 Date Data Arrived at EDR: 06/20/2007 Date Made Active in Reports: 06/29/2007 Number of Days to Update: 9	Source: State Water Resources Control Board Telephone: 916-341-5227 Last EDR Contact: 02/27/2012 Next Scheduled EDR Contact: 06/11/2012 Data Release Frequency: Quarterly
CORTESE: "Cortese" Hazardous Waste & Substa The sites for the list are designated by the Si Board (SWF/LS), and the Department of Tox	tate Water Resource Control Board (LUST), the Integrated Waste
Date of Government Version: 01/03/2012 Date Data Arrived at EDR: 01/03/2012 Date Made Active in Reports: 01/19/2012 Number of Days to Update: 16	Source: CAL EPA/Office of Emergency Information Telephone: 916-323-3400 Last EDR Contact: 04/03/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Quarterly
	Site List tate Water Resource Control Board [LUST], the Integrated Waste Board stances Control [CALSITES]. This listing is no longer updated by the
Date of Government Version: 04/01/2001 Date Data Arrived at EDR: 01/22/2009 Date Made Active in Reports: 04/08/2009 Number of Days to Update: 76	Source: Department of Toxic Substances Control Telephone: 916-323-3400 Last EDR Contact: 01/22/2009 Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned
SWRCY: Recycler Database A listing of recycling facilities in California.	
Date of Government Version: 12/12/2011 Date Data Arrived at EDR: 12/19/2011 Date Made Active in Reports: 01/19/2012 Number of Days to Update: 31	Source: Department of Conservation Telephone: 916-323-3836 Last EDR Contact: 03/21/2012 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Quarterly
storage tank incidents. Not all states maintai	ank Report Reports. LUST records contain an inventory of reported leaking underground n these records, and the information stored varies by state. For erground storage tank sites, please contact the appropriate regulatory
Date of Government Version: 01/20/2012	Source: State Water Resources Control Board

Date of Government Version: 01/20/2012	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/20/2012	Telephone: see region list
Date Made Active in Reports: 02/21/2012	Last EDR Contact: 03/21/2012
Number of Days to Update: 32	Next Scheduled EDR Contact: 07/02/2012
	Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003 Date Data Arrived at EDR: 09/10/2003 Date Made Active in Reports: 10/07/2003 Number of Days to Update: 27	Source: California Regional Water Quality Control Board Lahontan Region (6) Telephone: 530-542-5572 Last EDR Contact: 09/12/2011 Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: No Update Planned
	Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Orange, Riverside, San Diego counties. For n Control Board's LUST database.	Report nore current information, please refer to the State Water Resources
Date of Government Version: 03/01/2001 Date Data Arrived at EDR: 04/23/2001 Date Made Active in Reports: 05/21/2001 Number of Days to Update: 28	Source: California Regional Water Quality Control Board San Diego Region (9) Telephone: 858-637-5595 Last EDR Contact: 09/26/2011 Next Scheduled EDR Contact: 01/09/2012 Data Release Frequency: No Update Planned
LUST REG 8: Leaking Underground Storage Tank California Regional Water Quality Control Board's to the State Water Resources Control Board's	ard Santa Ana Region (8). For more current information, please refer
Date of Government Version: 02/14/2005 Date Data Arrived at EDR: 02/15/2005 Date Made Active in Reports: 03/28/2005 Number of Days to Update: 41	Source: California Regional Water Quality Control Board Santa Ana Region (8) Telephone: 909-782-4496 Last EDR Contact: 08/15/2011 Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: Varies
Dorado, Fresno, Glenn, Kern, Kings, Lake, La	Database 5. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El assen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, tanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.
Date of Government Version: 07/01/2008 Date Data Arrived at EDR: 07/22/2008 Date Made Active in Reports: 07/31/2008 Number of Days to Update: 9	Source: California Regional Water Quality Control Board Central Valley Region (5) Telephone: 916-464-4834 Last EDR Contact: 07/01/2011 Next Scheduled EDR Contact: 10/17/2011 Data Release Frequency: Quarterly
LUST REG 1: Active Toxic Site Investigation Del Norte, Humboldt, Lake, Mendocino, Modo please refer to the State Water Resources Co	oc, Siskiyou, Sonoma, Trinity counties. For more current information, ontrol Board's LUST database.
Date of Government Version: 02/01/2001 Date Data Arrived at EDR: 02/28/2001 Date Made Active in Reports: 03/29/2001 Number of Days to Update: 29	Source: California Regional Water Quality Control Board North Coast (1) Telephone: 707-570-3769 Last EDR Contact: 08/01/2011 Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned
LUST REG 2: Fuel Leak List Leaking Underground Storage Tank locations Clara, Solano, Sonoma counties.	. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa
Date of Government Version: 09/30/2004 Date Data Arrived at EDR: 10/20/2004 Date Made Active in Reports: 11/19/2004 Number of Days to Update: 30	Source: California Regional Water Quality Control Board San Francisco Bay Region (2) Telephone: 510-622-2433 Last EDR Contact: 09/19/2011 Next Scheduled EDR Contact: 01/02/2012 Data Release Frequency: Quarterly
LUST REG 6V: Leaking Underground Storage Tan Leaking Underground Storage Tank locations	ik Case Listing . Inyo, Kern, Los Angeles, Mono, San Bernardino counties.
Date of Government Version: 06/07/2005 Date Data Arrived at EDR: 06/07/2005 Date Made Active in Reports: 06/29/2005 Number of Days to Update: 22	Source: California Regional Water Quality Control Board Victorville Branch Office (6) Telephone: 760-241-7365 Last EDR Contact: 09/12/2011 Next Scheduled EDR Contact: 12/26/2011 Data Release Eroquency: No. Ladata Planned

Data Release Frequency: No Update Planned

	s. Imperial, Riverside, San Diego, Santa Barbara counties.
Date of Government Version: 02/26/2004 Date Data Arrived at EDR: 02/26/2004 Date Made Active in Reports: 03/24/2004 Number of Days to Update: 27	Source: California Regional Water Quality Control Board Colorado River Basin Region (Telephone: 760-776-8943 Last EDR Contact: 08/01/2011 Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned
LUST REG 3: Leaking Underground Storage Tank Leaking Underground Storage Tank locations	c Database s. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.
Date of Government Version: 05/19/2003 Date Data Arrived at EDR: 05/19/2003 Date Made Active in Reports: 06/02/2003 Number of Days to Update: 14	Source: California Regional Water Quality Control Board Central Coast Region (3) Telephone: 805-542-4786 Last EDR Contact: 07/18/2011 Next Scheduled EDR Contact: 10/31/2011 Data Release Frequency: No Update Planned
LUST REG 4: Underground Storage Tank Leak Li Los Angeles, Ventura counties. For more cur Board's LUST database.	st rent information, please refer to the State Water Resources Control
Date of Government Version: 09/07/2004 Date Data Arrived at EDR: 09/07/2004 Date Made Active in Reports: 10/12/2004 Number of Days to Update: 35	Source: California Regional Water Quality Control Board Los Angeles Region (4) Telephone: 213-576-6710 Last EDR Contact: 09/06/2011 Next Scheduled EDR Contact: 12/19/2011 Data Release Frequency: No Update Planned
	as a historical listing of active and inactive underground storage Control Board. Refer to local/county source for current data.
Date of Government Version: 10/31/1994 Date Data Arrived at EDR: 09/05/1995 Date Made Active in Reports: 09/29/1995 Number of Days to Update: 24	Source: California Environmental Protection Agency Telephone: 916-341-5851 Last EDR Contact: 12/28/1998 Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned
SLIC: Statewide SLIC Cases The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	cleanup) program is designed to protect and restore water quality
Date of Government Version: 01/20/2012 Date Data Arrived at EDR: 01/20/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 32	Source: State Water Resources Control Board Telephone: 866-480-1028 Last EDR Contact: 03/21/2012 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Varies
SLIC REG 1: Active Toxic Site Investigations The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	cleanup) program is designed to protect and restore water quality
Date of Government Version: 04/03/2003 Date Data Arrived at EDR: 04/07/2003 Date Made Active in Reports: 04/25/2003 Number of Days to Update: 18	Source: California Regional Water Quality Control Board, North Coast Region (1) Telephone: 707-576-2220 Last EDR Contact: 08/01/2011 Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004 Date Data Arrived at EDR: 10/20/2004 Date Made Active in Reports: 11/19/2004 Number of Days to Update: 30	Source: Regional Water Quality Control Board San Francisco Bay Region (2) Telephone: 510-286-0457 Last EDR Contact: 09/19/2011 Next Scheduled EDR Contact: 01/02/2012 Data Release Frequency: Quarterly
SLIC REG 3: Spills, Leaks, Investigation & Cleanu The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	p Cost Recovery Listing leanup) program is designed to protect and restore water quality
Date of Government Version: 05/18/2006 Date Data Arrived at EDR: 05/18/2006 Date Made Active in Reports: 06/15/2006 Number of Days to Update: 28	Source: California Regional Water Quality Control Board Central Coast Region (3) Telephone: 805-549-3147 Last EDR Contact: 07/18/2011 Next Scheduled EDR Contact: 10/31/2011 Data Release Frequency: Semi-Annually
SLIC REG 4: Spills, Leaks, Investigation & Cleanu The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	p Cost Recovery Listing leanup) program is designed to protect and restore water quality
Date of Government Version: 11/17/2004 Date Data Arrived at EDR: 11/18/2004 Date Made Active in Reports: 01/04/2005 Number of Days to Update: 47	Source: Region Water Quality Control Board Los Angeles Region (4) Telephone: 213-576-6600 Last EDR Contact: 07/01/2011 Next Scheduled EDR Contact: 10/17/2011 Data Release Frequency: Varies
SLIC REG 5: Spills, Leaks, Investigation & Cleanu The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	p Cost Recovery Listing leanup) program is designed to protect and restore water quality
Date of Government Version: 04/01/2005 Date Data Arrived at EDR: 04/05/2005 Date Made Active in Reports: 04/21/2005 Number of Days to Update: 16	Source: Regional Water Quality Control Board Central Valley Region (5) Telephone: 916-464-3291 Last EDR Contact: 09/12/2011 Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: Semi-Annually
SLIC REG 6V: Spills, Leaks, Investigation & Clean The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	up Cost Recovery Listing leanup) program is designed to protect and restore water quality
Date of Government Version: 05/24/2005 Date Data Arrived at EDR: 05/25/2005 Date Made Active in Reports: 06/16/2005 Number of Days to Update: 22	Source: Regional Water Quality Control Board, Victorville Branch Telephone: 619-241-6583 Last EDR Contact: 08/15/2011 Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: Semi-Annually
SLIC REG 6L: SLIC Sites The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	leanup) program is designed to protect and restore water quality
Date of Government Version: 09/07/2004 Date Data Arrived at EDR: 09/07/2004 Date Made Active in Reports: 10/12/2004 Number of Days to Update: 35	Source: California Regional Water Quality Control Board, Lahontan Region Telephone: 530-542-5574 Last EDR Contact: 08/15/2011 Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned
SLIC REG 7: SLIC List The SLIC (Spills, Leaks, Investigations and C	leanup) program is designed to protect and restore water quality

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004 Date Data Arrived at EDR: 11/29/2004 Date Made Active in Reports: 01/04/2005	Source: California Regional Quality Control Board, Colorado River Basin Region Telephone: 760-346-7491 Last EDR Contact: 08/01/2011
Number of Days to Update: 36	Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned
SLIC REG 8: Spills, Leaks, Investigation & Cleanu The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	p Cost Recovery Listing leanup) program is designed to protect and restore water quality
Date of Government Version: 04/03/2008 Date Data Arrived at EDR: 04/03/2008 Date Made Active in Reports: 04/14/2008 Number of Days to Update: 11	Source: California Region Water Quality Control Board Santa Ana Region (8) Telephone: 951-782-3298 Last EDR Contact: 09/12/2011 Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: Semi-Annually
SLIC REG 9: Spills, Leaks, Investigation & Cleanu The SLIC (Spills, Leaks, Investigations and C from spills, leaks, and similar discharges.	p Cost Recovery Listing leanup) program is designed to protect and restore water quality
Date of Government Version: 09/10/2007 Date Data Arrived at EDR: 09/11/2007 Date Made Active in Reports: 09/28/2007 Number of Days to Update: 17	Source: California Regional Water Quality Control Board San Diego Region (9) Telephone: 858-467-2980 Last EDR Contact: 08/08/2011 Next Scheduled EDR Contact: 11/21/2011
	Data Release Frequency: Annually
UST: Active UST Facilities Active UST facilities gathered from the local re	egulatory agencies
Date of Government Version: 01/20/2012 Date Data Arrived at EDR: 01/20/2012 Date Made Active in Reports: 02/22/2012 Number of Days to Update: 33	Source: SWRCB Telephone: 916-480-1028 Last EDR Contact: 03/21/2012 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Semi-Annually
UST MENDOCINO: Mendocino County UST Data A listing of underground storage tank location	
Date of Government Version: 09/23/2009 Date Data Arrived at EDR: 09/23/2009 Date Made Active in Reports: 10/01/2009 Number of Days to Update: 8	Source: Department of Public Health Telephone: 707-463-4466 Last EDR Contact: 12/05/2012 Next Scheduled EDR Contact: 06/18/2012 Data Release Frequency: Annually
HIST UST: Hazardous Substance Storage Contain The Hazardous Substance Storage Container source for current data.	er Database Database is a historical listing of UST sites. Refer to local/county
Date of Government Version: 10/15/1990 Date Data Arrived at EDR: 01/25/1991 Date Made Active in Reports: 02/12/1991 Number of Days to Update: 18	Source: State Water Resources Control Board Telephone: 916-341-5851 Last EDR Contact: 07/26/2001 Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned
LIENS: Environmental Liens Listing A listing of property locations with environmer	ntal liens for California where DTSC is a lien holder.
Date of Government Version: 03/12/2012 Date Data Arrived at EDR: 03/13/2012 Date Made Active in Reports: 04/02/2012 Number of Days to Update: 20	Source: Department of Toxic Substances Control Telephone: 916-323-3400 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Varies

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date Date	of Government Version: 06/01/1994 Data Arrived at EDR: 07/07/2005 Made Active in Reports: 08/11/2005 per of Days to Update: 35	Source: State Water Resources Control Board Telephone: N/A Last EDR Contact: 06/03/2005 Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned
Califo	California Hazardous Material Incident Re rnia Hazardous Material Incident Reportir nts (accidental releases or spills).	port System ng System. CHMIRS contains information on reported hazardous material
Date Date	of Government Version: 12/31/2010 Data Arrived at EDR: 05/03/2011 Made Active in Reports: 06/15/2011 ver of Days to Update: 43	Source: Office of Emergency Services Telephone: 916-845-8400 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies
	Disposal Sites Listing and Disposal program regulates of waste	discharge to land for treatment, storage and disposal in waste management
Date Date	of Government Version: 01/20/2012 Data Arrived at EDR: 01/20/2012 Made Active in Reports: 02/21/2012 per of Days to Update: 32	Source: State Water Qualility Control Board Telephone: 866-480-1028 Last EDR Contact: 03/21/2012 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Quarterly
The S of De		nine Regional Water Quality Control Boards partner with the Department the Memorandum of Agreement (DSMOA) to oversee the investigation ary facilities.
Date Date	of Government Version: 01/20/2012 Data Arrived at EDR: 01/20/2012 Made Active in Reports: 02/21/2012 per of Days to Update: 32	Source: State Water Resources Control Board Telephone: 866-480-1028 Last EDR Contact: 03/21/2012 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Quarterly
	eground Petroleum Storage Tank Facilitie tered Aboveground Storage Tanks.	25
Date Date	of Government Version: 08/01/2009 Data Arrived at EDR: 09/10/2009 Made Active in Reports: 10/01/2009 per of Days to Update: 21	Source: State Water Resources Control Board Telephone: 916-341-5712 Last EDR Contact: 01/23/2012 Next Scheduled EDR Contact: 04/23/2012 Data Release Frequency: Quarterly
Listin		to counties by the State Water Resources Control Board and the tabase is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/26/2012
Next Scheduled EDR Contact: 07/09/2012
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/12/2012 Date Data Arrived at EDR: 03/13/2012 Date Made Active in Reports: 04/02/2012 Number of Days to Update: 20 Source: Department of Toxic Substances Control Telephone: 916-323-3400 Last EDR Contact: 03/13/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 03/14/2012 Date Data Arrived at EDR: 03/15/2012 Date Made Active in Reports: 04/02/2012 Number of Days to Update: 18 Source: Department of Toxic Substances Control Telephone: 916-323-3400 Last EDR Contact: 03/15/2012 Next Scheduled EDR Contact: 05/21/2012 Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 01/19/2012 Date Data Arrived at EDR: 01/19/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 33 Source: Department of Toxic Substance Control Telephone: 916-327-4498 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009 Date Data Arrived at EDR: 07/21/2009 Date Made Active in Reports: 08/03/2009 Number of Days to Update: 13 Source: Los Angeles Water Quality Control Board Telephone: 213-576-6726 Last EDR Contact: 04/02/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/15/2011Source: State Water Resoruces Control BoardDate Data Arrived at EDR: 08/23/2011Telephone: 916-445-9379Date Made Active in Reports: 10/03/2011Last EDR Contact: 02/20/2012Number of Days to Update: 41Next Scheduled EDR Contact: 05/14/2012Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 02/14/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 7 Source: Department of Toxic Substances Control Telephone: 916-255-6504 Last EDR Contact: 04/02/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Varies

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 03/14/2012 Date Data Arrived at EDR: 03/15/2012 Date Made Active in Reports: 04/02/2012 Number of Days to Update: 18 Source: Department of Toxic Substances Control Telephone: 916-323-3400 Last EDR Contact: 03/15/2012 Next Scheduled EDR Contact: 05/21/2012 Data Release Frequency: Quarterly

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2010 Date Data Arrived at EDR: 07/19/2011 Date Made Active in Reports: 08/16/2011 Number of Days to Update: 28 Source: California Environmental Protection Agency Telephone: 916-255-1136 Last EDR Contact: 04/17/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2008 Date Data Arrived at EDR: 09/29/2010 Date Made Active in Reports: 10/18/2010 Number of Days to Update: 19	Source: California Air Resources Board Telephone: 916-322-2990 Last EDR Contact: 03/30/2012 Next Scheduled EDR Contact: 07/09/2012 Data Release Frequency: Varies
•	Next Scheduled EDR Contact: 07/09/2012

HAULERS: Registered Waste Tire Haulers Listing A listing of registered waste tire haulers.

> Date of Government Version: 01/20/2012 Date Data Arrived at EDR: 01/24/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 28

Source: Integrated Waste Management Board Telephone: 916-341-6422 Last EDR Contact: 04/02/2012 Next Scheduled EDR Contact: 06/04/2012 Data Release Frequency: Varies

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 03/14/2012 Date Data Arrived at EDR: 03/15/2012 Date Made Active in Reports: 04/02/2012 Number of Days to Update: 18	Source: Department of Toxic Substances Control Telephone: 916-323-3400 Last EDR Contact: 03/15/2012 Next Scheduled EDR Contact: 05/21/2012 Data Release Frequency: Quarterly
PROC: Certified Processors Database A listing of certified processors.	
Date of Government Version: 12/12/2011 Date Data Arrived at EDR: 12/19/2011 Date Made Active in Reports: 01/19/2012 Number of Days to Update: 31	Source: Department of Conservation Telephone: 916-323-3836 Last EDR Contact: 03/21/2012 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Quarterly
HWP: EnviroStor Permitted Facilities Listing Detailed information on permitted hazardou	s waste facilities and corrective action ("cleanups") tracked in EnviroStor.
Date of Government Version: 08/09/2010 Date Data Arrived at EDR: 08/11/2010 Date Made Active in Reports: 08/20/2010 Number of Days to Update: 9	Source: Department of Toxic Substances Control Telephone: 916-323-3400 Last EDR Contact: 12/02/2011 Next Scheduled EDR Contact: 03/12/2012 Data Release Frequency: Quarterly
	or solid waste facilities. Financial assurance is intended to ensure ost of closure, post-closure care, and corrective measures if the
Date of Government Version: 02/22/2012 Date Data Arrived at EDR: 02/24/2012 Date Made Active in Reports: 04/04/2012 Number of Days to Update: 40	Source: California Integrated Waste Management Board Telephone: 916-341-6066 Last EDR Contact: 02/20/2012 Next Scheduled EDR Contact: 06/04/2012 Data Release Frequency: Varies
FINANCIAL ASSURANCE 1: Financial Assurance Financial Assurance information	e Information Listing
Date of Government Version: 03/01/2007 Date Data Arrived at EDR: 06/01/2007 Date Made Active in Reports: 06/29/2007 Number of Days to Update: 28	Source: Department of Toxic Substances Control Telephone: 916-255-3628 Last EDR Contact: 02/03/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies
person to transport hazardous wastes unles	Database n California, unless specifically exempted, it is unlawful for any ss the person holds a valid registration issued by DTSC. A hazardous e year and is assigned a unique registration number.
Date of Government Version: 01/18/2012 Date Data Arrived at EDR: 01/18/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 34	Source: Department of Toxic Substances Control Telephone: 916-440-7145 Last EDR Contact: 04/12/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Quarterly
Date Made Active in Reports: 02/21/2012 Number of Days to Update: 34 MWMP: Medical Waste Management Program L	Telephone: 916-440-7145 Last EDR Contact: 04/12/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Quarterly

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Telephone: 916-558-1784

Last EDR Contact: 03/12/2012

Data Release Frequency: Varies

Date of Government Version: 02/24/2012 Date Data Arrived at EDR: 03/13/2012 Date Made Active in Reports: 04/02/2012 Number of Days to Update: 20

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 12/08/2006 Date Made Active in Reports: 01/11/2007 Number of Days to Update: 34 Source: USGS Telephone: 202-208-3710 Last EDR Contact: 04/16/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Semi-Annually

Source: Department of Public Health

Next Scheduled EDR Contact: 06/25/2012

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 02/06/2012
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/21/2012
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011 Date Data Arrived at EDR: 09/13/2011 Date Made Active in Reports: 11/11/2011 Number of Days to Update: 59 Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 12/14/2011	Source: EPA Region 4
Date Data Arrived at EDR: 12/15/2011	Telephone: 404-562-8677
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 01/30/2012
Number of Days to Update: 26	Next Scheduled EDR Contact: 05/14/2012
	Data Release Frequency: Semi-Annually

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/18/2011 Date Data Arrived at EDR: 08/19/2011 Date Made Active in Reports: 09/13/2011 Number of Days to Update: 25 Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/02/2011	Source: EPA Region 10
Date Data Arrived at EDR: 11/04/2011	Telephone: 206-553-2857
Date Made Active in Reports: 11/11/2011	Last EDR Contact: 01/30/2012
Number of Days to Update: 7	Next Scheduled EDR Contact: 05/14/2012
	Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Iowa, Kansas, and Nebraska		
Date of Government Version: 11/01/2011 Date Data Arrived at EDR: 11/21/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 50	Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies	
INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada		
Date of Government Version: 12/05/2011 Date Data Arrived at EDR: 12/07/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 34	Source: Environmental Protection Agency Telephone: 415-972-3372 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Quarterly	
INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land A listing of leaking underground storage tank locations on Indian Land.		
Date of Government Version: 10/01/2011 Date Data Arrived at EDR: 11/01/2011 Date Made Active in Reports: 11/11/2011 Number of Days to Update: 10	Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 02/03/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies	
INDIAN UST R9: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).		
Date of Government Version: 11/28/2011 Date Data Arrived at EDR: 11/29/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 42	Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Quarterly	
INDIAN UST R8: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).		
Date of Government Version: 08/18/2011 Date Data Arrived at EDR: 08/19/2011 Date Made Active in Reports: 09/13/2011 Number of Days to Update: 25	Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Quarterly	
INDIAN UST R10: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian Iand in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).		
Date of Government Version: 11/02/2011 Date Data Arrived at EDR: 11/04/2011 Date Made Active in Reports: 11/11/2011 Number of Days to Update: 7	Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Quarterly	
INDIAN UST R4: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)		

Date of Government Version: 12/14/2011 Date Data Arrived at EDR: 12/15/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 26	Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Semi-Annually	
a b c c c c	ndian Land database provides information about underground storage tanks on Indian)klahoma, New Mexico, Texas and 65 Tribes).	
Date of Government Version: 05/10/2011 Date Data Arrived at EDR: 05/11/2011 Date Made Active in Reports: 06/14/2011 Number of Days to Update: 34	Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Semi-Annually	
INDIAN UST R5: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).		
Date of Government Version: 07/01/2011 Date Data Arrived at EDR: 08/26/2011 Date Made Active in Reports: 09/13/2011 Number of Days to Update: 18	Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies	
INDIAN UST R7: Underground Storage Tanks on I The Indian Underground Storage Tank (UST) land in EPA Region 7 (Iowa, Kansas, Missour	database provides information about underground storage tanks on Indian	
Date of Government Version: 11/01/2011 Date Data Arrived at EDR: 11/21/2011 Date Made Active in Reports: 01/10/2012 Number of Days to Update: 50	Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies	
INDIAN UST R1: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).		
Date of Government Version: 10/01/2011 Date Data Arrived at EDR: 11/01/2011 Date Made Active in Reports: 11/11/2011 Number of Days to Update: 10	Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 02/03/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies	
INDIAN VCP R1: Voluntary Cleanup Priority Listing A listing of voluntary cleanup priority sites loca		
Date of Government Version: 08/04/2011	Source: EPA, Region 1	

Date Data Arrived at EDR: 10/04/2011 Date Made Active in Reports: 11/11/2011 Number of Days to Update: 38

ource: EPA, Telephone: 617-918-1102 Last EDR Contact: 04/03/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008 Number of Days to Update: 27

EDR PROPRIETARY RECORDS

Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 04/20/2009 Next Scheduled EDR Contact: 07/20/2009 Data Release Frequency: Varies

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/12/2012 Date Data Arrived at EDR: 01/13/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 39 Source: Alameda County Environmental Health Services Telephone: 510-567-6700 Last EDR Contact: 04/02/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/12/2012 Date Data Arrived at EDR: 01/13/2012 Date Made Active in Reports: 02/24/2012 Number of Days to Update: 42 Source: Alameda County Environmental Health Services Telephone: 510-567-6700 Last EDR Contact: 04/02/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/28/2011Source: Contra Costa Health Services DepartmentDate Data Arrived at EDR: 11/29/2011Telephone: 925-646-2286Date Made Active in Reports: 12/13/2011Last EDR Contact: 02/07/2012Number of Days to Update: 14Next Scheduled EDR Contact: 05/21/2012Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.	
Date of Government Version: 08/31/2010 Date Data Arrived at EDR: 09/01/2010 Date Made Active in Reports: 09/30/2010 Number of Days to Update: 29	Source: Kern County Environment Health Services Department Telephone: 661-862-8700 Last EDR Contact: 03/16/2012 Next Scheduled EDR Contact: 05/28/2012 Data Release Frequency: Quarterly
LOS ANGELES COUNTY:	
San Gabriel Valley Areas of Concern San Gabriel Valley areas where VOC contamir	nation is at or above the MCL as designated by region 9 EPA office.
Date of Government Version: 03/30/2009 Date Data Arrived at EDR: 03/31/2009 Date Made Active in Reports: 10/23/2009 Number of Days to Update: 206	Source: EPA Region 9 Telephone: 415-972-3178 Last EDR Contact: 03/26/2012 Next Scheduled EDR Contact: 07/09/2012 Data Release Frequency: No Update Planned
HMS: Street Number List Industrial Waste and Underground Storage Ta	nk Sites.
Date of Government Version: 09/29/2011 Date Data Arrived at EDR: 12/15/2011 Date Made Active in Reports: 01/19/2012 Number of Days to Update: 35	Source: Department of Public Works Telephone: 626-458-3517 Last EDR Contact: 04/10/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Semi-Annually
List of Solid Waste Facilities Solid Waste Facilities in Los Angeles County.	
Date of Government Version: 01/23/2012 Date Data Arrived at EDR: 01/24/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 28	Source: La County Department of Public Works Telephone: 818-458-5185 Last EDR Contact: 01/24/2012 Next Scheduled EDR Contact: 05/07/2012 Data Release Frequency: Varies
City of Los Angeles Landfills Landfills owned and maintained by the City of I	Los Angeles.
Date of Government Version: 03/05/2009 Date Data Arrived at EDR: 03/10/2009 Date Made Active in Reports: 04/08/2009 Number of Days to Update: 29	Source: Engineering & Construction Division Telephone: 213-473-7869 Last EDR Contact: 11/17/2011 Next Scheduled EDR Contact: 03/05/2012 Data Release Frequency: Varies
Site Mitigation List Industrial sites that have had some sort of spill	or complaint.
Date of Government Version: 12/29/2011 Date Data Arrived at EDR: 02/02/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 19	Source: Community Health Services Telephone: 323-890-7806 Last EDR Contact: 04/16/2012 Next Scheduled EDR Contact: 08/06/2012 Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/23/2012 Date Data Arrived at EDR: 01/25/2012 Date Made Active in Reports: 02/22/2012 Number of Days to Update: 28	Source: City of El Segundo Fire Department Telephone: 310-524-2236 Last EDR Contact: 04/17/2012 Next Scheduled EDR Contact: 08/06/2012 Data Release Frequency: Semi-Annually
City of Long Beach Underground Storage Tank Underground storage tank sites located in the	city of Long Beach.
Date of Government Version: 03/28/2003 Date Data Arrived at EDR: 10/23/2003 Date Made Active in Reports: 11/26/2003 Number of Days to Update: 34	Source: City of Long Beach Fire Department Telephone: 562-570-2563 Last EDR Contact: 03/05/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Annually
City of Torrance Underground Storage Tank Underground storage tank sites located in the	city of Torrance.
Date of Government Version: 01/16/2012 Date Data Arrived at EDR: 01/18/2012 Date Made Active in Reports: 02/22/2012 Number of Days to Update: 35	Source: City of Torrance Fire Department Telephone: 310-618-2973 Last EDR Contact: 04/10/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Semi-Annually
MARIN COUNTY:	
Underground Storage Tank Sites Currently permitted USTs in Marin County.	
Date of Government Version: 01/13/2012 Date Data Arrived at EDR: 01/24/2012 Date Made Active in Reports: 02/22/2012 Number of Days to Update: 29	Source: Public Works Department Waste Management Telephone: 415-499-6647 Last EDR Contact: 04/09/2012 Next Scheduled EDR Contact: 07/23/2012 Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011Source: Napa County Department of Environmental ManagementDate Data Arrived at EDR: 12/06/2011Telephone: 707-253-4269Date Made Active in Reports: 02/07/2012Last EDR Contact: 03/05/2012Number of Days to Update: 63Next Scheduled EDR Contact: 06/18/2012Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008	Source: Napa County Department of Environmental Management
Date Data Arrived at EDR: 01/16/2008	Telephone: 707-253-4269
Date Made Active in Reports: 02/08/2008	Last EDR Contact: 12/05/2012
Number of Days to Update: 23	Next Scheduled EDR Contact: 06/18/2012
	Data Release Frequency: No Update Planned

ORANGE COUNTY:

List of Industrial Site Cleanups Petroleum and non-petroleum spills.	
Date of Government Version: 02/01/2012 Date Data Arrived at EDR: 02/17/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 4	Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/13/2012 Next Scheduled EDR Contact: 05/28/2012 Data Release Frequency: Annually
List of Underground Storage Tank Cleanups Orange County Underground Storage Tank Cl	eanups (LUST).
Date of Government Version: 02/01/2012 Date Data Arrived at EDR: 02/17/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 4	Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/13/2012 Next Scheduled EDR Contact: 05/28/2012 Data Release Frequency: Quarterly
List of Underground Storage Tank Facilities Orange County Underground Storage Tank Fa	acilities (UST).
Date of Government Version: 02/01/2012 Date Data Arrived at EDR: 02/17/2012 Date Made Active in Reports: 04/03/2012 Number of Days to Update: 46	Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/13/2012 Next Scheduled EDR Contact: 05/28/2012 Data Release Frequency: Quarterly
PLACER COUNTY:	
Master List of Facilities List includes aboveground tanks, underground	tanks and cleanup sites.
Date of Government Version: 03/19/2012 Date Data Arrived at EDR: 03/19/2012 Date Made Active in Reports: 04/04/2012 Number of Days to Update: 16	Source: Placer County Health and Human Services Telephone: 530-889-7312 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Semi-Annually
RIVERSIDE COUNTY:	

Listing of Underground Tank Cleanup Sites Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/18/2012	Source: Department of Environmental Health
Date Data Arrived at EDR: 01/26/2012	Telephone: 951-358-5055
Date Made Active in Reports: 02/21/2012	Last EDR Contact: 12/21/2011
Number of Days to Update: 26	Next Scheduled EDR Contact: 04/09/2012
	Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 01/18/2012	Source: Department of Environmental Health
Date Data Arrived at EDR: 01/26/2012	Telephone: 951-358-5055
Date Made Active in Reports: 02/24/2012	Last EDR Contact: 12/21/2011
Number of Days to Update: 29	Next Scheduled EDR Contact: 04/26/2012
	Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/02/2011	S
Date Data Arrived at EDR: 10/12/2011	Te
Date Made Active in Reports: 11/08/2011	La
Number of Days to Update: 27	N
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Source: Sacramento County Environmental Management Telephone: 916-875-8406 Last EDR Contact: 04/09/2012 Next Scheduled EDR Contact: 07/23/2012 Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/02/2011 Date Data Arrived at EDR: 10/14/2011 Date Made Active in Reports: 11/08/2011 Number of Days to Update: 25 Source: Sacramento County Environmental Management Telephone: 916-875-8406 Last EDR Contact: 04/09/2012 Next Scheduled EDR Contact: 07/23/2012 Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/01/2012Source: San Bernardino County Fire Department Hazardous Materials DivisionDate Data Arrived at EDR: 03/01/2012Telephone: 909-387-3041Date Made Active in Reports: 03/27/2012Last EDR Contact: 02/13/2012Number of Days to Update: 26Next Scheduled EDR Contact: 05/28/2012Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/09/2010 Date Data Arrived at EDR: 09/15/2010 Date Made Active in Reports: 09/29/2010 Number of Days to Update: 14 Source: Hazardous Materials Management Division Telephone: 619-338-2268 Last EDR Contact: 03/16/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2011 Date Data Arrived at EDR: 11/04/2011 Date Made Active in Reports: 12/13/2011 Number of Days to Update: 39 Source: Department of Health Services Telephone: 619-338-2209 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010 Date Data Arrived at EDR: 06/15/2010 Date Made Active in Reports: 07/09/2010 Number of Days to Update: 24

Source: San Diego County Department of Environmental Health Telephone: 619-338-2371 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008 Source: Department Of Public Health San Francisco County Date Data Arrived at EDR: 09/19/2008 Telephone: 415-252-3920 Last EDR Contact: 02/13/2012 Date Made Active in Reports: 09/29/2008 Number of Days to Update: 10 Next Scheduled EDR Contact: 05/28/2012 Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010	Source: Department of Public Health
Date Data Arrived at EDR: 03/10/2011	Telephone: 415-252-3920
Date Made Active in Reports: 03/15/2011	Last EDR Contact: 02/13/2012
Number of Days to Update: 5	Next Scheduled EDR Contact: 05/28/2012
	Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 01/18/2012	Source: Environmental Health Department
Date Data Arrived at EDR: 01/18/2012	Telephone: N/A
Date Made Active in Reports: 02/22/2012	Last EDR Contact: 03/26/2012
Number of Days to Update: 35	Next Scheduled EDR Contact: 07/09/2012
	Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date Data Arrived at EDR: 01/17/2012 Telephone: 650-363-1921 Date Made Active in Reports: 02/21/2012 Last EDR Contact: 03/19/2012 Number of Days to Update: 35 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Annually	•	Next Scheduled EDR Contact: 07/02/2012
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Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/15/2011 Date Data Arrived at EDR: 12/15/2011	Source: San Mateo County Environmental Health Services Division Telephone: 650-363-1921
Date Made Active in Reports: 01/19/2012	Last EDR Contact: 03/19/2012
Number of Days to Update: 35	Next Scheduled EDR Contact: 07/02/2012
	Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005	Source: Santa Clara Valley Water District
Date Data Arrived at EDR: 03/30/2005	Telephone: 408-265-2600
Date Made Active in Reports: 04/21/2005	Last EDR Contact: 03/23/2009
Number of Days to Update: 22	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/05/2012	Source: Department of Environmental Health
Date Data Arrived at EDR: 03/07/2012	Telephone: 408-918-3417
Date Made Active in Reports: 03/27/2012	Last EDR Contact: 03/05/2012
Number of Days to Update: 20	Next Scheduled EDR Contact: 06/18/2012
	Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/16/2012	Source: City of San Jose Fire Department
Date Data Arrived at EDR: 02/17/2012	Telephone: 408-535-7694
Date Made Active in Reports: 02/21/2012	Last EDR Contact: 02/13/2012
Number of Days to Update: 4	Next Scheduled EDR Contact: 05/28/2012
	Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 12/19/2011	Source: Solano County Department of Environmental Management
Date Data Arrived at EDR: 01/06/2012	Telephone: 707-784-6770
Date Made Active in Reports: 01/27/2012	Last EDR Contact: 03/19/2012
Number of Days to Update: 21	Next Scheduled EDR Contact: 07/02/2012
	Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 12/19/2011	Source: Solano County Department of Environmental Management
Date Data Arrived at EDR: 01/17/2012	Telephone: 707-784-6770
Date Made Active in Reports: 02/24/2012	Last EDR Contact: 03/19/2012
Number of Days to Update: 38	Next Scheduled EDR Contact: 07/02/2012
	Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/05/2011
Date Data Arrived at EDR: 04/06/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 36

Source: Department of Health Services Telephone: 707-565-6565 Last EDR Contact: 04/02/2012 Next Scheduled EDR Contact: 07/16/2012 Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks Underground storage tank sites located in Sutt	er county.
Date of Government Version: 03/12/2012 Date Data Arrived at EDR: 03/13/2012 Date Made Active in Reports: 04/03/2012 Number of Days to Update: 21	Source: Sutter County Department of Agriculture Telephone: 530-822-7500 Last EDR Contact: 03/12/2012 Next Scheduled EDR Contact: 06/25/2012 Data Release Frequency: Semi-Annually
VENTURA COUNTY:	
Business Plan, Hazardous Waste Producers, and O The BWT list indicates by site address whethe Producer (W), and/or Underground Tank (T) in	r the Environmental Health Division has Business Plan (B), Waste
Date of Government Version: 02/03/2012 Date Data Arrived at EDR: 02/22/2012 Date Made Active in Reports: 03/29/2012 Number of Days to Update: 36	Source: Ventura County Environmental Health Division Telephone: 805-654-2813 Last EDR Contact: 02/20/2012 Next Scheduled EDR Contact: 06/04/2012 Data Release Frequency: Quarterly
Inventory of Illegal Abandoned and Inactive Sites Ventura County Inventory of Closed, Illegal Ab	andoned, and Inactive Sites.
Date of Government Version: 12/01/2011 Date Data Arrived at EDR: 12/01/2011 Date Made Active in Reports: 01/19/2012 Number of Days to Update: 49	Source: Environmental Health Division Telephone: 805-654-2813 Last EDR Contact: 04/09/2012 Next Scheduled EDR Contact: 07/23/2012 Data Release Frequency: Annually
Listing of Underground Tank Cleanup Sites Ventura County Underground Storage Tank Cl	eanup Sites (LUST).
Date of Government Version: 05/29/2008 Date Data Arrived at EDR: 06/24/2008 Date Made Active in Reports: 07/31/2008 Number of Days to Update: 37	Source: Environmental Health Division Telephone: 805-654-2813 Last EDR Contact: 02/20/2012 Next Scheduled EDR Contact: 06/04/2012 Data Release Frequency: Quarterly
	vironment from potential exposure to disease causing agents, the Program regulates the generation, handling, storage, treatment and hty.
Date of Government Version: 12/27/2011 Date Data Arrived at EDR: 02/03/2012 Date Made Active in Reports: 02/21/2012 Number of Days to Update: 18	Source: Ventura County Resource Management Agency Telephone: 805-654-2813 Last EDR Contact: 01/30/2012 Next Scheduled EDR Contact: 05/14/2012 Data Release Frequency: Quarterly
Underground Tank Closed Sites List Ventura County Operating Underground Stora	ge Tank Sites (UST)/Underground Tank Closed Sites List.
Date of Government Version: 12/01/2011 Date Data Arrived at EDR: 12/19/2011 Date Made Active in Reports: 01/17/2012 Number of Days to Update: 29	Source: Environmental Health Division Telephone: 805-654-2813 Last EDR Contact: 03/21/2012 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report Underground storage tank sites located in Yolo county.

Date of Government Version: 12/28/2011 Date Data Arrived at EDR: 01/06/2012 Date Made Active in Reports: 01/17/2012 Number of Days to Update: 11 Source: Yolo County Department of Health Telephone: 530-666-8646 Last EDR Contact: 03/26/2012 Next Scheduled EDR Contact: 07/09/2012 Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/20/2012	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 02/20/2012	Telephone: 860-424-3375
Date Made Active in Reports: 03/15/2012	Last EDR Contact: 02/20/2012
Number of Days to Update: 24	Next Scheduled EDR Contact: 06/04/2012
	Data Release Frequency: Annually

NJ MANIFEST: Manifest Information Hazardous waste manifest information.

> Date of Government Version: 12/31/2010 Date Data Arrived at EDR: 07/20/2011 Date Made Active in Reports: 08/11/2011 Number of Days to Update: 22

Source: Department of Environmental Protection Telephone: N/A Last EDR Contact: 04/17/2012 Next Scheduled EDR Contact: 07/30/2012 Data Release Frequency: Annually

Source: Department of Environmental Conservation

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/10/2012 Date Data Arrived at EDR: 02/09/2012 Date Made Active in Reports: 03/09/2012 Number of Days to Update: 29

Telephone: 518-402-8651 Last EDR Contact: 02/09/2012 Next Scheduled EDR Contact: 05/21/2012 Data Release Frequency: Annually

PA MANIFEST: Manifest Information Hazardous waste manifest information.

> Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 01/26/2012 Date Made Active in Reports: 03/06/2012 Number of Days to Update: 40

Telephone: 717-783-8990 Last EDR Contact: 01/23/2012 Next Scheduled EDR Contact: 05/07/2012 Data Release Frequency: Annually

Source: Department of Environmental Protection

RI MANIFEST: Manifest information Hazardous waste manifest information

> Date of Government Version: 12/31/2010 Date Data Arrived at EDR: 06/24/2011 Date Made Active in Reports: 06/30/2011 Number of Days to Update: 6

Source: Department of Environmental Management Telephone: 401-222-2797 Last EDR Contact: 02/27/2012 Next Scheduled EDR Contact: 06/11/2012 Data Release Frequency: Annually

WI MANIFEST: Manifest Information Hazardous waste manifest information.

> Date of Government Version: 12/31/2010 Date Data Arrived at EDR: 08/19/2011 Date Made Active in Reports: 09/15/2011 Number of Days to Update: 27

Source: Department of Natural Resources Telephone: N/A Last EDR Contact: 03/19/2012 Next Scheduled EDR Contact: 07/02/2012 Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services

Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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APPENDIX E EDR ENVIRONMENTAL LIEN REPORT

First Solar Willow Springs

First Solar Willow Springs Rosamond, CA 93560

Inquiry Number: 3305875.4 May 02, 2012

EDR Environmental Lien and AUL Search



440 Wheelers Farms Road Milford, CT 06461 800.352.0050 www.edrnet.com

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- · search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business. Please contact EDR at 1-800-352-0050 with any questions or comments.

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TARGET PROPERTY INFORMATION

ADDRESS

First Solar Willow Springs First Solar Willow Springs Rosamond, CA 93560

RESEARCH SOURCE

Source 1:

Kern county recorder Kern, CA

PROPERTY INFORMATION

Deed 1:

Type of Deed:	Deed
Title is vested in:	Rosamond Ranch LP
Title received from:	Elias Shokrian & Shirley Shokrian
Deed Dated	3/19/2010
Deed Recorded:	4/1/2010
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	see exhibit
Miscellaneous Comments:	na
Legal Description:	see exhibit
Legal Current Owner:	Rosamond Ranch LP
Parcel # / Property Identifier:	359-031-02-00-7, 359-031-03, 359-031-04-00-3, 359-031-05-00-6, 359-031-006-00-9
Comments:	see exhibit
Deed 2:	
Type of Deed:	Deed
Title is vested in:	Copa De Oro Land Co.
Title received from:	Yong See Cho
Deed Dated	7/18/2006
Deed Recorded:	7/28/2006
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket: Land Record Comments:	NA

Miscellaneous Comments:	see exhibit na
Legal Description:	see exhibit
Legal Current Owner:	Copa De Oro Land Co.
Parcel # / Property Identifier:	359-032-17-00
Comments:	see exhibit
Deed 3:	
Type of Deed:	Deed
Title is vested in:	Rosamond 300
Title received from:	Warren Appel & Loretta Appel
Deed Dated	7/7/1989
Deed Recorded:	7/11/1989
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	see exhibit
Miscellaneous Comments:	na
Legal Description:	see exhibit
Legal Current Owner:	Rosamond 300
Parcel # / Property Identifier:	359-032-01-01
Comments:	see exhibit
Deed 4:	
Type of Deed:	Deed
Title is vested in:	William L Merry & Barbara Ann Merry Trustees
Title received from:	William L Merry & Barbara Ann Merry
Deed Dated	6/26/2008
Deed Recorded:	10/23/2008
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	see exhibit
Miscellaneous Comments:	na
Legal Description:	see exhibit

Legal Current Owner:	William L Merry	& Barbara An	n Merry Trustees
Parcel # / Property Identifier:	359-031-15-00		
Comments:	see exhibit		
ENVIRONMENTAL LIEN			
Environmental Lien:	Found	Not Found	X
OTHER ACTIVITY AND USE LIMITATIONS (AULs)			
AULs:	Found	Not Found	×

Deed Exhibit 1

RECORDING REQUESTED BY: Provident Title Company

2

AND WHEN RECORDED MAIL TO:

Rosamond Ranch, L.P. c/o Elias Shokrian 319 S. Robertson Blvd. Beverly Hills, CA 90211

James W. Fitch, Assessor – Recorder Kern County Official Records Recorded at the request of Public			JASON 4/01/2010 2:00 PM	
DOC#:	0210043398	Stat Types: 1	Pages:	4
		Fees	-	8.00 1.00

Others

PAID

0.00

\$18.00

THIS SPACE FOR RECORDER'S USE ONLY:

QUITCLAIM DEED

THE UNDERSIGNED GRANTOR(S) DECLARE(S)

DOCUMENTARY TRANSFER TAX is \$NONE CITY TRANSFER TAX \$NONE [X] computed on full value of property conveyed, [X] unincorporated area AND

"This conveyance changes the manner in which title is held, grantor(s) and grantee(s) remain the same and continue to hold the same proportionate interest, R & T 11911."

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

ELIAS SHOKRIAN and SHIRLEY SHOKRIAN, husband and wife

do(es) hereby remise, release and forever quitclaim to:

ROSAMOND RANCH, L.P., a California limited liability partnership

the following described property in the unincorporated area of the County of Kern, State of California:

A.P. # 359031-02, -03, -04, -05 and -06 Pacel 1:

THE NORTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, S. B. B. & M. AND THE EAST HALF OF THE NORTHWEST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SECTION 25, TOWNSHIP (AS MORE PARTICULARLY DESCRIBED IN EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF).

DATED March 19, 2010 STATE OF CALIFORNIA COUNTY OF LOSA ngeles larch On I do before me, <u>Christine</u> <u>Caldwell</u> A Notary Public in and for said State personally appeared Elias Shokrian

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal.

Signature,

SHIRLEY SHŌKRÌÅN



Signature (Seal) MAIL TAX STATEMENTS TO PARTY SHOWN BELOW; IF NO PARTY SHOWN, MAIL AS DIRECTED ABOVE:

Exhibit "A"

LEGAL DESCRIPTION

Real property in the unincorporated area of the County of Kern, State of California, described as follows:

PARCEL 1: (PORTION OF APN 359-031-04)

THE NORTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, S. B. B. & M. AND THE EAST HALF OF THE NORTHWEST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SECTION 25, TOWNSHIP 9, RANGE 14, WEST, S. B. B. & M. ALL IN THE UNINCORPORATED AREA, COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THEREFROM THAT PORTION OF SAID LAND LYING WITHIN THE NORTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION LYING SOUTHERLY OF A LINE WHICH LIES 31.00 FEET NORTH OF THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER AS PER MAP FILED IN BOOK 6, PAGE 106 OF RECORD OF SURVEYS THENCE WESTERLY TO A POINT WHICH LIES 33.6 FEET NORTHERLY AND 35.4 FEET WESTERLY OF THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER PER MAP IN BOOK 6, PAGE 95, RECORD OF SURVEYS.

PARCEL 2: (PORTION OF APN 359-031-04)

ALL THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, S.B.B.M. ACCORDING TO THE OFFICIAL PLAT OF THE SURVEY OF SAID LAND ON FILE IN THE BUREAU OF LAND MANAGEMENT; ALSO THE WEST 20 ACRES OF THE NORTH HALF OF THE NORTHEAST OF SECTION 25 TOWNSHIP 9 NORTH, RANGE 14 WEST, S.B.B.M., ALL IN THE UNINCORPORATED AREA, COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT PORTION OF SAID LAND LYING WITHIN THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION LYING EASTERLY OF A LINE WHICH LIES 35.4 FEET WESTERLY OF THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER AS PER MAP FILES IN BOOK 6, PAGE 95, RECORD OF SURVEYS, THENCE SOUTHERLY TO A POINT THAT IS 30.5 FEET WESTERLY AND 43.1 FEET NORTHERLY OF THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER AS PER MAP IN BOOK 6, PAGE 95; THENCE EASTERLY TO A POINT IN THE EASTERLY LINE OF SAID SOUTHWEST QUARTER OF THE NORTHEAST QUARTER.

PARCEL 3: (APN 359-031-02)

THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 9 NORTH, RANGE 14 WEST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA, COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM ALL THAT PORTION OF THE SOUTHEAST QUARTER OF SAID SECTION 26, DESCRIBED IN DEED RECORDED IN BOOK 2093, PAGE 450 OF OFFICIAL RECORDS OF KERN COUNTY LYING WITHIN A STRIP OF LAND 250 FEET IN WIDTH, THE SIDELINES OF SAID STRIP BEING PARALLEL WITH AND DISTANT SOUTHEASTERLY 75 FEET AND NORTHWESTERLY 175 FEET, MEASURED AT RIGHT ANGLES, FROM THAT CERTAIN LINE DESCRIBED IN LIS PENDENS IN SUPERIOR COURT CASE NO. 52961 RECORDED IN BOOK 1598, PAGE 429 OF SAID OFFICIAL

First American Title

RECORDS, A PORTION OF THAT SAID CERTAIN LINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE OF SAID SECTION 26 DISTANT THEREON SOUTH 88° 58' 46" WEST, 2492.27 FEET FROM A 2" IRON PIPE SET TO MARK THE SOUTHEAST CORNER OF SAID SECTION 26; THENCE FROM SAID POINT OF BEGINNING NORTH 28° 35' 36" EAST, 6073.18 FEET TO A POINT ON THE NORTH LINE OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, SAN BERNARDINO BASE AND MERIDIAN, DISTANT THEREON NORTH 89° 20' 41" EAST, 435.93 FEET FROM A 1 1/2" IRON PIPE WITH LEAD PLUG, SET TO MARK THE NORTHWEST CORNER OF SAID SECTION 25, THE SIDELINES OF SAID STRIP OF LAND BEING PROLONGED AND SHORTENED RESPECTIVELY SO AS TO BEGIN IN THE SAID SOUTH LINE OF SECTION 26, AS PER FINAL ORDER OF CONDEMNATION, IN FAVOR OF THE CITY OF LOS ANGELES, RECORDED JANUARY 30, 1970, IN BOOK 4358, PAGE 378, OF OFFICIAL RECORDS.

PARCEL 4: (APN 359-031-03)

THE NORTHWEST ONE-QUARTER OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE UNINCORPORATED AREA, COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL 5: (PORTION OF APN 359-031-04)

THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA, COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND APPROVED BY THE SURVEYOR-GENERAL ON FEBRUARY 19, 1856.

PARCEL 6: (APN 359-031-06)

THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA, COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THE SOUTHERLY 50.00 FEET (15.24 METERS) OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF, AS PER DEED TO THE ANTELOPE VALLEY - EAST KERN WATER AGENCY, A POLITICAL SUBDIVISION, RECORDED MAY 6, 1976 IN BOOK 4953, PAGE 2410, OF OFFICIAL RECORDS.

PARCEL 7: (APN 359-031-05)

THESE PORTIONS OF THE NORTHEAST QUARTER OF SECTION 25, TOWNSHIP 9 NORTH, RANGE 14 WEST, SAN BERNARDINO MERIDIAN, IN THE UNINCORPORATED AREA OF THE COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

A. THAT PORTION OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION LYING SOUTHERLY OF A LINE WHICH LIES 31.00 FEET NORTH OF THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER AS PER MAP FILED IN BOOK 5, PAGE 106 OF RECORD OF SURVEYS THENCE WESTERLY TO A POINT WHICH LIES 33.6 FEET NORTHERLY AND 35.4 FEET WESTERLY OF THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER PER MAP IN BOOK 6, PAGE 95, RECORD OF SURVEYS.

B. THAT PORTION OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION LYING EASTERLY OF A LINE WHICH LIES 35.4 FEET WESTERLY OF THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER PER MAP FILED IN BOOK 6, PAGE 95, RECORD OF SURVEYS THENCE SOUTHERLY TO A POINT THAT IS 30.5 FEET WESTERLY AND 43.1 FEET NORTHERLY OF THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER AS PER MAP IN BOOK 6, PAGE 95; THENCE EASTERLY TO A POINT IN THE EASTERLY LINE OF SAID SOUTHWEST QUARTER OF NORTHEAST QUARTER. **Deed Exhibit 2**

RECORDING REQUESTED BY First American Title Company

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RECORDING REQUESTED BY AND WHEN RECORDED MAIL TO:

Munger, Tolles & Olson LLP 355 South Grand Avenue, 35th Floor Los Angeles, California 90071 Attention: Michael T. Kovaleski, Esq.

MAIL TAX STATEMENT TO:

Copa De Oro Land Company c/o Palmer Investments, Inc. 233 Wilshire Boulevard, Suite 800 Santa Monica, California 90401 Attention: Anthony Bains

DOC#: 0206184323 Stat Types: 1 Pages:	-
Fees 1 Taxes ** C Others 1	4 6.00 onf <u>).00</u> 6.00

(Space Above Line for Recorder's Use Only)

GRANT DEED

APN 359-032-017

In accordance with Section 11932 of the California Revenue and Taxation Code, Grantor has declared the amount of the transfer tax that is due by a separate statement which is not being recorded with this Grant Deed.

FOR VALUE RECEIVED, Peter Yong See Cho, a married man as his sole and separate property who acquired title as Yong See Cho ("Grantor"), grants to Copa De Oro Land Company, a California general partnership ("Grantee"), all that certain real property situated in the County of Kern, State of California, described on <u>Exhibit A</u> attached hereto and by this reference incorporated herein (the "Property").

TO HAVE AND TO HOLD the Property with all the rights, privileges and appurtenances thereto belonging, or in any way appertaining, unto the said Grantee and Grantee's successors and assigns.

[SIGNATURE ON NEXT PAGE]

Exhibit A

LEGAL DESCRIPTION

Real property in the unincorporated area of the County of KERN, State of California, described as follows:

THE SOUTH HALF OF SECTION 35, TOWNSHIP 9 NORTH, RANGE 14 WEST, S.B.B.&M., IN THE UNINCORPORATED AREA, COUNTY OF KERN, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT PORTION OF SAID LAND INCLUDED WITHIN A STRIP OF LAND 250 FEET IN WIDTH, THE SIDELINES OF SAID STRIP OF LAND BEING PARALLEL WITH AND DISTANT SOUTHEASTERLY 75 FEET AND NORTHWESTERLY 175 FEET, MEASURED AT RIGHT ANGLES, FROM THAT CERTAIN LINE DESCRIBED IN SUPERIOR COURT CASE NO. 52961, RECORDED IN BOOK 1598, PAGE 429 OF SAID OFFICIAL RECORDS, A PORTION OF THAT CERTAIN LINE DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE OF SAID SECTION 35, DISTANT THEREON NORTH 88°56'40" EAST, 206.26 FEET FROM A 2" IRON PIPE WITH BRASS CAP, SET IN CONCRETE THE LOS ANGELES COUNTY SURVEYOR TO MARK THE NORTHWEST CORNER OF SECTION 2, TOWNSHIP 8 NORTH, RANGE 14 WEST, S.B.B.&M., THENCE FROM SAID POINT BEING NORTH 25°25'50" EAST, 5449.69 FEET; THENCE NORTH 28°35'36" EAST, 485.92 FEET TO A POINT ON THE NORTH LINE OF SAID SECTION 35 DISTANT THEREON SOUTH 88°58'46" WEST, 2492.27 FEET FROM A 2" IRON PIPE SET TO MARK THE NORTHEAST CORNER OF SAID SECTION 35, THE SIDELINES OF SAID STRIP OF LAND BEING PROLONGED OR SHORTENED RESPECTIVELY, SO AS TO BEGIN IN THE SOUTH LINE OF SAID SECTION 35 AND TO TERMINATE IN THE NORTH LINE OF SECTION 35, AS CONDEMNED IN FEE SIMPLE TO THE CITY OF LOS ANGELES, A MUNICIPAL CORPORATION BY FINAL ORDER OF CONDEMNATION RECORDED JUNE 18, 1971 IN BOOK 4539, PAGE 95 OF OFFICIAL RECORDS.

APN: 359-032-17

Dated: 107/18/, 2006

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By: des

Peter Yong See Cho

STATE OF CALIFORNIA COUNTY OF Jos angeles) ss.

On <u>*Ly*</u>, 2006, before me, <u>*Frank X*</u>, <u>*Marcink*</u>, a Notary Public in and for said County and State, personally appeared **PETER YONG SEE CHO**, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their-signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the within instrument.

WITNESS my hand and official seal. FRANK X. MARCIAL Commission # 1594848 xary Public - California My Commission Expires: Los Angeles County Comm. Expires Aug 11, 2009 Notary Registration Number:

Deed Exhibit 3

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	FIDELITY NATIONAL TITLE			•	RECORDED BY CA.	.	
A1 01	ND WHEN RECORDED MAIL THIS DEED A THERWISE SHOWN BELOW, MAIL TAX STAT	ND. UNLESS EMENTS TO:			KERN COUNTY CLEI	RK-RECORDE	R
	NAME Rosamond 300	٦					
	STREET 15910 Ventura Blvd.				ORS NOT	24.00	
	Suite 1127 STATE Encino, CA 91436				MDEP REC.FE	1.00 2.00	
	218	L_			STKD CHG	27.00	
Ti	itle Order No. 9145275 Escrow No. 4	-7584 SM	Thi	s space for Record	der's use #291700 CO	101 RQI TO)9 <i>=21</i>
		Grant	t Deed				
	THE UNDERSIGNED GRANTOR(s	DECLARE(S)	FER TAX is <u>\$ NONE</u>	This is a b	onafide gift and	i the	
M	- <u>48</u> –			turn, R & T	eived nothing in 11911.	ı re- (
4		mputed on full value of	f property conveyed or				
F	FOR A VALUABLE	CONSIDERAT	less value of liens or ION, receipt of v	cilcumbrances rem which is here	by acknowledged	nd	:
A	WARREN APPEL and LORETT	A APPEL, husba	and and wife,		-,		1
	hereby GRANT(S) to						
	ROSAMOND 300, a Califor	nia General D:	artnership				
	-						
	the following described real prope	rly in the uninco	prporated area				
	county of Kern	414100	ate of California:				
	SEE EXHIBIT "A" ATTACHE DESCRIPTION	D HERETO AND N	1ADE A PART HERI	SOF FOR COM	PLETE LEGAL		
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	Dated July 7, 1989		- 1 A	Jan	, Gand		
	STATE OF CALIFORNIA	<i>ا</i>	Warren A	ppel	-yyer	-	
	COUNTY OF Los Hageles	SS.	ha was Arut	a A.s	00	-	
	, before me, the un	dersigned, a Notary Pi	ublic in Loretta	Appel	~~~	-	ļ
	and for said County and State, personali Warren Hopel & Lore	ta Appel				-	ļ
	personally known to me (or proved to n	e on the basis of satis	factory				
	evidence) to be the person S	whose to the within instrume	names	ANDRE	FICIAL SEAL		
	acknowledged that		ed the	Notary	NGELES COUNTY		
	(due of	Clevela		My Com	m. Exp. May 28, 1990		1
	Signature Marca S Claure	. and					
	<u>HT WHEN</u> O. CHELD I Name (Typed or P Notery Public in and face acid	tinted)		OR NOTARY SE			ļ
-	Notary Public in and for said						į

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reason in and it is a

EXHIBIT "A"

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The North half of Section 35, Township 9 North, Range 14 West, San Bernardino Base and Meridian, in the unincorporated area of the County of Kern, State of California, according to the official plat thereof.

EXCEPT a strip of land 250 feet in width, the sidelines of said strip of land being parallel with and distant Southeasterly 75 feet and Northwesterly 175 feet, measured at right angles, from that certain line described in Lis Pendens of Superior Court Case No. 52961, recorded in Book 1598, Page 429 of said Official Records, a portion of that certain line being more particularly described as follows:

Beginning at a point on the South line of said Section 35, distant thereon North 88° 56' 40" East, 206.26 feet from a 2 inch iron pipe with brass cap, set in concrete by the Los Angeles County Surveyor to mark the Northwest corner of Section 2, Township 8 North, Range 14 West, San Bernardino Base and Meridian; thence from said point of beginning North 25° 25' 50" East, 5449.69 feet; thence North 28° 35' 36" East, 485.92 feet to a point on the North line of said Section 35, distant thereon South 88° 58' 46" West, 2492.27 feet from a 2 inch iron pipe set to mark the Northeast corner of said Section 35, the sidelines of said Strip Of land being prolonged and shortened 'respectively, so as to terminate in the said North line of Section 35. **Deed Exhibit 4**

RECORDING REQUESTED BY AND RETURN TO: Barrett P. O'Gorman O'GORMAN & O'GORMAN, LLP 5901 Encina Rd., Ste. B-2 Goleta, CA 93117

MAIL TAX STATEMENTS TO: Barbara Gonzales 4696 Park Mirasol Calabasas, CA 91302

James W. Fitch, Assessor-Recorder SOFIR Kern County Official Records

10/23/2008 1:28 PM

Recorded at the request of Public



2 Pages: Stat Types: 1 12.00 Fees 0.00 Taxes 0.00 Others PAID \$12.00

TRUST TRANSFER DEED

APN: 359-031-15-00-5

The undersigned declares that the documentary transfer tax is \$0. This conveyance transfers an interest into or out of a Living Trust R & T 11930. The land, tenements or realty is located in the County of Kern.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

William L. Merry and Barbara Ann Merry

do grant and convey to

William L. Merry and Barbara Ann Merry, trustees of the Amendment and Restatement of the Declaration of Trust of William L. Merry and Barbara Ann Merry dated 9/20/95

their undivided ¹/₂ interest in the following described real property in the County of Kern, State of California:

The Southeast Quarter of Section 26, Township 9 North, Range 14 West, San Bernardino Meridian, in the County of Kern, State of California, according to the official plat of the Survey of said land on file in the Bureau of Land Management.

EXCEPTING THEREFROM a 1/16th interest in all mineral and oil rights affecting the North 80 acres thereof, as reserved in Deed from John W. Berry and Mera O. Berry, husband and wife, recorded March 11, 1947 in Book 1440, Page 51 of Official Records, and EXCEPTING THEREFROM 1/16th of all oil, gas and minerals on the South 80 acres of said property.

Commonly referred to as vacant land

Dated: $\frac{6}{26}/08$ Dated: $\frac{6}{26}/08$

bara A. Merry

ACKNOWLEDGMENT

STATE OF CALIFORNIA

SS.

COUNTY OF SANTA BARBARA)

On $\frac{6/26/08}{0}$, before me, Barrett P. O'Gorman, a notary public in and for the State of California, personally appeared WILLIAM L. MERRY and BARBARA ANN MERRY, who proved to me on the basis of satisfactory evidence to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacity, and that by their signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I declare under penalty of perjury under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Jamb Mo Notary Public



APPENDIX F AAI USER QUESTIONNAIRES

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AAI Questionnaire First Solar Willow Springs Project Site Kern County, CA

In accordance with ASTM 1527-05 and in order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the user (client or client representative) must provide the following information (if available) to the *environmental professional* (URS). Failure to provide this information could result in a determination that "*all appropriate inquiry*" (AAI) is not complete.

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

No

2. Are you aware of any area use limitations (AULs), such as engineering controls, land use restriction or institutional controls that are in place at the property and/or have been filed or recorded in a registry under federal, trial, state or local law?

No

3. As the *user* of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property, so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No

4. Does the purchase price being paid for this property reasonable reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

Yes

5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

No

1



a. Do you know the past uses of the property?

Used for agricultural purposes (farming and horse ranch)

b. Do you know of specific chemicals that are present or once were present at the property?

No

c. Do you know of spills or chemical releases that have taken place at the property?

No know spills

d. Do you know of any environmental cleanups that have taken place at the property?

No known cleanups

6. As the *user* of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?

No

In addition to the above questions, certain information should be collected, if available, and provided to the *environmental professional*. This information is intended to assist the *environmental professional*, but is not necessarily required to qualify for one of the LLPs.

7. The reason why the ESA is required (i.e. sale, purchase, exchange, etc.).

Sale

8. The complete name, correct address and/or parcel number for the property (a map or other documentation showing property location and boundaries is helpful).

APNS 359-031-02, 359-031-03, 359-031-04, 359-031-06, 359-052-02

9. A description of the property (i.e. acreage, square footage, number of buildings, other structures, age of buildings, above/underground storage tanks, etc.)

5 Structures including a duplex house, stable, and barn. No USTs.



10. Knowledge or previous owners and/or previous uses of the property?

No

11. Current or previous deeds?

First Solar has a copy

12. The site contact name and number.

Elias Shokrian - 310-550-1012

13. Previous reports available? Any other available documentation, correspondence, etc. concerning the environmental condition of the property?

No

Completed by: Tricia Winterbauer (URS Corporation) based in interview with Elias Shokrian on April 18, 2012 and May 23, 2012.

Date Completed: May 23, 2012



AAI Questionnaire First Solar Willow Springs Project Site Kern County, CA

In accordance with ASTM 1527-05 and in order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the user (client or client representative) must provide the following information (if available) to the *environmental professional* (URS). Failure to provide this information could result in a determination that "*all appropriate inquiry*" (AAI) is not complete.

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

No

2. Are you aware of any area use limitations (AULs), such as engineering controls, land use restriction or institutional controls that are in place at the property and/or have been filed or recorded in a registry under federal, trial, state or local law?

No

3. As the *user* of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property, so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No

4. Does the purchase price being paid for this property reasonable reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

Yes

5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

No

1



a. Do you know the past uses of the property?

Used for agricultural purposes

b. Do you know of specific chemicals that are present or once were present at the property?

No

c. Do you know of spills or chemical releases that have taken place at the property?

No know spills

d. Do you know of any environmental cleanups that have taken place at the property?

No known cleanups

6. As the *user* of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?

No

In addition to the above questions, certain information should be collected, if available, and provided to the *environmental professional*. This information is intended to assist the *environmental professional*, but is not necessarily required to qualify for one of the LLPs.

7. The reason why the ESA is required (i.e. sale, purchase, exchange, etc.).

Sale

8. The complete name, correct address and/or parcel number for the property (a map or other documentation showing property location and boundaries is helpful).

APNs 359-032-01 and 359-032-17

9. A description of the property (i.e. acreage, square footage, number of buildings, other structures, age of buildings, above/underground storage tanks, etc.)

Several structures built in the 1940s and 1950s. No USTs.

2



10. Knowledge or previous owners and/or previous uses of the property?

No

11. Current or previous deeds?

First Solar has a copy

12. The site contact name and number.

Elliot Joelson -310-359-2715

13. Previous reports available? Any other available documentation, correspondence, etc. concerning the environmental condition of the property?

No

Completed by: Tricia Winterbauer (URS Corporation) based on interview with Eliot Joelson.

Date Completed: May 24, 2012

Appendix B Phase II Environmental Site Assessment, by URS for First Solar, dated May 20, 2015

PHASE II ENVIRONMENTAL SITE ASSESSMENT

FOR THE FIRST SOLAR WILLOW SPRINGS PROJECT SITE

KERN COUNTY, CALIFORNIA

Prepared for:

First Solar

135 Main Street, 6th Floor San Francisco, California 94105

First Solar Purchase Order Number 4800027371

Prepared by:

URS

Project Number 60421730.28907639.50000

May 2015



May 20, 2015

Mr. Kevin Peters Director of Real Estate First Solar 135 Main Street, 6th Floor San Francisco, CA 94105

Re: Phase II Environmental Site Assessment Report – Willow Springs Project Site Kern County, California

Dear Mr. Peters:

URS Corporation (URS) (an AECOM Company) is pleased to submit this Phase II Environmental Site Assessment Report (Phase II ESA) for the Willow Springs Project Site (Site), in Kern County, California. This Phase II ESA was performed in accordance with the Technical Services Agreement dated November 24, 2009 between First Solar and URS, URS' proposal dated April 24, 2015 and First Solar Purchase Order Number 4800027371 dated May 14, 2015.

This submittal details the results for Phase II ESA activities conducted at the Site on May 4, 2015. Should you have any questions or require additional information, please do not hesitate to contact Anthony Schuetze at 805-361-1130.

Sincerely, URS Corporation

Anthony Schutze

Anthony Schuetze, P.G. #8625 Exp. 12/31/16 Project Geologist

(Matal J Em

Natalie Evans, P.G. #9097 Exp. 5/20/17 Geologist

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EXECUTIVE SUMMARY

This report presents the results of a Phase II Environmental Site Assessment (Phase II ESA) conducted by URS Corporation (URS) (an AECOM Company) of the First Solar Willow Springs Project Site, an approximately 1,450-acre property located in Kern County, California (Site).

The Site is located northeast of the intersection of 120th Street West and West Avenue A in an unincorporated area of Kern County in the Antelope Valley. The property consists of Assessor's Parcel Numbers (APN) 359-031-02, 359-031-03, 359-031-04, 359-031-05, 359-031-06, 359-031-15, 359-032-01, 359-032-17, and 359-052-02 in Sections 24, 25, 26, and 35, Township 9 North, Range 14 West within the San Bernardino Base and Meridian (U.S. Geological Survey [USGS] Little Buttes 7.5-minute quadrangle). The property is bounded by 120th Street West to the west, 100th Street West to the east, West Avenue A to the south and undeveloped land to the north.

Through review of aerial photographs, historical records, and previous investigations, URS identified potential recognized environmental conditions (REC) on the Site, including visible surface soil staining adjacent to current aboveground storage tanks, drums, or containers associated with the historical use of hydrocarbon-based fuel and lubricants for agricultural use.

URS conducted a Phase II ESA to identify the potential presence of environmental impacts relative to RECs identified on the Site. On May 4, 2015, URS advanced 11 hand auger soil borings at the RECs to assess subsurface conditions. Based on visual examination and photo-ionization detector (PID) readings, 22 soil samples were selected for laboratory analyses.

Based on the results of the Phase II ESA activities, total petroleum hydrocarbon (TPH) impacts to soils at concentrations exceeding California Regional Water Quality Control Board (CRWQCB) San Francisco Bay Region 2 Industrial Environmental Screening Levels (ESL) were identified in surficial staining at eight locations on the Site. Toxaphene impacts to soil in exceedance of the Industrial ESL are present in surficial soils at one location on the Site, and benzo(a)pyrene impacts in exceedance of the Industrial ESL, and U.S. Environmental Protection Agency (EPA) Region 9 Industrial Regional Screening Level (RSL) are present in surficial soils at one location on the Site.

Arsenic is naturally occurring in the Antelope Valley and its background concentrations exceed the Industrial RSL, Industrial ESL, and Industrial CHHSL in soils (Bradford et al., 1996). The background arsenic concentration in soils in the Antelope Valley ranges from approximately 4.0 to 6.7 milligrams per kilogram (mg/kg; Bradford et al., 1996). Based on this information, arsenic concentrations detected on-site during the 2015 assessment are within the background concentration range for the region with four exceptions. These four

locations with arsenic concentrations (6.9 to 8.4 mg/kg) are just outside of these published background ranges.

Based on these results of this Phase II ESA and current proposed land usage for construction of a solar energy project, URS recommends remedial action for the chemicals of potential concerns (COPC) identified at eight REC locations on the Site, which include TPH, toxaphene, and benzo(a)pyrene. The remedial method proposed is shallow excavation and removal of COPC-impacted soil, followed by off-site disposal of the material to a licensed waste facility.

SECTION 1.0 INTRODUCTION

URS Corporation (URS) (an AECOM Company) prepared this Phase II Environmental Site Assessment Report (Phase II ESA) on behalf of First Solar to summarize results for investigation of recognized environmental conditions (REC) related to the former agricultural operations on the Willow Springs Project Site (Site), located in Kern County, California.

URS conducted a Phase I Environmental Site Assessment (Phase I ESA) of the property dated June 7, 2012. The property was observed to be primarily undeveloped land used for agricultural purposes. Residential and farm-related structures were observed on the property (URS 2012).

URS identified the following RECs associated with the property:

- Visible surface soil staining adjacent to current aboveground storage tanks, drums, or containers associated with apparent on-site chemical storage or use on-site
- Visible surface soil staining adjacent to existing water well pumps within the project site
- Visible surface soil staining observed throughout the project site which does not appear related to any on-site chemical storage
- The potential of a historical underground storage tank on the property

URS also recommended an asbestos-containing material (ACM)/lead-based-paint (LBP) survey for the structures and equipment observed on the Site. An ACM/LBP survey report will be submitted under separate cover.

1.1 SITE LOCATION AND DESCRIPTION

The Site is located northeast of the intersection of 120th Street West and West Avenue A in an unincorporated area of Kern County in the Antelope Valley. The Site consists of Assessor's Parcel Numbers (APN) 359-031-02, 359-031-03, 359-031-04, 359-031-05, 359-031-06, 359-031-15, 359-032-01, 359-032-17, and 359-052-02 in Sections 24, 25, 26, and 35, Township 9 North, Range 14 West within the San Bernardino Base and Meridian (U.S. Geological Survey [USGS] Little Buttes 7.5-minute quadrangle). The Site is bounded by 120th Street West to the west, 100th Street West to the east, West Avenue A to the south and undeveloped land to the north.

A topographic map and an aerial photograph of the Site are included as Figures 1 and 2, respectively.

Topography at the Site gently slopes downward to the southeast, with elevations ranging from approximately 2,660 feet above mean sea level (msl) in the northwest corner to approximately 2,480 feet above msl in the southeast portion of the Site.

1.2 SITE BACKGROUND

1.2.1 Site History

The Site was historically utilized for agricultural production and currently consists of agricultural land with historical homesteads.

1.2.2 Previous Work

URS prepared a Phase I ESA of the Site (URS 2012) to identify RECs at the Site or adjoining properties. A site reconnaissance walk was performed on April 20, 2012 to observe and document current site conditions. URS observed the property to be primarily undeveloped land used for agricultural purposes. Residential and farm-related structures consistent with agriculture production were observed.

RECs identified in URS' 2012 Phase I ESA are located dominantly within the two existing abandoned homesteads or ranches and throughout the agriculture fields. One abandoned homestead is located near 115th Street West (APN 359-032-17) and consists of several abandoned residential structures and substantial surface trash and debris. One abandoned homestead/ranch is located near Sue Avenue (APN 359-031-03 and 359-031-04) and consists of several abandoned residential structures, horse barn, warehouse, storage structure and scattered debris.

As described in the previous URS 2012 Phase I ESA, visible soil staining was observed and appears consistent with the historical use of hydrocarbon-based fuel and lubricants for agriculture use within both of these homesteads and agriculture fields.

1.3 AERIAL PHOTOGRAPH REVIEW

The general type of activity and land use can often be discerned from the type and layout of structures visible in an aerial photograph; however, specific elements of a property operation cannot normally be determined from the photographs. Considering these conditions, URS reviewed historical aerial photographs dated 1948, 1954, 1968, 1974, 1990, 1994, and 2002 that were provided by EDR (see Appendix A). Additionally, publicly available historical photographs of the area for the years 2003, 2005, 2006, 2008, 2009, 2011, 2012, and 2013 were viewed online. The following is a summary of the review:

1948 The property appears to be primarily undeveloped or used for agricultural purposes for farming or cattle grazing. What appear to be several structures are observed on

APNs 359-031-03 and 359-01-04 part of the northern ranch compound. An apparent irrigation reservoir and several linear features likely berms or roads is visible on APN 359-032-17 part of the southern ranch compound. An improved road is observed along the eastern boundary of the property (100th Street West). Several unimproved roads are observed throughout the property. The adjacent properties and surrounding area appear to be undeveloped or used for agricultural purposes.

- **1954** The property remains undeveloped or used for agricultural purposes. Some additional structures are observed on APN 359-031-03 and 04 associated with the northern ranch compound. What appears to be an irrigation reservoir is observed on the southeast corner of APN 359-031-06 near Gaskell Road and 100th Street West. What appears to be an irrigation reservoir is observed on the southwest corner of APN 359-032-17 and several farm-related structures are observed on the central portion of APN 359-032-17 associated with irrigation reservoir within the southern ranch compound. The current Los Angeles Department of Water Easement electric lines are now depicted to transect the property. No other significant changes are observed to the property. Additional unimproved roads are observed on the adjacent properties and in the site vicinity.
- **1968** Some additional structures are observed on APN 359-031-03 and -04 associated with the northern ranch compound. An oval shaped object is observed on APN 359-031-02 and appears to be a soil track for livestock purposes. Some additional structures are observed on APN 359-032-17 associated with the southern ranch compound. No other significant changes are observed to the property, adjacent properties, or site vicinity.
- **1974** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **1990** The previously observed oval shaped object on APN 359-031-02 is no longer visible and may be associated with an apparent drainage area. No other significant changes are observed to the property, adjacent properties, or site vicinity.
- **1994** Some minor grading activity or piles appear visible on the southern edge of APN 359-032-17 south of the southern ranch compound. No other significant changes are observed to the property, adjacent properties, or site vicinity.
- **2002** The previously observed minor grading activity or piles on the southern edge of APN 359-032-17 south of the southern ranch compound is no longer visible and the area is now apparent agriculture rows. No other significant changes are observed to the property, adjacent properties, or site vicinity.
- **2003** Stacks of apparent irrigation pipe and materials are observed throughout the southern ranch compound (APN 359-032-17). The fields immediately surrounding the southern ranch compound appear as agriculture rows. No other significant changes are observed to the property, adjacent properties, or site vicinity.

- **2005** Stacks of irrigation pipe and materials previously observed throughout the southern ranch compound (APN 359-032-17) are no longer visible and the field appears to be no longer in actively maintained agriculture rows and assumed to no longer be in use for agriculture production and the compound appears abandoned. No significant changes are observed to the property, adjacent properties, or site vicinity.
- **2006** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **2008** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **2009** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **2011** Several pieces of equipment and vehicles appear to have been removed since the previous photograph on APN 359-031-03 and -04 associated with the northern ranch compound, and this area now appears abandoned. No significant changes are observed to the property, adjacent properties, or site vicinity.
- **2012** No significant changes are observed to the property, adjacent properties, or site vicinity.
- **2013** No significant changes are observed to the property, adjacent properties, or site vicinity.

1.4 PURPOSE

The objective of the Phase II ESA activities was to evaluate identified RECs that may present potential environmental liability at the Site.

URS assessed site conditions at the identified RECs including areas of soil staining on the property, the potential of a historical underground storage tank (UST) on the property, the use and storage of fuel and hazardous materials for the maintenance of farm-related equipment, and areas of debris on the property which have the potential to impact the surface and subsurface of the property. These RECs are listed in Section 1.2.2.

During concurrent preparation of a Phase I ESA for the Site, URS has received files from Kern County Public Health Department, Environmental Health Division that has verified removal and closure of two underground storage tanks in 1992 at the Site that had previously been identified as RECs.

It should also be noted that cleanup of some previously identified debris, trash, and containers of hazardous materials has taken place since preparation of the previous Phase I ESA report (URS 2012) and several identified RECs have been eliminated.

1.5 SCOPE OF WORK

In order to meet the purpose of this Phase II ESA, URS performed this scope of work to assess environmental site conditions at the identified RECs. Because of the variability of site conditions encountered at each REC site, URS determined subsurface exploration location and sampling frequency in the field based on access limitations, soil conditions, and an understanding of the former agricultural operations.

Site assessment activities included:

- Obtain utility clearance through Public Underground Utility Services Alert (USA);
- Advancement of soil borings utilizing hand auger equipment; and
- Collection of soil samples for analytical testing.

Site assessment activities are further described in the following sections.

SECTION 2.0 SITE ASSESSMENT ACTIVITIES

2.1 PRE-FIELD ACTIVITIES

2.1.1 Health and Safety

URS utilizes a behavior-based safety program that provides safety excellence by promoting proactive responses, building ownership, and developing opportunities that relate to employee safety. The URS behavior-based safety program is structured to achieve goals congruent with First Solar and URS safety requirements.

Prior to initiation of URS field activities, URS prepared a site-specific Health and Safety Plan (HASP) to identify potential hazards associated with the proposed work and appropriate mitigation measures. The HASP was prepared in accordance with the requirements of Federal Occupational Safety and Health Administration (OSHA) standards as promulgated in Code of Federal Regulations (CFR), Chapter 29, Sections 1910 (General Industry) and 1026 (Construction) and the requirements of the California Occupational Health and Safety Administration (CalOSHA) standards as promulgated in Title 8 of the California Code of Regulations (CCR) Section 5192.

The HASP identifies: roles and responsibilities of key site personnel, a site-specific hazard analysis, a personnel protection plan, site safety procedures for specific site operations, a decontamination plan, and an emergency response/contingency plan. The HASP specifies levels of protection for site personnel on a task-specific basis, assigns responsibilities, establishes personnel protection standards, and mandates safety procedures to be implemented at the Site.

The HASP is site-specific and task-specific, describing hazardous conditions that may be encountered, and prescribing the necessary safety protocols to protect all personnel from these hazards. The HASP was reviewed by the project management team and then reviewed and approved for field use by the site safety officer and a Certified Industrial Hygienist. The HASP was implemented and enforced by Project Management and the site safety officer.

All URS personnel and subcontractors conducting work at the site were required to read and sign the HASP to acknowledge their understanding of the information contained in it.

Prior to the commencement of work each day, all personnel scheduled to be on-site attended a daily tailgate health and safety meeting conducted by the URS site safety officer. At each daily tailgate health and safety meeting, all on-site personnel reviewed a task-specific job safety analysis (JSA) and discussed potential health and safety issues and concerns associated with specific work tasks planned for that day. All health and safety documentation was completed on-site by the project field team and as directed by the URS site safety officer.

2.1.2 Right-of-entry Agreements

First Solar personnel coordinated with the property owner to obtain access agreements before the field work was conducted to provide URS unrestricted access to the Site.

2.1.3 Subsurface Utility Clearance

Prior to drilling activities, URS notified USA who marked underground utilities within the proposed areas of investigation.

2.2 FIELD ASSESSMENT ACTIVITIES

Prior to subsurface exploration, URS pre-delineated RECs in the field using the GISdetermined coordinates and a hand-held global positioning system (GPS) unit, with submeter horizontal location accuracy. Subsurface explorations were based on the locations of RECs and any underground utility locations, structures, and land features, and/or other conditions or access restrictions encountered during the field work.

2.2.1 Soil Boring Investigation

On May 4, 2015, URS advanced 11 hand auger soil borings at the identified RECs located on the Site. The soil boring locations are depicted on Figures 4 through 6.

A URS geologist completed a lithologic boring log in the field for each soil boring. Boring logs included total boring depth, and depth and location of collected samples, United Soil Classification System (USCS) soil description, depth/intervals of soil types, and suspected impacts, if encountered. Soil borings were advanced to depths ranging from approximately 1.8 to 3.5 feet below ground surface (bgs). All boring locations were mapped using a GPS unit capable of measuring to sub-meter accuracy.

Groundwater was not encountered within any borings during the site assessment. The property is located in the South Lahontan Hydrologic Region, Antelope Valley Groundwater Basin. Based on review of current groundwater basin data posted on the California Department of Water Resources (DWR) website, depth to groundwater in the Site vicinity is expected to be at least 100 feet below ground surface (DWR 2004).

URS collected 22 soil samples for laboratory analysis. Soil samples were collected from borings and selected based on visual observations and photo-ionization detector (PID) readings. The sample depth was selected based on changes in lithology and presence or absence of potentially impacted material as determined by visual evaluation and PID readings at each soil boring location. Soil samples were collected in stainless steel sleeves. The samples were labeled with the following information: site name, sample identification, date and time. Samples were placed in a chilled cooler (at approximately 4 °C) for temporary

storage and shipped to BC Laboratories of Bakersfield, California for analysis. Under chain of custody (COC) protocol, the COC record was completed and a copy of the COC accompanied the samples at all times.

Upon completion of the soil sampling activities, the soil borings were backfilled with drill cuttings to the original grade. Boring logs are presented in Appendix B. Field photographs are presented in Appendix C. A summary of analytical results is presented in Table 1.

2.2.2 Soil Analytical Program

Below is a list of the specific analytical testing program for identified RECs. Samples from each boring were analyzed for the following test method:

 Total Petroleum Hydrocarbons (TPH) – Full range carbon chain analysis using EPA Test Method 8015 C

One sample from each boring was additionally analyzed for the following test methods:

- Volatile Organic Compounds (VOC) with fuel oxygenates using EPA Test Method 8260
- Polynuclear Aromatic Hydrocarbons (PAH) by selected ion monitoring (SIM) using EPA Test Method 8270C
- California Code of Regulations (CCR) Title 22 California Assessment Manual (CAM) 17 Metals using EPA Test Methods 6010/7471A
- Semi-volatile organic compounds (SVOC) using EPA Test Method 8270

Soil samples collected from two borings located within the horse barn stall suspected to have been used for storage of agriculture chemical containers were additionally analyzed for the following test methods:

- Chlorinated herbicides using EPA Test Method 8151
- Phosphorus pesticides using EPA Test Method 8141
- Chlorinated pesticides using EPA Test Method 8081

SECTION 3.0 FIELD INVESTIGATION AND ANALYTICAL RESULTS

3.1 RECOGNIZED ENVIRONMENTAL CONDITIONS

The results of the URS field investigation are described below. The locations of soil borings advanced by URS on May 4, 2015 are depicted on Figures 4 through 6. Soil boring logs prepared by URS during the URS assessment activities are presented in Appendix B. Field photographs are presented in Appendix C. Analytical results are summarized in Table 1. Complete analytical reports including COC documentation are provided in Appendix D.

In addition, the following subsections provide a comparative discussion of the analytical results to regulatory thresholds anticipated to be utilized should a regulatory action pertain to the Site. For this comparison, URS utilized Environmental Protection Agency (EPA) Region 9 Industrial Regional Screening Levels (RSL), California Regional Water Quality Control Board (CRWQCB) San Francisco Bay Region 2 Industrial Environmental Screening Levels (ESL) for shallow soil not a potential source of drinking water, and Industrial California Human Health Screening Levels (CHHSL).

3.1.1 Area 1

Areas of stained soil and surface debris were identified in the vicinity of the ranch complex located in the northeast portion of the Site. Six investigated REC locations are summarized below.

3.1.1.1 Horse Barn Stall

Two soil borings (FS-WS-B1 and FS-WS-B2) were advanced within the interior of the horse barn stall suspected to have been used for storage of agrichemical containers. Four soil samples were collected from the two soil borings and submitted for laboratory analyses based on visual observations and PID screening readings. Staining was not observed in soil samples from either of the soil borings.

Arsenic was detected at a concentration of 4.3 milligrams per kilogram (mg/kg) in soil sample FS-WS-B1-0.5 and 0.45 J mg/kg in soil sample FS-WS-B2-0.5, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

Toxaphene was detected at a concentration of 0.20 J mg/kg in soil sample FS-WS-B1-0.5, exceeding the Industrial ESL (0.00042 mg/kg) but beneath the Industrial CHHSL (1.8 mg/kg) and Industrial RSL (1.6 mg/kg). No other organochlorine pesticides were detected at concentrations in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

TPH, PAH, VOCs, SVOCs, organophosphorus pesticides, and chlorinated herbicides were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.1.1.2 <u>Warehouse</u>

Two soil borings (FS-WS-B3 and FS-WS-B4) were advanced in the vicinity of the warehouse. One soil boring (FS-WS-B3) was advanced on the south side of the warehouse within an area of stained soils associated with several dozen used vehicle or equipment oil filters and some containers of used oil. One soil boring (FS-WS-B4) was advanced on the northwest corner of the warehouse within an area of stained soils associated with several dozen used vehicle or equipment oil dozen used vehicle or equipment oil filters.

Four soil samples were collected from the soil borings and submitted for laboratory analyses based on visual observations and PID screening readings. Staining was observed in soil samples from the upper one foot of soil boring FS-WS-B3.

Diesel range TPH was detected in exceedance of the Industrial ESL (110 mg/kg) in soil sample FS-WS-B3-0.5 (660 J mg/kg). Motor oil range TPH was detected in exceedance of the Industrial ESL (500 mg/kg) in soil sample FS-WS-B3-0.5 (18,000 mg/kg) and FS-WS-B3-3.0 (1,700 mg/kg). Gasoline range TPH was not detected in exceedance of the Industrial ESL in any of the soil samples analyzed. Industrial CHHSLs and Industrial RSLs have not been established for TPH.

Arsenic was detected at a concentration of 7.2 mg/kg in soil sample FS-WS-B3-0.5 and 5.4 mg/kg in soil sample FS-WS-B4-0.5, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

PAH, VOCs, and SVOCs were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.1.1.3 Hard Surface and Stained Soil

One soil boring (FS-WS-B5) was advanced in the vicinity of an apparent hard surface and stained soil located in the southwestern portion of the homestead area. Two soil samples were collected from the soil boring and submitted for laboratory analyses based on visual observations and PID screening readings. Apparent hard surface soils and minor staining was observed in soil samples from the upper one foot of soil boring FS-WS-B5, however, TPH was not detected. The hard surface may have been the result of wind blowing loose surface soils away from harder soils forming a crust.

Arsenic was detected at a concentration of 6.5 mg/kg in soil sample FS-WS-B5-0.25, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

TPH, PAH, VOCs, and SVOCs were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.1.1.4 Aboveground Storage Tank

One soil boring (FS-WS- B6) was advanced in the vicinity of a 1,000-gallon diesel aboveground storage tank (AST). The boring was advanced between two portions of a concrete slab near the northeast corner of the AST when some minor stained soils were observed. Two soil samples were collected from the soil boring and submitted for laboratory analyses based on visual observations and PID screening readings.

Diesel range TPH was detected in exceedance of the Industrial ESL (110 mg/kg) in soil sample FS-WS-B6-0.5 (590 mg/kg). Motor oil range TPH and gasoline range TPH were not detected in exceedance of the Industrial ESL in any of the soil samples analyzed. Industrial CHHSLs and Industrial RSLs have not been established for TPH.

Arsenic was detected at a concentration of 4.7 mg/kg in soil sample FS-WS-B6-0.5, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

PAH, VOCs, and SVOCs were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.1.1.5 <u>Stained Soil and Drums</u>

One soil borings (FS-WS-B7) was advanced in the vicinity of several drums containing apparent oil located in the northwest portion of the homestead area. Two soil samples were collected from the soil boring and submitted for laboratory analyses based on visual observations and PID screening readings.

Diesel range TPH was detected in exceedance of the Industrial ESL (110 mg/kg) in soil sample FS-WS-B7-0.25 (950 mg/kg). Motor oil range TPH was detected in exceedance of the Industrial ESL (500 mg/kg) in soil sample FS-WS-B7-0.25 (9,500 mg/kg). Gasoline range TPH was not detected in exceedance of the Industrial ESL in any of the soil samples analyzed. Industrial CHHSLs and Industrial RSLs have not been established for TPH.

Arsenic was detected at a concentration of 7.5 mg/kg in soil sample FS-WS-B7-0.25, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

Benzo(a)pyrene was detected at a concentration of 0.52 mg/kg in soil sample FS-WS-B7-0.25, exceeding the Industrial CHHSL (0.13 mg/kg), the Industrial ESL (0.13 mg/kg), and the Industrial RSL (0.21 mg/kg). No other PAHs were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

VOCs, and SVOCs were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.1.1.6 <u>Stained Soil near Structure</u>

One soil borings (FS-WS-B8) was advanced in the vicinity of stained soil located near the northern end of a structure in the northern portion of the homestead area. Two soil samples were collected from the soil boring and submitted for laboratory analyses based on visual observations and PID screening readings. Staining was observed in soil samples from the upper one foot of soil boring FS-WS-B8.

Diesel range TPH was detected in exceedance of the Industrial ESL (110 mg/kg) in soil sample FS-WS-B8-0.25 (180 J mg/kg). Motor oil range TPH was detected in exceedance of the Industrial ESL (500 mg/kg) in soil sample FS-WS-B8-0.25 (11,000 mg/kg). Gasoline range TPH was not detected in exceedance of the Industrial ESL in any of the soil samples analyzed. Industrial CHHSLs and Industrial RSLs have not been established for TPH.

Arsenic was detected at a concentration of 6.2 mg/kg in soil sample FS-WS-B8-0.25, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

PAH, VOCs, and SVOCs were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.1.2 Area 2

Areas of stained soil and surface debris were identified in the vicinity of the structures located in the southwest portion of the Site associated with the southern ranch complex. Two investigated REC locations are summarized below.

3.1.2.1 Stained Soil

One soil boring (FS-WS-B9) was advanced in the vicinity of stained soil located in the northern portion of the homestead area. Two soil samples were collected from the soil boring and submitted for laboratory analyses based on visual observations and PID screening readings. Staining was observed in soil samples from the upper one foot of soil boring FS-WS-B9.

Diesel range TPH was detected in exceedance of the Industrial ESL (110 mg/kg) in soil sample FS-WS-B9-0.25 (160 J mg/kg). Motor oil range TPH was detected in exceedance of the Industrial ESL (500 mg/kg) in soil sample FS-WS-B9-0.25 (11,000 mg/kg). Gasoline range TPH was not detected in exceedance of the Industrial ESL in any of the soil samples analyzed. Industrial CHHSLs and Industrial RSLs have not been established for TPH.

Arsenic was detected at a concentration of 6.4 mg/kg in soil sample FS-WS-B9-0.25, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

PAH, VOCs, and SVOCs were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.1.2.2 <u>Structure</u>

One soil boring (FS-WS-B10) was advanced in the vicinity of stained soil located within a garage structure in the central portion of the homestead area. Two soil samples were collected from the soil boring and submitted for laboratory analyses based on visual observations and PID screening readings. Staining was observed in soil samples from the upper one foot of soil boring FS-WS-B10.

Motor oil range TPH was detected in exceedance of the Industrial ESL (500 mg/kg) in soil sample FS-WS-B10-0.25 (530 mg/kg). Gasoline and diesel range TPH were not detected in exceedance of the Industrial ESL in any of the soil samples analyzed. Industrial CHHSLs and Industrial RSLs have not been established for TPH.

Arsenic was detected at a concentration of 6.9 mg/kg in soil sample FS-WS-B10-0.25, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

PAH, VOCs, and SVOCs were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.1.3 Area 3

An area of stained soil was identified in the southeast corner of the Site along the southern edge of an irrigation pond. One soil boring (FS-WS-B11) was advanced in the vicinity of stained soil located on the southern berm of the irrigation pond in the southeast area. Two soil samples were collected from the soil boring and submitted for laboratory analyses based on visual observations and PID screening readings. Staining was observed in soil samples from the upper one foot of the soil boring.

Diesel range TPH was detected in exceedance of the Industrial ESL (110 mg/kg) in soil sample FS-WS-B11-0.25 (19,000 mg/kg). Gasoline and motor oil range TPH were not detected in exceedance of the Industrial ESL in any of the soil samples analyzed. Industrial CHHSLs and Industrial RSLs have not been established for TPH.

Arsenic was detected at a concentration of 8.4 mg/kg in soil sample FS-WS-B11-0.25, exceeding the Industrial CHHSL (0.24 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial RSL (2.4 mg/kg). No other metals were detected in exceedance of the Industrial CHHSLs, Industrial ESLs, or Industrial RSLs.

PAH, VOCs, and SVOCs were not detected in exceedance of the Industrial CHHSL, Industrial ESL, or Industrial RSL in any of the soil samples analyzed.

3.2 INVESTIGATION-DERIVED WASTE MANAGEMENT AND DISPOSAL

The waste materials generated during assessment activities included drill cuttings and deionized water and liquinox used for equipment decontamination. In accordance with First Solar, all drill cuttings and rinse liquids generated during the assessment activities were returned to the boring locations after sampling.

3.3 QUALITY ASSURANCE/QUALITY CONTROL

BC Laboratories, Inc., a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory, provided internal quality control of instrumentation and test methods. This includes duplicates and blanks used during analysis and the quality control results are presented on each individual laboratory report. A quality control report was generated with each sample delivery group. This report contains the results of the quality assurance/quality control program and includes the following:

- Method blank (MB) report that includes results of analyte found in the MB and detection limit for analyte
- Laboratory control sample (LCS) report that includes percent recovery of analyte in the LCS, relative percent difference of LCS/LCS Duplicate, and control limits for percent recovery and the Relative Percent Difference (RPD)

- Matrix spike (MS) report that includes percent recovery of analyte in the MS, relative percent difference of MS/MS duplicate, and control limits for percent recovery and RPD
- Duplicate report that includes results of analyte found in the sample duplicate, the dilution factor, and the detection limit for analyte

In addition to laboratory quality assurance/quality control methods, laboratory data was reviewed internally by URS to evaluate Practical Quantification Limit (PQL)/Method Detection Limit (MDL) levels in comparison to Industrial ESLs, Industrial CHHSLs, and EPA Region 9 Industrial RSLs.

J-flagged (J) results are laboratory derived and indicate results that were detected but are lower than the Reporting Limits/Practical Quantitation Limit; therefore, the result is an estimated concentration. Gray-shaded results on Table 1 represent non-detect values where the detection limit is equal to or in exceedance of one or more regulatory criteria.

SECTION 4.0 SITE ASSESSMENT CONCLUSIONS

URS conducted a Phase II ESA at the Willow Springs Project Site on May 4, 2015 to evaluate potential environmental impacts related to RECs identified at the Site. Based on the results of the assessment activities, TPH impacts to soils at concentrations exceeding Industrial ESLs are present in surficial soils at eight locations throughout the Site. Toxaphene impacts to soil in exceedance of the Industrial ESL are present in surficial soils at one location on the Site, and benzo(a)pyrene impacts in exceedance of the Industrial CHHSL, Industrial ESL, and Industrial RSL are present in surficial soils at one location on the Site. In seven of the eight locations (FS-WS-B1, FS-WS-B6, FS-WS-B7, FS-WS-B8, FS-WS-B9, FS-WS-B10, and FS-WS-B11), impacted soils in exceedance of the Industrial ESLs were identified in only the surface soils collected within the upper 0.25 to 0.5 feet, and the respective deeper soil samples depicted results below Industrial ESL concentrations. In the eighth location (FS-WS-B3), the respective deeper soil sample exceeded Industrial ESL concentrations.

Arsenic was detected up to a maximum concentration of 8.4 mg/kg in soil sample FS-WS-B11-0.25, which exceeds the Industrial RSL (2.4 mg/kg), Industrial ESL (1.59 mg/kg), and Industrial CHHSL (0.24 mg/kg). Arsenic presents a special case for evaluation because it is naturally occurring in the Antelope Valley and its background concentrations exceed the Industrial RSL, Industrial ESL, and Industrial CHHSL in soils in the Antelope Valley (Bradford et al. 1996). The background arsenic concentration in soils in the Antelope Valley ranges from approximately 4.0 to 6.7 mg/kg (Bradford et al. 1996). Based on this information, arsenic concentrations detected on-site during the 2015 assessment are within the background concentration range for the region with four exceptions, discussed in the following paragraphs.

A discussion of detections exceeding regulatory threshold and recommendations is presented below.

4.1 AREA 1

4.1.1 Horse Barn Stall

Toxaphene was detected at a concentration of 0.20 J mg/kg in soil sample FS-WS-B1-0.5, exceeding the Industrial ESL (0.00042 mg/kg) and beneath the Industrial CHHSL (1.8 mg/kg) and Industrial RSL (1.6 mg/kg).

The Industrial ESL for toxaphene was exceeded in one soil sample (FS-WS-B1-0.5; 0.20 J mg/kg) collected from vicinity of the horse barn stall located in the northeastern portion of the Site; therefore, toxaphene is a COPC at this location. Impacted soils are present to at least

0.5 feet bgs at this location and were vertically delineated due to the absence toxaphene in deeper samples. It is recommended that the existing several dozen empty and partially filled agriculture chemical containers be removed so they do not contribute any potential impact to soil from leaking or spills. Once these containers are removed, surface soils immediately adjacent to FS-WS-B1 and any other stained soils observed once containers removed should be excavated to a depth of approximately 0.5 feet.

4.1.2 Warehouse

The Industrial ESL for diesel range TPH was exceeded in FS-WS-B3-0.5 (660 J mg/kg) and the Industrial ESL for motor oil range TPH was exceeded in two soil samples (FS-WS-B3-0.5; 18,000 mg/kg, and FS-WS-B3-3.0; 1,700 mg/kg) collected from the vicinity of the warehouse located in the northeastern portion of the Site; therefore, diesel range TPH and motor oil range TPH are COPCs at this location. The Industrial ESL, Industrial CHHSL, Industrial RSL, and background were exceeded in soil sample FS-WS-B3-0.5 for arsenic, which was detected at a concentration 7.2 mg/kg. Impacted soils are present to at least 3 feet bgs at this location and were not vertically delineated due to the absence of visible staining and elevated PID readings during field screening. However, it is anticipated based on the dominant suspected COPCs (motor oil), and based on the significant reduction in concentration from 18,000 mg/kg at 0.5 feet to 1,700 mg/kg at 3.0 feet, that impacted soils are anticipated to be approximately 4.0 feet deep. It is recommended that the several dozen used vehicle or equipment oil filters and some containers of used oil be removed so they do not contribute any potential impact to soil from leaking or spills. Once these containers are removed, surface soils immediately adjacent to FS-WS-B3 and any other stained soils observed once containers removed should be excavated to a depth of approximately 4.0 feet.

4.1.3 Aboveground Storage Tank

The Industrial ESL for diesel range TPH was exceeded in FS-WS-B6-0.5 (590 mg/kg) collected from the vicinity of the aboveground storage tank located in the northeastern portion of the Site; therefore, diesel range TPH are COPCs at this location. Impacted soils are present to at least 0.5 feet bgs at this location. It is recommended that hand removal of surface impacted soils be removed between the two concrete slabs near the northeast corner of the AST to a depth of approximately 0.5 feet as practical.

4.1.4 Stained Soil and Drums

The Industrial ESL for diesel range TPH was exceeded in FS-WS-B7-0.5 (950 mg/kg) and the Industrial ESL for motor oil range TPH was exceeded in one soil sample (FS-WS-B7-0.5; 9,500 mg/kg) collected from an area of debris located in the northeastern portion of the Site; therefore, diesel range TPH and motor oil range TPH are COPCs at this location. The Industrial ESL, Industrial CHHSL, Industrial RSL, and background were exceeded in soil sample FS-WS-B7-0.5 for arsenic, which was detected at a concentration 7.5 mg/kg.

Benzo(a)pyrene was detected in exceedance of the Industrial CHHSL, Industrial ESL, and Industrial RSL in soil sample FS-WS-B7-0.5 (0.52 mg/kg); therefore, Benzo(a)pyrene is a COPC at this location. Impacted soils are present to at least 0.25 feet bgs at this location. It is recommended that the two drums and additional containers of used oil be removed so they do not contribute any potential impact to soil from leaking or spills. Once these containers are removed, surface soils immediately adjacent to FS-WS-B7 and any other stained soils observed once containers removed should be excavated to a depth of approximately 1.0 feet.

4.1.5 Stained Soil near Structure

The Industrial ESL for diesel range TPH was exceeded in FS-WS-B8-0.25 (180 J mg/kg) and the Industrial ESL for motor oil range TPH was exceeded in one soil sample (FS-WS-B8-0.25; 11,000 mg/kg,) collected from the vicinity of a structure located in the northeastern portion of the Site; therefore, diesel range TPH and motor oil range TPH are COPCs at this location. Impacted soils are present to at least 0.25 feet bgs at this location. Surface soils immediately adjacent to FS-WS-B8 and any other stained soils observed should be excavated to a depth of approximately 1.0 feet.

4.2 AREA 2

4.2.1 Stained Soil

The Industrial ESL for diesel range TPH was exceeded in FS-WS-B9-0.25 (160 J mg/kg) and the Industrial ESL for motor oil range TPH was exceeded in one soil sample (FS-WS-B9-0.25; 11,000 mg/kg) collected from an area of stained soil located in the northern portion of the homestead area; therefore, diesel range TPH and motor oil range TPH are COPCs at this location. Impacted soils are present to at least 0.25 feet bgs at this location. Surface soils immediately adjacent to FS-WS-B9 and any other stained soils observed should be excavated to a depth of approximately 1.0 feet.

4.2.2 Structure

The Industrial ESL for motor oil range TPH was exceeded in one soil sample (FS-WS-B10-0.25; 11,000 mg/kg) collected from within a garage structure in the central portion of the homestead area associated with a surface crust of stained soils; therefore, motor oil range TPH is a contaminant of concern at this location. The Industrial ESL, Industrial CHHSL, Industrial RSL, and background were exceeded in soil sample FS-WS-B10-0.25 for arsenic, which was detected at a concentration 6.9 mg/kg. Impacted soils are present to at least 0.25 feet bgs at this location. Surface soils immediately adjacent to FS-WS-B10 and any other stained soils observed should be excavated to a depth of approximately 1.0 feet.

4.3 AREA 3

The Industrial ESL for diesel range TPH was exceeded in FS-WS-B11-0.25 (19,000 mg/kg) collected from an area of stained soils in the southeast corner of the Site along the southern edge of an irrigation pond; therefore, diesel range TPH are COPCs at this location. The Industrial ESL, Industrial CHHSL, Industrial RSL, and background were exceeded in soil sample FS-WS-B11-0.25 for arsenic, which was detected at a concentration 8.4 mg/kg. Impacted soils are present to at least 0.25 feet bgs at this location. Surface soils immediately adjacent to FS-WS-B11 and any other stained soils observed should be excavated to a depth of approximately 1.0 feet.

Confirmation soil samples should be collected after soil removal is complete to verify contaminant removal. Number and location of confirmation soil samples should be determined based on excavation size.

4.4 GROUNDWATER

Groundwater was not encountered within any borings during the site assessment. The property is located in the South Lahontan Hydrologic Region, Antelope Valley Groundwater Basin. Based on review of current groundwater basin data posted on the California DWR website, depth to groundwater in the property vicinity is expected to be at least 100 feet below ground surface (DWR 2004), and groundwater is not expected to be impacted from near-surface impacts identified during this assessment.

SECTION 5.0 RECOMMENDATIONS

Based on the results of this Phase II ESA, URS recommends the following:

- Remove the likely source of surface impacts associated with visually stained soils at boring locations consisting of agrichemical containers, oil filters, drums and other containers of apparent used waste oil so they do not contribute any potential impact to soil from leaking or spills
- Perform remedial excavation and removal of shallow subsurface soil to address COPCs impacts to soils identified at the Site
- Collect post soil removal confirmation soil samples to verify COPC removal
- Off-site disposal of the removal material to a licensed waste facility

SECTION 6.0 LIMITATIONS

Services performed by URS were conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations, either expressed or implied, and no warranty or guarantee is included or intended in this report. Opinions relating to environmental, geologic, and geotechnical conditions are based on limited data and actual conditions may vary from those encountered at the times and locations where the data were obtained, despite the use of due professional care.

It would be extremely expensive, and perhaps impossible, to conduct a site reconnaissance or investigation that would ensure detection of all materials at the properties that are now or might in the future be considered hazardous. Our failure to discover hazardous materials through a reasonable and mutually agreed-upon limited scope of work does not guarantee that hazardous materials do not exist on an area. Similarly, an area which in fact is unaffected by hazardous materials at the time of our assessment may later, due to natural phenomena or human intervention, become contaminated. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants present and considered acceptable may, in the future, become subject to different regulatory standards and require remediation.

SECTION 7.0 REFERENCES

- Bradford, G. R., et. al, 1996, *Background Concentrations of Trace and Major Elements in California Soils:* University of California (Riverside), Division of Agriculture and Natural Resources, March 1996.
- California Department of Water Resources (DWR). 2004. California's Groundwater Bulletin 118, Update 2003 - South Lahontan Hydrologic Basin, Antelope Valley Groundwater Basin. Last updated February 27, 2004.
- URS Corporation (URS). 2012. Phase I Environmental Site Assessment Report for the First Solar Willow Springs Project Site, Kern County, California. June 7, 2012.

TABLES

Table 1 - Summary of Soil Sample Analytical Results First Solar Willow Springs Project Kern County, California

	Regulatory C	egulatory Criteria Sample Identification																							
				Area 1																Area 2				Area 3	
Analyte	CHSSL Commecial/Industrial (9/23/10)	Industrial ESL -Shallow Soils, Not Potential Drinking (12/2013)	Industrial RSLs (11/2013)	FS-WS-B1-0.5 (5/4/2015)	FS-WS-B1-3.0 (5/4/2015)	FS-WS-B2-0.5 (5/4/2015)	FS-WS-B2-3.0 (5/4/2015)	FS-WS-B3-0.5 (5/4/2015)	FS-WS-B3-3.0 (5/4/2015)	FS-WS-B4-0.5 (5/4/2015)	FS-WS-B4-1.5 (5/4/2015)	FS-WS-B5-0.25 (5/4/2015)	FS-WS-B5-2.0 (5/4/2015)	FS-WS-B6-0.5 (5/4/2015)	FS-WS-B6-4.5 (5/4/2015)	FS-WS-B7-0.25 (5/4/2015)	FS-WS-B7-3.0 (5/4/2015)	FS-WS-B8-0.25 (5/4/2015)	FS-WS-B8-2.0 (5/4/2015)	FS-WS-B9-0.25 (5/4/2015)	FS-WS-B9-3.0 (5/4/2015)	FS-WS-B10-0.25 (5/4/2015)	FS-WS-B10-3.0 (5/4/2015)	FS-WS-B11-0.25 (5/4/2015)	FS-WS-B11-2.0 (5/4/2015)
Total Petroleum Hydrocarbon (TPH) (mg/k				-00	.00	-00	-00	-0000	.000	.00	-00	.00	.00	.100	.00	1000	-00	4000	.00	.4000	.00	400	-00	.4000	.00
TPH - Gasoline (C4-C12) TPH - Diesel (C13-C22) TPH - Motor Oil (C23-C32	NE NE NE	500 110 500	NE NE NE	<20 10 30	<20 <10 <20	<20 9.1 J 68	<20 <10 <20	<2000 660 J 18000	<200 63 J 1700	<20 21 260	<20 <10 <20	<20 <10 <20	<20 <10 <20	<100 590 370	<20 12 31	<1000 950 9500	<20 92 320	<1000 <mark>180 J</mark> 11000	<20 3.5 J 150	<1000 160 J 11000	<20 18 170	<120 19 J 530	<20 <10 <20	<4000 19000 <4000	<20 26 26
Total Metals (mg/Kg) by EPA Method 6010 Antimony	380	40	41	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA	<5.0	NA
Arsenic	0.24	1.59	2.4	4.3	NA	0.45 J	NA	7.2	NA	5.4	NA	6.5	NA	4.7	NA	7.5	NA	6.2	NA	6.4	NA	< 6.9	NA	8.4	NA
Barium	63000	1500	19000	99	NA	45	NA	97	NA	85	NA	120	NA	80	NA	92	NA	120	NA	75	NA	100	NA	63	NA
Beryllium	190	8	200	0.34 J	NA	0.10 J	NA	0.47 J	NA	0.43 J	NA	0.46 J	NA	0.31 J	NA	0.45 J	NA	0.37 J	NA NA	0.44 J	NA	0.43 J	NA	0.44 J	NA
Cadmium Chromium	7.5 NE	12 2500	80 NE	0.11 J 15	NA NA	<0.50 5.9	NA NA	0.086 J 24	NA NA	0.078 J 21	NA NA	0.060 J 20	NA NA	0.076 J 16	NA NA	0.13 J 24	NA NA	0.49 J 19	NA	0.17 J 32	NA NA	<0.50 37	NA NA	<0.50 33	NA NA
Cobalt	3200	80	30	4.2	NA	3.3	NA	6.8	NA	6.6	NA	5.6	NA	4.4	NA	6.5	NA	5.9	NA	8.5	NA	9.2	NA	8.7	NA
Copper	38000	225	4100	11	NA	8.2	NA	15	NA	14	NA	16	NA	11	NA	16	NA	15	NA	22	NA	21	NA	17	NA
Lead	320 180	320 10	800 4.3	4.8 <0.16	NA	1.7 J ∠0.16	NA NA	6.1	NA NA	5.1	NA NA	5.1	NA	43 <0.16	NA NA	11	NA NA	33 <0.16	NA NA	12	NA NA	47 0.060 J	NA NA	5.9	NA NA
Mercury Molybdenum	4800	40	4.3 510	<0.16 0.29 J	NA NA	<0.16 0.29 J	NA	<0.16 2.9	NA	<0.16 0.25 J	NA	<0.16 0.089 J	NA NA	<0.16 0.081 J	NA	<0.16 0.33 J	NA	<0.16 <2.5	NA	<0.16 0.97 J	NA	<2.5	NA NA	<0.16 <2.5	NA
Nickel	16000	150	2000	11	NA	3.8	NA	19	NA	17	NA	15	NA	10	NA	19	NA	10	NA	25	NA	28	NA	27	NA
Selenium	4800	10	510	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA	<1.0	NA
Silver Thallium	4800 63	40 10.22	510 1	0.12 J <5.0	NA NA	0.080 J <5.0	NA NA	<0.50 <5.0	NA NA	<0.50 <5.0	NA NA	0.073 J <5.0	NA NA	<0.50 <5.0	NA NA	<0.50 <5.0	NA NA	<0.50 <5.0	NA NA	0.068 J <5.0	NA NA	<0.50 <5.0	NA NA	<0.50 <5.0	NA NA
Vanadium	6700	200	NE	25	NA	25	NA	33	NA	30	NA	<0.0 30	NA	25	NA	32	NA	32	NA	34	NA	39	NA	42	NA
Zinc	100000	600	31000	80	NA	20	NA	72	NA	48	NA	56	NA	46	NA	150	NA	160	NA	130	NA	51	NA	52	NA
Polynuclear Aromatic Hydrocarbons (PAH	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					0.045												0.075		0.045					
Acenaphthene Acenaphthylene	NE NE	18.73 12.72	3300 NE	<0.0030 <0.0030	NA NA	<0.015 0.016	NA NA	0.010 J 0.026	NA NA	<0.0030 <0.0030	NA NA	<0.0030 <0.0030	NA NA	<0.0030 <0.0030	NA NA	0.25 0.094	NA NA	<0.075 <0.075	NA NA	<0.015 0.016	NA NA	<0.030 <0.030	NA NA	0.69 0.16	NA NA
Anthracene	NE	2.85	17000	<0.0030	NA	<0.015	NA	<0.015	NA	<0.0030	NA	< 0.0030	NA	< 0.0030	NA	0.034	NA	<0.075	NA	< 0.015	NA	<0.030	NA	0.36	NA
Benzo(a)anthracene	NE	1.28	2.1	0.0021 J	NA	0.012 J	NA	<0.015	NA	<0.0030	NA	0.0014 J	NA	<0.0030	NA	0.095	NA	<0.075	NA	0.075	NA	0.051	NA	0.046 J	NA
Benzo(a)pyrene	0.13	0.13	0.21	< 0.0030	NA	< 0.015	NA	< 0.015	NA	< 0.0030	NA	< 0.0030	NA	< 0.0030	NA	0.52	NA	< 0.075	NA	0.076	NA	< 0.030	NA	< 0.075	NA
Benzo(b)fluoranthene Benzo(g,h,i)perylene	NE NE	1.28 26.56	2.1 NE	<0.0030 <0.0030	NA NA	<0.015 <0.015	NA NA	<0.015 <0.015	NA NA	<0.0030 <0.0030	NA NA	<0.0030 <0.0030	NA NA	<0.0030 <0.0030	NA NA	0.19 <0.076	NA NA	<0.075 <0.075	NA NA	0.11 0.14	NA NA	0.034 0.050	NA NA	0.10 0.11	NA NA
Benzo(k)fluoranthene	NE	1.28	21	< 0.0030	NA	< 0.015	NA	<0.015	NA	<0.0030	NA	< 0.0030	NA	<0.0030	NA	< 0.076	NA	<0.075	NA	0.025	NA	0.023 J	NA	<0.075	NA
Chrysene	NE	12.83	210	0.00091 J	NA	0.0076 J	NA	<0.015	NA	<0.0030	NA	<0.0030	NA	<0.0030	NA	0.064 J	NA	<0.075	NA	0.040	NA	<0.030	NA	0.15	NA
Dibenzo(a,h)anthracene	NE	0.38	0.21	< 0.0030	NA	< 0.015	NA	< 0.015	NA	< 0.0030	NA	< 0.0030	NA	< 0.0030	NA	<0.076	NA	<0.075	NA NA	< 0.015	NA	< 0.030	NA	< 0.075	NA
Fluoranthene Fluorene	NE NE	40.00 8.94	2200 2200	0.0073 <0.0030	NA NA	0.041 0.013 J	NA NA	<0.015 0.021	NA NA	<0.0030 <0.0030	NA NA	<0.0030 <0.0030	NA NA	<0.0030 <0.0030	NA NA	0.10 0.49	NA NA	<0.075 0.061 J	NA	0.064 0.014 J	NA NA	<0.030 <0.030	NA NA	0.15 1.7	NA NA
Indeno(1,2,3-c,d)pyrene	NE	1.28	2.1	<0.0030	NA	< 0.015	NA	<0.015	NA	<0.0030	NA	< 0.0030	NA	< 0.0030	NA	<0.076	NA	< 0.075	NA	0.031	NA	< 0.030	NA	<0.075	NA
Naphthalene	NE	4.81	18	<0.0030	NA	0.063	NA	0.033	NA	<0.0030	NA	<0.0030	NA	<0.0030	NA	0.17	NA	0.15	NA	0.032	NA	0.033	NA	0.34	NA
Phenanthrene	NE	10.69 85.06	NE 1700	0.0065	NA NA	0.022 0.026	NA NA	<0.015	NA NA	<0.0030 <0.0030	NA NA	<0.0030 <0.0030	NA	0.0054	NA NA	0.38	NA NA	<0.075	NA NA	0.0040 J	NA NA	<0.030 0.034	NA NA	0.22 2.4	NA NA
Pyrene Volatile Organic Compounds (VOCs) (mg/	Kg) by EPA N			0.0040	INA	0.020	INA	0.15	INA	~0.0030	N/A	<u><u></u>0.0030</u>	NA	<0.0030	INA	1.5	INA	<0.075	INA	0.61	INA	0.034	IN/A	2.4	IN/A
1,1,1,2-Tetrachloroethane	NE	16.4923	9.3	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
1,1,1-Trichloroethane	NE	7.7513	3800	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA						
1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	NE NE	2.3085 4.3739	2.8 0.68	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
1,1-Dichloroethane	NE	1.8861	17	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
1,1-Dichloroethene	NE	4.2945	110	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
1,1-Dichloropropene	NE NE	NE NE	NE 49	<0.0050	NA NA	<0.0050	NA NA	<0.0050	NA NA	<0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050	NA NA	<0.0050	NA NA	<0.0050	NA NA	<0.0050	NA	<0.0050	NA NA	<0.0050	NA NA
1,2,3-Trichlorobenzene 1,2,3-Trichloropropane	NE	NE	49 0.095	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA	<0.0050	NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA NA
1,2,4-Trichlorobenzene	NE	7.6073	27	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
1,2,4-Trimethylbenzene	NE	NE	26	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA						
1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB)	NE NE	0.0045 0.5112	0.069 0.17	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
1,2-Dibromoetnane (EDB) 1,2-Dichlorobenzene	NE	1.5990	980	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
1,2-Dichloroethane	NE	0.9128	2.2	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
1,2-Dichloropropane	NE	2.4634	4.7	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA						
1,3,5-Trimethylbenzene 1,3-Dichlorobenzene	NE NE	NE 7.3669	1000 NE	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
1,3-Dichloropropane	NE	7.3669 NE	2000	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
1,4-Dichlorobenzene	NE	1.7626	12	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	< 0.0050	NA	<0.0050	NA
2,2-Dichloropropane	NE	NE	NE	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA						
2-Chlorotoluene	NE NE	NE NE	2000	<0.0050	NA	<0.0050	NA NA	<0.0050	NA	<0.0050	NA NA	<0.0050	NA	<0.0050	NA	<0.0050	NA NA	<0.0050	NA NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
4-Chlorotoluene Benzene	NE NE	NE 1.1844	2000 5.4	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
Bromobenzene	NE	NE	180	<0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	< 0.0050	NA	<0.0050	NA
Bromochloromethane	NE	NE	68	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
												_											_		

Prepared 5/18/2015

Table 1 - Summary of Soil Sample Analytical Results First Solar Willow Springs Project Kern County, California

	Regulatory (Criteria		Sample Iden	tification																				
				Area 1																Area 2				Area 3	
Analyte	CHSSL Commecial/Industrial (9/23/10)	Industrial ESL -Shallow Soils, Not Potential Drinking (12/2013)	Industrial RSLs (11/2013)	FS-WS-B1-0.5 (5/4/2015)	FS-WS-B1-3.0 (5/4/2015)	FS-WS-B2-0.5 (5/4/2015)	FS-WS-B2-3.0 (5/4/2015)	FS-WS-B3-0.5 (5/4/2015)	FS-WS-B3-3.0 (5/4/2015)	FS-WS-B4-0.5 (5/4/2015)	FS-WS-B4-1.5 (5/4/2015)	FS-WS-B5-0.25 (5/4/2015)	FS-WS-B5-2.0 (5/4/2015)	FS-WS-B6-0.5 (5/4/2015)	FS-WS-B6-4.5 (5/4/2015)	FS-WS-B7-0.25 (5/4/2015)	FS-WS-B7-3.0 (5/4/2015)	FS-WS-B8-0.25 (5/4/2015)	FS-WS-B8-2.0 (5/4/2015)	FS-WS-B9-0.25 (5/4/2015)	FS-WS-B9-3.0 (5/4/2015)	FS-WS-B10-0.25 (5/4/2015)	FS-WS-B10-3.0 (5/4/2015)	FS-WS-B11-0.25 (5/4/2015)	FS-WS-B11-2.0 (5/4/2015)
Volatile Organic Compounds (VOCs) (mg/																									
Bromoform	NE NE	23.7183	220	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050	NA NA	<0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
Bromomethane Carbon Tetrachloride	NE	6.4361 0.5789	3.2 3	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA	<0.0050	NA	<0.0050	NA
Chlorobenzene	NE	1.4830	140	< 0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Chloroethane	NE	1.1315	6100	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Chloroform	NE	5.0096	1.5	<0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Chloromethane	NE	170.2558	50	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA						
cis-1,2-Dichloroethene cis-1,3-Dichloropropene	NE NE	18.4184 NE	200 NE	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
Dibromochloromethane	NE	34.0667	3.3	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Dibromomethane	NE	NE	11	<0.0050	NA	<0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Dichlorobromomethane	NE	2.4093	1.4	<0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Di-isopropyl ether	NE	NE	1000	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Ethylbenzene	NE	4.6943	27	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA						
Freon 11 (Trichlorofluoromethane) Freon 113 (1,1,2-trichloro-1,2,2-trifluo	NE NE	NE NE	340 18000	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
Freon 12 (Dichlorodifluoromethane)	NE	NE	40	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Hexachlorobutadiene	NE	4.6248	22	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA						
Isopropylbenzene	NE	NE	1100	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Methyl Tert-butyl ether (MTBE)	NE	8.3511	220	0.00080 J	NA	<0.0050	NA	0.0092	NA	<0.0050	NA	0.022	NA	<0.0050	NA	0.011	NA	0.00077 J	NA	0.00089 J	NA	<0.0050	NA	0.027	NA
Methylene chloride	NE	33.9590	310	< 0.010	NA	0.040	NA	< 0.010	NA	0.030	NA	0.0072 J	NA	0.017	NA	< 0.010	NA	0.042	NA						
Naphthalene n-Butylbenzene	NE NE	4.8129 NE	18 5100	<0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
n-Propylbenzene	NE	NE	2100	<0.0050 <0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	< 0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA
o-Xylene	NE	NE	300	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	<0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA
p- & m-Xylenes	NE	NE	NE	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
p-lsopropyltoluene	NE	NE	NE	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
sec-Butylbenzene	NE	NE 115005	NE	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA NA	< 0.0050	NA	< 0.0050	NA NA	< 0.0050	NA						
Styrene tert-amyl Methyl Ether	NE NE	14.5885 NE	3600 NE	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA	<0.0050 <0.0050	NA NA
Tert-Butyl alcohol (TBA)	NE	111.8632	NE	0.14	NA	<0.050	NA	<0.0000	NA	<0.050	NA	<0.0000	NA	<0.000	NA	<0.050	NA	<0.050	NA	<0.0000	NA	<0.050	NA	<0.0000	NA
tert-Butyl Ethyl Ether	NE	NE	NE	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA
tert-Butylbenzene	NE	NE	NE	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Tetrachloroethene	NE	2.6353	41	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Toluene	NE	9.2854	4500	0.0028 J	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA						
trans-1,2-Dichloroethene trans-1,3-Dichloropropene	NE NE	39.4926 NE	69 NE	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA	<0.0050 <0.0050	NA NA
Trichloroethene	NE	8.3453	2	<0.0050	NA	<0.0050	NA	< 0.0050	NA	<0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA	<0.0050	NA
Vinyl Chloride	NE	0.1592	1.7	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	<0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	< 0.0050	NA	<0.0050	NA	<0.0050	NA
Xylenes (Total)	NE	11.3121	270	<0.010	NA	<0.010	NA	<0.010	NA	<0.010	NA	<0.010	NA	<0.010	NA	<0.010	NA	<0.010	NA	<0.010	NA	<0.010	NA	<0.010	NA
Semi-Volatile Organic Compounds (SVOC		1	1																			1			
1,2,4-Trichlorobenzene	NE	7.6073	27	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
1,2-Dichlorobenzene 1,2-Diphenylhydrazine	NE NE	1.5990 NE	980 2.2	<0.10 <0.10	NA NA	<0.10 <0.10	NA NA	<5.0 <5.0	NA NA	<0.10 <0.10	NA NA	<0.10 <0.10	NA NA	<0.10 <0.10	NA NA	<5.1 <5.1	NA NA	<5.0 <5.0	NA NA	<5.0 <5.0	NA NA	<0.50 <0.50	NA NA	<5.1 <5.1	NA NA
1,3-Dichlorobenzene	NE	7.3669	NE	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
1,4-Dichlorobenzene	NE	1.7626	12	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
2,4,5-Trichlorophenol	NE	0.1774	6200	<0.20	NA	<0.20	NA	<9.9	NA	<0.20	NA	<0.20	NA	<0.20	NA	<10	NA	<10	NA	<9.9	NA	<1.0	NA	<10	NA
2,4,6-Trichlorophenol	NE	10.0000	62	<0.20	NA	<0.20	NA	<9.9	NA	<0.20	NA	<0.20	NA	< 0.20	NA	<10	NA	<10	NA	<9.9	NA	<1.0	NA	<10	NA
2,4-Dichlorophenol	NE NE	2.9881 0.7420	180 1200	<0.10 <0.10	NA NA	<0.10 <0.10	NA NA	<5.0	NA NA	<0.10 <0.10	NA NA	<0.10	NA NA	<0.10 <0.10	NA NA	<5.1	NA NA	<5.0	NA NA	<5.0	NA NA	<0.50	NA NA	<5.1	NA NA
2,4-Dimethylphenol 2,4-Dinitrophenol	NE	0.7420 0.0423	1200	<0.10	NA	<0.10	NA	<5.0 <25	NA	<0.10	NA	<0.10 <0.50	NA	<0.10	NA	<5.1 <25	NA	<5.0 <25	NA NA	<5.0 <25	NA	<0.50 <2.5	NA	<5.1 <25	NA
2,4-Dinitrotoluene	NE	0.8623	5.5	<0.30	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
2,6-Dinitrotoluene	NE	NE	1.2	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
2-Chloronaphthalene	NE	NE	8200	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
2-Chlorophenol	NE	0.1233	510	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
2-Methyl-4,6-dinitrophenol	NE	NE 0.0540	4.9	<0.50	NA	< 0.50	NA	<25	NA	< 0.50	NA	< 0.50	NA	< 0.50	NA	<25	NA	<25	NA	<25	NA	<2.5	NA	<25	NA
2-Methylnaphthalene 2-Methylphenol	NE NE	0.2548 NE	220 3100	<0.10 <0.10	NA NA	<0.10 <0.10	NA NA	<5.0 <5.0	NA NA	<0.10 <0.10	NA NA	<0.10 <0.10	NA NA	<0.10 <0.10	NA NA	<5.1 <5.1	NA NA	<5.0 <5.0	NA NA	<5.0 <5.0	NA NA	<0.50 <0.50	NA NA	<5.1 <5.1	NA NA
2-Methylphenol	NE	NE	0.96	< 3.0	NA	< 3.0	NA	<150	NA	< 3.0	NA	< 3.0	NA	< 3.0	NA	<150	NA	<150	NA	<5.0	NA	<0.50	NA	<150	NA
2-Nitroaniline	NE	NE	600	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
2-Nitrophenol	NE	NE	NE	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
3,3'-Dichlorobenzidine	NE	2.3846	3.8	<0.20	NA	<0.20	NA	<9.9	NA	<0.20	NA	<0.20	NA	<0.20	NA	<10	NA	<10	NA	<9.9	NA	<1.0	NA	<10	NA
3/4-Methylphenol	NE	NE	6200	<0.20	NA	<0.20	NA	<9.9	NA	<0.20	NA	<0.20	NA	<0.20	NA	<10	NA	<10	NA	<9.9	NA	<1.0	NA	<10	NA
3-Nitroaniline 4,4'-DDD	NE 9	NE 9.9523	NE 7.2	<0.20 <0.10	NA NA	<0.20 <0.10	NA NA	<9.9 <5.0	NA NA	<0.20 <0.10	NA NA	<0.20 <0.10	NA NA	<0.20 <0.10	NA NA	<10 <5.1	NA NA	<10 <5.0	NA NA	<9.9 <5.0	NA NA	<1.0 <0.50	NA NA	<10 <5.1	NA NA

Prepared 5/18/2015

Table 1 - Summary of Soil Sample Analytical Results First Solar Willow Springs Project Kern County, California

cpc Re Re Corr		Regulatory	Criteria		Sample Iden	tification																				
Normal Normal<					Area 1																Area 2				Area 3	
Set vision part of part	Analyte	CHSSL Commecial/Industrial (9/23/10)	trial ESL ⁻ Is, Not Po nking (12	Industrial RSLs (11/2013)	FS-WS-B1-0.5 (5/4/2015)	FS-WS-B1-3.0 (5/4/2015)	FS-WS-B2-0.5 (5/4/2015)	FS-WS-B2-3.0 (5/4/2015)	FS-WS-B3-0.5 (5/4/2015)	FS-WS-B3-3.0 (5/4/2015)	FS-WS-B4-0.5 (5/4/2015)	FS-WS-B4-1.5 (5/4/2015)	FS-WS-B5-0.25 (5/4/2015)	FS-WS-B5-2.0 (5/4/2015)	FS-WS-B6-0.5 (5/4/2015)	FS-WS-B6-4.5 (5/4/2015)	FS-WS-B7-0.25 (5/4/2015)	FS-WS-B7-3.0 (5/4/2015)	FS-WS-B8-0.25 (5/4/2015)	FS-WS-B8-2.0 (5/4/2015)	FS-WS-B9-0.25 (5/4/2015)	FS-WS-B9-3.0 (5/4/2015)	FS-WS-B10-0.25 (5/4/2015)	5)	FS-WS-B11-0.25 (5/4/2015)	FS-WS-B11-2.0 (5/4/2015)
def C bit C C C C <th></th> <th>Cs) (mg/Kg) b</th> <th>y EPA Metho</th> <th>d 8270C</th> <th></th>		Cs) (mg/Kg) b	y EPA Metho	d 8270C																						
Hereine primeHereine	,			5.1																						
d C p2 a minimized HE HE FE PA PA PA PA PA PA <				/ NE																						
Second part of the second																										
bit bit bit bit							<0.10																			
Here His His <th></th>																										
Second process N Single Singl																										
Althen 0.73 1.78 6.71 0.74 0.75 0.75 0.75 <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>																										
cpc NE NE CPC NE CPC NE CPC NE N																										
Inter NE VE VE VE VE VE	Aldrin																									
ethelestic NE Aug Aug Aug Aug Au	Aniline																									
Ni Lize Z Gal Ni Gal Ni <	Anthracene	NE		17000	<0.10	NA		NA		NA	<0.10	NA	<0.10	NA	<0.10	NA		NA	-	NA	<5.0	NA		NA	<5.1	NA
Secretion Secretion <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>																										
Second matches Ne Cond NA Cond NA Cond NA <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>																										
Berry NE 1.32 2.10 0.40 NA -0.10 NA -0.10 NA -0.20 NA -0																										
Benergization Ni Ni C2000 Ni C200 Ni C200 Ni C200 <t< th=""><th>Benzo(g,h,i)perylene</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	Benzo(g,h,i)perylene																									
Bitery accord Niv OPD 0 N 0																										
besch Shift besch Shift Nic Shift																										
Bitel:	beta-BHC																									
bits Nic Nic Nic Olive Nic Ol	Bis(2-chloroethoxy)methane			180																						
Bile:				1 NE																						
Bubbe Bubbe NI NI NI NI A A <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>																										
Select S-C NE NE -0.10 NA -0.10 NA -0.10 NA -0.50 <	Butylbenzylphthalate																									
Dispanding NE 0.27 0.21 0.21 0.10 NA -0.10 NA -0.10 NA -0.10 NA -0.10 NA -0.10 NA -0.10 NA -0.51 NA -0.50	Chrysene																									
Distribution NE NE 100 -0.10 NA <																										
Disclaim Disclaim NA edito	Dibenzofuran																									
Dime Dim Dime Dime <thd< th=""><th></th><th>0.13</th><th>0.0023</th><th>0.11</th><th><0.10</th><th></th><th><0.10</th><th></th><th></th><th></th><th><0.10</th><th>NA</th><th></th><th>NA</th><th></th><th>NA</th><th></th><th>NA</th><th><5.0</th><th></th><th><5.0</th><th>NA</th><th></th><th>NA</th><th></th><th></th></thd<>		0.13	0.0023	0.11	<0.10		<0.10				<0.10	NA		NA		NA		NA	<5.0		<5.0	NA		NA		
Dis-bis-dyphyllatilize NE NE NE NE NE NA -0.10 NA -0.10 NA -0.10 NA -0.10 NA -0.10 NA -0.10 NA -0.50																										
Dir-originality NE Originality NA Colo NA Colo NA Colo <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>																										
Endosultari II NE NE NE OLD NA -0.20 NA <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>																										
Endosition sulfate NE NE <th>Endosulfan I</th> <th></th> <th><9.9</th> <th></th> <th></th> <th></th> <th><10</th> <th></th>	Endosulfan I																				<9.9				<10	
Endim Candim Candim </th <th>Endosulfan II Endosulfan sulfato</th> <th></th>	Endosulfan II Endosulfan sulfato																									
Endim allehyde NE NE M. c.0.50 N.A c.0.50 N.A c.250 N.A c.25 N.A c.51 N.A c.50 N.A c.50 N.A c.50 N.A c.50 N.A c.50 N.A c.51 N.A c.50 N.A c.51 N.A				18		NA										NA				NA		NA				NA
Fluorantené NE 40.000 20.00 <0.10	Endrin aldehyde			NE		NA										NA				NA		NA				NA
Japama-BHC 2 0.0098 2.1 0.010 NA	Fluoranthene														<0.10											
Appendive 0.52 0.0132 0.38 0.010 NA <0.00	Fluorene																									
Heipschlore poxide NE 0.0137 0.19 0.010 NA c.10 NA c.0.10 NA	Heptachlor																									
Hexachloroputadiene NE 4.6248 22 <0.10	Heptachlor epoxide	NE						NA																		
Hexachlorocyclopentadiene NE NE NE NE NE 370 <0.10	Hexachlorobenzene																									
Hexachloroethane NE 40.5737 43 <0.10																										
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Hexachloroethane																									
NaphthaleneNE4.812918<0.10	Indeno(1,2,3-c,d)pyrene	NE	1.2834	2.1	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
Semi-Volatile Organic Compounds (SVOCs) (mg/Kg) by EPA Method 8270C Nitrobenzene NE NE 24 <0.10	Isophorone																									
Nitrobenzene NE NE 24 <0.10					<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<0.1	NA	<5.0	NA	<5.0	NA	<0.00	NA	<0.1	NA
N-Nitrosodimethylamine NE NE 0.034 <0.10					<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
N-Nitrosodipop/lamine NE NE 0.25 <0.10	N-Nitrosodimethylamine	NE	NE	0.034	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
Pentachlorophenol 13 5.000 2.7 <0.20	N-Nitrosodiphenylamine																									
Phenanthrene NE 10.6915 NE <0.10																										
Phenol NE 3.8692 18000 <0.10 NA <0.10 NA <0.10 NA <5.0 NA <0.10 NA <5.0 NA <5.0 NA <0.50 NA <0.50 NA <5.1 NA	Penachiorophenol																									
Pyrene NE 85.0635 1700 <0.10 NA <0.10 NA <5.0 NA <0.10 NA <0.10 NA <0.10 NA <0.10 NA <0.10 NA <0.10 NA <5.0 NA <5.0 NA <5.0 NA <5.0 NA <5.0 NA <5.0 NA	Phenol	NE	3.8692	18000	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA
	Pyrene	NE	85.0635	1700	<0.10	NA	<0.10	NA	<5.0	NA	<0.10	NA	<0.10	NA	<0.10	NA	<5.1	NA	<5.0	NA	<5.0	NA	<0.50	NA	<5.1	NA

Prepared 5/18/2015

Table 1 - Summary of Soil Sample Analytical Results First Solar Willow Springs Project Kern County, California

	Regulatory	Criteria		Sample Iden	tification																				
				Area 1																Area 2				Area 3	
Analyte	CHSSL Commecial/Industrial (9/23/10)	Industrial ESL -Shallow Soils, Not Potential Drinking (12/2013)	Industrial RSLs (11/2013)	FS-WS-B1-0.5 (5/4/2015)	FS-WS-B1-3.0 (5/4/2015)	FS-WS-B2-0.5 (5/4/2015)	FS-WS-B2-3.0 (5/4/2015)	FS-WS-B3-0.5 (5/4/2015)	FS-WS-B3-3.0 (5/4/2015)	FS-WS-B4-0.5 (5/4/2015)	FS-WS-B4-1.5 (5/4/2015)	FS-WS-B5-0.25 (5/4/2015)	FS-WS-B5-2.0 (5/4/2015)	FS-WS-B6-0.5 (5/4/2015)	FS-WS-B6-4.5 (5/4/2015)	FS-WS-B7-0.25 (5/4/2015)	FS-WS-B7-3.0 (5/4/2015)	FS-WS-B8-0.25 (5/4/2015)	FS-WS-B8-2.0 (5/4/2015)	FS-WS-B9-0.25 (5/4/2015)	FS-WS-B9-3.0 (5/4/2015)	FS-WS-B10-0.25 (5/4/2015)	FS-WS-B10-3.0 (5/4/2015)	FS-WS-B11-0.25 (5/4/2015)	FS-WS-B11-2.0 (5/4/2015)
Organo-Phosphorus Pesticides (mg/Kg)	by EPA Metho	· · · · · · · · · · · · · · · · · · ·	190	<0.010	<0.010	-0.010	-0.010	NIA	NIA	NIA	NA	NΙΔ	NΙΔ	NIA	ΝA	ΝA	NIA	NIA	NIA	NΙΔ	NIA	NΙΔ	NIA	NΙΔ	NIA
Azinphos Methyl Bolstar	NE NE	NE NE	180 NE	<0.010 <0.010	<0.010 <0.010	<0.010 <0.010	<0.010 <0.010	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
Chlorpyrifos	NE	NE	62	0.16	0.0063 J	0.012	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Coumaphos	NE	NE	NE	<0.010	< 0.010	< 0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Demeton	NE	NE	2.5	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	NE	NE	43	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorvos	NE	NE	5.9	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Disulfoton	NE	NE	2.5	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethoprop	NE	NE	NE	<0.010	< 0.010	< 0.010	< 0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fensulfothion	NE	NE	NE	< 0.010	< 0.010	< 0.010	< 0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fenthion	NE NE	NE NE	NE 1 9	<0.010	<0.010	<0.010	<0.010	NA NA	NA	NA	NA	NA NA	NA	NA	NA	NA	NA NA	NA	NA NA	NA	NA	NA	NA	NA	NA
Merphos Methyl Parathion	NE	NE	1.8 15	<0.010	<0.010	<0.010	<0.010 <0.010	NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
Mevinphos	NE	NE	NE	<0.010 <0.010	<0.010 <0.010	<0.010 <0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naled	NE	NE	120	<0.010	<0.050	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	NE	NE	120	<0.000	<0.010	<0.010	<0.030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ronnel	NE	NE	3100	<0.010	< 0.010	< 0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stirophos	NE	NE	NE	<0.010	< 0.010	< 0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tokuthion	NE	NE	NE	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloronate	NE	NE	NE	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Organochlorine Pesticides (mg/Kg) by EF	PA Method 80	81B							-	-											-				
4,4'-DDD	9	9.95	7.2	<0.0025	<0.00050	<0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	6.3	4	5.1	0.0074	< 0.00050	< 0.0025	< 0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT Aldrin	6.3	4	7 0.1	<0.0025	<0.00050	< 0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA NA	NA	NA	NA	NA	NA	NA
alpha-BHC	0.13 NE	0.13 NE	0.1	<0.0025 <0.0025	<0.00050 <0.00050	<0.0025 <0.0025	<0.00050 <0.00050	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
beta-BHC	NE	NE	0.27	<0.0025	<0.00050	< 0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	1.7	1.74	NE	<0.0025	<0.050	<0.25	<0.00000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NE	NE	NE	<0.0025	<0.00050	<0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.13	0.0023	0.11	<0.0025	<0.00050	< 0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	NE	NE	NE	< 0.0025	< 0.00050	< 0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	NE	NE	NE	<0.0025	<0.00050	<0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	NE	NE	NE	<0.0025	<0.00050	<0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	230	0.00065	18	<0.0025	<0.00050	<0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NE	NE	NE	<0.0025	<0.00050	<0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC	2	0.0098	2.1	< 0.0025	< 0.00050	< 0.0025	< 0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.52	0.0132	0.38	< 0.0025	< 0.00050	< 0.0025	< 0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	NE	0.0137	0.19	<0.0025	<0.00050	< 0.0025	<0.00050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	3800	18.9640	310	< 0.0025	<0.00050	< 0.0025	<0.00050	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
Toxaphene Chlorinated Herbicides (mg/Kg) by EPA M	1.8 Aethod 8151A	0.00042	1.6	0.20 J	<0.050	<0.25	<0.050	NA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	IN/A	INA	INA	INA	INA
2,4,5-T	6100	NE	620	<0.0030	<0.0030	<0.0030	<0.0030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	NE	NE	490	<0.0030	<0.0030	< 0.0030	< 0.0030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DB	NE	NE	490	<0.0030	<0.0030	<0.0030	<0.0030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	7700	NE	770	0.37	<0.020	<0.020	<0.020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dalapon	NE	NE	1800	< 0.050	<0.050	<0.050	<0.020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	NE	NE	1800	<0.0020	<0.0020	<0.0020	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	NE	NE	NE	<0.020	<0.020	< 0.020	<0.020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	NE	NE	62	<0.0070	< 0.0070	<0.0070	<0.0070	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				-					•	•					•	•					•				

 Notes:

 Values above detection limits are **bold**

 Values flagged with a 'J' are between the method detection level and the pql

 Values shaded in yellow are equal to above one or more regulatory criteria

 Values shaded in gray are non detects with the detection limit equal to or above one or more regulatory criteria

 Values compound not detected above the mrl

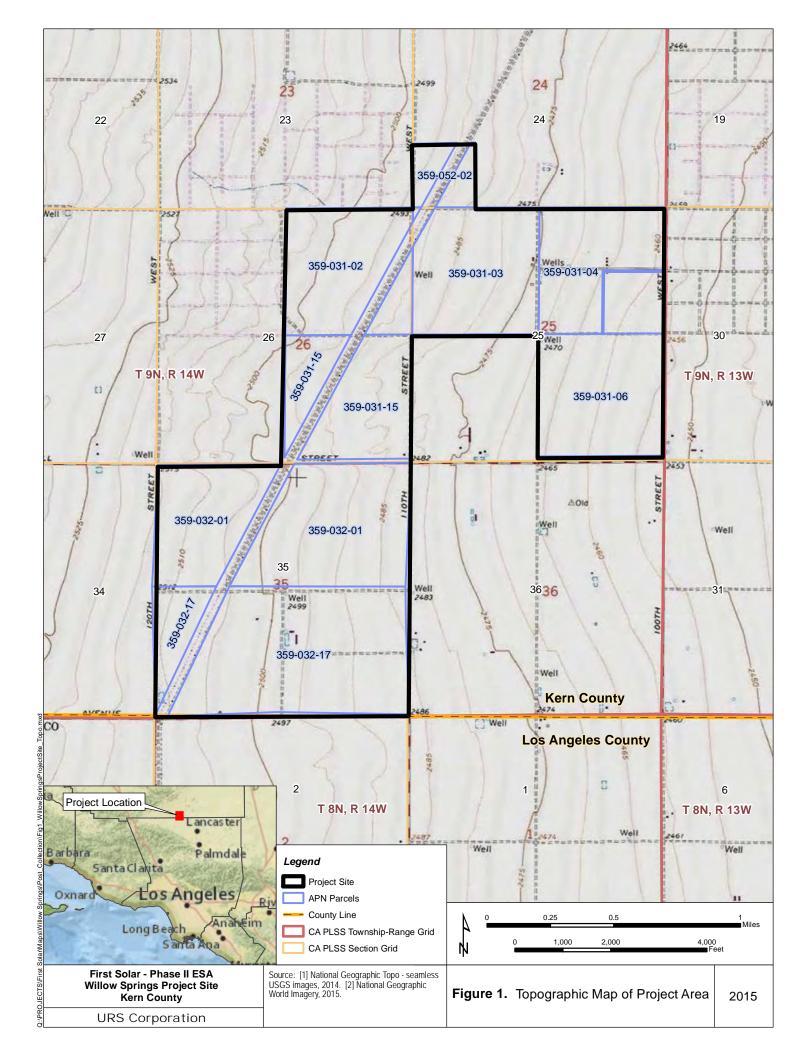
Abbreviations: EPA - Environmental Protection Agency ESL - Environmental Screening Level CHHSL - California Human Health Screening Level

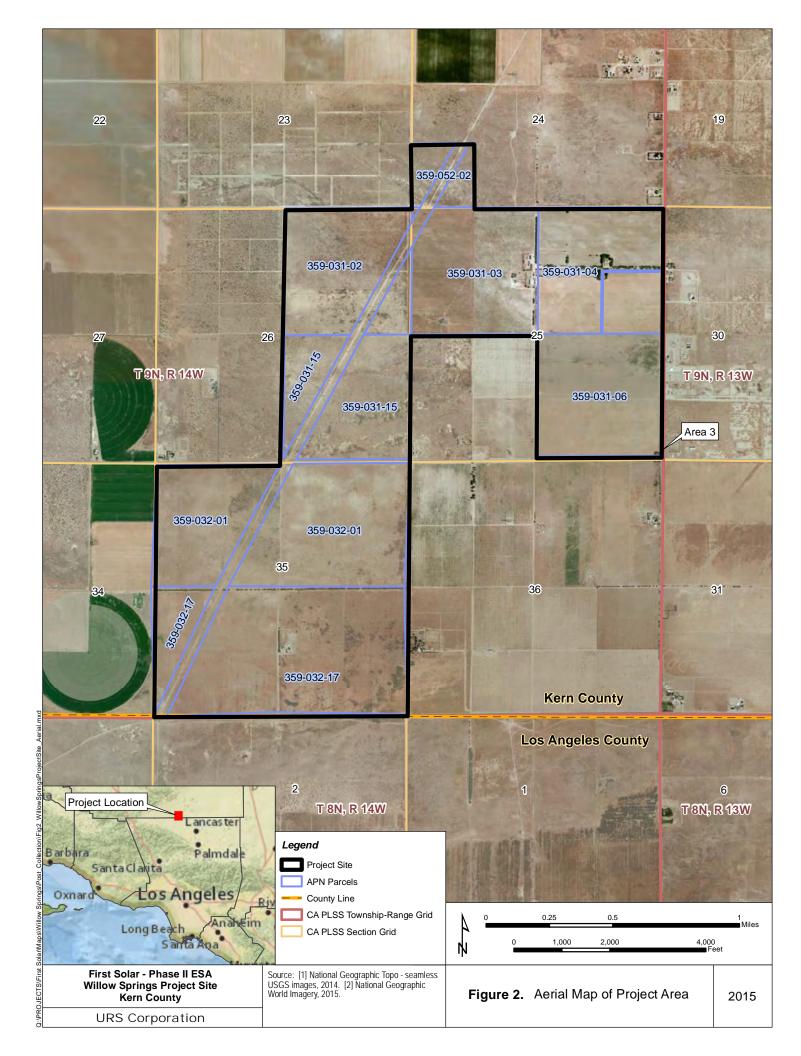
RSL - Regional Screening Level mg/kg - milligram/kilogram NE - Not Established

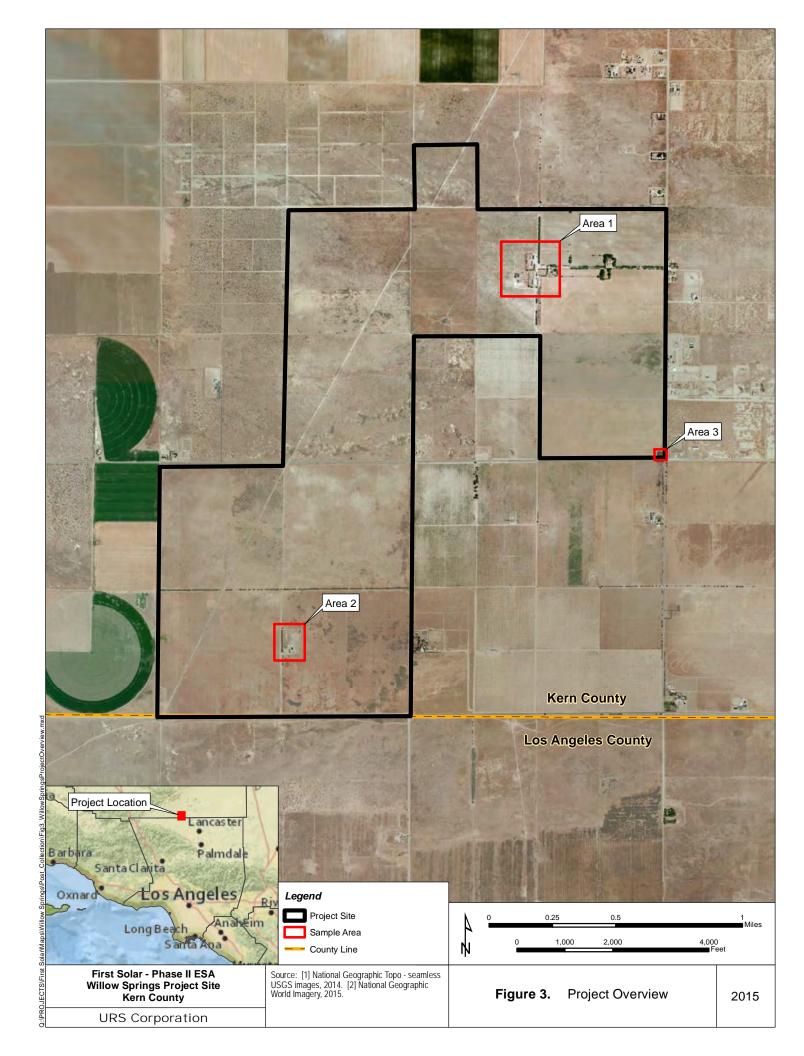
Prepared 5/18/2015

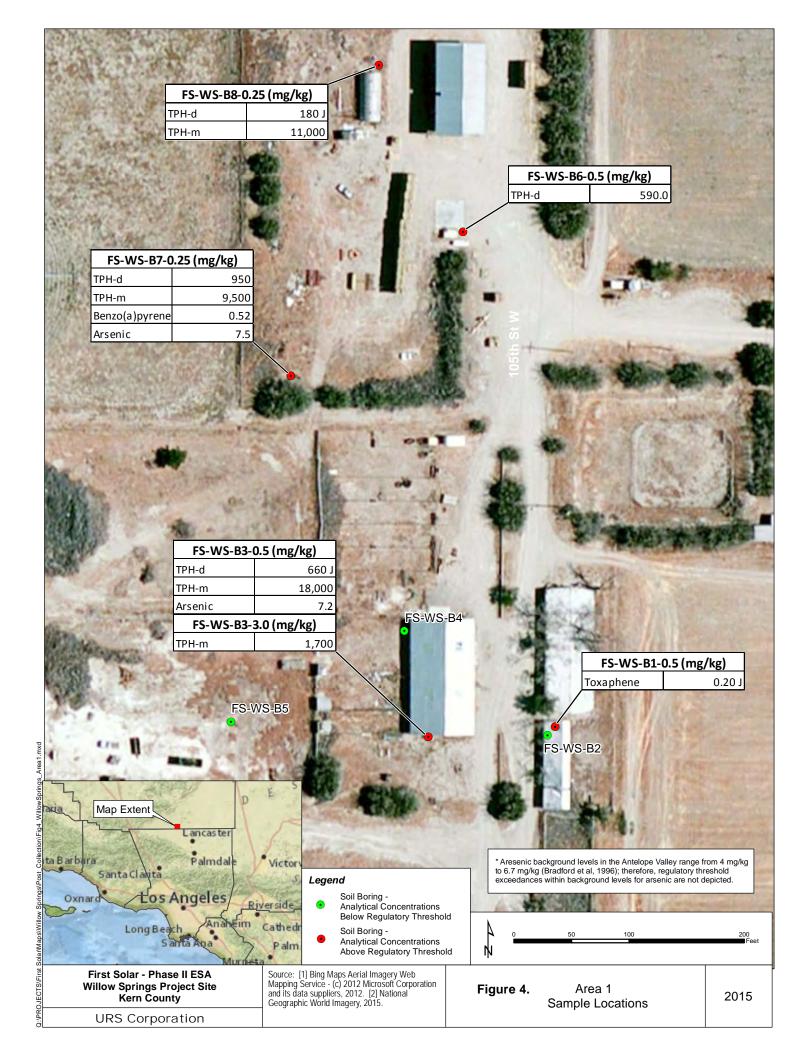
PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT FIRST SOLAR WILLOW SPRINGS PROJECT

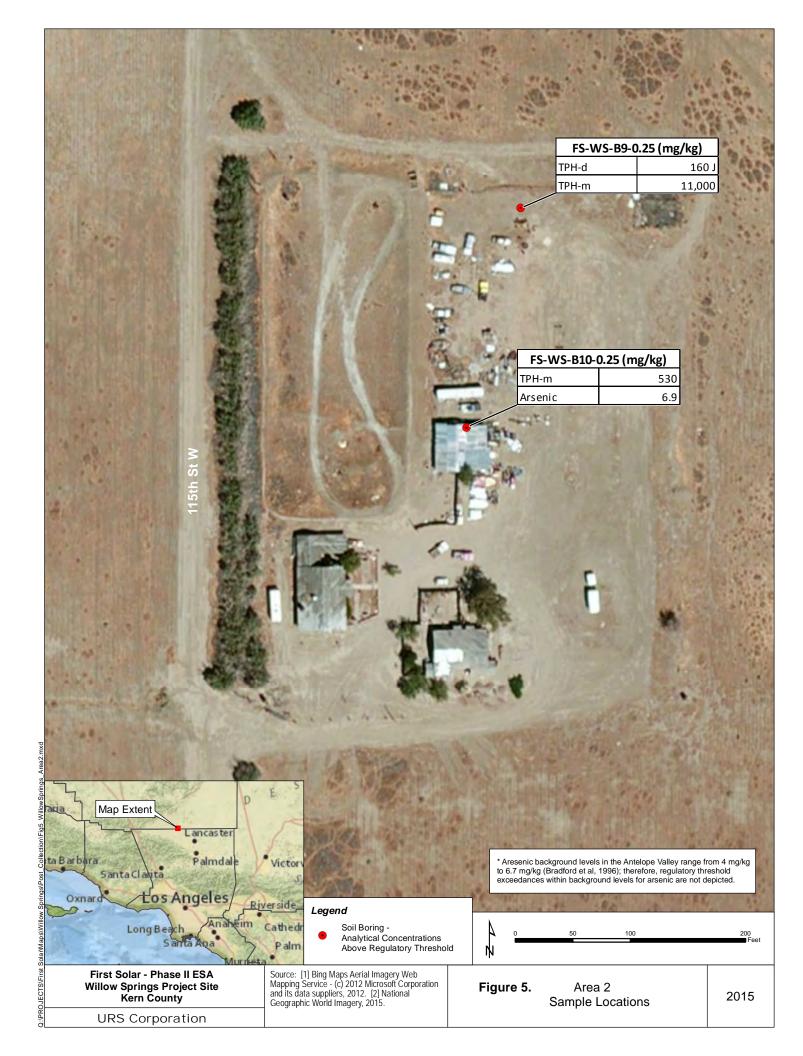
FIGURES

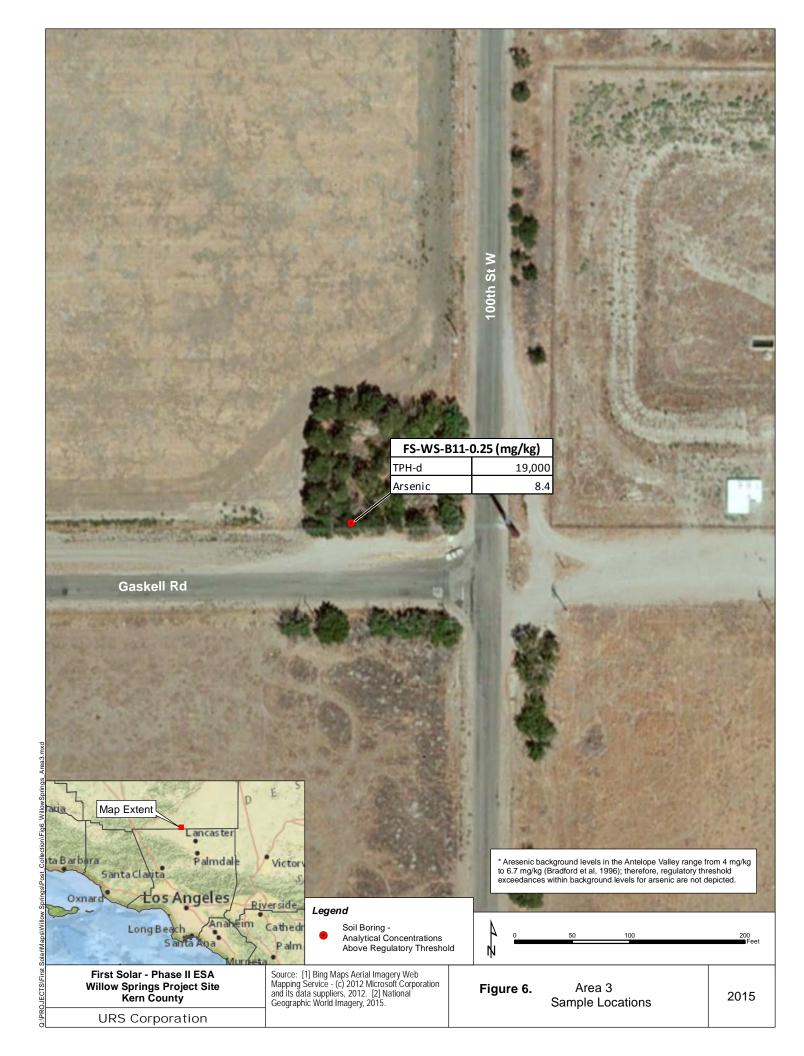












APPENDIX A AERIAL PHOTOGRAPHS

First Solar Willow Springs

First Solar Willow Springs Rosamond, CA 93560

Inquiry Number: 3305875.3 April 24, 2012

The EDR Aerial Photo Decade Package



440 Wheelers Farms Road Milford, CT 06461 800.352.0050 www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

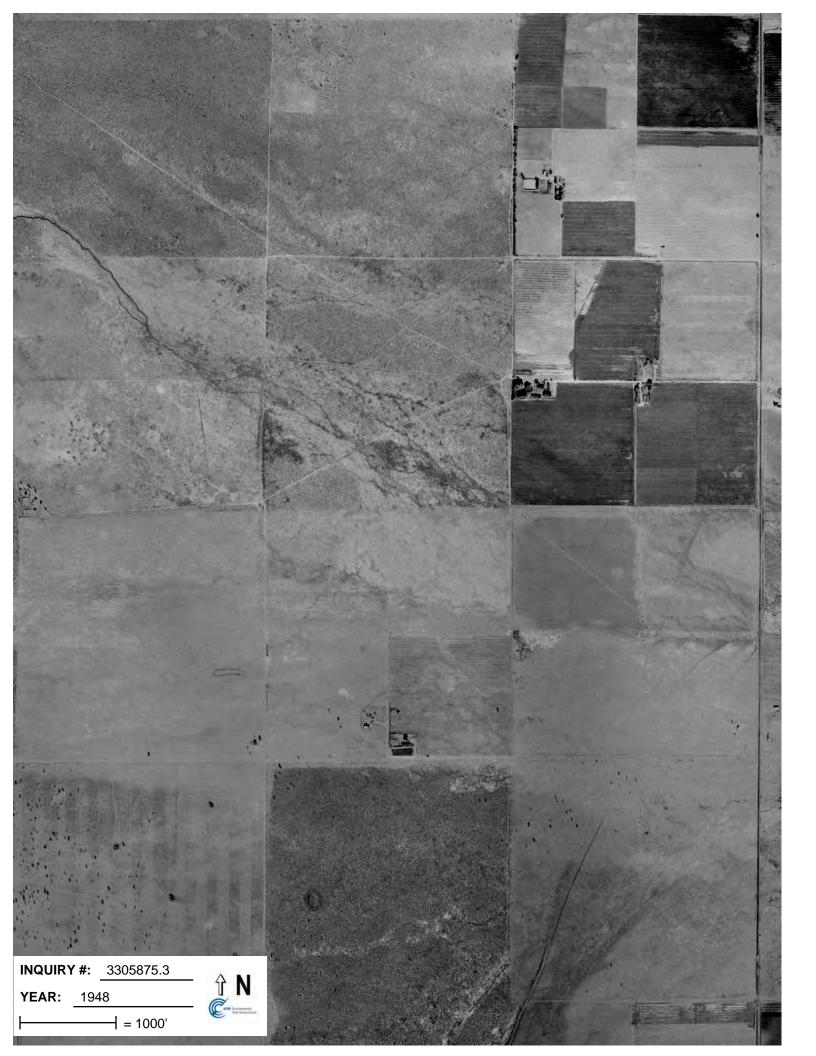
Aerial Photography April 24, 2012

Target Property:

First Solar Willow Springs Rosamond, CA 93560

<u>Year</u> 1948	<u>Scale</u> Aerial Photograph. Scale: 1"=1000'	<u>Details</u> Flight Year: 1948	<u>Source</u> usgs
1948	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1948	USGS
1954	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1954	Pacific Air
1954	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1954	Pacific Air
1968	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1968	Teledyne
1968	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1968	Teledyne
1974	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1974	Nasa
1974	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1974	Nasa
1990	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1990	USGS
1990	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1990	USGS
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	USGS
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2002	USGS
2002	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2002	USGS

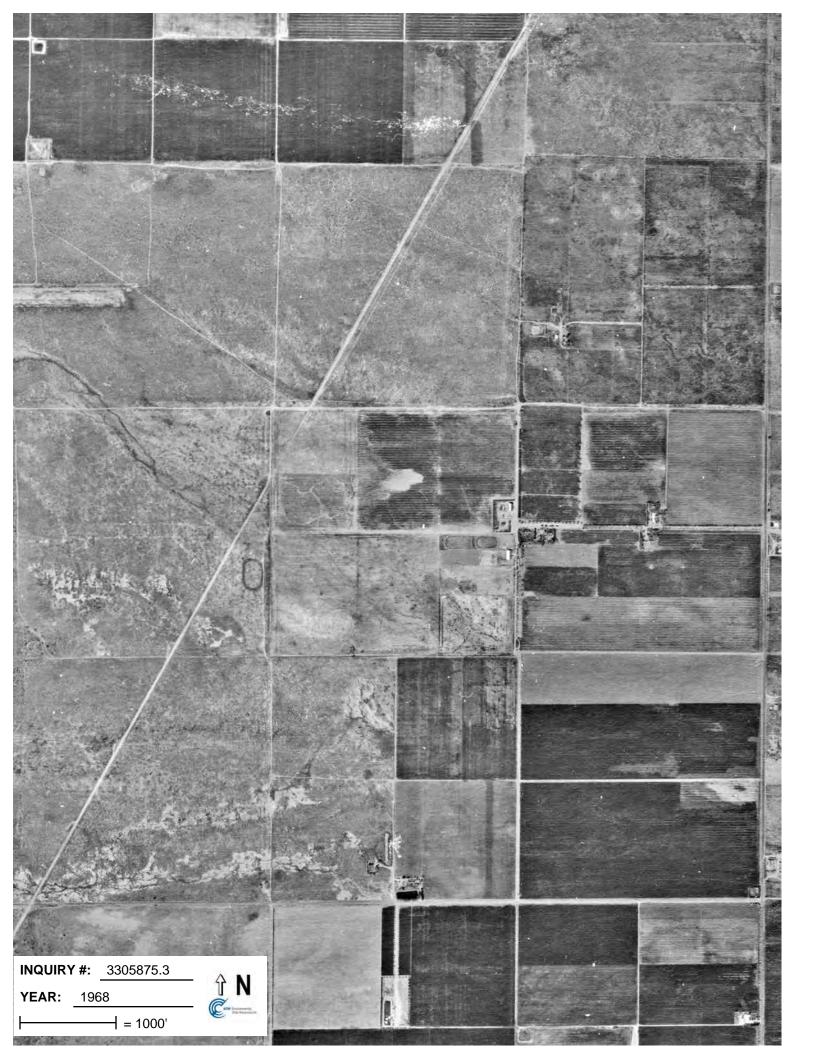




























APPENDIX B SOIL BORING LOGS

V: Projects) 28907639 FSE Willow Springs Ph I-II & ACM-LBP/600 DLVR Phase II ESA\First Solar Willow Springs PH II ESA Report.docx

			907039	/ 004	21730			1			FS-WS-B1	ring: (Sheet 1 of
ate Dri	illed: 5/4/	2015							Fotal De	pth Drilled: 3.5 feet	Logged By: Jeff Gaine	es, PG #8954
rilled H	By: URS (Corpora	tion					1	Diamete	r: 4"	Reviewed By: Natalie	Evans, PG #9097
urface	Condition	is: Deb	ris with nu	merous	s empty l	nerbicide, surfa	ctant, a	and other	ag. rela	ted canisters Drilling Method:	4" outer diameter hand	auger
amplin	g Method	: Hand	auger & h	and dr	ive samp	ler w. 6" x 2" s	teel rir	ngs, teflo	n, and p	lastic end caps		
as Sampler Type		ещ 1248	0.1-5.0 Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID FS-WS-B1-0.5'	Sample Interval	SM CL CL	Symbol Symbol	Litholog Silty SAND, olive brown, dry, loc Very hard clay layer. Sandy lean CLAY, light brown to (Gravel: <1%, sand: 30%, silt: 30%	tan, dry, stiff, trace 1/2" gr	
ss		1258	3.0- 3.5			FS-WS-B1-3.0'	Å			Boring terminated on May 4, 201: cuttings.	5 at 3.5 feet bgs and backfil	led with soil

				Solar 3907639		_	orings Pro	ojec	τ 510	e, Kern	Count	y, CA	Log of Soil F FS-WS-B2	Soring: (Sheet 1 o	of 1)
Date	Drill	ed: 5/4/2	2015							Total De	pth Drilled:	3.5 feet	Logged By: Anthor	ny Schuetze, PG #8	625
Drill	ed By	: URS C	Corpora	tion						Diamete	r: 4"		Reviewed By: Nata	lie Evans, PG #909	97
Surf	ace Co	ondition	s: Soil	surface, se	everal d	lozen en	pty herbicide, i	nsect	icide be	oxes and b	ottles	Drilling Method:	4" outer diameter ha	ind auger	
Sam	pling	Method	: Hand	auger & h	and dr	ive samp	ler w. 6" x 2" s	teel r	ings, tef	lon, and p	astic end ca	ıps			
Oenthe Depth On (Vertical Feet)	Sampler Type	Feet Driven/ Feet Recovered	Time	Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID	Sample Interval	USCS	Symbol			gic Description		0
-	SS		1245	0.5- 1.0		0.0	FS-WS-B2-0.5'		CL		gravel.		, dry, medium stiff to har		
2-								Å	CL		ŗ			-	-2
-	SS		1300	3.0- 3.5		0.0	FS-WS-B2-3.0'	Μ			Boring terr cuttings.	ninated on May 4, 201	5 at 3.5 feet bgs and back	kfilled with soil	-
								Lith	ologic	Symbol Ex	planation				
	Z) CI	lay CL)		Silt (ML)		Clave	y Sand	Silty				Well Graded Sand (SW)	⊠⊠∎ ⊠⊠⊠ Poorly Graded ⊠⊠⊠ Gravel (GP)	· · · · · · · · · · · · · · · · · · ·	d

0 5 5 5 5 5 5 5 5 5 5 5 5 5	Pro	ject	Numl	oer:28	3907639	/ 604	21730				1			Log of Soil B FS-WS-B3	(Sheet 1 o	
Strate Conditions: Suit, some 14* gravel on sufface Duilting Method: 4* outer diameter hand anger Strate Conditions: Suit, some 14* gravel on sufface Duilting Method: 4* outer diameter hand anger Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Strate Conditions: Suit, some most, medium utif, trace sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Suit, some on sufface Image: Suit, some on sufface Image: Strate Conditions: Suit, some 14* gravel on sufface Image: Suit, some on sufface Image: Suit, some on sufface Image: Suit, some on sufface Image: Suit, some 14* gravel on sufface Image: Suit, some on sufface Image: Suit, some on sufface Image: Suit, some on sufface Image: Suit, some on sufface Image: Suit, some on sufface Image: S	Date	Drill	ed: 5/4/	2015							Total De	pth Drilled:	3.5 feet	Logged By: Anthon	y Schuetze, PG #8	625
Suppling Method: I land uger & hand drive sampler N. 6' X. ² ' ster trips, tellon, and plastic critica.	Drill	ed By	: URS (Corpora	tion						Diamete	r: 4"	1	Reviewed By: Nata	lie Evans, PG #909	97
organo organo<	Surfa	ace C	ondition	s: Soil,	, some 1/4	" grave	l on surf	ace					Drilling Method:	4" outer diameter ha	nd auger	
0 0 0 0 FS WS. R3.0.5 0 FS WS. R3.0.5 0 Sign provide the providet the providet the providet the provide the provide the	Sam	pling	Method	: Hand	auger & l	and dr	ive samp	oler w. 6" x 2" s	teel 1	ings, tef	lon, and p	lastic end ca	ps			
1 1 1 0 F8-WS-88-3.0 1 <t< th=""><th>Depth (Vertical Feet)</th><th>Sampler Type</th><th>Feet Driven/ Feet Recovered</th><th>Time</th><th>Sample Depth (feet)</th><th>Blow Counts</th><th></th><th>Sample ID</th><th>Sample Interval</th><th>USCS</th><th>Symbol</th><th></th><th>Litholog</th><th>cic Description</th><th></th><th></th></t<>	Depth (Vertical Feet)	Sampler Type	Feet Driven/ Feet Recovered	Time	Sample Depth (feet)	Blow Counts		Sample ID	Sample Interval	USCS	Symbol		Litholog	cic Description		
SS 1345 30-3.5 0.0 FS-WS-B3.3.0 Being reminated on May 4, 2015 at 3.5 feet bys and backfilled with soil unings unings Unings Unings Unings	0	SS		1330	0.5- 1.0		0.0	FS-WS-B3-0.5'		CL		slight petrol Silty CLAY	eum odor.			0
	2-	SS		1345	3.0- 3.5		0.0	FS-WS-B3-3.0		CL			inated on May 4, 201:	5 at 3.5 feet bgs and back	filled with soil	-2
Clay (CL) Silt (ML) Clayey Sand (SC) (SM) Sand (SP) Well Graded Reveal (GP) Well Graded Gravel (GP) Well Graded Gravel (GW)		71 с	lav	[<u>]</u>	Silt	۲۰۰		v Sand					· Well Graded	Poorly Graded	Well Grade	đ

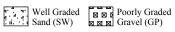
				Solar 3907639		-	orings Pro	ojec	t Site	, Ke	rr	n County	v, CA	Log of Soil Bo FS-WS-B4	ring: (Sheet 1 of 1)
Date	Drill	ed: 5/4/2	2015							Total	De	epth Drilled:	1.8 feet	Logged By: Jeff Gaine	s, PG #8954
Drill	ed By	r: URS (Corpora	tion						Diam	ete	er: 4"		Reviewed By: Natalie	Evans, PG #9097
Surfa	ace Co	ondition	s: Sand	l with grav	vel, drie	ed grass							Drilling Method:	4" outer diameter hand	auger
Sam	pling	Method	Hand	auger & l	nand dr	0S									
o (Vertical Feet)	Sampler Type	Feet Driven/ Feet Recovered	Time	Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID	Sample Interval	USCS	Symbol				ic Description	
0	SS		1320	0.5- 1.0		0.0	FS-WS-B4-0.5'		SM		•••	gravel. (Gravel: 5%, Sandy SILT,	, sand: 55%, silt: 40%	ff, fine sand, 1/2" gravel.	nd, trace 1/2"
	SS		1330	1.5- 1.8		0.0	FS-WS-B4-1.5'	X	ML			Boring termi with soil cut		5 at 1.8 feet bgs due to refus	al and backfilled



Silt (ML)

Clayey Sand (SC)







1				Solar 8907639		-	orings Pro	ojec	t Site	, Kerı	1 County	v, CA	Log of Soil Boring: FS-WS-B5 (Sheet 1	of 1)
	•	ed: 5/4/2								Total De	epth Drilled:	2 feet	Logged By: Jeff Gaines, PG #8954	
Drill	ed By	: URS C	Corpora	tion						Diamete	er: 4"		Reviewed By: Natalie Evans, PG #90	97
Surf	ace C	ondition	s: Flat,	sand with	ı gravel							Drilling Method:	4" outer diameter hand auger	
Sam	pling	Method	Hand	auger & l	nand dr	ive samp	ler w. 6" x 2" s	teel 1	rings, tef	lon, and p	lastic end car	08		
Depth (Vertical Feet)	Sampler Type	Feet Driven/ Feet Recovered	Time	Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID	Sample Interval	USCS	Symbol		Litholog	cic Description	
0	SS		1355	0.25- 0.75			FS-WS-B5-0.25		CL		Sandy lean (Y, dark brown, dry, ve CLAY, light brown to /4" gravel, no odor.	ery hard, no odor. tan, dry, very stiff, fin eot medium grained	0
2_	SS		1400	1.5- 2.0			FS-WS-B5-2.0'	X	CL		Boring termi cuttings.	inated on May 4, 2015	5 at 2.0 feet bgs and backfilled with soil	2

Lithologic	Symbol	Exp



Clayey Sand (SC)

Clay (CL)

Silt (ML)

planation Sand (SP)

Well Graded Sand (SW) Well Graded Gravel (GP)



Well Graded Gravel (GW)

				Solar 8907639			orings Pro	ojec	t Site	e, Kerr	County	y, CA	Log of Soil B FS-WS-B7	Boring: (Sheet 1 o	f 1)
	-	ed: 5/4/								Total De	pth Drilled:	3.5 feet	Logged By: Anthon		
Drill	led By	: URS (Corpora	tion						Diamete	r: 4"		Reviewed By: Nata	lie Evans, PG #909	7
Surf	ace C	ondition	s: Soil									Drilling Method:	4" outer diameter ha	nd auger	
Sam	pling	Method	: Hand	auger & l	nand dr	ive samp	ler w. 6" x 2" s	teel 1	rings, tef	lon, and p	lastic end cap	<u>98</u>			
Depth (Vertical Feet)	Sampler Type	Feet Driven/ Feet Recovered	Time	Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID	Sample Interval	USCS	Symbol		Litholog	ic Description		
2-	SS		1430	0.25- 0.75			FS-WS-B7-0.25		CL				ravel, very dark brown, 1 y, slightly moist, mediun		-2
	SS		1440	3.0- 3.5			FS-WS-B7-3.0'				Boring termi cuttings.	inated on May 4, 2015	5 at 3.5 feet bgs and back	cfilled with soil	-
								T ;41	ologia (Symbol F	valoration				
		lay CL)		Silt (ML)	2	Clayey (SC)	Sand				xplanation and P)	Well Graded Sand (SW)	⊠⊠∎ Roorly Graded Raw⊠ Gravel (GP)	₩ell Graded Gravel (GW	l)

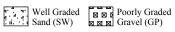
				Solar 3907639		-	orings Pro	ojec	t Site	, Ker	n County	y, CA	Log of Soil Bo FS-WS-B8	ring: (Sheet 1 of	f 1)
Date	Drill	ed: 5/4/	2015							Total D	epth Drilled:	2 feet	Logged By: Jeff Gaine	s, PG #8954	
Drill	led By	: URS (Corpora	tion						Diamet	er: 4"		Reviewed By: Natalie	Evans, PG #9097	7
Surf	ace C	ondition	s: Bare	soil, stain	ning, hy	drocarbo	on odor					Drilling Method:	4" outer diameter hand	auger	
Sam	pling	Method	: Hand	auger & ł	nand dr	ive samp	ler w. 6" x 2" s	steel r	ings, tefl	on, and j	plastic end cap	08			
Depth O ₁ (Vertical Feet)	Sampler Type	Feet Driven/ Feet Recovered	ёщ Ц 1425	Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID FS-WS-B8-0.25	Sample Interval	nscs	Symbol	Silty SAND		ic Description		0
-	SS		1435	0.75		0.0	FS-WS-B8-2.0'	X	ML		with white c Moist at 1.0	alcium carbonate nod bgs.	ve brown, dry, stiff, fine to c ules. 5 at 2.0 feet bgs and backfill		-
2_															2

Clay (CL)
(02)

Silt (ML)

Clayey Sand (SC)







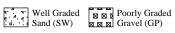
				Solar 3907639		-	orings Pro	ojec	t Site	, Kerr	n County	v, CA	Log of Soil Boring: FS-WS-B9 (Sheet 1	of 1)
Date	Drill	ed: 5/4/2	2015							Total De	pth Drilled:	3.0 feet	Logged By: Jeff Gaines, PG #8954	
Drill	ed By	: URS C	Corpora	tion						Diamete	r: 4"		Reviewed By: Natalie Evans, PG #9	097
Surfa	ace C	ondition	s: Deb	ris with nu	merou	s empty l	nerbicide, surfa	ictant,	and oth	er ag. rela	ated canisters	Drilling Method	d: 4" outer diameter hand auger	
Sam	pling	Method	Hand	auger & h	and dr	ive samp	ler w. 6" x 2" s	steel r	ings, tefl	on, and p	lastic end cap	9S		
Depth (Vertical Feet)	Sampler Type	Feet Driven/ Feet Recovered	Time	Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID	Sample Interval	USCS	Symbol			ogic Description	0
-	SS		1710	0.25- 0.5		0.0	FS-WS-B9-0.25				Silty SAND, gravel.	dark brown, moist	(oil), medium dense, fine sand, trace fine	-
2-									SM		Boring termi	nated on May 4-20	015 at 3.0 feet bgs and backfilled with soil	-2
	SS		1720	2.75- 3.0		0.0	FS-WS-B9-3.0	ЦĂ			cuttings.	nated on May 4, 20	15 at 5.0 reet ogs and backfined will SOI	



Silt (ML)

Clayey Sand (SC)





Well Graded Gravel (GW)

			Solar 8907639			orings Pr	ojeo	et Site	e, Kerr	o County	y, CA	Log of Soil B FS-WS-B10	Soring: (Sheet 1 o	of 1)
	illed: 5								Total De	pth Drilled:	3.5 feet	Logged By: Anthon		
rilled	By: UR	S Corpora	ation						Diamete	r: 4"		Reviewed By: Nata	lie Evans, PG #909) 7
urface	Conditi	ons: Soil	/treated ha	rd surfa	ace, poss	ibly asphalt					Drilling Metho	d: 4" outer diameter ha	nd auger	
amplin	ng Meth	od: Hand	l auger & l	nand dr	ive samp	ler w. 6" x 2"	steel	rings, tef	lon, and p	lastic end ca	ps			
(Vertical Feet) Samnler Tyne	Feet Driven/ Faet Browned	Time	Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID	Sample Interval	USCS	Symbol		Lithol	logic Description		
0 SS 2-	S	1705	0.25-0.75		0.0	FS-WS-B10- 0.25'		Asphal		<u> </u>		ximately 0.5' thick; possibly	y asphalt or oil sand.	-2
SS	S	1715	3.0- 3.5		0.0	FS-WS-B10-3.	0'			Boring term cuttings.	iinated on May 4, 2	015 at 3.5 feet bgs and back	filled with soil	-
							Litl	10logic S		xplanation				
\square	Clay (CL)		Silt (ML)	2	Clayey (SC)	Sand	Silty (SM	Sand	S (S	and P)	Well Graded Sand (SW)	⊠⊠∎ Poorly Graded ⊠⊠⊠ Gravel (GP)	· · ► Well Gradeo □ Gravel (GW	d /)

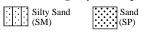
						-	orings Pro	ojec	t Site	e, Keri	n County	y, CA	Log of Soil Bo	-	
Pro	oject	Numl	ber:28	8907639	/ 604	21730							FS-WS-B11	(Sheet 1 of	(1)
Date	Drill	ed: 5/4/	2015							Total De	epth Drilled:	2.5 feet	Logged By: Anthony S	Schuetze, PG #86	25
Drill	ed By	: URS (Corpora	tion						Diamete	er: 4"		Reviewed By: Natalie	Evans, PG #9097	7
Surf	ace C	ondition	s: Stair	ned surfac	e soils	adjacent	to stained vege	tatior	ı			Drilling Method	1: 4" outer diameter hand	auger	
Sam	pling	Method	: Hand	auger & l	hand dr	ive samp	ler w. 6" x 2" s	steel r	ings, tef	lon, and p	lastic end ca	ps			
Depth (Vertical Feet)	Sampler Type	Feet Driven/ Feet Recovered	Time	Sample Depth (feet)	Blow Counts	PID (ppm)	Sample ID	Sample Interval	USCS	Symbol		Lithole	ogic Description		
0	SS		1750	0.25- 0.75		0.0	FS-WS-B11- 0.25'		CL		odor.	· · ·	, medium stiff, trace sand, fair	it hydrocarbon	0
2-	SS		1805	2.0- 2.5		0.0	FS-WS-B11-2.0		CL				, stiff, trace sand, no odor.)15 at 2.5 feet bgs and backfill	ed with soil	-2
	55		1803	2.0- 2.5		0.0	1`5-W5-D11-2.U				cuttings.	nnateu on wray 4, 20	115 at 2.5 feet ogs and backfill	cu witti son	

77	Clay
$\angle \angle$	(CĽ)

Silt (ML)

Clayey Sand (SC)

Lithologic Symbol Explanation





Well Graded Gravel (GW)

APPENDIX C FIELD PHOTOGRAPHS

V: Projects) 28907639 FSE Willow Springs Ph I-II & ACM-LBP/600 DLVR Phase II ESA\First Solar Willow Springs PH II ESA Report.docx









	Photograph 9 Comments: APN:359-031-03 <u>Area 1</u> Boring 6 adjacent to 1,000 gallon fuel above ground storage tank.
<image/>	Photograph 10 Comments: APN:359-031-03 <u>Area 1</u> Boring 7 adjacent to oil storage drum and stained soils.





APPENDIX D ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY DOCUMENTATION (DIGITAL REPORT AND LABORATORY REPORTS)



Date of Report: 05/18/2015

Anthony Schuetze

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Client Project:28907693.30000BCL Project:Willow Springs Ph II - 5 day tatBCL Work Order:1510778Invoice ID:B202989

Enclosed are the results of analyses for samples received by the laboratory on 5/5/2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Tina Green Client Services Manager

Authorized Signature

Bob Pease 885 Comanche Ave. Santa Maria, CA 93455 Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101





Sample Information	
Chain of Custody and Cooler Receipt form	
Laboratory / Client Sample Cross Reference	
Sample Results	
1510778-01 - FS-WS-B1-0.5	
Organochlorine Pesticides (EPA Method 8081B)	14
Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)	
Chlorinated Herbicides (EPA Method 8151A)	
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC) 1510778-02 - FS-WS-B1-3.0	
	00
Organochlorine Pesticides (EPA Method 8081B)	
Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)	
Chlorinated Herbicides (EPA Method 8151A)	
Total Petroleum Hydrocarbons	
1510778-03 - FS-WS-B2-0.5	
Organochlorine Pesticides (EPA Method 8081B)	
Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)	
Chlorinated Herbicides (EPA Method 8151A)	
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC)	
1510778-04 - FS-WS-B2-3.0	
Organochlorine Pesticides (EPA Method 8081B)	
Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)	
Chlorinated Herbicides (EPA Method 8151A)	
Total Petroleum Hydrocarbons	
1510778-05 - FS-WS-B3-0.5	
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC)	
1510778-06 - FS-WS-B3-3.0	
Total Petroleum Hydrocarbons	55
1510778-07 - FS-WS-B4-0.5	
Volatile Organic Analysis (EPA Method 8260B)	56
Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC)	
1510778-08 - FS-WS-B4-1.5	
Total Petroleum Hydrocarbons	
1510778-09 - FS-WS-B5-0.25	
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC)	74





1510778-10 - FS-WS-B5-2.0	
Total Petroleum Hydrocarbons	
1510778-11 - FS-WS-B6-0.5	
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EF	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C	2-SIM) 82
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC)	
1510778-12 - FS-WS-B6-4.5	
Total Petroleum Hydrocarbons	
1510778-13 - FS-WS-B7-0.25	
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EF	
Polynuclear Aromatic Hydrocarbons (EPA Method 82700	
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC)	
1510778-14 - FS-WS-B7-3.0	
Total Petroleum Hydrocarbons	
1510778-15 - FS-WS-B8-0.25	00
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EF	
Polynuclear Aromatic Hydrocarbons (EPA Method 82700	-
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC)	
1510778-16 - FS-WS-B8-2.0	105
Total Petroleum Hydrocarbons 1510778-17 - FS-WS-B9-0.25	
	106
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EF Polynuclear Aromatic Hydrocarbons (EPA Method 82700	
Total Petroleum Hydrocarbons	-
Total Concentrations (TTLC)	
1510778-18 - FS-WS-B9-3.0	
Total Petroleum Hydrocarbons	115
1510778-19 - FS-WS-B10-0.25	
Volatile Organic Analysis (EPA Method 8260B)	116
Base Neutral and Acid Extractables Organic Analysis (EF	
Polynuclear Aromatic Hydrocarbons (EPA Method 82700	
Total Petroleum Hydrocarbons	
Total Concentrations (TTLC)	
1510778-20 - FS-WS-B10-3.0	
Total Petroleum Hydrocarbons	125
1510778-21 - FS-WS-B11-0.25	
Volatile Organic Analysis (EPA Method 8260B)	
Base Neutral and Acid Extractables Organic Analysis (EF	
Polynuclear Aromatic Hydrocarbons (EPA Method 82700	
Total Petroleum Hydrocarbons	-
Total Concentrations (TTLC)	
1510778-22 - FS-WS-B11-2.0	
Total Petroleum Hydrocarbons	
Quality Control Reports	
Organochlorine Pesticides (EPA Method 8081B)	
Method Blank Analysis	
Laboratory Control Sample	

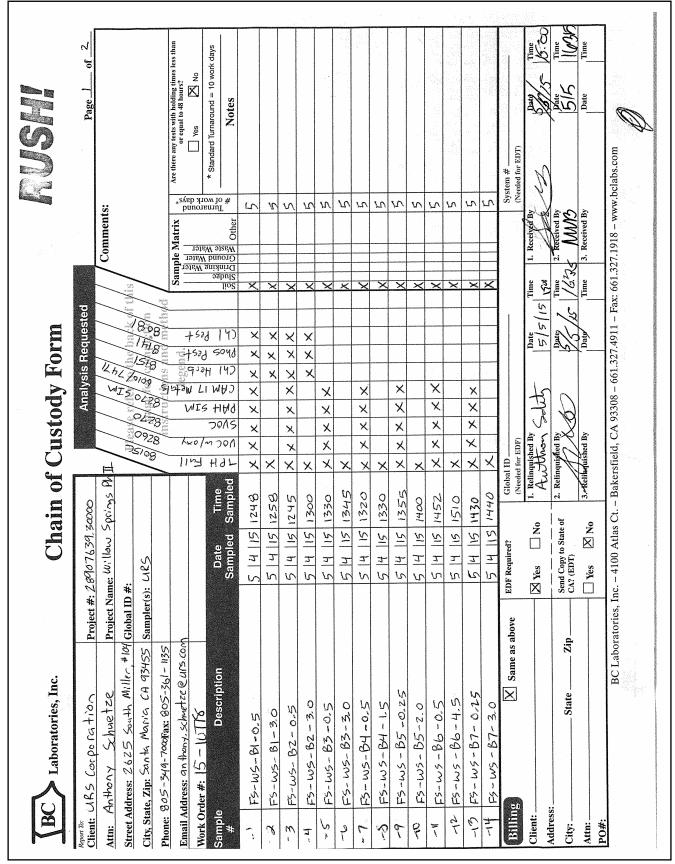


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	Precision and Accuracy	138
	Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)	
	Method Blank Analysis	139
	Laboratory Control Sample	140
	Precision and Accuracy.	
	Chlorinated Herbicides (EPA Method 8151A)	
	Method Blank Analysis	142
	Laboratory Control Sample	143
	Precision and Accuracy	
	Volatile Organic Analysis (EPA Method 8260B)	
	Method Blank Analysis	145
	Laboratory Control Sample	148
	Precision and Accuracy	
	Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)	
	Method Blank Analysis	150
	Laboratory Control Sample	153
	Precision and Accuracy	
	Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
	Method Blank Analysis	156
	Laboratory Control Sample	157
	Precision and Accuracy	158
	Total Petroleum Hydrocarbons	
	Method Blank Analysis	160
	Laboratory Control Sample	161
	Precision and Accuracy	162
	Total Concentrations (TTLC)	
	Method Blank Analysis	163
	Laboratory Control Sample	164
	Precision and Accuracy	165
Notes	i	
	Notes and Definitions	

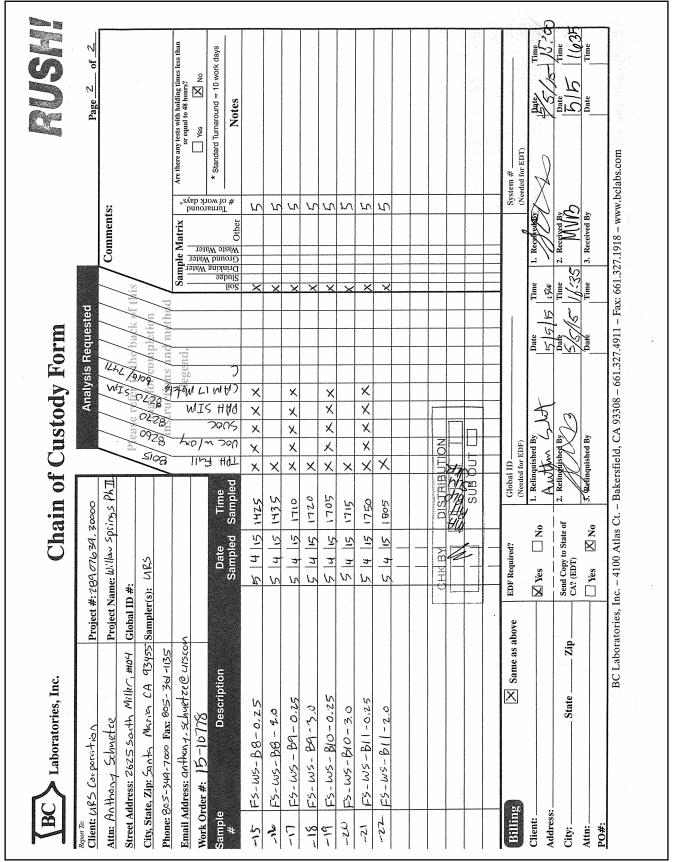


Chain of Custody and Cooler Receipt Form for 1510778 Page 1 of 5





Chain of Custody and Cooler Receipt Form for 1510778 Page 2 of 5





Chain of Custody and Cooler Receipt Form for 1510778 Page 3 of 5

Submission #: 15 -10778						GONTA			FREE LI	
SHIPPING INFO Federal Express	RMATIO Hand D r 🗆 (Speci	N elivery C fy)]	Ice C	hest 🗹	None Decify)	Box 🗆		YES D	
Refrigerant: Ice 🗹 Blue Ice		one 🗆	Other 🗆	Con	iments:					
Custody Seals 기준은 Chest 미. Intact? Yes 대 No F	Conta Intact? Y	iners 🗆 es 🗊 No	204 - C	e 🗹 Cor	nments:					
All samples received? Yes 🕅 No 🗆	All samp	les contair	ners intact?	Yes 🕰 N	o 🖸	Descri	otion(s) ma	tch COC?	Yes 🕰 No	5 🗆
for President I	-missivity:	0.9	Container	SPEV	Thermo	meter ID:	200	Date/Tir	ne 5 5	15
COC Received	Temperat	ure: (A)	Container 3,6	°C /	(c) <u>3</u>	.8	35s	Analyst	Init <u>MV</u>	B1631
SAMPLE CONTAINERS						NUMBERS	-1	/ <u>' 8 '</u>	.	1
SAMPLE CONTAINERS	1	2	3	4 ³⁷	5	6',	7	8 /	9	10
QT GENERAL MINERAL/ GENERAL									+	
PT PE UNPRESERVED	-1			+			1		1	-
QT INORGANIC CHEMICAL METALS								1	1	
PT INORGANIC CHEMICAL METALS						+				
PT CYANIDE		1		1		1				
PT NITROGEN FORMS PT TOTAL SULFIDE		1		1	1				÷.	
OZ. NITRATE / NITRITE				1						
T TOTAL ORGANIC CARBON									<u> </u>	
PT TOX									ļ	
T CHEMICAL OXYGEN DEMAND									<u> </u>	
TA PHENOLICS									ļ	
Omi VOA VIAL TRAVEL BLANK										
Omi VOA VIAL								<u> </u>		
DT EPA 413.1, 413.2, 418.1	_						<u></u>			+
T ODOR	. 									+
ADIOLOGICAL							<u> </u>			+
ACTERIOLOGICAL						+				
0 ml VOA VIAL- 504						+			· · · · · · · · · · · · · · · · · · ·	1
T EPA 508/608/8080					+	+				
T EPA 515.1/8150					1		1	1		
T EPA 525	-	÷					1			
T EPA 525 TRAVEL BLANK	1				+	1	1			
Oml EPA 547					1		È			
Oml EPA 531.1	-		-							
DZ Amber EPA 548 T EPA 549	1				1					
T EPA 632										
T EPA 8015M										
T AMBER										
OZ. JAR		·								
OZ. JAR		ļ,				:	<u>λ</u>	<u> </u>		+
DIL SLEEVE	A	A	A	A	A	A	A	A	A	A
CB VIAL ".	1			ļ	ļ					+
LASTIC BAG	_	ļ			· · · · · · · · · · · · · · · · · · ·	L	ļ			
ERROUS IRON		ļ								+
NCORE	Į									
MART KIT	I	ļ								
ımma Canister	1	L	<u> </u>			L				



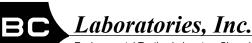
Chain of Custody and Cooler Receipt Form for 1510778 Page 4 of 5

BC LABORATORIES INC.	T	CO	OLER REC	çeipt fo	KIVI	Rev. No.	18 09/0	4/14 f	aye _	0f 3
Submission #: 15-10778										
SHIPPING INFO Federal Express □ UPS □ BC Lab Field Service □ Other	RMATIOI Hand De r 🗆 (Specif	N elivery ⊡ fy}		Ice Ch	est 🗹	CONTA None Decify)	Box 🗆		FREE L YES 🗆	
Refrigerant: Ice 🗹 Blue Ice	🗆 No	ne 🗆	Other 🗆	Com	ments:					
Custody Seals Ice Chest 🗔	Conta		3	e 🗹 Con	ments:					
All samples received? Yes 🕅 No 🗆	All sampl	es contain	ers intact?	Yes 🕱 No		Descrip	tion(s) mat	ch COC?	Yes 🛛 🕅 N	lo 🗆
COC Received	Emissivity:	0,9 1076 Ire: (A)	Container 3,6	Sleeve	Thermo	meter ID: 5	2,23 2,23	Date/Ti	me D C	5 <u>15</u> 1 <u>B</u> 163
	T					E NUMBERS				
SAMPLE CONTAINERS	11	12	13	144	١5	16'	17	18 /	19	200
QT GENERAL MINERAL/ GENERAL	1				Į	1				
PT PE UNPRESERVED	_		· [
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS							+			
PT CYANIDE								1	1	
PT NITROGEN FORMS							+			
PT TOTAL SULFIDE									1	
202. NITRATE / NITRITE									1	
PT TOTAL ORGANIC CARBON	-					+		1	1	
							1			
PT CHEMICAL OXYGEN DEMAND	-			1						
PTA PHENOLICS 40ml VOA VIAL TRAVEL BLANK				1						
10ml VOA VIAL IRAVEL BEARIN								L		
QT EPA 413.1, 413.2, 418.1									ļ	
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL	_					ļ				
0 ml VOA VIAL- 504									<u> </u>	
2T EPA 508/608/8080										
QT EPA 515.1/8150									<u> </u>	
OT EPA 525										
T EPA 525 TRAVEL BLANK										
0ml EPA 547			<u> </u>							
0ml EPA 531.1	1									
oz Amber EPA 548			+	<u> </u>						1
DT EPA 549										-
DT EPA 632						1				
DT EPA 8015M	1		1			1				
OZ LID		÷	1							
OZ. JAR 2 OZ. JAR						:				
OIL SLEEVE	A	A	A	A	A	A	A	A	A	
CB VIAL ".										
LASTIC BAG										
ERROUS IRON							-			
NCORE		4								
MART KIT		,								
umma Canister									L	<u> </u>
Callotti				<u>.</u>						



Chain of Custody and Cooler Receipt Form for 1510778 Page 5 of 5

Submission #: 15-10778							· .			
SHIPPING INFO Federal Express	DRMATIOI Hand De r □ (Specif	N elivery 🗆 (y)		Ice Ch	est 🖻	CONTAI None 🗆 ecify)	Box 🗆		REE LIO Es d M	
Refrigerant: Ice 🗹 Blue Ice	e 🗆 No	ne 🗆	Other 🗆	Com	nents:					
Custody Seals Ice Chest D		iners 🗔 es 🗆 No 🗆		🗹 Com	ments:					
All samples received? Yes 🕅 No 🗆	Ali samni	es containe	ers intact? Y	′es`M2 No		Descript	tion(s) mate	ch COC? Y	≥s 🜠 No	D
All samples received: Tes & No L	C-minoinditur	na	Container	Eleer/P	Thermon	neter ID:	HON 2	Date/Time	5'5	15
COC Received	Emissivity:	ure: (A)	3,6	<u>°C /</u>	(c) <i>3.</i>	7 8	રંડેક	Analyst Ir	it <u>MV (</u>	3 1631
	Τ					NUMBERS				
SAMPLE CONTAINERS	21	22	3	4 [%]	5	6	7	<u>′′8′</u>	9	10
QT GENERAL MINERAL/ GENERAL		1		[
PT PE UNPRESERVED			<u>.</u>			<u> </u>				<u> </u>
QT INORGANIC CHEMICAL METALS										<u> </u>
PT INORGANIC CHEMICAL METALS										1
PT CYANIDE										t
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
202. NITRATE / NITRITE			+							[
PT TOTAL ORGANIC CARBON			+					2		
PT CHEMICAL OXYGEN DEMAND PTA PHENOLICS										
40mi VOA VIAL TRAVEL BLANK		1								
40ml VOA VIAL										
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL	_	ļ								
BACTERIOLOGICAL										
IO mI VOA VIAL- 504		 		4						
QT EPA 508/608/8080										
QT EPA 515.1/8150			+							
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
0ml EPA 547			+							
0ml EPA 531.1		<u> </u>								
oz Amber EPA 548			+							
DT EPA 549										
DT EPA 632 DT EPA 8015M	-									
T AMBER	1									
OZ. JAR										
2 OZ. JAR						:				
OIL SLEEVE	A	A								
CB VIAL ".				<u>,</u>						
LASTIC BAG			ļ	· · ·	·					
ERROUS IRON			ļ							
NCORE										
MART KIT			ļ							
umma Canister	1	1	1 .							



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

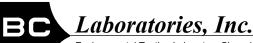
Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1510778-01	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 12:48
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B1-0.5	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-02	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 12:58
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B1-3.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-03	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 12:45
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B2-0.5	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-04	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 13:00
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B2-3.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-05	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 13:30
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B3-0.5	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-06	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 13:45
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B3-3.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-07	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 13:20
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B4-0.5	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil

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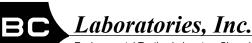
Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1510778-08	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 13:30
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B4-1.5	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-09	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 13:55
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B5-0.25	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
510778-10	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 14:00
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B5-2.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-11	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 14:52
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B6-0.5	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
510778-12	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 15:10
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B6-4.5	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
510778-13	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 14:30
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B7-0.25	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-14	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 14:40
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B7-3.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil

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Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1510778-15	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 14:25
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B8-0.25	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-16	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 14:35
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B8-2.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-17	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 17:10
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B9-0.25	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-18	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 17:20
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B9-3.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-19	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 17:05
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B10-0.25	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
510778-20	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 17:15
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B10-3.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil
1510778-21	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 17:50
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B11-0.25	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil

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Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on		
1510778-22	COC Number:		Receive Date:	05/05/2015 16:35
	Project Number:		Sampling Date:	05/04/2015 18:05
	Sampling Location:	Willow Springs	Sample Depth:	
	Sampling Point:	FS-WS-B11-2.0	Lab Matrix:	Solids
	Sampled By:		Sample Type:	Soil



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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Organochlorine Pesticides (EPA Method 8081B)

BCL Sample ID:	1510778-01	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B1-0.5, 5/4/2015 12:48:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #		
Aldrin		ND	mg/kg	0.0025	0.00013	EPA-8081B	1.4	A10	1		
alpha-BHC		ND	mg/kg	0.0025	0.00070	EPA-8081B		A10	1		
beta-BHC		ND	mg/kg	0.0025	0.0019	EPA-8081B		A10	1		
delta-BHC		ND	mg/kg	0.0025	0.00038	EPA-8081B		A10	1		
gamma-BHC (Lindane)		ND	mg/kg	0.0025	0.0012	EPA-8081B	4.0	A10	1		
Chlordane (Technical)		ND	mg/kg	0.25	0.075	EPA-8081B	2.5	A10	1		
4,4'-DDD		ND	mg/kg	0.0025	0.00032	EPA-8081B	1.0	A10	1		
4,4'-DDE		0.0074	mg/kg	0.0025	0.00022	EPA-8081B	1.0	A10	1		
4,4'-DDT		ND	mg/kg	0.0025	0.00016	EPA-8081B	1.0	A10	1		
Dieldrin		ND	mg/kg	0.0025	0.00016	EPA-8081B	8.0	A10	1		
Endosulfan I		ND	mg/kg	0.0025	0.00043	EPA-8081B		A10	1		
Endosulfan II		ND	mg/kg	0.0025	0.00033	EPA-8081B		A10	1		
Endosulfan sulfate		ND	mg/kg	0.0025	0.00065	EPA-8081B		A10	1		
Endrin		ND	mg/kg	0.0025	0.00018	EPA-8081B	0.2	A10	1		
Endrin aldehyde		ND	mg/kg	0.0025	0.00030	EPA-8081B		A10	1		
Heptachlor		ND	mg/kg	0.0025	0.0013	EPA-8081B	4.7	A10	1		
Heptachlor epoxide		ND	mg/kg	0.0025	0.00075	EPA-8081B		A10	1		
Methoxychlor		ND	mg/kg	0.0025	0.00065	EPA-8081B	100	A10	1		
Toxaphene		0.20	mg/kg	0.25	0.037	EPA-8081B	5	J,A10	1		
TCMX (Surrogate)		60.0	%	20 - 130 (LC	L - UCL)	EPA-8081B		A10	1		
Decachlorobiphenyl (Sur	rogate)	78.7	%	40 - 130 (LC	L - UCL)	EPA-8081B		A10	1		

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8081B	05/06/15	05/11/15 16:31	KEP	GC-17	4.918	BYE0721	

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Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)

BCL Sample ID:	1510778-01	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B1-0.5, 5/4/2	015 12:48:00	12:48:00PM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Azinphos methyl		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1	
Bolstar		ND	mg/kg	0.010	0.00074	EPA-8141B	ND		1	
Chlorpyrifos		0.16	mg/kg	0.020	0.0022	EPA-8141B	ND	A01	2	
Coumaphos		ND	mg/kg	0.010	0.00088	EPA-8141B	ND		1	
Demeton O/S		ND	mg/kg	0.010	0.0030	EPA-8141B	ND		1	
Diazinon		ND	mg/kg	0.010	0.00046	EPA-8141B	ND		1	
Dichlorvos		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1	
Disulfoton		ND	mg/kg	0.010	0.0012	EPA-8141B	ND		1	
Ethoprop		ND	mg/kg	0.010	0.0013	EPA-8141B	ND		1	
Fensulfothion		ND	mg/kg	0.010	0.0014	EPA-8141B	ND		1	
Fenthion		ND	mg/kg	0.010	0.00086	EPA-8141B	ND		1	
Merphos		ND	mg/kg	0.010	0.00068	EPA-8141B	ND		1	
Methyl parathion		ND	mg/kg	0.010	0.0011	EPA-8141B	ND		1	
Mevinphos		ND	mg/kg	0.010	0.00080	EPA-8141B	ND		1	
Naled		ND	mg/kg	0.050	0.0095	EPA-8141B	ND		1	
Phorate		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1	
Ronnel (Fenchlorphos)	ND	mg/kg	0.010	0.00073	EPA-8141B	ND		1	
Stirophos (Tetrachlorv	inphos)	ND	mg/kg	0.010	0.00094	EPA-8141B	ND		1	
Tokuthion (Prothiofos)		ND	mg/kg	0.010	0.0010	EPA-8141B	ND		1	
Trichloronate		ND	mg/kg	0.010	0.00083	EPA-8141B	ND		1	
Triphenylphosphate (S	Surrogate)	53.8	%	40 - 120 (LC	CL - UCL)	EPA-8141B			1	

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8141B	05/06/15	05/07/15 18:13	ZZZ	GC-18	1.003	BYE0641
2	EPA-8141B	05/06/15	05/07/15 20:24	ZZZ	GC-18	2.007	BYE0641



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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Chlorinated Herbicides (EPA Method 8151A)

BCL Sample ID:	1510778-01	Client Sampl	Willow Sp	Willow Springs, FS-WS-B1-0.5, 5/4/2015 12:48:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #		
2,4-D		0.37	mg/kg	0.020	0.0029	EPA-8151A	100		1		
2,4-DB		ND	mg/kg	0.040	0.010	EPA-8151A			1		
Dalapon		ND	mg/kg	0.050	0.012	EPA-8151A			1		
Dicamba		ND	mg/kg	0.0020	0.0011	EPA-8151A			1		
Dichloroprop		ND	mg/kg	0.020	0.0013	EPA-8151A			1		
Dinoseb		ND	mg/kg	0.0070	0.0023	EPA-8151A			1		
2,4,5-T		ND	mg/kg	0.0030	0.0012	EPA-8151A			1		
2,4,5-TP (Silvex)		ND	mg/kg	0.0030	0.0024	EPA-8151A	10		1		
2,4-Dichlorophenylace (Surrogate)	tic acid	43.3	%	40 - 120 (LC	L - UCL)	EPA-8151A			1		

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8151A	05/06/15	05/07/15 12:01	mk1	GC-8	1.017	BYE0717



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Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-01	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B1-0.5, 5/4/2	015 12:48:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1
1,2-Dibromo-3-chloropropa	ine	ND	mg/kg	0.0050	0.0017	EPA-8260B			1
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Report ID: 1000354828



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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 15	10778-01	Client Samp	le Name:	Willow Sp	rings, FS-W	VS-B1-0.5, 5/4/2	015 12:48:00F	M	
Constituent	-	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B	Linito	Quuio	1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		ND	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		0.00080	mg/kg	0.0050	0.00050	EPA-8260B		J	1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		0.0028	mg/kg	0.0050	0.0012	EPA-8260B		J	1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluoroe	ethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		0.14	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	mple ID: 1510778-01 Client Sample Name:					Willow Springs, FS-WS-B1-0.5, 5/4/2015 12:48:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
1,2-Dichloroethane-d4	(Surrogate)	98.9	%	70 - 121 (LCL	- UCL)	EPA-8260B			1			
Toluene-d8 (Surrogate)	97.6	%	81 - 117 (LCL	- UCL)	EPA-8260B			1			
4-Bromofluorobenzene	e (Surrogate)	84.7	%	74 - 121 (LCL	- UCL)	EPA-8260B			1			

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 17:16	ADC	MS-V2	1	BYE0343	

Laboratories, Inc.

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-01	Client Sample Name:		Willow Springs, FS-WS-B1-0.5, 5/4/2015 12:48:00PM						
Constituent		Beault		PQL	MDL	Mothed	TTLC	Lab	D #	
Constituent Acenaphthene		Result ND	Units mg/kg	0.10	0.018	Method EPA-8270C	Limits	Quals	Run #1	
Acenaphthylene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Aldrin		ND	mg/kg	0.10	0.024	EPA-8270C	1.4		1	
Aniline		ND	mg/kg	0.20	0.053	EPA-8270C			1	
Anthracene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Benzidine		ND	mg/kg	3.0	0.22	EPA-8270C			1	
Benzo[a]anthracene		ND	mg/kg	0.10	0.012	EPA-8270C			1	
Benzo[b]fluoranthene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Benzo[k]fluoranthene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Benzo[a]pyrene		ND	mg/kg	0.10	0.015	EPA-8270C			1	
Benzo[g,h,i]perylene		ND	mg/kg	0.10	0.056	EPA-8270C			1	
Benzoic acid		ND	mg/kg	0.50	0.067	EPA-8270C			1	
Benzyl alcohol		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Benzyl butyl phthalate		ND	mg/kg	0.10	0.021	EPA-8270C			1	
alpha-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1	
beta-BHC		ND	mg/kg	0.10	0.021	EPA-8270C			1	
delta-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1	
gamma-BHC (Lindane)		ND	mg/kg	0.10	0.017	EPA-8270C	4.0		1	
bis(2-Chloroethoxy)metha	ane	ND	mg/kg	0.10	0.017	EPA-8270C			1	
bis(2-Chloroethyl) ether		ND	mg/kg	0.10	0.016	EPA-8270C			1	
bis(2-Chloroisopropyl)eth	er	ND	mg/kg	0.10	0.021	EPA-8270C			1	
bis(2-Ethylhexyl)phthalate	9	ND	mg/kg	0.20	0.043	EPA-8270C			1	
4-Bromophenyl phenyl et	her	ND	mg/kg	0.10	0.017	EPA-8270C			1	
4-Chloroaniline		ND	mg/kg	0.10	0.027	EPA-8270C			1	
2-Chloronaphthalene		ND	mg/kg	0.10	0.020	EPA-8270C			1	
4-Chlorophenyl phenyl et	her	ND	mg/kg	0.10	0.015	EPA-8270C			1	
Chrysene		ND	mg/kg	0.10	0.017	EPA-8270C			1	
4,4'-DDD		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1	
4,4'-DDE		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1	
4,4'-DDT		ND	mg/kg	0.10	0.019	EPA-8270C	1.0		1	
Dibenzo[a,h]anthracene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Dibenzofuran		ND	mg/kg	0.10	0.020	EPA-8270C			1	
1,2-Dichlorobenzene		ND	mg/kg	0.10	0.020	EPA-8270C			1	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-01	Client Sampl	e Name:	Willow Springs, FS-WS-B1-0.5, 5/4/2015 12:48:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
1,3-Dichlorobenzene		ND	mg/kg	0.10	0.021	EPA-8270C			1	
1,4-Dichlorobenzene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
3,3-Dichlorobenzidine		ND	mg/kg	0.20	0.0067	EPA-8270C			1	
Dieldrin		ND	mg/kg	0.10	0.031	EPA-8270C	8.0		1	
Diethyl phthalate		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Dimethyl phthalate		ND	mg/kg	0.10	0.020	EPA-8270C			1	
Di-n-butyl phthalate		ND	mg/kg	0.10	0.018	EPA-8270C			1	
2,4-Dinitrotoluene		ND	mg/kg	0.10	0.022	EPA-8270C			1	
2,6-Dinitrotoluene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Di-n-octyl phthalate		ND	mg/kg	0.10	0.017	EPA-8270C			1	
1,2-Diphenylhydrazine		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Endosulfan I		ND	mg/kg	0.20	0.020	EPA-8270C			1	
Endosulfan II		ND	mg/kg	0.20	0.021	EPA-8270C			1	
Endosulfan sulfate		ND	mg/kg	0.10	0.021	EPA-8270C			1	
Endrin		ND	mg/kg	0.20	0.025	EPA-8270C	0.2		1	
Endrin aldehyde		ND	mg/kg	0.50	0.022	EPA-8270C			1	
Fluoranthene		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Fluorene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Heptachlor		ND	mg/kg	0.10	0.021	EPA-8270C	4.7		1	
Heptachlor epoxide		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Hexachlorobenzene		ND	mg/kg	0.10	0.016	EPA-8270C			1	
Hexachlorobutadiene		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Hexachlorocyclopentadie	ne	ND	mg/kg	0.10	0.019	EPA-8270C			1	
Hexachloroethane		ND	mg/kg	0.10	0.020	EPA-8270C			1	
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.10	0.072	EPA-8270C			1	
Isophorone		ND	mg/kg	0.10	0.017	EPA-8270C			1	
2-Methylnaphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Naphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
2-Naphthylamine		ND	mg/kg	3.0	0.16	EPA-8270C			1	
2-Nitroaniline		ND	mg/kg	0.10	0.018	EPA-8270C			1	
3-Nitroaniline		ND	mg/kg	0.20	0.015	EPA-8270C			1	
4-Nitroaniline		ND	mg/kg	0.20	0.025	EPA-8270C			1	
Nitrobenzene		ND	mg/kg	0.10	0.015	EPA-8270C			1	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-01	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B1-0.5, 5/4/2015 12:48:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab	Run #		
N-Nitrosodimethylamine		ND	mg/kg	0.10	0.037	EPA-8270C	Linits	Quals	<u></u> 1		
N-Nitrosodi-N-propylamir	e	ND	mg/kg	0.10	0.021	EPA-8270C			1		
N-Nitrosodiphenylamine		ND	mg/kg	0.10	0.021	EPA-8270C			1		
Phenanthrene		ND	mg/kg	0.10	0.018	EPA-8270C			1		
Pyrene		ND	mg/kg	0.10	0.017	EPA-8270C			1		
1,2,4-Trichlorobenzene		ND	mg/kg	0.10	0.018	EPA-8270C			1		
4-Chloro-3-methylphenol		ND	mg/kg	0.20	0.022	EPA-8270C			1		
2-Chlorophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1		
2,4-Dichlorophenol		ND	mg/kg	0.10	0.017	EPA-8270C			1		
2,4-Dimethylphenol		ND	mg/kg	0.10	0.035	EPA-8270C			1		
4,6-Dinitro-2-methylphen	ol	ND	mg/kg	0.50	0.012	EPA-8270C			1		
2,4-Dinitrophenol		ND	mg/kg	0.50	0.0077	EPA-8270C			1		
2-Methylphenol		ND	mg/kg	0.10	0.017	EPA-8270C			1		
3- & 4-Methylphenol		ND	mg/kg	0.20	0.033	EPA-8270C			1		
2-Nitrophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1		
4-Nitrophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1		
Pentachlorophenol		ND	mg/kg	0.20	0.013	EPA-8270C	17		1		
Phenol		ND	mg/kg	0.10	0.016	EPA-8270C			1		
2,4,5-Trichlorophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1		
2,4,6-Trichlorophenol		ND	mg/kg	0.20	0.017	EPA-8270C			1		
2-Fluorophenol (Surrogat	e)	58.0	%	20 - 130 (LC	CL - UCL)	EPA-8270C			1		
Phenol-d5 (Surrogate)		58.3	%	30 - 130 (LC	CL - UCL)	EPA-8270C			1		
Nitrobenzene-d5 (Surrog	ate)	56.5	%	30 - 130 (LC	CL - UCL)	EPA-8270C			1		
2-Fluorobiphenyl (Surrog	ate)	56.4	%	20 - 140 (LC	CL - UCL)	EPA-8270C			1		
2,4,6-Tribromophenol (Su	urrogate)	72.8	%	20 - 150 (LC	CL - UCL)	EPA-8270C			1		
p-Terphenyl-d14 (Surroga	ate)	49.7	%	30 - 150 (LC	CL - UCL)	EPA-8270C			1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 13:39	VH1	MS-B1	0.974	BYE0716	

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-01	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B1-0.5, 5/4/2015 12:48:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
Acenaphthene		ND	mg/kg	0.0030	0.0018	EPA-8270C-SIM	ND	Quais	<u> </u>		
Acenaphthylene		ND	mg/kg	0.0030	0.0017	EPA-8270C-SIM	ND		1		
Anthracene		ND	mg/kg	0.0030	0.00080	EPA-8270C-SIM	ND		1		
Benzo[a]anthracene		0.0021	mg/kg	0.0030	0.00073	EPA-8270C-SIM	ND	J	1		
Benzo[b]fluoranthene		ND	mg/kg	0.0030	0.0014	EPA-8270C-SIM	ND		1		
Benzo[k]fluoranthene		ND	mg/kg	0.0030	0.00095	EPA-8270C-SIM	ND		1		
Benzo[a]pyrene		ND	mg/kg	0.0030	0.00073	EPA-8270C-SIM	ND		1		
Benzo[g,h,i]perylene		ND	mg/kg	0.0030	0.0017	EPA-8270C-SIM	ND		1		
Chrysene		0.00091	mg/kg	0.0030	0.00057	EPA-8270C-SIM	ND	J	1		
Dibenzo[a,h]anthracene		ND	mg/kg	0.0030	0.0012	EPA-8270C-SIM	ND		1		
Fluoranthene		0.0073	mg/kg	0.0030	0.00035	EPA-8270C-SIM	ND		1		
Fluorene		ND	mg/kg	0.0030	0.00095	EPA-8270C-SIM	ND		1		
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.0030	0.00083	EPA-8270C-SIM	ND		1		
Naphthalene		ND	mg/kg	0.0030	0.0023	EPA-8270C-SIM	ND		1		
Phenanthrene		0.0065	mg/kg	0.0030	0.00040	EPA-8270C-SIM	ND		1		
Pyrene		0.0040	mg/kg	0.0030	0.00057	EPA-8270C-SIM	ND		1		
Nitrobenzene-d5 (Surroga	te)	66.7	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM			1		
2-Fluorobiphenyl (Surroga	te)	53.6	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		
p-Terphenyl-d14 (Surroga	te)	66.8	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	05/06/15	05/08/15 14:58	MK1	MS-B4	0.980	BYE0609	

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Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-01	Client Sampl	e Name:	Willow Sp	orings, FS-V	NS-B1-0.5, 5/4/20	15 12:48:00	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		10	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH Motor Oil (C23-32)	30	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	:)	61.7	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1

				QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	05/07/15	05/08/15 21:05	MWB	GC-13	0.993	BYE0557	



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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-01	Client Sampl	e Name:	Willow Sp	orings, FS-\	VS-B1-0.5, 5/4/2	2015 12:48:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500		1
Arsenic		4.3	mg/kg	1.0	0.40	EPA-6010B	500		1
Barium		99	mg/kg	0.50	0.18	EPA-6010B	10000		1
Beryllium		0.34	mg/kg	0.50	0.047	EPA-6010B	75	J	1
Cadmium		0.11	mg/kg	0.50	0.052	EPA-6010B	100	J	1
Chromium		15	mg/kg	0.50	0.050	EPA-6010B	2500		1
Cobalt		4.2	mg/kg	2.5	0.098	EPA-6010B	8000		1
Copper		11	mg/kg	1.0	0.050	EPA-6010B	2500		1
Lead		4.8	mg/kg	2.5	0.28	EPA-6010B	1000		1
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2
Molybdenum		0.29	mg/kg	2.5	0.050	EPA-6010B	3500	J	1
Nickel		11	mg/kg	0.50	0.15	EPA-6010B	2000		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1
Silver		0.12	mg/kg	0.50	0.067	EPA-6010B	500	J	1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1
Vanadium		25	mg/kg	0.50	0.11	EPA-6010B	2400		1
Zinc		80	mg/kg	2.5	0.087	EPA-6010B	5000		1

				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	05/06/15	05/07/15 11:50	ARD	PE-OP3	0.952	BYE0471
2	EPA-7471A	05/06/15	05/07/15 15:11	MEV	CETAC1	0.977	BYE0474

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Organochlorine Pesticides (EPA Method 8081B)

BCL Sample ID:	1510778-02	Client Sampl	e Name:	Willow Sp	rings, FS-W	/S-B1-3.0, 5/4/2	2015 12:58:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Aldrin		ND	mg/kg	0.00050	0.000026	EPA-8081B	1.4		1
alpha-BHC		ND	mg/kg	0.00050	0.00014	EPA-8081B			1
beta-BHC		ND	mg/kg	0.00050	0.00038	EPA-8081B			1
delta-BHC		ND	mg/kg	0.00050	0.000076	EPA-8081B			1
gamma-BHC (Lindane)		ND	mg/kg	0.00050	0.00025	EPA-8081B	4.0		1
Chlordane (Technical)		ND	mg/kg	0.050	0.015	EPA-8081B	2.5		1
4,4'-DDD		ND	mg/kg	0.00050	0.000063	EPA-8081B	1.0		1
4,4'-DDE		ND	mg/kg	0.00050	0.000045	EPA-8081B	1.0		1
4,4'-DDT		ND	mg/kg	0.00050	0.000031	EPA-8081B	1.0		1
Dieldrin		ND	mg/kg	0.00050	0.000032	EPA-8081B	8.0		1
Endosulfan I		ND	mg/kg	0.00050	0.000086	EPA-8081B			1
Endosulfan II		ND	mg/kg	0.00050	0.000066	EPA-8081B			1
Endosulfan sulfate		ND	mg/kg	0.00050	0.00013	EPA-8081B			1
Endrin		ND	mg/kg	0.00050	0.000035	EPA-8081B	0.2		1
Endrin aldehyde		ND	mg/kg	0.00050	0.000061	EPA-8081B			1
Heptachlor		ND	mg/kg	0.00050	0.00026	EPA-8081B	4.7		1
Heptachlor epoxide		ND	mg/kg	0.00050	0.00015	EPA-8081B			1
Methoxychlor		ND	mg/kg	0.00050	0.00013	EPA-8081B	100		1
Toxaphene		ND	mg/kg	0.050	0.0074	EPA-8081B	5		1
TCMX (Surrogate)		66.6	%	20 - 130 (LC	L - UCL)	EPA-8081B			1
Decachlorobiphenyl (Sur	rogate)	69.7	%	40 - 130 (LC	L - UCL)	EPA-8081B			1

			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8081B	05/06/15	05/09/15 09:37	KEP	GC-17	1.017	BYE0721

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

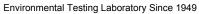
Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)

BCL Sample ID:	1510778-02	Client Sampl	e Name:	Willow Sp	prings, FS-V	VS-B1-3.0, 5/4/2	015 12:58:00	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Azinphos methyl		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1
Bolstar		ND	mg/kg	0.010	0.00074	EPA-8141B	ND		1
Chlorpyrifos		0.0063	mg/kg	0.010	0.0011	EPA-8141B	ND	J	1
Coumaphos		ND	mg/kg	0.010	0.00088	EPA-8141B	ND		1
Demeton O/S		ND	mg/kg	0.010	0.0030	EPA-8141B	ND		1
Diazinon		ND	mg/kg	0.010	0.00046	EPA-8141B	ND		1
Dichlorvos		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1
Disulfoton		ND	mg/kg	0.010	0.0012	EPA-8141B	ND		1
Ethoprop		ND	mg/kg	0.010	0.0013	EPA-8141B	ND		1
Fensulfothion		ND	mg/kg	0.010	0.0014	EPA-8141B	ND		1
Fenthion		ND	mg/kg	0.010	0.00086	EPA-8141B	ND		1
Merphos		ND	mg/kg	0.010	0.00068	EPA-8141B	ND		1
Methyl parathion		ND	mg/kg	0.010	0.0011	EPA-8141B	ND		1
Mevinphos		ND	mg/kg	0.010	0.00080	EPA-8141B	ND		1
Naled		ND	mg/kg	0.050	0.0095	EPA-8141B	ND		1
Phorate		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1
Ronnel (Fenchlorphos)	1	ND	mg/kg	0.010	0.00073	EPA-8141B	ND		1
Stirophos (Tetrachlorvi	nphos)	ND	mg/kg	0.010	0.00094	EPA-8141B	ND		1
Tokuthion (Prothiofos)		ND	mg/kg	0.010	0.0010	EPA-8141B	ND		1
Frichloronate		ND	mg/kg	0.010	0.00083	EPA-8141B	ND		1
Friphenylphosphate (S	urrogate)	52.2	%	40 - 120 (LC	CL - UCL)	EPA-8141B			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8141B	05/06/15	05/07/15 18:39	ZZZ	GC-18	0.997	BYE0641	

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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Chlorinated Herbicides (EPA Method 8151A)

BCL Sample ID:	1510778-02	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B1-3.0, 5/4/2	015 12:58:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
2,4-D		ND	mg/kg	0.020	0.0029	EPA-8151A	100		1
2,4-DB		ND	mg/kg	0.040	0.010	EPA-8151A			1
Dalapon		ND	mg/kg	0.050	0.012	EPA-8151A			1
Dicamba		ND	mg/kg	0.0020	0.0011	EPA-8151A			1
Dichloroprop		ND	mg/kg	0.020	0.0013	EPA-8151A			1
Dinoseb		ND	mg/kg	0.0070	0.0023	EPA-8151A			1
2,4,5-T		ND	mg/kg	0.0030	0.0012	EPA-8151A			1
2,4,5-TP (Silvex)		ND	mg/kg	0.0030	0.0024	EPA-8151A	10		1
2,4-Dichlorophenylace (Surrogate)	tic acid	28.5	%	40 - 120 (LC	L - UCL)	EPA-8151A		S09	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8151A	05/06/15	05/07/15 12:18	mk1	GC-8	1.014	BYE0717	

Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-02	Client Sampl	e Name:	Willow Sp	rings, FS-\	WS-B1-3.0, 5/4/20	15 12:58:00	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH Motor Oil (C23-32))	ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	2)	77.6	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP			1

				QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	05/07/15	05/07/15 16:49	MWB	GC-13	1.003	BYE0557	



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Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Organochlorine Pesticides (EPA Method 8081B)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B2-0.5, 5/4/2015 12:45:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
Aldrin		ND	mg/kg	0.0025	0.00013	EPA-8081B	1.4		1			
alpha-BHC		ND	mg/kg	0.0025	0.00070	EPA-8081B			1			
beta-BHC		ND	mg/kg	0.0025	0.0019	EPA-8081B			1			
delta-BHC		ND	mg/kg	0.0025	0.00038	EPA-8081B			1			
gamma-BHC (Lindane)		ND	mg/kg	0.0025	0.0012	EPA-8081B	4.0		1			
Chlordane (Technical)		ND	mg/kg	0.25	0.075	EPA-8081B	2.5		1			
4,4'-DDD		ND	mg/kg	0.0025	0.00032	EPA-8081B	1.0		1			
4,4'-DDE		ND	mg/kg	0.0025	0.00022	EPA-8081B	1.0		1			
4,4'-DDT		ND	mg/kg	0.0025	0.00016	EPA-8081B	1.0		1			
Dieldrin		ND	mg/kg	0.0025	0.00016	EPA-8081B	8.0		1			
Endosulfan I		ND	mg/kg	0.0025	0.00043	EPA-8081B			1			
Endosulfan II		ND	mg/kg	0.0025	0.00033	EPA-8081B			1			
Endosulfan sulfate		ND	mg/kg	0.0025	0.00065	EPA-8081B			1			
Endrin		ND	mg/kg	0.0025	0.00018	EPA-8081B	0.2		1			
Endrin aldehyde		ND	mg/kg	0.0025	0.00030	EPA-8081B			1			
Heptachlor		ND	mg/kg	0.0025	0.0013	EPA-8081B	4.7		1			
Heptachlor epoxide		ND	mg/kg	0.0025	0.00075	EPA-8081B			1			
Methoxychlor		ND	mg/kg	0.0025	0.00065	EPA-8081B	100		1			
Toxaphene		ND	mg/kg	0.25	0.037	EPA-8081B	5		1			
TCMX (Surrogate)		63.3	%	20 - 130 (LC	L - UCL)	EPA-8081B			1			
Decachlorobiphenyl (Sur	rogate)	75.8	%	40 - 130 (LC	L - UCL)	EPA-8081B			1			

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8081B	05/06/15	05/09/15 10:12	KEP	GC-17	4.918	BYE0721

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Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

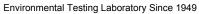
Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Sp	orings, FS-V	PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Azinphos methyl		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1
Bolstar		ND	mg/kg	0.010	0.00074	EPA-8141B	ND		1
Chlorpyrifos		0.012	mg/kg	0.010	0.0011	EPA-8141B	ND		1
Coumaphos		ND	mg/kg	0.010	0.00088	EPA-8141B	ND		1
Demeton O/S		ND	mg/kg	0.010	0.0030	EPA-8141B	ND		1
Diazinon		ND	mg/kg	0.010	0.00046	EPA-8141B	ND		1
Dichlorvos		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1
Disulfoton		ND	mg/kg	0.010	0.0012	EPA-8141B	ND		1
Ethoprop		ND	mg/kg	0.010	0.0013	EPA-8141B	ND		1
Fensulfothion		ND	mg/kg	0.010	0.0014	EPA-8141B	ND		1
Fenthion		ND	mg/kg	0.010	0.00086	EPA-8141B	ND		1
Merphos		ND	mg/kg	0.010	0.00068	EPA-8141B	ND		1
Methyl parathion		ND	mg/kg	0.010	0.0011	EPA-8141B	ND		1
Mevinphos		ND	mg/kg	0.010	0.00080	EPA-8141B	ND		1
Naled		ND	mg/kg	0.050	0.0095	EPA-8141B	ND		1
Phorate		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1
Ronnel (Fenchlorphos))	ND	mg/kg	0.010	0.00073	EPA-8141B	ND		1
Stirophos (Tetrachlorvi	inphos)	ND	mg/kg	0.010	0.00094	EPA-8141B	ND		1
Tokuthion (Prothiofos)		ND	mg/kg	0.010	0.0010	EPA-8141B	ND		1
Trichloronate		ND	mg/kg	0.010	0.00083	EPA-8141B	ND		1
Triphenylphosphate (S	urrogate)	51.0	%	40 - 120 (LC	CL - UCL)	EPA-8141B			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8141B	05/06/15	05/07/15 19:06	ZZZ	GC-18	1.017	BYE0641	

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Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Chlorinated Herbicides (EPA Method 8151A)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B2-0.5, 5/4/2015 12:45:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
2,4-D		ND	mg/kg	0.020	0.0029	EPA-8151A	100		1			
2,4-DB		ND	mg/kg	0.040	0.010	EPA-8151A			1			
Dalapon		ND	mg/kg	0.050	0.012	EPA-8151A			1			
Dicamba		ND	mg/kg	0.0020	0.0011	EPA-8151A			1			
Dichloroprop		ND	mg/kg	0.020	0.0013	EPA-8151A			1			
Dinoseb		ND	mg/kg	0.0070	0.0023	EPA-8151A			1			
2,4,5-T		ND	mg/kg	0.0030	0.0012	EPA-8151A			1			
2,4,5-TP (Silvex)		ND	mg/kg	0.0030	0.0024	EPA-8151A	10		1			
2,4-Dichlorophenylace (Surrogate)	tic acid	48.2	%	40 - 120 (LC	L - UCL)	EPA-8151A			1			

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8151A	05/06/15	05/07/15 12:35	mk1	GC-8	0.984	BYE0717	



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Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	510778-03	Client Sampl	e Name:	Willow Sp	ΡM				
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1
1,2-Dibromo-3-chloropropa	ne	ND	mg/kg	0.0050	0.0017	EPA-8260B			1
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Report ID: 1000354828



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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B2-0.5, 5/4/2	015 12:45:00F	M	
Constituent		Decult	Unite	PQL	MDL	Mathad	TTLC	Lab	D
cis-1,3-Dichloropropene		Result ND	Units mg/kg	0.0050	0.0011	Method EPA-8260B	Limits	Quals	Run # 1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		ND	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		ND	mg/kg	0.0050	0.00050	EPA-8260B			1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluc	proethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	Sample ID: 1510778-03 Client Sample Name:				Willow Springs, FS-WS-B2-0.5, 5/4/2015 12:45:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
1,2-Dichloroethane-d4	(Surrogate)	97.9	%	70 - 121 (LCL	UCL)	EPA-8260B			1			
Toluene-d8 (Surrogate)	98.5	%	81 - 117 (LCL	- UCL)	EPA-8260B			1			
4-Bromofluorobenzene	e (Surrogate)	87.4	%	74 - 121 (LCL	- UCL)	EPA-8260B			1			

				QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 17:39	ADC	MS-V2	1	BYE0343	

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B2-0.5, 5/4/2	015 12:45:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Acenaphthene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Acenaphthylene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Aldrin		ND	mg/kg	0.10	0.024	EPA-8270C	1.4		1
Aniline		ND	mg/kg	0.20	0.053	EPA-8270C			1
Anthracene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzidine		ND	mg/kg	3.0	0.22	EPA-8270C			1
Benzo[a]anthracene		ND	mg/kg	0.10	0.012	EPA-8270C			1
Benzo[b]fluoranthene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzo[k]fluoranthene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Benzo[a]pyrene		ND	mg/kg	0.10	0.015	EPA-8270C			1
Benzo[g,h,i]perylene		ND	mg/kg	0.10	0.056	EPA-8270C			1
Benzoic acid		ND	mg/kg	0.50	0.067	EPA-8270C			1
Benzyl alcohol		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzyl butyl phthalate		ND	mg/kg	0.10	0.021	EPA-8270C			1
alpha-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1
beta-BHC		ND	mg/kg	0.10	0.021	EPA-8270C			1
delta-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1
gamma-BHC (Lindane)		ND	mg/kg	0.10	0.017	EPA-8270C	4.0		1
bis(2-Chloroethoxy)meth	nane	ND	mg/kg	0.10	0.017	EPA-8270C			1
bis(2-Chloroethyl) ether		ND	mg/kg	0.10	0.016	EPA-8270C			1
bis(2-Chloroisopropyl)et	her	ND	mg/kg	0.10	0.021	EPA-8270C			1
bis(2-Ethylhexyl)phthala	te	ND	mg/kg	0.20	0.043	EPA-8270C			1
4-Bromophenyl phenyl e	ether	ND	mg/kg	0.10	0.017	EPA-8270C			1
4-Chloroaniline		ND	mg/kg	0.10	0.027	EPA-8270C			1
2-Chloronaphthalene		ND	mg/kg	0.10	0.020	EPA-8270C			1
4-Chlorophenyl phenyl e	ether	ND	mg/kg	0.10	0.015	EPA-8270C			1
Chrysene		ND	mg/kg	0.10	0.017	EPA-8270C			1
4,4'-DDD		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1
4,4'-DDE		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1
4,4'-DDT		ND	mg/kg	0.10	0.019	EPA-8270C	1.0		1
Dibenzo[a,h]anthracene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Dibenzofuran		ND	mg/kg	0.10	0.020	EPA-8270C			1
1,2-Dichlorobenzene		ND	mg/kg	0.10	0.020	EPA-8270C			1

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Report ID: 1000354828

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Springs, FS-WS-B2-0.5, 5/4/2015 12:45:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
1,3-Dichlorobenzene		ND	mg/kg	0.10	0.021	EPA-8270C			1	
1,4-Dichlorobenzene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
3,3-Dichlorobenzidine		ND	mg/kg	0.20	0.0067	EPA-8270C			1	
Dieldrin		ND	mg/kg	0.10	0.031	EPA-8270C	8.0		1	
Diethyl phthalate		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Dimethyl phthalate		ND	mg/kg	0.10	0.020	EPA-8270C			1	
Di-n-butyl phthalate		ND	mg/kg	0.10	0.018	EPA-8270C			1	
2,4-Dinitrotoluene		ND	mg/kg	0.10	0.022	EPA-8270C			1	
2,6-Dinitrotoluene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Di-n-octyl phthalate		ND	mg/kg	0.10	0.017	EPA-8270C			1	
1,2-Diphenylhydrazine		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Endosulfan I		ND	mg/kg	0.20	0.020	EPA-8270C			1	
Endosulfan II		ND	mg/kg	0.20	0.021	EPA-8270C			1	
Endosulfan sulfate		ND	mg/kg	0.10	0.021	EPA-8270C			1	
Endrin		ND	mg/kg	0.20	0.025	EPA-8270C	0.2		1	
Endrin aldehyde		ND	mg/kg	0.50	0.022	EPA-8270C			1	
Fluoranthene		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Fluorene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Heptachlor		ND	mg/kg	0.10	0.021	EPA-8270C	4.7		1	
Heptachlor epoxide		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Hexachlorobenzene		ND	mg/kg	0.10	0.016	EPA-8270C			1	
Hexachlorobutadiene		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Hexachlorocyclopentadier	ne	ND	mg/kg	0.10	0.019	EPA-8270C			1	
Hexachloroethane		ND	mg/kg	0.10	0.020	EPA-8270C			1	
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.10	0.072	EPA-8270C			1	
Isophorone		ND	mg/kg	0.10	0.017	EPA-8270C			1	
2-Methylnaphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Naphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
2-Naphthylamine		ND	mg/kg	3.0	0.16	EPA-8270C			1	
2-Nitroaniline		ND	mg/kg	0.10	0.018	EPA-8270C			1	
3-Nitroaniline		ND	mg/kg	0.20	0.015	EPA-8270C			1	
4-Nitroaniline		ND	mg/kg	0.20	0.025	EPA-8270C			1	
Nitrobenzene		ND	mg/kg	0.10	0.015	EPA-8270C			1	

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Report ID: 1000354828

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B2-0.5, 5/4/2	015 12:45:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
N-Nitrosodimethylamine		ND	mg/kg	0.10	0.037	EPA-8270C			1
N-Nitrosodi-N-propylamine	!	ND	mg/kg	0.10	0.021	EPA-8270C			1
N-Nitrosodiphenylamine		ND	mg/kg	0.10	0.021	EPA-8270C			1
Phenanthrene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Pyrene		ND	mg/kg	0.10	0.017	EPA-8270C			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.10	0.018	EPA-8270C			1
4-Chloro-3-methylphenol		ND	mg/kg	0.20	0.022	EPA-8270C			1
2-Chlorophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1
2,4-Dichlorophenol		ND	mg/kg	0.10	0.017	EPA-8270C			1
2,4-Dimethylphenol		ND	mg/kg	0.10	0.035	EPA-8270C			1
4,6-Dinitro-2-methylphenol		ND	mg/kg	0.50	0.012	EPA-8270C			1
2,4-Dinitrophenol		ND	mg/kg	0.50	0.0077	EPA-8270C			1
2-Methylphenol		ND	mg/kg	0.10	0.017	EPA-8270C			1
3- & 4-Methylphenol		ND	mg/kg	0.20	0.033	EPA-8270C			1
2-Nitrophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1
4-Nitrophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1
Pentachlorophenol		ND	mg/kg	0.20	0.013	EPA-8270C	17		1
Phenol		ND	mg/kg	0.10	0.016	EPA-8270C			1
2,4,5-Trichlorophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1
2,4,6-Trichlorophenol		ND	mg/kg	0.20	0.017	EPA-8270C			1
2-Fluorophenol (Surrogate)	71.5	%	20 - 130 (LC	CL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)		73.0	%	30 - 130 (LC	CL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogat	e)	72.4	%	30 - 130 (LC	CL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surroga	te)	64.3	%	20 - 140 (LC	CL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Sur	rogate)	82.3	%	20 - 150 (LC	CL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogat	e)	55.6	%	30 - 150 (LC	CL - UCL)	EPA-8270C			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 14:04	VH1	MS-B1	0.950	BYE0716	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B2-0.5, 5/4/20	15 12:45:00	2:45:00PM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Acenaphthene		ND	mg/kg	0.015	0.0090	EPA-8270C-SIM	ND	A01	1	
Acenaphthylene		0.016	mg/kg	0.015	0.0085	EPA-8270C-SIM	ND	A01	1	
Anthracene		ND	mg/kg	0.015	0.0040	EPA-8270C-SIM	ND	A01	1	
Benzo[a]anthracene		0.012	mg/kg	0.015	0.0036	EPA-8270C-SIM	ND	J,A01	1	
Benzo[b]fluoranthene		ND	mg/kg	0.015	0.0070	EPA-8270C-SIM	ND	A01	1	
Benzo[k]fluoranthene		ND	mg/kg	0.015	0.0048	EPA-8270C-SIM	ND	A01	1	
Benzo[a]pyrene		ND	mg/kg	0.015	0.0036	EPA-8270C-SIM	ND	A01	1	
Benzo[g,h,i]perylene		ND	mg/kg	0.015	0.0085	EPA-8270C-SIM	ND	A01	1	
Chrysene		0.0076	mg/kg	0.015	0.0028	EPA-8270C-SIM	ND	J,A01	1	
Dibenzo[a,h]anthracene		ND	mg/kg	0.015	0.0060	EPA-8270C-SIM	ND	A01	1	
Fluoranthene		0.041	mg/kg	0.015	0.0018	EPA-8270C-SIM	ND	A01	1	
Fluorene		0.013	mg/kg	0.015	0.0048	EPA-8270C-SIM	ND	J,A01	1	
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.015	0.0042	EPA-8270C-SIM	ND	A01	1	
Naphthalene		0.063	mg/kg	0.015	0.012	EPA-8270C-SIM	ND	A01	1	
Phenanthrene		0.022	mg/kg	0.015	0.0020	EPA-8270C-SIM	ND	A01	1	
Pyrene		0.026	mg/kg	0.015	0.0028	EPA-8270C-SIM	ND	A01	1	
Nitrobenzene-d5 (Surroga	te)	90.0	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01	1	
2-Fluorobiphenyl (Surroga	te)	94.1	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1	
p-Terphenyl-d14 (Surroga	te)	101	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1	

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	05/06/15	05/08/15 17:37	MK1	MS-B4	5.068	BYE0609	

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-03	Client Sampl	Willow Sp	Willow Springs, FS-WS-B2-0.5, 5/4/2015 12:45:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH Diesel (C13-C22)		9.1	mg/kg	10	1.2	EPA-8015B/FFP	ND	J,A52	1		
TPH Motor Oil (C23-32)	68	mg/kg	20	6.5	EPA-8015B/FFP	ND	A57	1		
Tetracosane (Surrogate	2)	68.1	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run	QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	05/07/15	05/07/15 17:12	MWB	GC-13	0.997	BYE0557	



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-03	Client Sampl	e Name:	Willow Sp	orings, FS-\	VS-B2-0.5, 5/4/2	2015 12:45:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500		1
Arsenic		0.45	mg/kg	1.0	0.40	EPA-6010B	500	J	1
Barium		45	mg/kg	0.50	0.18	EPA-6010B	10000		1
Beryllium		0.10	mg/kg	0.50	0.047	EPA-6010B	75	J	1
Cadmium		ND	mg/kg	0.50	0.052	EPA-6010B	100		1
Chromium		5.9	mg/kg	0.50	0.050	EPA-6010B	2500		1
Cobalt		3.3	mg/kg	2.5	0.098	EPA-6010B	8000		1
Copper		8.2	mg/kg	1.0	0.050	EPA-6010B	2500		1
Lead		1.7	mg/kg	2.5	0.28	EPA-6010B	1000	J	1
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2
Molybdenum		0.29	mg/kg	2.5	0.050	EPA-6010B	3500	J	1
Nickel		3.8	mg/kg	0.50	0.15	EPA-6010B	2000		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1
Silver		0.080	mg/kg	0.50	0.067	EPA-6010B	500	J	1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1
Vanadium		25	mg/kg	0.50	0.11	EPA-6010B	2400		1
Zinc		20	mg/kg	2.5	0.087	EPA-6010B	5000		1

			Run		QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-6010B	05/06/15	05/07/15 11:51	ARD	PE-OP3	0.971	BYE0471	
2	EPA-7471A	05/06/15	05/07/15 15:13	MEV	CETAC1	0.992	BYE0474	

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Organochlorine Pesticides (EPA Method 8081B)

BCL Sample ID:	1510778-04	Client Sampl	e Name:	Willow Sp	rings, FS-W	M			
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Aldrin		ND	mg/kg	0.00050	0.000026	EPA-8081B	1.4		1
alpha-BHC		ND	mg/kg	0.00050	0.00014	EPA-8081B			1
beta-BHC		ND	mg/kg	0.00050	0.00038	EPA-8081B			1
delta-BHC		ND	mg/kg	0.00050	0.000076	EPA-8081B			1
gamma-BHC (Lindane)		ND	mg/kg	0.00050	0.00025	EPA-8081B	4.0		1
Chlordane (Technical)		ND	mg/kg	0.050	0.015	EPA-8081B	2.5		1
4,4'-DDD		ND	mg/kg	0.00050	0.000063	EPA-8081B	1.0		1
4,4'-DDE		ND	mg/kg	0.00050	0.000045	EPA-8081B	1.0		1
4,4'-DDT		ND	mg/kg	0.00050	0.000031	EPA-8081B	1.0		1
Dieldrin		ND	mg/kg	0.00050	0.000032	EPA-8081B	8.0		1
Endosulfan I		ND	mg/kg	0.00050	0.000086	EPA-8081B			1
Endosulfan II		ND	mg/kg	0.00050	0.000066	EPA-8081B			1
Endosulfan sulfate		ND	mg/kg	0.00050	0.00013	EPA-8081B			1
Endrin		ND	mg/kg	0.00050	0.000035	EPA-8081B	0.2		1
Endrin aldehyde		ND	mg/kg	0.00050	0.000061	EPA-8081B			1
Heptachlor		ND	mg/kg	0.00050	0.00026	EPA-8081B	4.7		1
Heptachlor epoxide		ND	mg/kg	0.00050	0.00015	EPA-8081B			1
Methoxychlor		ND	mg/kg	0.00050	0.00013	EPA-8081B	100		1
Toxaphene		ND	mg/kg	0.050	0.0074	EPA-8081B	5		1
TCMX (Surrogate)		63.1	%	20 - 130 (LC	L - UCL)	EPA-8081B			1
Decachlorobiphenyl (Su	rrogate)	67.9	%	40 - 130 (LC	L - UCL)	EPA-8081B			1

				QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8081B	05/06/15	05/12/15 07:37	KEP	GC-17	0.987	BYE0721	

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)

BCL Sample ID:	1510778-04	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B2-3.0, 5/4/20	015 1:00:00F	1:00:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
Azinphos methyl		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1		
Bolstar		ND	mg/kg	0.010	0.00074	EPA-8141B	ND		1		
Chlorpyrifos		ND	mg/kg	0.010	0.0011	EPA-8141B	ND		1		
Coumaphos		ND	mg/kg	0.010	0.00088	EPA-8141B	ND		1		
Demeton O/S		ND	mg/kg	0.010	0.0030	EPA-8141B	ND		1		
Diazinon		ND	mg/kg	0.010	0.00046	EPA-8141B	ND		1		
Dichlorvos		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1		
Disulfoton		ND	mg/kg	0.010	0.0012	EPA-8141B	ND		1		
Ethoprop		ND	mg/kg	0.010	0.0013	EPA-8141B	ND		1		
Fensulfothion		ND	mg/kg	0.010	0.0014	EPA-8141B	ND		1		
Fenthion		ND	mg/kg	0.010	0.00086	EPA-8141B	ND		1		
Merphos		ND	mg/kg	0.010	0.00068	EPA-8141B	ND		1		
Methyl parathion		ND	mg/kg	0.010	0.0011	EPA-8141B	ND		1		
Mevinphos		ND	mg/kg	0.010	0.00080	EPA-8141B	ND		1		
Naled		ND	mg/kg	0.050	0.0095	EPA-8141B	ND		1		
Phorate		ND	mg/kg	0.010	0.0015	EPA-8141B	ND		1		
Ronnel (Fenchlorphos)		ND	mg/kg	0.010	0.00073	EPA-8141B	ND		1		
Stirophos (Tetrachlorvi	nphos)	ND	mg/kg	0.010	0.00094	EPA-8141B	ND		1		
Tokuthion (Prothiofos)		ND	mg/kg	0.010	0.0010	EPA-8141B	ND		1		
Frichloronate		ND	mg/kg	0.010	0.00083	EPA-8141B	ND		1		
Friphenylphosphate (S	urrogate)	47.8	%	40 - 120 (LC	CL - UCL)	EPA-8141B			1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8141B	05/06/15	05/07/15 19:32	ZZZ	GC-18	1.003	BYE0641	

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Chlorinated Herbicides (EPA Method 8151A)

BCL Sample ID:	1510778-04	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B2-3.0, 5/4/2015 1:00:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
2,4-D		ND	mg/kg	0.020	0.0029	EPA-8151A	100		1			
2,4-DB		ND	mg/kg	0.040	0.010	EPA-8151A			1			
Dalapon		ND	mg/kg	0.050	0.012	EPA-8151A			1			
Dicamba		ND	mg/kg	0.0020	0.0011	EPA-8151A			1			
Dichloroprop		ND	mg/kg	0.020	0.0013	EPA-8151A			1			
Dinoseb		ND	mg/kg	0.0070	0.0023	EPA-8151A			1			
2,4,5-T		ND	mg/kg	0.0030	0.0012	EPA-8151A			1			
2,4,5-TP (Silvex)		ND	mg/kg	0.0030	0.0024	EPA-8151A	10		1			
2,4-Dichlorophenylace (Surrogate)	tic acid	39.7	%	40 - 120 (LC	L - UCL)	EPA-8151A		S09	1			

			Run			QC					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID				
1	EPA-8151A	05/06/15	05/07/15 12:52	mk1	GC-8	1.014	BYE0717				

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Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-04	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B2-3.0, 5/4/2015 1:00:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH Diesel (C13-C22)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH Motor Oil (C23-32)	ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogate	e)	78.2	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run		QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	05/07/15	05/07/15 17:34	MWB	GC-13	0.993	BYE0557		



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-05	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B3-0.5, 5/4/2	015 1:30:00P	M	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	Linito	Quuio	1
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1
1,2-Dibromo-3-chloropropa	ane	ND	mg/kg	0.0050	0.0017	EPA-8260B			1
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 15	10778-05	Client Sampl	e Name:	Willow Sp	rings, FS-W	VS-B3-0.5, 5/4/2	015 1:30:00P	M	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B	Linito	Quuis	1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		ND	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		0.0092	mg/kg	0.0050	0.00050	EPA-8260B			1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluoroe	ethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-05	Client Sample Name: Willow Springs, FS-WS-B3-0.5, 5/4/2015 1:30:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,2-Dichloroethane-d4	(Surrogate)	109	%	70 - 121 (LCL	- UCL)	EPA-8260B			1
Toluene-d8 (Surrogate	:)	96.3	%	81 - 117 (LCL	- UCL)	EPA-8260B			1
4-Bromofluorobenzene	e (Surrogate)	91.9	%	74 - 121 (LCL	UCL)	EPA-8260B			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 14:16	ADC	MS-V2	1	BYE0343	

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-05	Client Sampl	e Name:	Willow Sp	orings, FS-\	WS-B3-0.5, 5/4/2	015 1:30:00P	Μ		
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
Acenaphthene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
Acenaphthylene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1	
Aldrin		ND	mg/kg	5.0	1.2	EPA-8270C	1.4	A10	1	
Aniline		ND	mg/kg	9.9	2.6	EPA-8270C		A10	1	
Anthracene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
Benzidine		ND	mg/kg	150	11	EPA-8270C		A10	1	
Benzo[a]anthracene		ND	mg/kg	5.0	0.59	EPA-8270C		A10	1	
Benzo[b]fluoranthene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
Benzo[k]fluoranthene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1	
Benzo[a]pyrene		ND	mg/kg	5.0	0.74	EPA-8270C		A10	1	
Benzo[g,h,i]perylene		ND	mg/kg	5.0	2.8	EPA-8270C		A10	1	
Benzoic acid		ND	mg/kg	25	3.3	EPA-8270C		A10	1	
Benzyl alcohol		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
Benzyl butyl phthalate		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1	
alpha-BHC		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
oeta-BHC		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1	
delta-BHC		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
gamma-BHC (Lindane)		ND	mg/kg	5.0	0.84	EPA-8270C	4.0	A10	1	
ois(2-Chloroethoxy)metha	ne	ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
ois(2-Chloroethyl) ether		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1	
ois(2-Chloroisopropyl)ethe	er	ND	mg/kg	5.0	1.0	EPA-8270C		A10	1	
ois(2-Ethylhexyl)phthalat	e	4.7	mg/kg	9.9	2.1	EPA-8270C		J,A10	1	
4-Bromophenyl phenyl eth	er	ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
1-Chloroaniline		ND	mg/kg	5.0	1.3	EPA-8270C		A10	1	
2-Chloronaphthalene		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1	
1-Chlorophenyl phenyl eth	er	ND	mg/kg	5.0	0.74	EPA-8270C		A10	1	
Chrysene		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
1,4'-DDD		ND	mg/kg	5.0	0.84	EPA-8270C	1.0	A10	1	
I,4'-DDE		ND	mg/kg	5.0	0.84	EPA-8270C	1.0	A10	1	
I,4'-DDT		ND	mg/kg	5.0	0.94	EPA-8270C	1.0	A10	1	
Dibenzo[a,h]anthracene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1	
Dibenzofuran		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1	
1,2-Dichlorobenzene		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1	

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Report ID: 1000354828

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-05	Client Sampl	e Name:	Willow Springs, FS-WS-B3-0.5, 5/4/2015 1:30:00PM					
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,3-Dichlorobenzene		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
1,4-Dichlorobenzene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1
3,3-Dichlorobenzidine		ND	mg/kg	9.9	0.33	EPA-8270C		A10	1
Dieldrin		ND	mg/kg	5.0	1.5	EPA-8270C	8.0	A10	1
Diethyl phthalate		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1
Dimethyl phthalate		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1
Di-n-butyl phthalate		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
2,4-Dinitrotoluene		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
2,6-Dinitrotoluene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
Di-n-octyl phthalate		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1
1,2-Diphenylhydrazine		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1
Endosulfan I		ND	mg/kg	9.9	0.99	EPA-8270C		A10	1
Endosulfan II		ND	mg/kg	9.9	1.0	EPA-8270C		A10	1
Endosulfan sulfate		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
Endrin		ND	mg/kg	9.9	1.2	EPA-8270C	0.2	A10	1
Endrin aldehyde		ND	mg/kg	25	1.1	EPA-8270C		A10	1
Fluoranthene		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1
Fluorene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1
Heptachlor		ND	mg/kg	5.0	1.0	EPA-8270C	4.7	A10	1
Heptachlor epoxide		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1
Hexachlorobenzene		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1
Hexachlorobutadiene		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1
Hexachlorocyclopentadier	ie	ND	mg/kg	5.0	0.94	EPA-8270C		A10	1
Hexachloroethane		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	5.0	3.6	EPA-8270C		A10	1
Isophorone		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1
2-Methylnaphthalene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
Naphthalene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
2-Naphthylamine		ND	mg/kg	150	7.9	EPA-8270C		A10	1
2-Nitroaniline		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
3-Nitroaniline		ND	mg/kg	9.9	0.74	EPA-8270C		A10	1
4-Nitroaniline		ND	mg/kg	9.9	1.2	EPA-8270C		A10	1
Nitrobenzene		ND	mg/kg	5.0	0.74	EPA-8270C		A10	1

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Report ID: 1000354828

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-05	Client Sampl	e Name:	Willow S	Willow Springs, FS-WS-B3-0.5, 5/4/2015 1:30:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
N-Nitrosodimethylamine		ND	mg/kg	5.0	1.8	EPA-8270C		A10	1			
N-Nitrosodi-N-propylamine		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1			
N-Nitrosodiphenylamine		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1			
Phenanthrene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1			
Pyrene		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1			
1,2,4-Trichlorobenzene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1			
4-Chloro-3-methylphenol		ND	mg/kg	9.9	1.1	EPA-8270C		A10	1			
2-Chlorophenol		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1			
2,4-Dichlorophenol		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1			
2,4-Dimethylphenol		ND	mg/kg	5.0	1.7	EPA-8270C		A10	1			
4,6-Dinitro-2-methylphenol		ND	mg/kg	25	0.59	EPA-8270C		A10	1			
2,4-Dinitrophenol		ND	mg/kg	25	0.38	EPA-8270C		A10	1			
2-Methylphenol		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1			
3- & 4-Methylphenol		ND	mg/kg	9.9	1.6	EPA-8270C		A10	1			
2-Nitrophenol		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1			
4-Nitrophenol		ND	mg/kg	9.9	0.89	EPA-8270C		A10	1			
Pentachlorophenol		ND	mg/kg	9.9	0.64	EPA-8270C	17	A10	1			
Phenol		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1			
2,4,5-Trichlorophenol		ND	mg/kg	9.9	0.89	EPA-8270C		A10	1			
2,4,6-Trichlorophenol		ND	mg/kg	9.9	0.84	EPA-8270C		A10	1			
2-Fluorophenol (Surrogate)	0	%	20 - 130 (L	CL - UCL)	EPA-8270C		A10,A17	1			
Phenol-d5 (Surrogate)		0	%	30 - 130 (L	CL - UCL)	EPA-8270C		A10,A17	1			
Nitrobenzene-d5 (Surrogat	e)	72.5	%	30 - 130 (L	CL - UCL)	EPA-8270C		A10	1			
2-Fluorobiphenyl (Surrogat	e)	76.2	%	20 - 140 (L	CL - UCL)	EPA-8270C		A10	1			
2,4,6-Tribromophenol (Sur	rogate)	95.0	%	20 - 150 (L	CL - UCL)	EPA-8270C		A10	1			
p-Terphenyl-d14 (Surrogat	e)	73.0	%	30 - 150 (L	CL - UCL)	EPA-8270C		A10	1			

			Run			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8270C	05/06/15	05/11/15 14:30	VH1	MS-B1	49.505	BYE0716			

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-05	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B3-0.5, 5/4/201	5 1:30:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene		0.010	mg/kg	0.015	0.0090	EPA-8270C-SIM	ND	J,A01	1
Acenaphthylene		0.026	mg/kg	0.015	0.0085	EPA-8270C-SIM	ND	A01	1
Anthracene		ND	mg/kg	0.015	0.0040	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene		ND	mg/kg	0.015	0.0036	EPA-8270C-SIM	ND	A01	1
Benzo[b]fluoranthene		ND	mg/kg	0.015	0.0070	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene		ND	mg/kg	0.015	0.0048	EPA-8270C-SIM	ND	A01	1
Benzo[a]pyrene		ND	mg/kg	0.015	0.0036	EPA-8270C-SIM	ND	A01	1
Benzo[g,h,i]perylene		ND	mg/kg	0.015	0.0085	EPA-8270C-SIM	ND	A01	1
Chrysene		ND	mg/kg	0.015	0.0028	EPA-8270C-SIM	ND	A01	1
Dibenzo[a,h]anthracene		ND	mg/kg	0.015	0.0060	EPA-8270C-SIM	ND	A01	1
Fluoranthene		ND	mg/kg	0.015	0.0018	EPA-8270C-SIM	ND	A01	1
Fluorene		0.021	mg/kg	0.015	0.0048	EPA-8270C-SIM	ND	A01	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.015	0.0042	EPA-8270C-SIM	ND	A01	1
Naphthalene		0.033	mg/kg	0.015	0.012	EPA-8270C-SIM	ND	A01	1
Phenanthrene		ND	mg/kg	0.015	0.0020	EPA-8270C-SIM	ND	A01	1
Pyrene		0.15	mg/kg	0.015	0.0028	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surroga	te)	81.6	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01	1
2-Fluorobiphenyl (Surroga	te)	76.0	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1
p-Terphenyl-d14 (Surroga	te)	119	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1

	Run					QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8270C-SIM	05/06/15	05/08/15 18:03	MK1	MS-B4	5.068	BYE0609			

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-05	Client Sampl	e Name:	Willow Sp	rings, FS-\	NS-B3-0.5, 5/4/20	15 1:30:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	2000	500	EPA-8015B/FFP	ND	A01	1
TPH Diesel (C13-C22)		660	mg/kg	1000	120	EPA-8015B/FFP	ND	J,A01	1
TPH Motor Oil (C23-32)	18000	mg/kg	2000	650	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogate	2)	0	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP		A01,A17	1

	Run						QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	05/07/15	05/09/15 01:42	MWB	GC-13	98.684	BYE0557			



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-05	Client Sampl	e Name:	Willow Sp	orings, FS-\	VS-B3-0.5, 5/4/2	2015 1:30:00P	М	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500		1
Arsenic		7.2	mg/kg	1.0	0.40	EPA-6010B	500		1
Barium		97	mg/kg	0.50	0.18	EPA-6010B	10000		1
Beryllium		0.47	mg/kg	0.50	0.047	EPA-6010B	75	J	1
Cadmium		0.086	mg/kg	0.50	0.052	EPA-6010B	100	J	1
Chromium		24	mg/kg	0.50	0.050	EPA-6010B	2500		1
Cobalt		6.8	mg/kg	2.5	0.098	EPA-6010B	8000		1
Copper		15	mg/kg	1.0	0.050	EPA-6010B	2500		1
Lead		6.1	mg/kg	2.5	0.28	EPA-6010B	1000		1
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2
Molybdenum		2.9	mg/kg	2.5	0.050	EPA-6010B	3500		1
Nickel		19	mg/kg	0.50	0.15	EPA-6010B	2000		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	500		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1
Vanadium		33	mg/kg	0.50	0.11	EPA-6010B	2400		1
Zinc		72	mg/kg	2.5	0.087	EPA-6010B	5000		1

			Run		QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-6010B	05/06/15	05/07/15 11:56	ARD	PE-OP3	0.943	BYE0471		
2	EPA-7471A	05/06/15	05/07/15 15:15	MEV	CETAC1	1.008	BYE0474		

Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-06	Client Sampl	Client Sample Name:		rings, FS-\	NS-B3-3.0, 5/4/20	15 1:45:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	200	50	EPA-8015B/FFP	ND	A01	1
TPH Diesel (C13-C22)		63	mg/kg	100	12	EPA-8015B/FFP	ND	J,A01	1
TPH Motor Oil (C23-32)	1700	mg/kg	200	65	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogate	:)	76.8	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP		A01	1

			Run		QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	05/07/15	05/08/15 23:46	MWB	GC-13	9.967	BYE0557		



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 151	0778-07 Client Samp	le Name:	Willow Sp	rings, FS-V	VS-B4-0.5, 5/4/2	015 1:20:00P	M	
Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromochloromethane	ND	mg/kg	0.0050	0.00092	EPA-8260B			1
Bromodichloromethane	ND	mg/kg	0.0050	0.00084	EPA-8260B			1
Bromoform	ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Bromomethane	ND	mg/kg	0.0050	0.0016	EPA-8260B			1
n-Butylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B			1
sec-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B			1
tert-Butylbenzene	ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Carbon tetrachloride	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Chlorobenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Chloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Chloroform	ND	mg/kg	0.0050	0.00063	EPA-8260B			1
Chloromethane	ND	mg/kg	0.0050	0.0014	EPA-8260B			1
2-Chlorotoluene	ND	mg/kg	0.0050	0.0018	EPA-8260B			1
4-Chlorotoluene	ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Dibromochloromethane	ND	mg/kg	0.0050	0.00099	EPA-8260B			1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0050	0.0017	EPA-8260B			1
1,2-Dibromoethane	ND	mg/kg	0.0050	0.0010	EPA-8260B			1
Dibromomethane	ND	mg/kg	0.0050	0.0018	EPA-8260B			1
1,2-Dichlorobenzene	ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichlorobenzene	ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,4-Dichlorobenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Dichlorodifluoromethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloroethane	ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloroethane	ND	mg/kg	0.0050	0.00085	EPA-8260B			1
1,1-Dichloroethene	ND	mg/kg	0.0050	0.0012	EPA-8260B			1
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloropropane	ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichloropropane	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
2,2-Dichloropropane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Report ID: 1000354828



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-07	Client Sampl	e Name:	Willow Sp	rings, FS-W	VS-B4-0.5, 5/4/2	015 1:20:00P	М	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B	Linito	Quuio	1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		ND	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		ND	mg/kg	0.0050	0.00050	EPA-8260B			1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluc	proethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-07	Client Sampl	e Name:	Willow Spr	Willow Springs, FS-WS-B4-0.5, 5/4/2015 1:20:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
1,2-Dichloroethane-d4	(Surrogate)	106	%	70 - 121 (LCL	- UCL)	EPA-8260B			1			
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL	- UCL)	EPA-8260B			1			
4-Bromofluorobenzene	(Surrogate)	95.6	%	74 - 121 (LCL	- UCL)	EPA-8260B			1			

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 14:39	ADC	MS-V2	1	BYE0343	

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 **Reported:** 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-07	Client Sample Name:		Willow Springs, FS-WS-B4-0.5, 5/4/2015 1:20:00PM					
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Acenaphthene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Acenaphthylene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Aldrin		ND	mg/kg	0.10	0.024	EPA-8270C	1.4		1
Aniline		ND	mg/kg	0.20	0.053	EPA-8270C			1
Anthracene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzidine		ND	mg/kg	3.0	0.22	EPA-8270C			1
Benzo[a]anthracene		ND	mg/kg	0.10	0.012	EPA-8270C			1
Benzo[b]fluoranthene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzo[k]fluoranthene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Benzo[a]pyrene		ND	mg/kg	0.10	0.015	EPA-8270C			1
Benzo[g,h,i]perylene		ND	mg/kg	0.10	0.056	EPA-8270C			1
Benzoic acid		ND	mg/kg	0.50	0.067	EPA-8270C			1
Benzyl alcohol		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzyl butyl phthalate		ND	mg/kg	0.10	0.021	EPA-8270C			1
alpha-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1
oeta-BHC		ND	mg/kg	0.10	0.021	EPA-8270C			1
delta-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1
gamma-BHC (Lindane)		ND	mg/kg	0.10	0.017	EPA-8270C	4.0		1
ois(2-Chloroethoxy)meth	ane	ND	mg/kg	0.10	0.017	EPA-8270C			1
ois(2-Chloroethyl) ether		ND	mg/kg	0.10	0.016	EPA-8270C			1
ois(2-Chloroisopropyl)eth	ier	ND	mg/kg	0.10	0.021	EPA-8270C			1
ois(2-Ethylhexyl)phthala	ite	0.059	mg/kg	0.20	0.043	EPA-8270C		J	1
1-Bromophenyl phenyl et	her	ND	mg/kg	0.10	0.017	EPA-8270C			1
1-Chloroaniline		ND	mg/kg	0.10	0.027	EPA-8270C			1
2-Chloronaphthalene		ND	mg/kg	0.10	0.020	EPA-8270C			1
1-Chlorophenyl phenyl et	her	ND	mg/kg	0.10	0.015	EPA-8270C			1
Chrysene		ND	mg/kg	0.10	0.017	EPA-8270C			1
1,4'-DDD		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1
1,4'-DDE		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1
4,4'-DDT		ND	mg/kg	0.10	0.019	EPA-8270C	1.0		1
Dibenzo[a,h]anthracene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Dibenzofuran		ND	mg/kg	0.10	0.020	EPA-8270C			1
1,2-Dichlorobenzene		ND	mg/kg	0.10	0.020	EPA-8270C			1

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-07	Client Sampl	e Name:	Willow Springs, FS-WS-B4-0.5, 5/4/2015 1:20:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
1,3-Dichlorobenzene		ND	mg/kg	0.10	0.021	EPA-8270C			1	
1,4-Dichlorobenzene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
3,3-Dichlorobenzidine		ND	mg/kg	0.20	0.0067	EPA-8270C			1	
Dieldrin		ND	mg/kg	0.10	0.031	EPA-8270C	8.0		1	
Diethyl phthalate		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Dimethyl phthalate		ND	mg/kg	0.10	0.020	EPA-8270C			1	
Di-n-butyl phthalate		ND	mg/kg	0.10	0.018	EPA-8270C			1	
2,4-Dinitrotoluene		ND	mg/kg	0.10	0.022	EPA-8270C			1	
2,6-Dinitrotoluene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Di-n-octyl phthalate		ND	mg/kg	0.10	0.017	EPA-8270C			1	
1,2-Diphenylhydrazine		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Endosulfan I		ND	mg/kg	0.20	0.020	EPA-8270C			1	
Endosulfan II		ND	mg/kg	0.20	0.021	EPA-8270C			1	
Endosulfan sulfate		ND	mg/kg	0.10	0.021	EPA-8270C			1	
Endrin		ND	mg/kg	0.20	0.025	EPA-8270C	0.2		1	
Endrin aldehyde		ND	mg/kg	0.50	0.022	EPA-8270C			1	
Fluoranthene		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Fluorene		ND	mg/kg	0.10	0.019	EPA-8270C			1	
Heptachlor		ND	mg/kg	0.10	0.021	EPA-8270C	4.7		1	
Heptachlor epoxide		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Hexachlorobenzene		ND	mg/kg	0.10	0.016	EPA-8270C			1	
Hexachlorobutadiene		ND	mg/kg	0.10	0.017	EPA-8270C			1	
Hexachlorocyclopentadier	ie	ND	mg/kg	0.10	0.019	EPA-8270C			1	
Hexachloroethane		ND	mg/kg	0.10	0.020	EPA-8270C			1	
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.10	0.072	EPA-8270C			1	
Isophorone		ND	mg/kg	0.10	0.017	EPA-8270C			1	
2-Methylnaphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Naphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
2-Naphthylamine		ND	mg/kg	3.0	0.16	EPA-8270C			1	
2-Nitroaniline		ND	mg/kg	0.10	0.018	EPA-8270C			1	
3-Nitroaniline		ND	mg/kg	0.20	0.015	EPA-8270C			1	
4-Nitroaniline		ND	mg/kg	0.20	0.025	EPA-8270C			1	
Nitrobenzene		ND	mg/kg	0.10	0.015	EPA-8270C			1	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 **Reported:** 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-07	Client Sampl	e Name:	Willow Sp					
Constituent		Beault	Unite	PQL	MDL	Mathad	TTLC	Lab	D
Constituent N-Nitrosodimethylamine		Result ND	Units mg/kg	0.10	0.037	Method EPA-8270C	Limits	Quals	<u>Run #</u> 1
N-Nitrosodi-N-propylamin	e	ND	mg/kg	0.10	0.021	EPA-8270C			1
N-Nitrosodiphenylamine		ND	mg/kg	0.10	0.021	EPA-8270C			1
Phenanthrene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Pyrene		ND	mg/kg	0.10	0.017	EPA-8270C			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.10	0.018	EPA-8270C			1
4-Chloro-3-methylphenol		ND	mg/kg	0.20	0.022	EPA-8270C			1
2-Chlorophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1
2,4-Dichlorophenol		ND	mg/kg	0.10	0.017	EPA-8270C			1
2,4-Dimethylphenol		ND	mg/kg	0.10	0.035	EPA-8270C			1
4,6-Dinitro-2-methylpheno	bl	ND	mg/kg	0.50	0.012	EPA-8270C			1
2,4-Dinitrophenol		ND	mg/kg	0.50	0.0077	EPA-8270C			1
2-Methylphenol		ND	mg/kg	0.10	0.017	EPA-8270C			1
3- & 4-Methylphenol		ND	mg/kg	0.20	0.033	EPA-8270C			1
2-Nitrophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1
4-Nitrophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1
Pentachlorophenol		ND	mg/kg	0.20	0.013	EPA-8270C	17		1
Phenol		ND	mg/kg	0.10	0.016	EPA-8270C			1
2,4,5-Trichlorophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1
2,4,6-Trichlorophenol		ND	mg/kg	0.20	0.017	EPA-8270C			1
2-Fluorophenol (Surrogate	e)	75.8	%	20 - 130 (LC	L - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)		86.7	%	30 - 130 (LC	CL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surroga	ite)	94.7	%	30 - 130 (LC	L - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surroga	ate)	83.1	%	20 - 140 (LC	CL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Su	rrogate)	80.4	%	20 - 150 (LC	CL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surroga	ite)	74.8	%	30 - 150 (LC	L - UCL)	EPA-8270C			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 14:56	VH1	MS-B1	0.993	BYE0716	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-07	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B4-0.5, 5/4/20	15 1:20:00F	1:20:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
Acenaphthene		ND	mg/kg	0.0030	0.0018	EPA-8270C-SIM	ND	Quuio	1		
Acenaphthylene		ND	mg/kg	0.0030	0.0017	EPA-8270C-SIM	ND		1		
Anthracene		ND	mg/kg	0.0030	0.00080	EPA-8270C-SIM	ND		1		
Benzo[a]anthracene		ND	mg/kg	0.0030	0.00073	EPA-8270C-SIM	ND		1		
Benzo[b]fluoranthene		ND	mg/kg	0.0030	0.0014	EPA-8270C-SIM	ND		1		
Benzo[k]fluoranthene		ND	mg/kg	0.0030	0.00095	EPA-8270C-SIM	ND		1		
Benzo[a]pyrene		ND	mg/kg	0.0030	0.00073	EPA-8270C-SIM	ND		1		
Benzo[g,h,i]perylene		ND	mg/kg	0.0030	0.0017	EPA-8270C-SIM	ND		1		
Chrysene		ND	mg/kg	0.0030	0.00057	EPA-8270C-SIM	ND		1		
Dibenzo[a,h]anthracene		ND	mg/kg	0.0030	0.0012	EPA-8270C-SIM	ND		1		
Fluoranthene		ND	mg/kg	0.0030	0.00035	EPA-8270C-SIM	ND		1		
Fluorene		ND	mg/kg	0.0030	0.00095	EPA-8270C-SIM	ND		1		
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.0030	0.00083	EPA-8270C-SIM	ND		1		
Naphthalene		ND	mg/kg	0.0030	0.0023	EPA-8270C-SIM	ND		1		
Phenanthrene		ND	mg/kg	0.0030	0.00040	EPA-8270C-SIM	ND		1		
Pyrene		ND	mg/kg	0.0030	0.00057	EPA-8270C-SIM	ND		1		
Nitrobenzene-d5 (Surroga	te)	73.2	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM			1		
2-Fluorobiphenyl (Surroga	te)	65.4	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		
p-Terphenyl-d14 (Surrogat	te)	111	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8270C-SIM	05/06/15	05/08/15 15:25	MK1	MS-B4	0.964	BYE0609

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

BCL Sample ID:	1510778-07	Client Sampl	Willow Sp	Willow Springs, FS-WS-B4-0.5, 5/4/2015 1:20:00PM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		21	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH Motor Oil (C23-32)	260	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	2)	80.5	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/07/15 20:13	MWB	GC-13	1.014	BYE0557



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-07	Client Sampl	e Name:	Willow Springs, FS-WS-B4-0.5, 5/4/2015 1:20:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500	-	1	
Arsenic		5.4	mg/kg	1.0	0.40	EPA-6010B	500		1	
Barium		85	mg/kg	0.50	0.18	EPA-6010B	10000		1	
Beryllium		0.43	mg/kg	0.50	0.047	EPA-6010B	75	J	1	
Cadmium		0.078	mg/kg	0.50	0.052	EPA-6010B	100	J	1	
Chromium		21	mg/kg	0.50	0.050	EPA-6010B	2500		1	
Cobalt		6.6	mg/kg	2.5	0.098	EPA-6010B	8000		1	
Copper		14	mg/kg	1.0	0.050	EPA-6010B	2500		1	
Lead		5.1	mg/kg	2.5	0.28	EPA-6010B	1000		1	
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2	
Molybdenum		0.25	mg/kg	2.5	0.050	EPA-6010B	3500	J	1	
Nickel		17	mg/kg	0.50	0.15	EPA-6010B	2000		1	
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1	
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	500		1	
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1	
Vanadium		30	mg/kg	0.50	0.11	EPA-6010B	2400		1	
Zinc		48	mg/kg	2.5	0.087	EPA-6010B	5000		1	

			Run		QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-6010B	05/06/15	05/07/15 11:09	ARD	PE-OP3	0.980	BYE0471		
2	EPA-7471A	05/06/15	05/07/15 15:00	MEV	CETAC1	0.962	BYE0474		

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

BCL Sample ID:	1510778-08	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B4-1.5, 5/4/2015 1:30:00PM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH Diesel (C13-C22)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH Motor Oil (C23-32)	ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogate	e)	60.1	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP			1	

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/07/15 20:36	MWB	GC-13	0.984	BYE0557



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-09	Client Sampl	e Name:	Willow Springs, FS-WS-B5-0.25, 5/4/2015 1:55:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1	
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1	
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1	
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1	
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1	
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1	
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1	
1,2-Dibromo-3-chloropropa	ine	ND	mg/kg	0.0050	0.0017	EPA-8260B			1	
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1	
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1	
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1	
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1	
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1	
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1	
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	

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Report ID: 1000354828



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 15 ⁻	10778-09 C	lient Samp	le Name:	Willow Sp	rings, FS-W	/S-B5-0.25, 5/4/	2015 1:55:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		0.040	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		0.022	mg/kg	0.0050	0.00050	EPA-8260B			1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluoroe	thane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Report ID: 1000354828

Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-09	Client Sampl	e Name:	Willow Springs, FS-WS-B5-0.25, 5/4/2015 1:55:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #		
1,2-Dichloroethane-d4	(Surrogate)	110	%	70 - 121 (LCL	UCL)	EPA-8260B			1		
Toluene-d8 (Surrogate	2)	101	%	81 - 117 (LCL	UCL)	EPA-8260B			1		
4-Bromofluorobenzene	e (Surrogate)	98.6	%	74 - 121 (LCI	UCL)	EPA-8260B			1		

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 15:01	ADC	MS-V2	1	BYE0343	

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-09	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B5-0.25, 5/4/	2015 1:55:00	PM	
Constituent		Beault	Unito	PQL	MDL	Mothed	TTLC	Lab	
Constituent Acenaphthene		Result ND	Units mg/kg	0.10	0.018	Method EPA-8270C	Limits	Quals	<u>Run #</u> 1
Acenaphthylene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Aldrin		ND	mg/kg	0.10	0.024	EPA-8270C	1.4		1
Aniline		ND	mg/kg	0.20	0.053	EPA-8270C			1
Anthracene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzidine		ND	mg/kg	3.0	0.22	EPA-8270C			1
Benzo[a]anthracene		ND	mg/kg	0.10	0.012	EPA-8270C			1
Benzo[b]fluoranthene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzo[k]fluoranthene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Benzo[a]pyrene		ND	mg/kg	0.10	0.015	EPA-8270C			1
Benzo[g,h,i]perylene		ND	mg/kg	0.10	0.056	EPA-8270C			1
Benzoic acid		ND	mg/kg	0.50	0.067	EPA-8270C			1
Benzyl alcohol		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzyl butyl phthalate		ND	mg/kg	0.10	0.021	EPA-8270C			1
alpha-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1
beta-BHC		ND	mg/kg	0.10	0.021	EPA-8270C			1
delta-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1
gamma-BHC (Lindane)		ND	mg/kg	0.10	0.017	EPA-8270C	4.0		1
bis(2-Chloroethoxy)metha	ine	ND	mg/kg	0.10	0.017	EPA-8270C			1
bis(2-Chloroethyl) ether		ND	mg/kg	0.10	0.016	EPA-8270C			1
bis(2-Chloroisopropyl)ethe	er	ND	mg/kg	0.10	0.021	EPA-8270C			1
bis(2-Ethylhexyl)phthalate	:	ND	mg/kg	0.20	0.043	EPA-8270C			1
4-Bromophenyl phenyl eth	ner	ND	mg/kg	0.10	0.017	EPA-8270C			1
4-Chloroaniline		ND	mg/kg	0.10	0.027	EPA-8270C			1
2-Chloronaphthalene		ND	mg/kg	0.10	0.020	EPA-8270C			1
4-Chlorophenyl phenyl eth	ner	ND	mg/kg	0.10	0.015	EPA-8270C			1
Chrysene		ND	mg/kg	0.10	0.017	EPA-8270C			1
4,4'-DDD		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1
4,4'-DDE		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1
4,4'-DDT		ND	mg/kg	0.10	0.019	EPA-8270C	1.0		1
Dibenzo[a,h]anthracene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Dibenzofuran		ND	mg/kg	0.10	0.020	EPA-8270C			1
1,2-Dichlorobenzene		ND	mg/kg	0.10	0.020	EPA-8270C			1

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 **Reported:** 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-09	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B5-0.25, 5/4/	2015 1:55:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,3-Dichlorobenzene		ND	mg/kg	0.10	0.021	EPA-8270C			1
1,4-Dichlorobenzene		ND	mg/kg	0.10	0.019	EPA-8270C			1
3,3-Dichlorobenzidine		ND	mg/kg	0.20	0.0067	EPA-8270C			1
Dieldrin		ND	mg/kg	0.10	0.031	EPA-8270C	8.0		1
Diethyl phthalate		ND	mg/kg	0.10	0.019	EPA-8270C			1
Dimethyl phthalate		ND	mg/kg	0.10	0.020	EPA-8270C			1
Di-n-butyl phthalate		ND	mg/kg	0.10	0.018	EPA-8270C			1
2,4-Dinitrotoluene		ND	mg/kg	0.10	0.022	EPA-8270C			1
2,6-Dinitrotoluene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Di-n-octyl phthalate		ND	mg/kg	0.10	0.017	EPA-8270C			1
1,2-Diphenylhydrazine		ND	mg/kg	0.10	0.019	EPA-8270C			1
Endosulfan I		ND	mg/kg	0.20	0.020	EPA-8270C			1
Endosulfan II		ND	mg/kg	0.20	0.021	EPA-8270C			1
Endosulfan sulfate		ND	mg/kg	0.10	0.021	EPA-8270C			1
Endrin		ND	mg/kg	0.20	0.025	EPA-8270C	0.2		1
Endrin aldehyde		ND	mg/kg	0.50	0.022	EPA-8270C			1
Fluoranthene		ND	mg/kg	0.10	0.017	EPA-8270C			1
Fluorene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Heptachlor		ND	mg/kg	0.10	0.021	EPA-8270C	4.7		1
Heptachlor epoxide		ND	mg/kg	0.10	0.017	EPA-8270C			1
Hexachlorobenzene		ND	mg/kg	0.10	0.016	EPA-8270C			1
Hexachlorobutadiene		ND	mg/kg	0.10	0.017	EPA-8270C			1
Hexachlorocyclopentadie	1e	ND	mg/kg	0.10	0.019	EPA-8270C			1
Hexachloroethane		ND	mg/kg	0.10	0.020	EPA-8270C			1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.10	0.072	EPA-8270C			1
Isophorone		ND	mg/kg	0.10	0.017	EPA-8270C			1
2-Methylnaphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Naphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1
2-Naphthylamine		ND	mg/kg	3.0	0.16	EPA-8270C			1
2-Nitroaniline		ND	mg/kg	0.10	0.018	EPA-8270C			1
3-Nitroaniline		ND	mg/kg	0.20	0.015	EPA-8270C			1
4-Nitroaniline		ND	mg/kg	0.20	0.025	EPA-8270C			1
Nitrobenzene		ND	mg/kg	0.10	0.015	EPA-8270C			1

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Report ID: 1000354828

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 **Reported:** 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-09	Client Sampl	e Name:	Willow S	Willow Springs, FS-WS-B5-0.25, 5/4/2015 1:55:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
N-Nitrosodimethylamine		ND	mg/kg	0.10	0.037	EPA-8270C			1			
N-Nitrosodi-N-propylamin	e	ND	mg/kg	0.10	0.021	EPA-8270C			1			
N-Nitrosodiphenylamine		ND	mg/kg	0.10	0.021	EPA-8270C			1			
Phenanthrene		ND	mg/kg	0.10	0.018	EPA-8270C			1			
Pyrene		ND	mg/kg	0.10	0.017	EPA-8270C			1			
1,2,4-Trichlorobenzene		ND	mg/kg	0.10	0.018	EPA-8270C			1			
4-Chloro-3-methylphenol		ND	mg/kg	0.20	0.022	EPA-8270C			1			
2-Chlorophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1			
2,4-Dichlorophenol		ND	mg/kg	0.10	0.017	EPA-8270C			1			
2,4-Dimethylphenol		ND	mg/kg	0.10	0.035	EPA-8270C			1			
4,6-Dinitro-2-methylpheno	bl	ND	mg/kg	0.50	0.012	EPA-8270C			1			
2,4-Dinitrophenol		ND	mg/kg	0.50	0.0077	EPA-8270C			1			
2-Methylphenol		ND	mg/kg	0.10	0.017	EPA-8270C			1			
3- & 4-Methylphenol		ND	mg/kg	0.20	0.033	EPA-8270C			1			
2-Nitrophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1			
4-Nitrophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1			
Pentachlorophenol		ND	mg/kg	0.20	0.013	EPA-8270C	17		1			
Phenol		ND	mg/kg	0.10	0.016	EPA-8270C			1			
2,4,5-Trichlorophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1			
2,4,6-Trichlorophenol		ND	mg/kg	0.20	0.017	EPA-8270C			1			
2-Fluorophenol (Surrogat	e)	45.8	%	20 - 130 (LO	CL - UCL)	EPA-8270C			1			
Phenol-d5 (Surrogate)		48.6	%	30 - 130 (L0	CL - UCL)	EPA-8270C			1			
Nitrobenzene-d5 (Surroga	ate)	55.1	%	30 - 130 (L0	CL - UCL)	EPA-8270C			1			
2-Fluorobiphenyl (Surroga	ate)	53.9	%	20 - 140 (LO	CL - UCL)	EPA-8270C			1			
2,4,6-Tribromophenol (Su	rrogate)	67.4	%	20 - 150 (LC	CL - UCL)	EPA-8270C			1			
p-Terphenyl-d14 (Surroga	ite)	46.6	%	30 - 150 (LC	CL - UCL)	EPA-8270C			1			

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 15:21	VH1	MS-B1	1.017	BYE0716	

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-09	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B5-0.25, 5/4/2015 1:55:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
Acenaphthene		ND	mg/kg	0.0030	0.0018	EPA-8270C-SIM	ND	Quuis	<u>1</u>		
Acenaphthylene		ND	mg/kg	0.0030	0.0017	EPA-8270C-SIM	ND		1		
Anthracene		ND	mg/kg	0.0030	0.00080	EPA-8270C-SIM	ND		1		
Benzo[a]anthracene		0.0014	mg/kg	0.0030	0.00073	EPA-8270C-SIM	ND	J	1		
Benzo[b]fluoranthene		ND	mg/kg	0.0030	0.0014	EPA-8270C-SIM	ND		1		
Benzo[k]fluoranthene		ND	mg/kg	0.0030	0.00095	EPA-8270C-SIM	ND		1		
Benzo[a]pyrene		ND	mg/kg	0.0030	0.00073	EPA-8270C-SIM	ND		1		
Benzo[g,h,i]perylene		ND	mg/kg	0.0030	0.0017	EPA-8270C-SIM	ND		1		
Chrysene		ND	mg/kg	0.0030	0.00057	EPA-8270C-SIM	ND		1		
Dibenzo[a,h]anthracene		ND	mg/kg	0.0030	0.0012	EPA-8270C-SIM	ND		1		
Fluoranthene		ND	mg/kg	0.0030	0.00035	EPA-8270C-SIM	ND		1		
Fluorene		ND	mg/kg	0.0030	0.00095	EPA-8270C-SIM	ND		1		
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.0030	0.00083	EPA-8270C-SIM	ND		1		
Naphthalene		ND	mg/kg	0.0030	0.0023	EPA-8270C-SIM	ND		1		
Phenanthrene		ND	mg/kg	0.0030	0.00040	EPA-8270C-SIM	ND		1		
Pyrene		ND	mg/kg	0.0030	0.00057	EPA-8270C-SIM	ND		1		
Nitrobenzene-d5 (Surroga	te)	89.5	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM			1		
2-Fluorobiphenyl (Surroga	te)	79.0	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		
p-Terphenyl-d14 (Surroga	te)	101	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8270C-SIM	05/06/15	05/08/15 15:51	MK1	MS-B4	0.966	BYE0609

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

BCL Sample ID:	1510778-09	Client Sampl	Willow Sp	Willow Springs, FS-WS-B5-0.25, 5/4/2015 1:55:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH Diesel (C13-C22)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH Motor Oil (C23-32)	ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogate)	42.1	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/08/15 21:28	MWB	GC-13	0.990	BYE0557



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-09	Client Sampl	e Name:	Willow Springs, FS-WS-B5-0.25, 5/4/2015 1:55:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #		
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500	-	1		
Arsenic		6.5	mg/kg	1.0	0.40	EPA-6010B	500		1		
Barium		120	mg/kg	0.50	0.18	EPA-6010B	10000		1		
Beryllium		0.46	mg/kg	0.50	0.047	EPA-6010B	75	J	1		
Cadmium		0.060	mg/kg	0.50	0.052	EPA-6010B	100	J	1		
Chromium		20	mg/kg	0.50	0.050	EPA-6010B	2500		1		
Cobalt		5.6	mg/kg	2.5	0.098	EPA-6010B	8000		1		
Copper		16	mg/kg	1.0	0.050	EPA-6010B	2500		1		
Lead		5.1	mg/kg	2.5	0.28	EPA-6010B	1000		1		
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2		
Molybdenum		0.089	mg/kg	2.5	0.050	EPA-6010B	3500	J	1		
Nickel		15	mg/kg	0.50	0.15	EPA-6010B	2000		1		
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1		
Silver		0.073	mg/kg	0.50	0.067	EPA-6010B	500	J	1		
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1		
Vanadium		30	mg/kg	0.50	0.11	EPA-6010B	2400		1		
Zinc		56	mg/kg	2.5	0.087	EPA-6010B	5000		1		

			Run		QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-6010B	05/06/15	05/07/15 11:59	ARD	PE-OP3	0.990	BYE0471		
2	EPA-7471A	05/06/15	05/07/15 15:22	MEV	CETAC1	1.025	BYE0474		

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

BCL Sample ID:	1510778-10	Client Sampl	Willow Sp	orings, FS-\	NS-B5-2.0, 5/4/20	15 2:00:00F	:00:00PM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH Motor Oil (C23-32)	ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	42.0	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP			1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/08/15 21:51	MWB	GC-13	1.010	BYE0557



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1	510778-11	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B6-0.5, 5/4/2	015 2:52:00P	Μ	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1
1,2-Dibromo-3-chloropropa	ne	ND	mg/kg	0.0050	0.0017	EPA-8260B			1
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1510778-11 Client Sample Name: Willow Springs, FS-WS-B6-0.5, 5/4/2015 2:52:00PM									
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		ND	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		ND	mg/kg	0.0050	0.00050	EPA-8260B			1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluo	roethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Report ID: 1000354828

Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-11	Client Sampl	e Name:	Willow Springs, FS-WS-B6-0.5, 5/4/2015 2:52:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #		
1,2-Dichloroethane-d4	(Surrogate)	104	%	70 - 121 (LCL	- UCL)	EPA-8260B			1		
Toluene-d8 (Surrogate	2)	97.9	%	81 - 117 (LCL	- UCL)	EPA-8260B			1		
4-Bromofluorobenzene	e (Surrogate)	92.9	%	74 - 121 (LCL	UCL)	EPA-8260B			1		

			Run			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8260B	05/07/15	05/07/15 15:24	ADC	MS-V2	1	BYE0343			

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 **Reported:** 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-11	Client Sampl	Willow Springs, FS-WS-B6-0.5, 5/4/2015 2:52:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Acenaphthene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Acenaphthylene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Aldrin		ND	mg/kg	0.10	0.024	EPA-8270C	1.4		1
Aniline		ND	mg/kg	0.20	0.053	EPA-8270C			1
Anthracene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzidine		ND	mg/kg	3.0	0.22	EPA-8270C			1
Benzo[a]anthracene		ND	mg/kg	0.10	0.012	EPA-8270C			1
Benzo[b]fluoranthene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzo[k]fluoranthene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Benzo[a]pyrene		ND	mg/kg	0.10	0.015	EPA-8270C			1
Benzo[g,h,i]perylene		ND	mg/kg	0.10	0.056	EPA-8270C			1
Benzoic acid		ND	mg/kg	0.50	0.067	EPA-8270C			1
Benzyl alcohol		ND	mg/kg	0.10	0.018	EPA-8270C			1
Benzyl butyl phthalate		ND	mg/kg	0.10	0.021	EPA-8270C			1
alpha-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1
beta-BHC		ND	mg/kg	0.10	0.021	EPA-8270C			1
delta-BHC		ND	mg/kg	0.10	0.018	EPA-8270C			1
gamma-BHC (Lindane)	1	ND	mg/kg	0.10	0.017	EPA-8270C	4.0		1
bis(2-Chloroethoxy)me	thane	ND	mg/kg	0.10	0.017	EPA-8270C			1
bis(2-Chloroethyl) ethe	r	ND	mg/kg	0.10	0.016	EPA-8270C			1
bis(2-Chloroisopropyl)e	ther	ND	mg/kg	0.10	0.021	EPA-8270C			1
bis(2-Ethylhexyl)phthal	ate	ND	mg/kg	0.20	0.043	EPA-8270C			1
4-Bromophenyl phenyl	ether	ND	mg/kg	0.10	0.017	EPA-8270C			1
4-Chloroaniline		ND	mg/kg	0.10	0.027	EPA-8270C			1
2-Chloronaphthalene		ND	mg/kg	0.10	0.020	EPA-8270C			1
4-Chlorophenyl phenyl	ether	ND	mg/kg	0.10	0.015	EPA-8270C			1
Chrysene		ND	mg/kg	0.10	0.017	EPA-8270C			1
4,4'-DDD		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1
4,4'-DDE		ND	mg/kg	0.10	0.017	EPA-8270C	1.0		1
4,4'-DDT		ND	mg/kg	0.10	0.019	EPA-8270C	1.0		1
Dibenzo[a,h]anthracen	e	ND	mg/kg	0.10	0.019	EPA-8270C			1
Dibenzofuran		ND	mg/kg	0.10	0.020	EPA-8270C			1
1,2-Dichlorobenzene		ND	mg/kg	0.10	0.020	EPA-8270C			1

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 **Reported:** 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-11	Client Sampl	e Name:	Willow Springs, FS-WS-B6-0.5, 5/4/2015 2:52:00PM					
Constituent		Booult	Units	PQL	MDL	Method	TTLC	Lab	D #
1,3-Dichlorobenzene		Result ND	mg/kg	0.10	0.021	EPA-8270C	Limits	Quals	<u>Run #</u> 1
1,4-Dichlorobenzene		ND	mg/kg	0.10	0.019	EPA-8270C			1
3,3-Dichlorobenzidine		ND	mg/kg	0.20	0.0067	EPA-8270C			1
Dieldrin		ND	mg/kg	0.10	0.031	EPA-8270C	8.0		1
Diethyl phthalate		ND	mg/kg	0.10	0.019	EPA-8270C			1
Dimethyl phthalate		ND	mg/kg	0.10	0.020	EPA-8270C			1
Di-n-butyl phthalate		ND	mg/kg	0.10	0.018	EPA-8270C			1
2,4-Dinitrotoluene		ND	mg/kg	0.10	0.022	EPA-8270C			1
2,6-Dinitrotoluene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Di-n-octyl phthalate		ND	mg/kg	0.10	0.017	EPA-8270C			1
1,2-Diphenylhydrazine		ND	mg/kg	0.10	0.019	EPA-8270C			1
Endosulfan I		ND	mg/kg	0.20	0.020	EPA-8270C			1
Endosulfan II		ND	mg/kg	0.20	0.021	EPA-8270C			1
Endosulfan sulfate		ND	mg/kg	0.10	0.021	EPA-8270C			1
Endrin		ND	mg/kg	0.20	0.025	EPA-8270C	0.2		1
Endrin aldehyde		ND	mg/kg	0.50	0.022	EPA-8270C			1
Fluoranthene		ND	mg/kg	0.10	0.017	EPA-8270C			1
Fluorene		ND	mg/kg	0.10	0.019	EPA-8270C			1
Heptachlor		ND	mg/kg	0.10	0.021	EPA-8270C	4.7		1
Heptachlor epoxide		ND	mg/kg	0.10	0.017	EPA-8270C			1
Hexachlorobenzene		ND	mg/kg	0.10	0.016	EPA-8270C			1
Hexachlorobutadiene		ND	mg/kg	0.10	0.017	EPA-8270C			1
Hexachlorocyclopentadier	ne	ND	mg/kg	0.10	0.019	EPA-8270C			1
Hexachloroethane		ND	mg/kg	0.10	0.020	EPA-8270C			1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.10	0.072	EPA-8270C			1
Isophorone		ND	mg/kg	0.10	0.017	EPA-8270C			1
2-Methylnaphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1
Naphthalene		ND	mg/kg	0.10	0.018	EPA-8270C			1
2-Naphthylamine		ND	mg/kg	3.0	0.16	EPA-8270C			1
2-Nitroaniline		ND	mg/kg	0.10	0.018	EPA-8270C			1
3-Nitroaniline		ND	mg/kg	0.20	0.015	EPA-8270C			1
4-Nitroaniline		ND	mg/kg	0.20	0.025	EPA-8270C			1
Nitrobenzene		ND	mg/kg	0.10	0.015	EPA-8270C			1

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 **Reported:** 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-11	Client Sampl	e Name:	Willow Springs, FS-WS-B6-0.5, 5/4/2015 2:52:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
N-Nitrosodimethylamine		ND	mg/kg	0.10	0.037	EPA-8270C			1	
N-Nitrosodi-N-propylamine		ND	mg/kg	0.10	0.021	EPA-8270C			1	
N-Nitrosodiphenylamine		ND	mg/kg	0.10	0.021	EPA-8270C			1	
Phenanthrene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
Pyrene		ND	mg/kg	0.10	0.017	EPA-8270C			1	
1,2,4-Trichlorobenzene		ND	mg/kg	0.10	0.018	EPA-8270C			1	
4-Chloro-3-methylphenol		ND	mg/kg	0.20	0.022	EPA-8270C			1	
2-Chlorophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1	
2,4-Dichlorophenol		ND	mg/kg	0.10	0.017	EPA-8270C			1	
2,4-Dimethylphenol		ND	mg/kg	0.10	0.035	EPA-8270C			1	
4,6-Dinitro-2-methylphenol		ND	mg/kg	0.50	0.012	EPA-8270C			1	
2,4-Dinitrophenol		ND	mg/kg	0.50	0.0077	EPA-8270C			1	
2-Methylphenol		ND	mg/kg	0.10	0.017	EPA-8270C			1	
3- & 4-Methylphenol		ND	mg/kg	0.20	0.033	EPA-8270C			1	
2-Nitrophenol		ND	mg/kg	0.10	0.016	EPA-8270C			1	
4-Nitrophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1	
Pentachlorophenol		ND	mg/kg	0.20	0.013	EPA-8270C	17		1	
Phenol		ND	mg/kg	0.10	0.016	EPA-8270C			1	
2,4,5-Trichlorophenol		ND	mg/kg	0.20	0.018	EPA-8270C			1	
2,4,6-Trichlorophenol		ND	mg/kg	0.20	0.017	EPA-8270C			1	
2-Fluorophenol (Surrogate)		52.4	%	20 - 130 (LC	CL - UCL)	EPA-8270C			1	
Phenol-d5 (Surrogate)		71.7	%	30 - 130 (LC	CL - UCL)	EPA-8270C			1	
Nitrobenzene-d5 (Surrogate	e)	81.8	%	30 - 130 (LC	CL - UCL)	EPA-8270C			1	
2-Fluorobiphenyl (Surrogat	e)	73.7	%	20 - 140 (LC	CL - UCL)	EPA-8270C			1	
2,4,6-Tribromophenol (Surr	ogate)	70.9	%	20 - 150 (LC	CL - UCL)	EPA-8270C			1	
p-Terphenyl-d14 (Surrogate	e)	60.8	%	30 - 150 (LC	CL - UCL)	EPA-8270C			1	

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 15:47	VH1	MS-B1	1.003	BYE0716	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-11	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B6-0.5, 5/4/20	15 2:52:00F	5 2:52:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
Acenaphthene		ND	mg/kg	0.0030	0.0018	EPA-8270C-SIM	ND	Quais	<u>1</u>		
Acenaphthylene		ND	mg/kg	0.0030	0.0017	EPA-8270C-SIM	ND		1		
Anthracene		ND	mg/kg	0.0030	0.00080	EPA-8270C-SIM	ND		1		
Benzo[a]anthracene		ND	mg/kg	0.0030	0.00073	EPA-8270C-SIM	ND		1		
Benzo[b]fluoranthene		ND	mg/kg	0.0030	0.0014	EPA-8270C-SIM	ND		1		
Benzo[k]fluoranthene		ND	mg/kg	0.0030	0.00095	EPA-8270C-SIM	ND		1		
Benzo[a]pyrene		ND	mg/kg	0.0030	0.00073	EPA-8270C-SIM	ND		1		
Benzo[g,h,i]perylene		ND	mg/kg	0.0030	0.0017	EPA-8270C-SIM	ND		1		
Chrysene		ND	mg/kg	0.0030	0.00057	EPA-8270C-SIM	ND		1		
Dibenzo[a,h]anthracene		ND	mg/kg	0.0030	0.0012	EPA-8270C-SIM	ND		1		
Fluoranthene		ND	mg/kg	0.0030	0.00035	EPA-8270C-SIM	ND		1		
Fluorene		ND	mg/kg	0.0030	0.00095	EPA-8270C-SIM	ND		1		
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.0030	0.00083	EPA-8270C-SIM	ND		1		
Naphthalene		ND	mg/kg	0.0030	0.0023	EPA-8270C-SIM	ND		1		
Phenanthrene		0.0054	mg/kg	0.0030	0.00040	EPA-8270C-SIM	ND		1		
Pyrene		ND	mg/kg	0.0030	0.00057	EPA-8270C-SIM	ND		1		
Nitrobenzene-d5 (Surroga	te)	94.0	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM			1		
2-Fluorobiphenyl (Surroga	ite)	76.1	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		
p-Terphenyl-d14 (Surroga	te)	108	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8270C-SIM	05/06/15	05/08/15 16:18	MK1	MS-B4	0.997	BYE0609

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

BCL Sample ID:	1510778-11	Client Sampl	Willow Sp	rings, FS-\	WS-B6-0.5, 5/4/20	15 2:52:00F	52:00PM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	100	25	EPA-8015B/FFP	ND	A01	1
TPH Diesel (C13-C22)		590	mg/kg	50	6.0	EPA-8015B/FFP	ND	A01	1
TPH Motor Oil (C23-32)	1	370	mg/kg	100	32	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogate	:)	73.5	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP		A01	1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/08/15 23:23	MWB	GC-13	5.034	BYE0557



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-11	Client Sampl	e Name:	Willow Sp	orings, FS-\	VS-B6-0.5, 5/4/2	2015 2:52:00P	М	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500	-	1
Arsenic		4.7	mg/kg	1.0	0.40	EPA-6010B	500		1
Barium		80	mg/kg	0.50	0.18	EPA-6010B	10000		1
Beryllium		0.31	mg/kg	0.50	0.047	EPA-6010B	75	J	1
Cadmium		0.076	mg/kg	0.50	0.052	EPA-6010B	100	J	1
Chromium		16	mg/kg	0.50	0.050	EPA-6010B	2500		1
Cobalt		4.4	mg/kg	2.5	0.098	EPA-6010B	8000		1
Copper		11	mg/kg	1.0	0.050	EPA-6010B	2500		1
Lead		43	mg/kg	2.5	0.28	EPA-6010B	1000		1
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2
Molybdenum		0.081	mg/kg	2.5	0.050	EPA-6010B	3500	J	1
Nickel		10	mg/kg	0.50	0.15	EPA-6010B	2000		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	500		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1
Vanadium		25	mg/kg	0.50	0.11	EPA-6010B	2400		1
Zinc		46	mg/kg	2.5	0.087	EPA-6010B	5000		1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	05/06/15	05/07/15 12:03	ARD	PE-OP3	0.962	BYE0471
2	EPA-7471A	05/06/15	05/07/15 15:24	MEV	CETAC1	1.008	BYE0474

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

BCL Sample ID:	1510778-12	Client Sampl	e Name:	Willow Sp	orings, FS-V	РМ			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		12	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH Motor Oil (C23-32)	31	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	9)	75.2	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/08/15 22:14	MWB	GC-13	1.014	BYE0557



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-13	Client Sampl	e Name:	Willow Springs, FS-WS-B7-0.25, 5/4/2015 2:30:00PM					
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B		444.0	1
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1
1,2-Dibromo-3-chloropropa	ine	ND	mg/kg	0.0050	0.0017	EPA-8260B			1
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1	510778-13	Client Sample	e Name:	Willow Sp	rings, FS-W	VS-B7-0.25, 5/4/	2015 2:30:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		0.030	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		0.011	mg/kg	0.0050	0.00050	EPA-8260B			1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluor	oethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-13	Client Sampl	e Name:	Willow Springs, FS-WS-B7-0.25, 5/4/2015 2:30:00PM								
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
1,2-Dichloroethane-d4	(Surrogate)	110	%	70 - 121 (LCL	UCL)	EPA-8260B			1			
Toluene-d8 (Surrogate)	86.5	%	81 - 117 (LCL	- UCL)	EPA-8260B			1			
4-Bromofluorobenzene	e (Surrogate)	82.7	%	74 - 121 (LCL	- UCL)	EPA-8260B			1			

			Run		QC					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8260B	05/07/15	05/07/15 15:46	ADC	MS-V2	1	BYE0343			

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-13	Client Sampl	e Name:	Willow Springs, FS-WS-B7-0.25, 5/4/2015 2:30:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
Acenaphthene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
Acenaphthylene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1	
Aldrin		ND	mg/kg	5.1	1.2	EPA-8270C	1.4	A10	1	
Aniline		ND	mg/kg	10	2.7	EPA-8270C		A10	1	
Anthracene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
Benzidine		ND	mg/kg	150	11	EPA-8270C		A10	1	
Benzo[a]anthracene		ND	mg/kg	5.1	0.61	EPA-8270C		A10	1	
Benzo[b]fluoranthene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
Benzo[k]fluoranthene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1	
Benzo[a]pyrene		ND	mg/kg	5.1	0.76	EPA-8270C		A10	1	
Benzo[g,h,i]perylene		ND	mg/kg	5.1	2.8	EPA-8270C		A10	1	
Benzoic acid		ND	mg/kg	25	3.4	EPA-8270C		A10	1	
Benzyl alcohol		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
Benzyl butyl phthalate		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1	
Ipha-BHC		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
oeta-BHC		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1	
lelta-BHC		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
gamma-BHC (Lindane)		ND	mg/kg	5.1	0.86	EPA-8270C	4.0	A10	1	
bis(2-Chloroethoxy)meth	ane	ND	mg/kg	5.1	0.86	EPA-8270C		A10	1	
ois(2-Chloroethyl) ether		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1	
ois(2-Chloroisopropyl)eth	ner	ND	mg/kg	5.1	1.1	EPA-8270C		A10	1	
ois(2-Ethylhexyl)phthala	ate	4.0	mg/kg	10	2.2	EPA-8270C		J,A10	1	
I-Bromophenyl phenyl e	ther	ND	mg/kg	5.1	0.86	EPA-8270C		A10	1	
I-Chloroaniline		ND	mg/kg	5.1	1.4	EPA-8270C		A10	1	
2-Chloronaphthalene		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1	
I-Chlorophenyl phenyl e	ther	ND	mg/kg	5.1	0.76	EPA-8270C		A10	1	
Chrysene		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1	
1,4'-DDD		ND	mg/kg	5.1	0.86	EPA-8270C	1.0	A10	1	
I,4'-DDE		ND	mg/kg	5.1	0.86	EPA-8270C	1.0	A10	1	
I,4'-DDT		ND	mg/kg	5.1	0.97	EPA-8270C	1.0	A10	1	
Dibenzo[a,h]anthracene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1	
Dibenzofuran		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1	
1,2-Dichlorobenzene		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1	

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Report ID: 1000354828

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-13	Client Sampl	e Name:	Willow Sp	rings, FS-\	NS-B7-0.25, 5/4/	2015 2:30:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,3-Dichlorobenzene		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1
1,4-Dichlorobenzene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
3,3-Dichlorobenzidine		ND	mg/kg	10	0.34	EPA-8270C		A10	1
Dieldrin		ND	mg/kg	5.1	1.6	EPA-8270C	8.0	A10	1
Diethyl phthalate		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
Dimethyl phthalate		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1
Di-n-butyl phthalate		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
2,4-Dinitrotoluene		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1
2,6-Dinitrotoluene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
Di-n-octyl phthalate		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
1,2-Diphenylhydrazine		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
Endosulfan I		ND	mg/kg	10	1.0	EPA-8270C		A10	1
Endosulfan II		ND	mg/kg	10	1.1	EPA-8270C		A10	1
Endosulfan sulfate		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1
Endrin		ND	mg/kg	10	1.3	EPA-8270C	0.2	A10	1
Endrin aldehyde		ND	mg/kg	25	1.1	EPA-8270C		A10	1
Fluoranthene		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
Fluorene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
Heptachlor		ND	mg/kg	5.1	1.1	EPA-8270C	4.7	A10	1
Heptachlor epoxide		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
Hexachlorobenzene		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1
Hexachlorobutadiene		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
Hexachlorocyclopentadie	ne	ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
Hexachloroethane		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	5.1	3.7	EPA-8270C		A10	1
Isophorone		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
2-Methylnaphthalene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
Naphthalene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
2-Naphthylamine		ND	mg/kg	150	8.1	EPA-8270C		A10	1
2-Nitroaniline		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
3-Nitroaniline		ND	mg/kg	10	0.76	EPA-8270C		A10	1
4-Nitroaniline		ND	mg/kg	10	1.3	EPA-8270C		A10	1
Nitrobenzene		ND	mg/kg	5.1	0.76	EPA-8270C		A10	1

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Report ID: 1000354828

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-13	Client Sampl	e Name:	Willow Sp	orings, FS-\	NS-B7-0.25, 5/4/	2015 2:30:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
N-Nitrosodimethylamine		ND	mg/kg	5.1	1.9	EPA-8270C		A10	1
N-Nitrosodi-N-propylamin	e	ND	mg/kg	5.1	1.1	EPA-8270C		A10	1
N-Nitrosodiphenylamine		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1
Phenanthrene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
Pyrene		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
1,2,4-Trichlorobenzene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
4-Chloro-3-methylphenol		ND	mg/kg	10	1.1	EPA-8270C		A10	1
2-Chlorophenol		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1
2,4-Dichlorophenol		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
2,4-Dimethylphenol		ND	mg/kg	5.1	1.8	EPA-8270C		A10	1
4,6-Dinitro-2-methylphene	bl	ND	mg/kg	25	0.61	EPA-8270C		A10	1
2,4-Dinitrophenol		ND	mg/kg	25	0.39	EPA-8270C		A10	1
2-Methylphenol		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
3- & 4-Methylphenol		ND	mg/kg	10	1.7	EPA-8270C		A10	1
2-Nitrophenol		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1
4-Nitrophenol		ND	mg/kg	10	0.92	EPA-8270C		A10	1
Pentachlorophenol		ND	mg/kg	10	0.66	EPA-8270C	17	A10	1
Phenol		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1
2,4,5-Trichlorophenol		ND	mg/kg	10	0.92	EPA-8270C		A10	1
2,4,6-Trichlorophenol		ND	mg/kg	10	0.86	EPA-8270C		A10	1
2-Fluorophenol (Surrogat	e)	0	%	20 - 130 (LC	L - UCL)	EPA-8270C		A10,A17	1
Phenol-d5 (Surrogate)		0	%	30 - 130 (LC	L - UCL)	EPA-8270C		A10,A17	1
Nitrobenzene-d5 (Surroga	ate)	71.9	%	30 - 130 (LC	CL - UCL)	EPA-8270C		A10	1
2-Fluorobiphenyl (Surrog	ate)	73.1	%	20 - 140 (LC	L - UCL)	EPA-8270C		A10	1
2,4,6-Tribromophenol (Su	rrogate)	60.6	%	20 - 150 (LC	L - UCL)	EPA-8270C		A10	1
p-Terphenyl-d14 (Surroga	ate)	68.0	%	30 - 150 (LC	L - UCL)	EPA-8270C		A10	1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8270C	05/06/15	05/11/15 16:12	VH1	MS-B1	50.847	BYE0716

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-13	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B7-0.25, 5/4/20	015 2:30:00	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene		0.25	mg/kg	0.076	0.045	EPA-8270C-SIM	ND	A01	<u>1</u>
Acenaphthylene		0.094	mg/kg	0.076	0.043	EPA-8270C-SIM	ND	A01	1
Anthracene		0.12	mg/kg	0.076	0.020	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene		0.095	mg/kg	0.076	0.018	EPA-8270C-SIM	ND	A01	1
Benzo[b]fluoranthene		0.19	mg/kg	0.076	0.035	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene		ND	mg/kg	0.076	0.024	EPA-8270C-SIM	ND	A01	1
Benzo[a]pyrene		0.52	mg/kg	0.076	0.018	EPA-8270C-SIM	ND	A01	1
Benzo[g,h,i]perylene		ND	mg/kg	0.076	0.043	EPA-8270C-SIM	ND	A01	1
Chrysene		0.064	mg/kg	0.076	0.014	EPA-8270C-SIM	ND	J,A01	1
Dibenzo[a,h]anthracene		ND	mg/kg	0.076	0.030	EPA-8270C-SIM	ND	A01	1
Fluoranthene		0.10	mg/kg	0.076	0.0088	EPA-8270C-SIM	ND	A01	1
Fluorene		0.49	mg/kg	0.076	0.024	EPA-8270C-SIM	ND	A01	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.076	0.021	EPA-8270C-SIM	ND	A01	1
Naphthalene		0.17	mg/kg	0.076	0.058	EPA-8270C-SIM	ND	A01	1
Phenanthrene		0.38	mg/kg	0.076	0.010	EPA-8270C-SIM	ND	A01	1
Pyrene		1.5	mg/kg	0.076	0.014	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surroga	te)	218	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1
2-Fluorobiphenyl (Surroga	te)	144	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1
p-Terphenyl-d14 (Surroga	te)	255	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	05/06/15	05/08/15 20:42	MK1	MS-B4	25.253	BYE0609	

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

BCL Sample ID:	1510778-13	Client Sampl	e Name:	Willow Sp	rings, FS-\	NS-B7-0.25, 5/4/2	015 2:30:00)PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	1000	250	EPA-8015B/FFP	ND	A01	1
TPH Diesel (C13-C22)		950	mg/kg	500	60	EPA-8015B/FFP	ND	A01	1
TPH Motor Oil (C23-32)	9500	mg/kg	1000	320	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogate)	0	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP		A01	1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/09/15 02:05	MWB	GC-13	49.834	BYE0557



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-13	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B7-0.25, 5/4/	2015 2:30:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500	-	1
Arsenic		7.5	mg/kg	1.0	0.40	EPA-6010B	500		1
Barium		92	mg/kg	0.50	0.18	EPA-6010B	10000		1
Beryllium		0.45	mg/kg	0.50	0.047	EPA-6010B	75	J	1
Cadmium		0.13	mg/kg	0.50	0.052	EPA-6010B	100	J	1
Chromium		24	mg/kg	0.50	0.050	EPA-6010B	2500		1
Cobalt		6.5	mg/kg	2.5	0.098	EPA-6010B	8000		1
Copper		16	mg/kg	1.0	0.050	EPA-6010B	2500		1
Lead		11	mg/kg	2.5	0.28	EPA-6010B	1000		1
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2
Molybdenum		0.33	mg/kg	2.5	0.050	EPA-6010B	3500	J	1
Nickel		19	mg/kg	0.50	0.15	EPA-6010B	2000		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	500		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1
Vanadium		32	mg/kg	0.50	0.11	EPA-6010B	2400		1
Zinc		150	mg/kg	2.5	0.087	EPA-6010B	5000		1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	05/06/15	05/07/15 12:04	ARD	PE-OP3	0.935	BYE0471
2	EPA-7471A	05/06/15	05/07/15 15:26	MEV	CETAC1	1.025	BYE0474

Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

BCL Sample ID:	1510778-14	Client Sampl	e Name:	Willow Sp	orings, FS-V	WS-B7-3.0, 5/4/20	15 2:40:00F	РМ	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		92	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH Motor Oil (C23-32)	320	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	78.4	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/07/15 22:52	MWB	GC-13	1.014	BYE0557



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	510778-15	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B8-0.25, 5/4/	2015 2:25:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1
1,2-Dibromo-3-chloropropa	ne	ND	mg/kg	0.0050	0.0017	EPA-8260B			1
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 15	510778-15	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B8-0.25, 5/4/	2015 2:25:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		0.0072	mg/kg	0.010	0.0024	EPA-8260B		J	1
Methyl t-butyl ether		0.00077	mg/kg	0.0050	0.00050	EPA-8260B		J	1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluoro	ethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-15	Client Sampl	e Name:	Willow Spr	ings, FS-\	WS-B8-0.25, 5/4/	/2015 2:25:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,2-Dichloroethane-d4	(Surrogate)	108	%	70 - 121 (LCL	UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	91.7	%	81 - 117 (LCL	- UCL)	EPA-8260B			1
4-Bromofluorobenzene	e (Surrogate)	86.0	%	74 - 121 (LCL	- UCL)	EPA-8260B			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 16:09	ADC	MS-V2	1	BYE0343	

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-15	Client Sampl	e Name:	Willow Sp	rings, FS-\	NS-B8-0.25, 5/4/	2015 2:25:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Acenaphthene		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
Acenaphthylene		ND	mg/kg	5.0	0.95	EPA-8270C		A10	1
Aldrin		ND	mg/kg	5.0	1.2	EPA-8270C	1.4	A10	1
Aniline		ND	mg/kg	10	2.7	EPA-8270C		A10	1
Anthracene		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
Benzidine		ND	mg/kg	150	11	EPA-8270C		A10	1
Benzo[a]anthracene		ND	mg/kg	5.0	0.60	EPA-8270C		A10	1
Benzo[b]fluoranthene		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
Benzo[k]fluoranthene		ND	mg/kg	5.0	0.95	EPA-8270C		A10	1
Benzo[a]pyrene		ND	mg/kg	5.0	0.75	EPA-8270C		A10	1
Benzo[g,h,i]perylene		ND	mg/kg	5.0	2.8	EPA-8270C		A10	1
Benzoic acid		ND	mg/kg	25	3.4	EPA-8270C		A10	1
Benzyl alcohol		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
enzyl butyl phthalate		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
Ipha-BHC		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
oeta-BHC		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
lelta-BHC		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
gamma-BHC (Lindane)		ND	mg/kg	5.0	0.85	EPA-8270C	4.0	A10	1
ois(2-Chloroethoxy)meth	ane	ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
ois(2-Chloroethyl) ether		ND	mg/kg	5.0	0.80	EPA-8270C		A10	1
ois(2-Chloroisopropyl)eth	ner	ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
bis(2-Ethylhexyl)phthalat	e	ND	mg/kg	10	2.2	EPA-8270C		A10	1
I-Bromophenyl phenyl e	ther	ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
I-Chloroaniline		ND	mg/kg	5.0	1.4	EPA-8270C		A10	1
2-Chloronaphthalene		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
-Chlorophenyl phenyl e	ther	ND	mg/kg	5.0	0.75	EPA-8270C		A10	1
Chrysene		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
I,4'-DDD		ND	mg/kg	5.0	0.85	EPA-8270C	1.0	A10	1
,4'-DDE		ND	mg/kg	5.0	0.85	EPA-8270C	1.0	A10	1
I,4'-DDT		ND	mg/kg	5.0	0.95	EPA-8270C	1.0	A10	1
Dibenzo[a,h]anthracene		ND	mg/kg	5.0	0.95	EPA-8270C		A10	1
Dibenzofuran		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
1,2-Dichlorobenzene		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-15	Client Sampl	e Name:	Willow Sp	rings, FS-\	NS-B8-0.25, 5/4/	2015 2:25:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,3-Dichlorobenzene		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
1,4-Dichlorobenzene		ND	mg/kg	5.0	0.95	EPA-8270C		A10	1
3,3-Dichlorobenzidine		ND	mg/kg	10	0.34	EPA-8270C		A10	1
Dieldrin		ND	mg/kg	5.0	1.6	EPA-8270C	8.0	A10	1
Diethyl phthalate		ND	mg/kg	5.0	0.95	EPA-8270C		A10	1
Dimethyl phthalate		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
Di-n-butyl phthalate		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
2,4-Dinitrotoluene		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
2,6-Dinitrotoluene		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
Di-n-octyl phthalate		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
1,2-Diphenylhydrazine		ND	mg/kg	5.0	0.95	EPA-8270C		A10	1
Endosulfan I		ND	mg/kg	10	1.0	EPA-8270C		A10	1
Endosulfan II		ND	mg/kg	10	1.1	EPA-8270C		A10	1
Endosulfan sulfate		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
Endrin		ND	mg/kg	10	1.3	EPA-8270C	0.2	A10	1
Endrin aldehyde		ND	mg/kg	25	1.1	EPA-8270C		A10	1
Fluoranthene		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
Fluorene		ND	mg/kg	5.0	0.95	EPA-8270C		A10	1
Heptachlor		ND	mg/kg	5.0	1.1	EPA-8270C	4.7	A10	1
Heptachlor epoxide		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
Hexachlorobenzene		ND	mg/kg	5.0	0.80	EPA-8270C		A10	1
Hexachlorobutadiene		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
Hexachlorocyclopentadie	ne	ND	mg/kg	5.0	0.95	EPA-8270C		A10	1
Hexachloroethane		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	5.0	3.6	EPA-8270C		A10	1
Isophorone		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
2-Methylnaphthalene		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
Naphthalene		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
2-Naphthylamine		ND	mg/kg	150	8.0	EPA-8270C		A10	1
2-Nitroaniline		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
3-Nitroaniline		ND	mg/kg	10	0.75	EPA-8270C		A10	1
4-Nitroaniline		ND	mg/kg	10	1.3	EPA-8270C		A10	1
Nitrobenzene		ND	mg/kg	5.0	0.75	EPA-8270C		A10	1

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-15	Client Sampl	e Name:	Willow Sp	orings, FS-V	NS-B8-0.25, 5/4/	2015 2:25:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
N-Nitrosodimethylamine		ND	mg/kg	5.0	1.9	EPA-8270C		A10	1
N-Nitrosodi-N-propylamine		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
N-Nitrosodiphenylamine		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1
Phenanthrene		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
Pyrene		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
1,2,4-Trichlorobenzene		ND	mg/kg	5.0	0.90	EPA-8270C		A10	1
4-Chloro-3-methylphenol		ND	mg/kg	10	1.1	EPA-8270C		A10	1
2-Chlorophenol		ND	mg/kg	5.0	0.80	EPA-8270C		A10	1
2,4-Dichlorophenol		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
2,4-Dimethylphenol		ND	mg/kg	5.0	1.8	EPA-8270C		A10	1
4,6-Dinitro-2-methylphenol		ND	mg/kg	25	0.60	EPA-8270C		A10	1
2,4-Dinitrophenol		ND	mg/kg	25	0.39	EPA-8270C		A10	1
2-Methylphenol		ND	mg/kg	5.0	0.85	EPA-8270C		A10	1
3- & 4-Methylphenol		ND	mg/kg	10	1.7	EPA-8270C		A10	1
2-Nitrophenol		ND	mg/kg	5.0	0.80	EPA-8270C		A10	1
4-Nitrophenol		ND	mg/kg	10	0.90	EPA-8270C		A10	1
Pentachlorophenol		ND	mg/kg	10	0.65	EPA-8270C	17	A10	1
Phenol		ND	mg/kg	5.0	0.80	EPA-8270C		A10	1
2,4,5-Trichlorophenol		ND	mg/kg	10	0.90	EPA-8270C		A10	1
2,4,6-Trichlorophenol		ND	mg/kg	10	0.85	EPA-8270C		A10	1
2-Fluorophenol (Surrogate)	0	%	20 - 130 (LC	CL - UCL)	EPA-8270C		A10,A17	1
Phenol-d5 (Surrogate)		0	%	30 - 130 (LC	CL - UCL)	EPA-8270C		A10,A17	1
Nitrobenzene-d5 (Surrogat	e)	89.4	%	30 - 130 (LC	CL - UCL)	EPA-8270C		A10	1
2-Fluorobiphenyl (Surroga	e)	98.7	%	20 - 140 (LC	CL - UCL)	EPA-8270C		A10	1
2,4,6-Tribromophenol (Sur	rogate)	100	%	20 - 150 (LC	CL - UCL)	EPA-8270C		A10	1
p-Terphenyl-d14 (Surrogat	e)	83.0	%	30 - 150 (LC	CL - UCL)	EPA-8270C		A10	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 16:38	VH1	MS-B1	50.167	BYE0716	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-15	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B8-0.25, 5/4/20	015 2:25:00	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene		ND	mg/kg	0.075	0.045	EPA-8270C-SIM	ND	A01	1
Acenaphthylene		ND	mg/kg	0.075	0.043	EPA-8270C-SIM	ND	A01	1
Anthracene		ND	mg/kg	0.075	0.020	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene		ND	mg/kg	0.075	0.018	EPA-8270C-SIM	ND	A01	1
Benzo[b]fluoranthene		ND	mg/kg	0.075	0.035	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene		ND	mg/kg	0.075	0.024	EPA-8270C-SIM	ND	A01	1
Benzo[a]pyrene		ND	mg/kg	0.075	0.018	EPA-8270C-SIM	ND	A01	1
Benzo[g,h,i]perylene		ND	mg/kg	0.075	0.043	EPA-8270C-SIM	ND	A01	1
Chrysene		ND	mg/kg	0.075	0.014	EPA-8270C-SIM	ND	A01	1
Dibenzo[a,h]anthracene		ND	mg/kg	0.075	0.030	EPA-8270C-SIM	ND	A01	1
Fluoranthene		ND	mg/kg	0.075	0.0088	EPA-8270C-SIM	ND	A01	1
Fluorene		0.061	mg/kg	0.075	0.024	EPA-8270C-SIM	ND	J,A01	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.075	0.021	EPA-8270C-SIM	ND	A01	1
Naphthalene		0.15	mg/kg	0.075	0.058	EPA-8270C-SIM	ND	A01	1
Phenanthrene		ND	mg/kg	0.075	0.010	EPA-8270C-SIM	ND	A01	1
Pyrene		ND	mg/kg	0.075	0.014	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surroga	ate)	241	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1
2-Fluorobiphenyl (Surroga	ate)	182	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1
p-Terphenyl-d14 (Surroga	ate)	308	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	05/06/15	05/08/15 19:49	MK1	MS-B4	25.084	BYE0609	

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-15	Client Sampl	le Name:	Willow Sp	rings, FS-\	NS-B8-0.25, 5/4/2	015 2:25:0	DPM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	1000	250	EPA-8015B/FFP	ND	A01	1
TPH Diesel (C13-C22)		180	mg/kg	500	60	EPA-8015B/FFP	ND	J,A01,A52	1
TPH Motor Oil (C23-32))	11000	mg/kg	1000	320	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogate	2)	0	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP		A01,A17	1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/09/15 02:29	MWB	GC-13	50.336	BYE0557



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-15	Client Sampl	e Name:	Willow Springs, FS-WS-B8-0.25, 5/4/2015 2:25:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #		
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500	-	1		
Arsenic		6.2	mg/kg	1.0	0.40	EPA-6010B	500		1		
Barium		120	mg/kg	0.50	0.18	EPA-6010B	10000		1		
Beryllium		0.37	mg/kg	0.50	0.047	EPA-6010B	75	J	1		
Cadmium		0.49	mg/kg	0.50	0.052	EPA-6010B	100	J	1		
Chromium		19	mg/kg	0.50	0.050	EPA-6010B	2500		1		
Cobalt		5.9	mg/kg	2.5	0.098	EPA-6010B	8000		1		
Copper		15	mg/kg	1.0	0.050	EPA-6010B	2500		1		
Lead		33	mg/kg	2.5	0.28	EPA-6010B	1000		1		
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2		
Molybdenum		ND	mg/kg	2.5	0.050	EPA-6010B	3500		1		
Nickel		10	mg/kg	0.50	0.15	EPA-6010B	2000		1		
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1		
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	500		1		
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1		
Vanadium		32	mg/kg	0.50	0.11	EPA-6010B	2400		1		
Zinc		160	mg/kg	2.5	0.087	EPA-6010B	5000		1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-6010B	05/06/15	05/07/15 12:06	ARD	PE-OP3	0.980	BYE0471	
2	EPA-7471A	05/06/15	05/07/15 15:28	MEV	CETAC1	0.977	BYE0474	

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-16	Client Sampl	e Name:	Willow Sp	orings, FS-V	NS-B8-2.0, 5/4/20	15 2:35:00F	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		3.5	mg/kg	10	1.2	EPA-8015B/FFP	ND	J,A52	1
TPH Motor Oil (C23-32)	150	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	77.3	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	05/07/15	05/08/15 22:37	MWB	GC-13	1.010	BYE0557	



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-17	Client Sampl	e Name:	Willow Springs, FS-WS-B9-0.25, 5/4/2015 5:10:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1	
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1	
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1	
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1	
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1	
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1	
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1	
1,2-Dibromo-3-chloropropa	ine	ND	mg/kg	0.0050	0.0017	EPA-8260B			1	
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1	
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1	
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1	
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1	
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1	
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1	
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	

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Report ID: 1000354828

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1510	778-17 Client Samp	le Name:	Willow Sp	rings, FS-V	VS-B9-0.25, 5/4/	/2015 5:10:00	PM	
Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-lsopropyltoluene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride	0.017	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether	0.00089	mg/kg	0.0050	0.00050	EPA-8260B		J	1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene	ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluoroetha	ane ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether	ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol	ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether	ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether	ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-17	Client Sampl	e Name:	Willow Spr	ings, FS-	NS-B9-0.25, 5/4/	2015 5:10:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,2-Dichloroethane-d4	(Surrogate)	111	%	70 - 121 (LCL	UCL)	EPA-8260B			1
Toluene-d8 (Surrogate	2)	89.2	%	81 - 117 (LCL	UCL)	EPA-8260B			1
4-Bromofluorobenzene	e (Surrogate)	87.7	%	74 - 121 (LCI	UCL)	EPA-8260B			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 16:31	ADC	MS-V2	1	BYE0343	

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-17	Client Sampl	e Name:	Willow Springs, FS-WS-B9-0.25, 5/4/2015 5:10:00PM					
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Acenaphthene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
Acenaphthylene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1
Aldrin		ND	mg/kg	5.0	1.2	EPA-8270C	1.4	A10	1
Aniline		ND	mg/kg	9.9	2.6	EPA-8270C		A10	1
Anthracene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
Benzidine		ND	mg/kg	150	11	EPA-8270C		A10	1
Benzo[a]anthracene		ND	mg/kg	5.0	0.59	EPA-8270C		A10	1
Benzo[b]fluoranthene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
Benzo[k]fluoranthene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1
Benzo[a]pyrene		ND	mg/kg	5.0	0.74	EPA-8270C		A10	1
Benzo[g,h,i]perylene		ND	mg/kg	5.0	2.8	EPA-8270C		A10	1
Benzoic acid		ND	mg/kg	25	3.3	EPA-8270C		A10	1
Benzyl alcohol		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
Benzyl butyl phthalate		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
Ipha-BHC		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
oeta-BHC		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
lelta-BHC		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1
gamma-BHC (Lindane)		ND	mg/kg	5.0	0.84	EPA-8270C	4.0	A10	1
bis(2-Chloroethoxy)meth	ane	ND	mg/kg	5.0	0.84	EPA-8270C		A10	1
bis(2-Chloroethyl) ether		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1
bis(2-Chloroisopropyl)eth	ner	ND	mg/kg	5.0	1.0	EPA-8270C		A10	1
bis(2-Ethylhexyl)phthalat	е	ND	mg/kg	9.9	2.1	EPA-8270C		A10	1
I-Bromophenyl phenyl et	ther	ND	mg/kg	5.0	0.84	EPA-8270C		A10	1
1-Chloroaniline		ND	mg/kg	5.0	1.3	EPA-8270C		A10	1
2-Chloronaphthalene		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1
-Chlorophenyl phenyl et	ther	ND	mg/kg	5.0	0.74	EPA-8270C		A10	1
Chrysene		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1
I,4'-DDD		ND	mg/kg	5.0	0.84	EPA-8270C	1.0	A10	1
I,4'-DDE		ND	mg/kg	5.0	0.84	EPA-8270C	1.0	A10	1
I,4'-DDT		ND	mg/kg	5.0	0.94	EPA-8270C	1.0	A10	1
Dibenzo[a,h]anthracene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1
Dibenzofuran		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1
1,2-Dichlorobenzene		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-17	Client Sampl	e Name:	Willow Springs, FS-WS-B9-0.25, 5/4/2015 5:10:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
1,3-Dichlorobenzene		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1	
1,4-Dichlorobenzene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1	
3,3-Dichlorobenzidine		ND	mg/kg	9.9	0.33	EPA-8270C		A10	1	
Dieldrin		ND	mg/kg	5.0	1.5	EPA-8270C	8.0	A10	1	
Diethyl phthalate		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1	
Dimethyl phthalate		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1	
Di-n-butyl phthalate		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
2,4-Dinitrotoluene		ND	mg/kg	5.0	1.1	EPA-8270C		A10	1	
2,6-Dinitrotoluene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
Di-n-octyl phthalate		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
1,2-Diphenylhydrazine		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1	
Endosulfan I		ND	mg/kg	9.9	0.99	EPA-8270C		A10	1	
Endosulfan II		ND	mg/kg	9.9	1.0	EPA-8270C		A10	1	
Endosulfan sulfate		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1	
Endrin		ND	mg/kg	9.9	1.2	EPA-8270C	0.2	A10	1	
Endrin aldehyde		ND	mg/kg	25	1.1	EPA-8270C		A10	1	
Fluoranthene		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
Fluorene		ND	mg/kg	5.0	0.94	EPA-8270C		A10	1	
Heptachlor		ND	mg/kg	5.0	1.0	EPA-8270C	4.7	A10	1	
Heptachlor epoxide		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
Hexachlorobenzene		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1	
Hexachlorobutadiene		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
Hexachlorocyclopentadier	ie	ND	mg/kg	5.0	0.94	EPA-8270C		A10	1	
Hexachloroethane		ND	mg/kg	5.0	0.99	EPA-8270C		A10	1	
Indeno[1,2,3-cd]pyrene		ND	mg/kg	5.0	3.6	EPA-8270C		A10	1	
Isophorone		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
2-Methylnaphthalene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
Naphthalene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
2-Naphthylamine		ND	mg/kg	150	7.9	EPA-8270C		A10	1	
2-Nitroaniline		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
3-Nitroaniline		ND	mg/kg	9.9	0.74	EPA-8270C		A10	1	
4-Nitroaniline		ND	mg/kg	9.9	1.2	EPA-8270C		A10	1	
Nitrobenzene		ND	mg/kg	5.0	0.74	EPA-8270C		A10	1	

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-17	Client Sampl	e Name:	Willow Sp						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
N-Nitrosodimethylamine		ND	mg/kg	5.0	1.8	EPA-8270C		A10	1	
N-Nitrosodi-N-propylamii	ne	ND	mg/kg	5.0	1.0	EPA-8270C		A10	1	
N-Nitrosodiphenylamine		ND	mg/kg	5.0	1.0	EPA-8270C		A10	1	
Phenanthrene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
Pyrene		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
1,2,4-Trichlorobenzene		ND	mg/kg	5.0	0.89	EPA-8270C		A10	1	
4-Chloro-3-methylphenol		ND	mg/kg	9.9	1.1	EPA-8270C		A10	1	
2-Chlorophenol		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1	
2,4-Dichlorophenol		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
2,4-Dimethylphenol		ND	mg/kg	5.0	1.7	EPA-8270C		A10	1	
4,6-Dinitro-2-methylphen	ol	ND	mg/kg	25	0.59	EPA-8270C		A10	1	
2,4-Dinitrophenol		ND	mg/kg	25	0.38	EPA-8270C		A10	1	
2-Methylphenol		ND	mg/kg	5.0	0.84	EPA-8270C		A10	1	
3- & 4-Methylphenol		ND	mg/kg	9.9	1.6	EPA-8270C		A10	1	
2-Nitrophenol		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1	
4-Nitrophenol		ND	mg/kg	9.9	0.89	EPA-8270C		A10	1	
Pentachlorophenol		ND	mg/kg	9.9	0.64	EPA-8270C	17	A10	1	
Phenol		ND	mg/kg	5.0	0.79	EPA-8270C		A10	1	
2,4,5-Trichlorophenol		ND	mg/kg	9.9	0.89	EPA-8270C		A10	1	
2,4,6-Trichlorophenol		ND	mg/kg	9.9	0.84	EPA-8270C		A10	1	
2-Fluorophenol (Surroga	te)	0	%	20 - 130 (LC	CL - UCL)	EPA-8270C		A10,A17	1	
Phenol-d5 (Surrogate)		0	%	30 - 130 (LC	CL - UCL)	EPA-8270C		A10,A17	1	
Nitrobenzene-d5 (Surrog	ate)	59.4	%	30 - 130 (LC	CL - UCL)	EPA-8270C		A10	1	
2-Fluorobiphenyl (Surrog	ate)	56.2	%	20 - 140 (LC	CL - UCL)	EPA-8270C		A10	1	
2,4,6-Tribromophenol (S	urrogate)	69.4	%	20 - 150 (LC	CL - UCL)	EPA-8270C		A10	1	
p-Terphenyl-d14 (Surrog	ate)	49.0	%	30 - 150 (LC	CL - UCL)	EPA-8270C		A10	1	

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 17:03	VH1	MS-B1	49.505	BYE0716	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-17	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B9-0.25, 5/4/20	015 5:10:00	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene		ND	mg/kg	0.015	0.0090	EPA-8270C-SIM	ND	A01	1
Acenaphthylene		0.016	mg/kg	0.015	0.0085	EPA-8270C-SIM	ND	A01	1
Anthracene		ND	mg/kg	0.015	0.0040	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene		0.075	mg/kg	0.015	0.0036	EPA-8270C-SIM	ND	A01	1
Benzo[b]fluoranthene		0.11	mg/kg	0.015	0.0070	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene		0.025	mg/kg	0.015	0.0048	EPA-8270C-SIM	ND	A01	1
Benzo[a]pyrene		0.076	mg/kg	0.015	0.0036	EPA-8270C-SIM	ND	A01	1
Benzo[g,h,i]perylene		0.14	mg/kg	0.015	0.0085	EPA-8270C-SIM	ND	A01	1
Chrysene		0.040	mg/kg	0.015	0.0028	EPA-8270C-SIM	ND	A01	1
Dibenzo[a,h]anthracene		ND	mg/kg	0.015	0.0060	EPA-8270C-SIM	ND	A01	1
Fluoranthene		0.064	mg/kg	0.015	0.0018	EPA-8270C-SIM	ND	A01	1
Fluorene		0.014	mg/kg	0.015	0.0048	EPA-8270C-SIM	ND	J,A01	1
Indeno[1,2,3-cd]pyrene		0.031	mg/kg	0.015	0.0042	EPA-8270C-SIM	ND	A01	1
Naphthalene		0.032	mg/kg	0.015	0.012	EPA-8270C-SIM	ND	A01	1
Phenanthrene		0.0040	mg/kg	0.015	0.0020	EPA-8270C-SIM	ND	J,A01	1
Pyrene		0.61	mg/kg	0.015	0.0028	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surroga	te)	60.8	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01	1
2-Fluorobiphenyl (Surroga	te)	49.4	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1
p-Terphenyl-d14 (Surroga	te)	79.4	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	05/06/15	05/08/15 18:30	MK1	MS-B4	4.818	BYE0609	

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-17	Client Sampl	Willow Sp	Willow Springs, FS-WS-B9-0.25, 5/4/2015 5:10:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH Gas(C4-C12)		ND	mg/kg	1000	250	EPA-8015B/FFP	ND	A01	1		
TPH Diesel (C13-C22)		160	mg/kg	500	60	EPA-8015B/FFP	ND	J,A01,A52	1		
TPH Motor Oil (C23-32)	11000	mg/kg	1000	320	EPA-8015B/FFP	ND	A01	1		
Tetracosane (Surrogate	e)	0	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP		A01,A17	1		

			Run	QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	05/07/15	05/09/15 02:52	MWB	GC-13	50.676	BYE0557	



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-17	Client Sampl	e Name:	Willow Sp	orings, FS-\	NS-B9-0.25, 5/4/	2015 5:10:00	PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500		1
Arsenic		6.4	mg/kg	1.0	0.40	EPA-6010B	500		1
Barium		75	mg/kg	0.50	0.18	EPA-6010B	10000		1
Beryllium		0.44	mg/kg	0.50	0.047	EPA-6010B	75	J	1
Cadmium		0.17	mg/kg	0.50	0.052	EPA-6010B	100	J	1
Chromium		32	mg/kg	0.50	0.050	EPA-6010B	2500		1
Cobalt		8.5	mg/kg	2.5	0.098	EPA-6010B	8000		1
Copper		22	mg/kg	1.0	0.050	EPA-6010B	2500		1
Lead		12	mg/kg	2.5	0.28	EPA-6010B	1000		1
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2
Molybdenum		0.97	mg/kg	2.5	0.050	EPA-6010B	3500	J	1
Nickel		25	mg/kg	0.50	0.15	EPA-6010B	2000		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1
Silver		0.068	mg/kg	0.50	0.067	EPA-6010B	500	J	1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1
Vanadium		34	mg/kg	0.50	0.11	EPA-6010B	2400		1
Zinc		130	mg/kg	2.5	0.087	EPA-6010B	5000		1

			Run		QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-6010B	05/06/15	05/07/15 12:07	ARD	PE-OP3	0.952	BYE0471		
2	EPA-7471A	05/06/15	05/07/15 15:30	MEV	CETAC1	1.008	BYE0474		

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-18	Client Sampl	e Name:	Willow Sp	orings, FS-V	WS-B9-3.0, 5/4/20	15 5:20:00F	5:20:00PM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH Diesel (C13-C22)		18	mg/kg	10	1.2	EPA-8015B/FFP	ND	A52	1	
TPH Motor Oil (C23-32)	170	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogate	2)	89.4	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run		QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	05/07/15	05/08/15 01:54	MWB	GC-13	1.010	BYE0557		



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-19	Client Sampl	e Name:	Willow Springs, FS-WS-B10-0.25, 5/4/2015 5:05:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1	
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1	
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1	
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1	
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1	
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1	
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1	
1,2-Dibromo-3-chloropropa	ine	ND	mg/kg	0.0050	0.0017	EPA-8260B			1	
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1	
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1	
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1	
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1	
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1	
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1	
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1	
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1	
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1	
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1	

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-19	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B10-0.25, 5/4	4/2015 5:05:00	DPM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
trans-1,3-Dichloropropene	9	ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		ND	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		ND	mg/kg	0.0050	0.00050	EPA-8260B			1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane)	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane	;	ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-triflu	oroethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-19	Client Sampl	e Name:	Willow Spr	Willow Springs, FS-WS-B10-0.25, 5/4/2015 5:05:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #			
1,2-Dichloroethane-d4	(Surrogate)	101	%	70 - 121 (LCL	UCL)	EPA-8260B			1			
Toluene-d8 (Surrogate)	99.7	%	81 - 117 (LCL	- UCL)	EPA-8260B			1			
4-Bromofluorobenzene	e (Surrogate)	95.1	%	74 - 121 (LCL	- UCL)	EPA-8260B			1			

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 18:01	ADC	MS-V2	1	BYE0343	

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-19	Client Sampl	e Name:	Willow Sp	rings, FS-V	NS-B10-0.25, 5/4	4/2015 5:05:0	0PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Acenaphthene		ND	mg/kg	0.50	0.090	EPA-8270C	Linits	A10	1
Acenaphthylene		ND	mg/kg	0.50	0.095	EPA-8270C		A10	1
Aldrin		ND	mg/kg	0.50	0.12	EPA-8270C	1.4	A10	1
Aniline		ND	mg/kg	1.0	0.26	EPA-8270C		A10	1
Anthracene		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
Benzidine		ND	mg/kg	15	1.1	EPA-8270C		A10	1
Benzo[a]anthracene		ND	mg/kg	0.50	0.060	EPA-8270C		A10	1
Benzo[b]fluoranthene		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
Benzo[k]fluoranthene		ND	mg/kg	0.50	0.095	EPA-8270C		A10	1
Benzo[a]pyrene		ND	mg/kg	0.50	0.075	EPA-8270C		A10	1
Benzo[g,h,i]perylene		ND	mg/kg	0.50	0.28	EPA-8270C		A10	1
Benzoic acid		ND	mg/kg	2.5	0.34	EPA-8270C		A10	1
Benzyl alcohol		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
Benzyl butyl phthalate		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
alpha-BHC		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
peta-BHC		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
delta-BHC		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
gamma-BHC (Lindane)		ND	mg/kg	0.50	0.085	EPA-8270C	4.0	A10	1
ois(2-Chloroethoxy)metl	hane	ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
ois(2-Chloroethyl) ether		ND	mg/kg	0.50	0.080	EPA-8270C		A10	1
ois(2-Chloroisopropyl)et	ther	ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
ois(2-Ethylhexyl)phthala	ite	ND	mg/kg	1.0	0.22	EPA-8270C		A10	1
4-Bromophenyl phenyl e	ether	ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
4-Chloroaniline		ND	mg/kg	0.50	0.14	EPA-8270C		A10	1
2-Chloronaphthalene		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
4-Chlorophenyl phenyl e	ether	ND	mg/kg	0.50	0.075	EPA-8270C		A10	1
Chrysene		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
1,4'-DDD		ND	mg/kg	0.50	0.085	EPA-8270C	1.0	A10	1
1,4'-DDE		ND	mg/kg	0.50	0.085	EPA-8270C	1.0	A10	1
1,4'-DDT		ND	mg/kg	0.50	0.095	EPA-8270C	1.0	A10	1
Dibenzo[a,h]anthracene	•	ND	mg/kg	0.50	0.095	EPA-8270C		A10	1
Dibenzofuran		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
1,2-Dichlorobenzene		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-19	Client Sampl	le Name:	Willow Sp	rings, FS-V	VS-B10-0.25, 5/4	4/2015 5:05:0	0PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,3-Dichlorobenzene		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
1,4-Dichlorobenzene		ND	mg/kg	0.50	0.095	EPA-8270C		A10	1
3,3-Dichlorobenzidine		ND	mg/kg	1.0	0.034	EPA-8270C		A10	1
Dieldrin		ND	mg/kg	0.50	0.16	EPA-8270C	8.0	A10	1
Diethyl phthalate		ND	mg/kg	0.50	0.095	EPA-8270C		A10	1
Dimethyl phthalate		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
Di-n-butyl phthalate		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
2,4-Dinitrotoluene		ND	mg/kg	0.50	0.11	EPA-8270C		A10	1
2,6-Dinitrotoluene		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
Di-n-octyl phthalate		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
1,2-Diphenylhydrazine		ND	mg/kg	0.50	0.095	EPA-8270C		A10	1
Endosulfan I		ND	mg/kg	1.0	0.10	EPA-8270C		A10	1
Endosulfan II		ND	mg/kg	1.0	0.10	EPA-8270C		A10	1
Endosulfan sulfate		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
Endrin		ND	mg/kg	1.0	0.12	EPA-8270C	0.2	A10	1
Endrin aldehyde		ND	mg/kg	2.5	0.11	EPA-8270C		A10	1
Fluoranthene		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
Fluorene		ND	mg/kg	0.50	0.095	EPA-8270C		A10	1
Heptachlor		ND	mg/kg	0.50	0.10	EPA-8270C	4.7	A10	1
Heptachlor epoxide		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
Hexachlorobenzene		ND	mg/kg	0.50	0.080	EPA-8270C		A10	1
Hexachlorobutadiene		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
Hexachlorocyclopentadie	าย	ND	mg/kg	0.50	0.095	EPA-8270C		A10	1
Hexachloroethane		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.50	0.36	EPA-8270C		A10	1
Isophorone		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
2-Methylnaphthalene		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
Naphthalene		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
2-Naphthylamine		ND	mg/kg	15	0.80	EPA-8270C		A10	1
2-Nitroaniline		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
3-Nitroaniline		ND	mg/kg	1.0	0.075	EPA-8270C		A10	1
4-Nitroaniline		ND	mg/kg	1.0	0.12	EPA-8270C		A10	1
Nitrobenzene		ND	mg/kg	0.50	0.075	EPA-8270C		A10	1

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-19	Client Sampl	e Name:	Willow Sp	orings, FS-\	NS-B10-0.25, 5/4	4/2015 5:05:0	0PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
N-Nitrosodimethylamine		ND	mg/kg	0.50	0.18	EPA-8270C		A10	1
N-Nitrosodi-N-propylamine	e	ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
N-Nitrosodiphenylamine		ND	mg/kg	0.50	0.10	EPA-8270C		A10	1
Phenanthrene		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
Pyrene		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
1,2,4-Trichlorobenzene		ND	mg/kg	0.50	0.090	EPA-8270C		A10	1
4-Chloro-3-methylphenol		ND	mg/kg	1.0	0.11	EPA-8270C		A10	1
2-Chlorophenol		ND	mg/kg	0.50	0.080	EPA-8270C		A10	1
2,4-Dichlorophenol		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
2,4-Dimethylphenol		ND	mg/kg	0.50	0.18	EPA-8270C		A10	1
4,6-Dinitro-2-methylpheno	I	ND	mg/kg	2.5	0.060	EPA-8270C		A10	1
2,4-Dinitrophenol		ND	mg/kg	2.5	0.038	EPA-8270C		A10	1
2-Methylphenol		ND	mg/kg	0.50	0.085	EPA-8270C		A10	1
3- & 4-Methylphenol		ND	mg/kg	1.0	0.16	EPA-8270C		A10	1
2-Nitrophenol		ND	mg/kg	0.50	0.080	EPA-8270C		A10	1
4-Nitrophenol		ND	mg/kg	1.0	0.090	EPA-8270C		A10	1
Pentachlorophenol		ND	mg/kg	1.0	0.065	EPA-8270C	17	A10	1
Phenol		ND	mg/kg	0.50	0.080	EPA-8270C		A10	1
2,4,5-Trichlorophenol		ND	mg/kg	1.0	0.090	EPA-8270C		A10	1
2,4,6-Trichlorophenol		ND	mg/kg	1.0	0.085	EPA-8270C		A10	1
2-Fluorophenol (Surrogate	e)	44.4	%	20 - 130 (LC	CL - UCL)	EPA-8270C		A10	1
Phenol-d5 (Surrogate)		58.7	%	30 - 130 (LC	CL - UCL)	EPA-8270C		A10	1
Nitrobenzene-d5 (Surroga	te)	71.6	%	30 - 130 (LC	CL - UCL)	EPA-8270C		A10	1
2-Fluorobiphenyl (Surroga	ite)	69.3	%	20 - 140 (LC	CL - UCL)	EPA-8270C		A10	1
2,4,6-Tribromophenol (Su	rrogate)	72.2	%	20 - 150 (LC	CL - UCL)	EPA-8270C		A10	1
p-Terphenyl-d14 (Surroga	te)	63.2	%	30 - 150 (LC	CL - UCL)	EPA-8270C		A10	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 17:29	VH1	MS-B1	4.851	BYE0716	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-19	Client Sampl	e Name:	Willow Sp	orings, FS-V	VS-B10-0.25, 5/4/2	2015 5:05:0	00PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene		ND	mg/kg	0.030	0.018	EPA-8270C-SIM	ND	A01	1
Acenaphthylene		ND	mg/kg	0.030	0.017	EPA-8270C-SIM	ND	A01	1
Anthracene		ND	mg/kg	0.030	0.0080	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene		0.051	mg/kg	0.030	0.0073	EPA-8270C-SIM	ND	A01	1
Benzo[b]fluoranthene		0.034	mg/kg	0.030	0.014	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene		0.023	mg/kg	0.030	0.0095	EPA-8270C-SIM	ND	J,A01	1
Benzo[a]pyrene		ND	mg/kg	0.030	0.0073	EPA-8270C-SIM	ND	A01	1
Benzo[g,h,i]perylene		0.050	mg/kg	0.030	0.017	EPA-8270C-SIM	ND	A01	1
Chrysene		ND	mg/kg	0.030	0.0057	EPA-8270C-SIM	ND	A01	1
Dibenzo[a,h]anthracene		ND	mg/kg	0.030	0.012	EPA-8270C-SIM	ND	A01	1
Fluoranthene		ND	mg/kg	0.030	0.0035	EPA-8270C-SIM	ND	A01	1
Fluorene		ND	mg/kg	0.030	0.0095	EPA-8270C-SIM	ND	A01	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.030	0.0083	EPA-8270C-SIM	ND	A01	1
Naphthalene		0.033	mg/kg	0.030	0.023	EPA-8270C-SIM	ND	A01	1
Phenanthrene		ND	mg/kg	0.030	0.0040	EPA-8270C-SIM	ND	A01	1
Pyrene		0.034	mg/kg	0.030	0.0057	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surroga	ate)	136	%	30 - 110 (LC	CL - UCL)	EPA-8270C-SIM		A01,S09	1
2-Fluorobiphenyl (Surroga	ate)	95.3	%	40 - 120 (LC	CL - UCL)	EPA-8270C-SIM		A01	1
p-Terphenyl-d14 (Surroga	ite)	158	%	30 - 120 (LC	CL - UCL)	EPA-8270C-SIM		A01,S09	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	05/06/15	05/08/15 18:56	MK1	MS-B4	9.600	BYE0609	

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-19	Client Sampl	e Name:	Willow Sp	rings, FS-\	NS-B10-0.25, 5/4/2	2015 5:05:0	00PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	120	29	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		19	mg/kg	59	7.1	EPA-8015B/FFP	ND	J,A52	1
TPH Motor Oil (C23-32)	530	mg/kg	120	38	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	66.7	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	05/07/15	05/08/15 23:00	MWB	GC-13	5.882	BYE0557	



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-19	Client Sampl	e Name:	Willow Sp	orings, FS-V	NS-B10-0.25, 5/4	4/2015 5:05:0	0PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500		1
Arsenic		6.9	mg/kg	1.0	0.40	EPA-6010B	500		1
Barium		100	mg/kg	0.50	0.18	EPA-6010B	10000		1
Beryllium		0.43	mg/kg	0.50	0.047	EPA-6010B	75	J	1
Cadmium		ND	mg/kg	0.50	0.052	EPA-6010B	100		1
Chromium		37	mg/kg	0.50	0.050	EPA-6010B	2500		1
Cobalt		9.2	mg/kg	2.5	0.098	EPA-6010B	8000		1
Copper		21	mg/kg	1.0	0.050	EPA-6010B	2500		1
Lead		47	mg/kg	2.5	0.28	EPA-6010B	1000		1
Mercury		0.060	mg/kg	0.16	0.036	EPA-7471A	20	J	2
Molybdenum		ND	mg/kg	2.5	0.050	EPA-6010B	3500		1
Nickel		28	mg/kg	0.50	0.15	EPA-6010B	2000		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	500		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1
Vanadium		39	mg/kg	0.50	0.11	EPA-6010B	2400		1
Zinc		51	mg/kg	2.5	0.087	EPA-6010B	5000		1

			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	05/06/15	05/07/15 12:10	ARD	PE-OP3	0.935	BYE0471
2	EPA-7471A	05/06/15	05/07/15 15:33	MEV	CETAC1	0.962	BYE0474

Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-20	Client Sampl	e Name:	Willow Sp	rings, FS-\	WS-B10-3.0, 5/4/2	015 5:15:00	PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH Diesel (C13-C22)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH Motor Oil (C23-32)	ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	78.8	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP			1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/07/15	05/08/15 02:40	MWB	GC-13	1.010	BYE0557



URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1	510778-21	Client Sampl	e Name:	Willow Springs, FS-WS-B11-0.25, 5/4/2015 5:50:00PM							
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #		
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1		
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1		
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B			1		
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B			1		
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B			1		
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1		
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1		
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1		
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1		
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B			1		
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1		
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1		
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B			1		
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1		
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B			1		
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1		
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B			1		
1,2-Dibromo-3-chloropropa	ne	ND	mg/kg	0.0050	0.0017	EPA-8260B			1		
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B			1		
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B			1		
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B			1		
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1		
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1		
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1		
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B			1		
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B			1		
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1		
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1		
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1		
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B			1		
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1		
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B			1		
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1		

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URS Corporation 2625 South Miller Suite 104

Santa Maria, CA 93455

Reported: 05/18/2015 15:21

Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 15	510778-21	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B11-0.25, 5/4	4/2015 5:50:00	OPM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B			1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Methylene chloride		0.042	mg/kg	0.010	0.0024	EPA-8260B			1
Methyl t-butyl ether		0.027	mg/kg	0.0050	0.00050	EPA-8260B			1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B			1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B			1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B			1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B			1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	2040		1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B			1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
1,1,2-Trichloro-1,2,2-trifluoro	ethane	ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B			1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B			1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B			1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B			1
t-Amyl Methyl ether		ND	mg/kg	0.0050	0.00056	EPA-8260B			1
t-Butyl alcohol		ND	mg/kg	0.050	0.017	EPA-8260B			1
Diisopropyl ether		ND	mg/kg	0.0050	0.00080	EPA-8260B			1
Ethyl t-butyl ether		ND	mg/kg	0.0050	0.00022	EPA-8260B			1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B			1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B			1

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1510778-21	Client Sampl	nple Name: Willow Springs, FS-WS-B11-0.25, 5/4/2015 5:50:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,2-Dichloroethane-d4	(Surrogate)	107	%	70 - 121 (LCL	UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	90.9	%	81 - 117 (LCL	- UCL)	EPA-8260B			1
4-Bromofluorobenzene	e (Surrogate)	86.2	%	74 - 121 (LCL	- UCL)	EPA-8260B			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8260B	05/07/15	05/07/15 16:54	ADC	MS-V2	1	BYE0343	

Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-21	Client Sampl	e Name:	Willow Springs, FS-WS-B11-0.25, 5/4/2015 5:50:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #	
Acenaphthene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
Acenaphthylene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1	
Aldrin		ND	mg/kg	5.1	1.2	EPA-8270C	1.4	A10	1	
Aniline		ND	mg/kg	10	2.7	EPA-8270C		A10	1	
Anthracene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
Benzidine		ND	mg/kg	150	11	EPA-8270C		A10	1	
Benzo[a]anthracene		ND	mg/kg	5.1	0.61	EPA-8270C		A10	1	
Benzo[b]fluoranthene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
Benzo[k]fluoranthene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1	
Benzo[a]pyrene		ND	mg/kg	5.1	0.76	EPA-8270C		A10	1	
Benzo[g,h,i]perylene		ND	mg/kg	5.1	2.8	EPA-8270C		A10	1	
Benzoic acid		ND	mg/kg	25	3.4	EPA-8270C		A10	1	
Benzyl alcohol		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
Benzyl butyl phthalate		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1	
alpha-BHC		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
peta-BHC		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1	
delta-BHC		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1	
gamma-BHC (Lindane)		ND	mg/kg	5.1	0.86	EPA-8270C	4.0	A10	1	
ois(2-Chloroethoxy)metha	ne	ND	mg/kg	5.1	0.86	EPA-8270C		A10	1	
bis(2-Chloroethyl) ether		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1	
ois(2-Chloroisopropyl)ethe	r	ND	mg/kg	5.1	1.1	EPA-8270C		A10	1	
ois(2-Ethylhexyl)phthalate		ND	mg/kg	10	2.2	EPA-8270C		A10	1	
4-Bromophenyl phenyl eth	er	ND	mg/kg	5.1	0.86	EPA-8270C		A10	1	
4-Chloroaniline		ND	mg/kg	5.1	1.4	EPA-8270C		A10	1	
2-Chloronaphthalene		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1	
4-Chlorophenyl phenyl eth	er	ND	mg/kg	5.1	0.76	EPA-8270C		A10	1	
Chrysene		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1	
4,4'-DDD		ND	mg/kg	5.1	0.86	EPA-8270C	1.0	A10	1	
4,4'-DDE		ND	mg/kg	5.1	0.86	EPA-8270C	1.0	A10	1	
1,4'-DDT		ND	mg/kg	5.1	0.97	EPA-8270C	1.0	A10	1	
Dibenzo[a,h]anthracene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1	
Dibenzofuran		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1	
1,2-Dichlorobenzene		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-21	Client Sampl	Willow Springs, FS-WS-B11-0.25, 5/4/2015 5:50:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
1,3-Dichlorobenzene		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1
1,4-Dichlorobenzene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
3,3-Dichlorobenzidine		ND	mg/kg	10	0.34	EPA-8270C		A10	1
Dieldrin		ND	mg/kg	5.1	1.6	EPA-8270C	8.0	A10	1
Diethyl phthalate		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
Dimethyl phthalate		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1
Di-n-butyl phthalate		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
2,4-Dinitrotoluene		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1
2,6-Dinitrotoluene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
Di-n-octyl phthalate		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
1,2-Diphenylhydrazine		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
Endosulfan I		ND	mg/kg	10	1.0	EPA-8270C		A10	1
Endosulfan II		ND	mg/kg	10	1.1	EPA-8270C		A10	1
Endosulfan sulfate		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1
Endrin		ND	mg/kg	10	1.3	EPA-8270C	0.2	A10	1
Endrin aldehyde		ND	mg/kg	25	1.1	EPA-8270C		A10	1
Fluoranthene		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
Fluorene		ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
Heptachlor		ND	mg/kg	5.1	1.1	EPA-8270C	4.7	A10	1
Heptachlor epoxide		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
Hexachlorobenzene		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1
Hexachlorobutadiene		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
Hexachlorocyclopentadier	e	ND	mg/kg	5.1	0.97	EPA-8270C		A10	1
Hexachloroethane		ND	mg/kg	5.1	1.0	EPA-8270C		A10	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	5.1	3.7	EPA-8270C		A10	1
Isophorone		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1
2-Methylnaphthalene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
Naphthalene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
2-Naphthylamine		ND	mg/kg	150	8.1	EPA-8270C		A10	1
2-Nitroaniline		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1
3-Nitroaniline		ND	mg/kg	10	0.76	EPA-8270C		A10	1
4-Nitroaniline		ND	mg/kg	10	1.3	EPA-8270C		A10	1
Nitrobenzene		ND	mg/kg	5.1	0.76	EPA-8270C		A10	1

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

BCL Sample ID:	1510778-21	Client Sampl	e Name:	Willow S	Willow Springs, FS-WS-B11-0.25, 5/4/2015 5:50:00PM						
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #		
N-Nitrosodimethylamine		ND	mg/kg	5.1	1.9	EPA-8270C		A10	1		
N-Nitrosodi-N-propylamine	9	ND	mg/kg	5.1	1.1	EPA-8270C		A10	1		
N-Nitrosodiphenylamine		ND	mg/kg	5.1	1.1	EPA-8270C		A10	1		
Phenanthrene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1		
Pyrene		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1		
1,2,4-Trichlorobenzene		ND	mg/kg	5.1	0.92	EPA-8270C		A10	1		
4-Chloro-3-methylphenol		ND	mg/kg	10	1.1	EPA-8270C		A10	1		
2-Chlorophenol		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1		
2,4-Dichlorophenol		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1		
2,4-Dimethylphenol		ND	mg/kg	5.1	1.8	EPA-8270C		A10	1		
4,6-Dinitro-2-methylphenol		ND	mg/kg	25	0.61	EPA-8270C		A10	1		
2,4-Dinitrophenol		ND	mg/kg	25	0.39	EPA-8270C		A10	1		
2-Methylphenol		ND	mg/kg	5.1	0.86	EPA-8270C		A10	1		
3- & 4-Methylphenol		ND	mg/kg	10	1.7	EPA-8270C		A10	1		
2-Nitrophenol		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1		
4-Nitrophenol		ND	mg/kg	10	0.92	EPA-8270C		A10	1		
Pentachlorophenol		ND	mg/kg	10	0.66	EPA-8270C	17	A10	1		
Phenol		ND	mg/kg	5.1	0.81	EPA-8270C		A10	1		
2,4,5-Trichlorophenol		ND	mg/kg	10	0.92	EPA-8270C		A10	1		
2,4,6-Trichlorophenol		ND	mg/kg	10	0.86	EPA-8270C		A10	1		
2-Fluorophenol (Surrogate)	0	%	20 - 130 (I	_CL - UCL)	EPA-8270C		A10,A17	1		
Phenol-d5 (Surrogate)		0	%	30 - 130 (I	_CL - UCL)	EPA-8270C		A10,A17	1		
Nitrobenzene-d5 (Surroga	te)	81.2	%	30 - 130 (I	_CL - UCL)	EPA-8270C		A10	1		
2-Fluorobiphenyl (Surroga	te)	88.7	%	20 - 140 (I	_CL - UCL)	EPA-8270C		A10	1		
2,4,6-Tribromophenol (Sur	rogate)	88.1	%	20 - 150 (I	_CL - UCL)	EPA-8270C		A10	1		
p-Terphenyl-d14 (Surrogat	e)	71.0	%	30 - 150 (l	_CL - UCL)	EPA-8270C		A10	1		

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C	05/06/15	05/11/15 17:55	VH1	MS-B1	50.847	BYE0716	

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Environmental Testing Laboratory Since 1949

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat

Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1510778-21	Client Sampl	e Name:	Willow Sp	rings, FS-V	VS-B11-0.25, 5/4/2	2015 5:50:0	00PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene		0.69	mg/kg	0.075	0.045	EPA-8270C-SIM	ND	A01	1
Acenaphthylene		0.16	mg/kg	0.075	0.042	EPA-8270C-SIM	ND	A01	1
Anthracene		0.36	mg/kg	0.075	0.020	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene		0.046	mg/kg	0.075	0.018	EPA-8270C-SIM	ND	J,A01	1
Benzo[b]fluoranthene		0.10	mg/kg	0.075	0.035	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene		ND	mg/kg	0.075	0.024	EPA-8270C-SIM	ND	A01	1
Benzo[a]pyrene		ND	mg/kg	0.075	0.018	EPA-8270C-SIM	ND	A01	1
Benzo[g,h,i]perylene		0.11	mg/kg	0.075	0.042	EPA-8270C-SIM	ND	A01	1
Chrysene		0.15	mg/kg	0.075	0.014	EPA-8270C-SIM	ND	A01	1
Dibenzo[a,h]anthracene		ND	mg/kg	0.075	0.030	EPA-8270C-SIM	ND	A01	1
Fluoranthene		0.15	mg/kg	0.075	0.0087	EPA-8270C-SIM	ND	A01	1
Fluorene		1.7	mg/kg	0.075	0.024	EPA-8270C-SIM	ND	A01	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.075	0.021	EPA-8270C-SIM	ND	A01	1
Naphthalene		0.34	mg/kg	0.075	0.057	EPA-8270C-SIM	ND	A01	1
Phenanthrene		0.22	mg/kg	0.075	0.0099	EPA-8270C-SIM	ND	A01	1
Pyrene		2.4	mg/kg	0.075	0.014	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surroga	te)	264	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1
2-Fluorobiphenyl (Surroga	ite)	157	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1
p-Terphenyl-d14 (Surroga	te)	328	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	05/06/15	05/08/15 21:08	MK1	MS-B4	24.834	BYE0609	

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-21	Client Sampl	e Name:	Willow Sp	Willow Springs, FS-WS-B11-0.25, 5/4/2015 5:50:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH Gas(C4-C12)		ND	mg/kg	4000	1000	EPA-8015B/FFP	ND	A01	1		
TPH Diesel (C13-C22)		19000	mg/kg	2000	240	EPA-8015B/FFP	ND	A01	1		
TPH Motor Oil (C23-32))	ND	mg/kg	4000	1300	EPA-8015B/FFP	ND	A01	1		
Tetracosane (Surrogate	2)	0	%	30 - 130 (LC	L - UCL)	EPA-8015B/FFP		A01,A17	1		

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/06/15	05/11/15 10:39	MWB	GC-2	198.68	BYE0622



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000

Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

BCL Sample ID:	1510778-21	Client Sampl	e Name:	Willow Sp	orings, FS-\	VS-B11-0.25, 5/4	4/2015 5:50:0	0PM	
Constituent		Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	500		1
Arsenic		8.4	mg/kg	1.0	0.40	EPA-6010B	500		1
Barium		63	mg/kg	0.50	0.18	EPA-6010B	10000		1
Beryllium		0.44	mg/kg	0.50	0.047	EPA-6010B	75	J	1
Cadmium		ND	mg/kg	0.50	0.052	EPA-6010B	100		1
Chromium		33	mg/kg	0.50	0.050	EPA-6010B	2500		1
Cobalt		8.7	mg/kg	2.5	0.098	EPA-6010B	8000		1
Copper		17	mg/kg	1.0	0.050	EPA-6010B	2500		1
Lead		5.9	mg/kg	2.5	0.28	EPA-6010B	1000		1
Mercury		ND	mg/kg	0.16	0.036	EPA-7471A	20		2
Molybdenum		ND	mg/kg	2.5	0.050	EPA-6010B	3500		1
Nickel		27	mg/kg	0.50	0.15	EPA-6010B	2000		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	100		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	500		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	700		1
Vanadium		42	mg/kg	0.50	0.11	EPA-6010B	2400		1
Zinc		52	mg/kg	2.5	0.087	EPA-6010B	5000		1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	05/06/15	05/07/15 12:18	ARD	PE-OP3	0.952	BYE0471
2	EPA-7471A	05/06/15	05/07/15 15:35	MEV	CETAC1	0.962	BYE0474

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Laboratories, Inc.

URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

BCL Sample ID:	1510778-22	Client Sampl	Willow Sp	Willow Springs, FS-WS-B11-2.0, 5/4/2015 6:05:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH Gas(C4-C12)		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH Diesel (C13-C22)		26	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH Motor Oil (C23-32)	I	26	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogate)	80.0	%	30 - 130 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	05/06/15	05/08/15 03:26	MWB	GC-13	1.014	BYE0622



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Organochlorine Pesticides (EPA Method 8081B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0721						
Aldrin	BYE0721-BLK1	ND	mg/kg	0.00050	0.000026	
alpha-BHC	BYE0721-BLK1	ND	mg/kg	0.00050	0.00014	
beta-BHC	BYE0721-BLK1	ND	mg/kg	0.00050	0.00038	
delta-BHC	BYE0721-BLK1	ND	mg/kg	0.00050	0.000076	
gamma-BHC (Lindane)	BYE0721-BLK1	ND	mg/kg	0.00050	0.00025	
Chlordane (Technical)	BYE0721-BLK1	ND	mg/kg	0.050	0.015	
4,4'-DDD	BYE0721-BLK1	ND	mg/kg	0.00050	0.000063	
4,4'-DDE	BYE0721-BLK1	ND	mg/kg	0.00050	0.000045	
4,4'-DDT	BYE0721-BLK1	ND	mg/kg	0.00050	0.000031	
Dieldrin	BYE0721-BLK1	ND	mg/kg	0.00050	0.000032	
Endosulfan I	BYE0721-BLK1	ND	mg/kg	0.00050	0.000086	
Endosulfan II	BYE0721-BLK1	ND	mg/kg	0.00050	0.000066	
Endosulfan sulfate	BYE0721-BLK1	ND	mg/kg	0.00050	0.00013	
Endrin	BYE0721-BLK1	ND	mg/kg	0.00050	0.000035	
Endrin aldehyde	BYE0721-BLK1	ND	mg/kg	0.00050	0.000061	
Heptachlor	BYE0721-BLK1	ND	mg/kg	0.00050	0.00026	
Heptachlor epoxide	BYE0721-BLK1	ND	mg/kg	0.00050	0.00015	
Methoxychlor	BYE0721-BLK1	ND	mg/kg	0.00050	0.00013	
Toxaphene	BYE0721-BLK1	ND	mg/kg	0.050	0.0074	
TCMX (Surrogate)	BYE0721-BLK1	81.9	%	20 - 13	0 (LCL - UCL)	
Decachlorobiphenyl (Surrogate)	BYE0721-BLK1	81.9	%	40 - 13	0 (LCL - UCL)	



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Organochlorine Pesticides (EPA Method 8081B)

Quality Control Report - Laboratory Control Sample

								Control L	_imits		
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: BYE0721											
Aldrin	BYE0721-BS1	LCS	0.0041816	0.0050167	mg/kg	83.4		70 - 130			
gamma-BHC (Lindane)	BYE0721-BS1	LCS	0.0043318	0.0050167	mg/kg	86.3		60 - 140			
4,4'-DDT	BYE0721-BS1	LCS	0.0040385	0.0050167	mg/kg	80.5		60 - 140			
Dieldrin	BYE0721-BS1	LCS	0.0043548	0.0050167	mg/kg	86.8		70 - 130			
Endrin	BYE0721-BS1	LCS	0.0039896	0.0050167	mg/kg	79.5		60 - 140			
Heptachlor	BYE0721-BS1	LCS	0.0043428	0.0050167	mg/kg	86.6		60 - 140			
TCMX (Surrogate)	BYE0721-BS1	LCS	0.0079482	0.010033	mg/kg	79.2		20 - 130			
Decachlorobiphenyl (Surrogate)	BYE0721-BS1	LCS	0.016093	0.020067	mg/kg	80.2		40 - 130			



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Organochlorine Pesticides (EPA Method 8081B)

Quality Control Report - Precision & Accuracy

ol Limits	
Percent	Lab
Recovery	Quals
50 - 140	
50 - 140	
50 - 140	
50 - 140	
50 - 140	
50 - 140	
40 - 140	
40 - 140	
50 - 150	
50 - 150	
30 - 140	
30 - 140	
20 - 130	
20 - 130	
10 - 130	
1 0 - 130	
	50 - 150 50 - 150 60 - 140 60 - 140 20 - 130 20 - 130 40 - 130 40 - 130



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0641						
Azinphos methyl	BYE0641-BLK1	ND	mg/kg	0.010	0.0015	
Bolstar	BYE0641-BLK1	ND	mg/kg	0.010	0.00074	
Chlorpyrifos	BYE0641-BLK1	ND	mg/kg	0.010	0.0011	
Coumaphos	BYE0641-BLK1	ND	mg/kg	0.010	0.00088	
Demeton O/S	BYE0641-BLK1	ND	mg/kg	0.010	0.0030	
Diazinon	BYE0641-BLK1	ND	mg/kg	0.010	0.00046	
Dichlorvos	BYE0641-BLK1	ND	mg/kg	0.010	0.0015	
Disulfoton	BYE0641-BLK1	ND	mg/kg	0.010	0.0012	
Ethoprop	BYE0641-BLK1	ND	mg/kg	0.010	0.0013	
Fensulfothion	BYE0641-BLK1	ND	mg/kg	0.010	0.0014	
Fenthion	BYE0641-BLK1	ND	mg/kg	0.010	0.00086	
Merphos	BYE0641-BLK1	ND	mg/kg	0.010	0.00068	
Methyl parathion	BYE0641-BLK1	ND	mg/kg	0.010	0.0011	
Mevinphos	BYE0641-BLK1	ND	mg/kg	0.010	0.00080	
Naled	BYE0641-BLK1	ND	mg/kg	0.050	0.0095	
Phorate	BYE0641-BLK1	ND	mg/kg	0.010	0.0015	
Ronnel (Fenchlorphos)	BYE0641-BLK1	ND	mg/kg	0.010	0.00073	
Stirophos (Tetrachlorvinphos)	BYE0641-BLK1	ND	mg/kg	0.010	0.00094	
Tokuthion (Prothiofos)	BYE0641-BLK1	ND	mg/kg	0.010	0.0010	
Trichloronate	BYE0641-BLK1	ND	mg/kg	0.010	0.00083	
	BYE0641-BLK1	58.2	%	40 - 12	0 (LCL - UCL)	

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)

Quality Control Report - Laboratory Control Sample

							Control Limits				
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: BYE0641											
Bolstar	BYE0641-BS1	LCS	0.019398	0.026756	mg/kg	72.5		50 - 130			
Chlorpyrifos	BYE0641-BS1	LCS	0.020401	0.026756	mg/kg	76.2		60 - 140			
Diazinon	BYE0641-BS1	LCS	0.022408	0.026756	mg/kg	83.7		40 - 120			
Methyl parathion	BYE0641-BS1	LCS	0.019398	0.026756	mg/kg	72.5		60 - 120			
Mevinphos	BYE0641-BS1	LCS	0.018896	0.026756	mg/kg	70.6		50 - 120			
Ronnel (Fenchlorphos)	BYE0641-BS1	LCS	0.020067	0.026756	mg/kg	75.0		50 - 120			
Stirophos (Tetrachlorvinphos)	BYE0641-BS1	LCS	0.017057	0.026756	mg/kg	63.8		60 - 140			
Triphenylphosphate (Surrogate)	BYE0641-BS1	LCS	0.048829	0.083612	mg/kg	58.4		40 - 120			

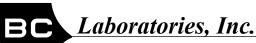


URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Organo-Phosphorus Pesticide Analysis (EPA Method 8141B)

Control Limits Source Source Spike Percent Percent Lab Constituent Туре Sample ID Result Added Units RPD Recovery RPD **Recovery Quals** Result Used client sample: N QC Batch ID: BYE0641 MS 1506890-67 ND 0.020792 0.026403 78 8 40 - 140 Bolstar mg/kg 1506890-67 ND 0.019900 0.026756 mg/kg 4.4 74.4 30 40 - 140 MSD 75.0 Chlorpyrifos MS 1506890-67 ND 0.019802 0.026403 mg/kg 40 - 130 1506890-67 ND 0.021405 0.026756 80.0 40 - 130 MSD mg/kg 7.8 30 Diazinon MS 1506890-67 ND 0.021617 0.026403 mg/kg 81.9 40 - 120 1506890-67 ND 0.021739 0.026756 mg/kg 0.6 81.2 30 40 - 120 MSD Methyl parathion 1506890-67 ND 0.018977 0.026403 71.9 40 - 125 MS mg/kg MSD 1506890-67 ND 0.019732 0.026756 mg/kg 3.9 73.7 30 40 - 125 Mevinphos 1506890-67 ND 0.021287 0.026403 80.6 40 - 140 MS mg/kg 1506890-67 ND 0.019900 0.026756 74.4 40 - 140 MSD mg/kg 6.7 30 40 - 120 Ronnel (Fenchlorphos) 1506890-67 ND 0.019472 0.026403 73.8 MS mg/kg 1506890-67 0.026756 7.9 78.8 ND 0.021070 mg/kg 30 40 - 120 MSD 0.026403 Stirophos (Tetrachlorvinphos) MS 1506890-67 ND 0.016337 mg/kg 61.9 40 - 140 1506890-67 0.017726 0.026756 66.2 MSD ND mg/kg 8.2 30 40 - 140 Triphenylphosphate (Surrogate) MS 1506890-67 ND 0.049835 0.082508 mg/kg 60.4 40 - 120 1506890-67 ND 0.051839 0.083612 62.0 MSD mg/kg 3.9 40 - 120

Quality Control Report - Precision & Accuracy

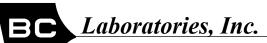


URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Method Blank Analysis

-	=		-		
QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
BYE0717-BLK1	ND	mg/kg	0.020	0.0029	
BYE0717-BLK1	ND	mg/kg	0.040	0.010	
BYE0717-BLK1	ND	mg/kg	0.050	0.012	
BYE0717-BLK1	ND	mg/kg	0.0020	0.0011	
BYE0717-BLK1	ND	mg/kg	0.020	0.0013	
BYE0717-BLK1	ND	mg/kg	0.0070	0.0023	
BYE0717-BLK1	ND	mg/kg	0.0030	0.0012	
BYE0717-BLK1	ND	mg/kg	0.0030	0.0024	
BYE0717-BLK1	85.3	%	40 - 12	0 (LCL - UCL)	
	BYE0717-BLK1 BYE0717-BLK1 BYE0717-BLK1 BYE0717-BLK1 BYE0717-BLK1 BYE0717-BLK1 BYE0717-BLK1 BYE0717-BLK1	BYE0717-BLK1 ND BYE0717-BLK1 ND	BYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kgBYE0717-BLK1NDmg/kg	BYE0717-BLK1 ND mg/kg 0.020 BYE0717-BLK1 ND mg/kg 0.040 BYE0717-BLK1 ND mg/kg 0.050 BYE0717-BLK1 ND mg/kg 0.020 BYE0717-BLK1 ND mg/kg 0.020 BYE0717-BLK1 ND mg/kg 0.020 BYE0717-BLK1 ND mg/kg 0.0020 BYE0717-BLK1 ND mg/kg 0.0070 BYE0717-BLK1 ND mg/kg 0.0030 BYE0717-BLK1 ND mg/kg 0.0030	BYE0717-BLK1 ND mg/kg 0.020 0.0029 BYE0717-BLK1 ND mg/kg 0.040 0.010 BYE0717-BLK1 ND mg/kg 0.050 0.012 BYE0717-BLK1 ND mg/kg 0.0020 0.0011 BYE0717-BLK1 ND mg/kg 0.020 0.0011 BYE0717-BLK1 ND mg/kg 0.020 0.0013 BYE0717-BLK1 ND mg/kg 0.0070 0.0023 BYE0717-BLK1 ND mg/kg 0.0030 0.0012 BYE0717-BLK1 ND mg/kg 0.0030 0.0024



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Laboratory Control Sample

								Control L	imits.		
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: BYE0717											
2,4-D	BYE0717-BS1	LCS	0.055814	0.079734	mg/kg	70.0		50 - 120			
2,4-DB	BYE0717-BS1	LCS	0.10797	0.17940	mg/kg	60.2		50 - 120			
Dicamba	BYE0717-BS1	LCS	0.012292	0.019934	mg/kg	61.7		50 - 120			
Dichloroprop	BYE0717-BS1	LCS	0.049834	0.079734	mg/kg	62.5		50 - 120			
Dinoseb	BYE0717-BS1	LCS	0.024917	0.039867	mg/kg	62.5		50 - 120			
2,4,5-T	BYE0717-BS1	LCS	0.014618	0.019934	mg/kg	73.3		30 - 120			
2,4,5-TP (Silvex)	BYE0717-BS1	LCS	0.013953	0.019934	mg/kg	70.0		50 - 120			
2,4-Dichlorophenylacetic acid (Surro	ogate) BYE0717-BS1	LCS	0.085050	0.13289	mg/kg	64.0		40 - 120			



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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Precision & Accuracy

								Control Limits			
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: BYE0717	Use	d client samp	le: N								
2,4-D	MS	1506890-55	ND	0.10436	0.080537	mg/kg		130		40 - 120	Q03
	MSD	1506890-55	ND	0.044040	0.079470	mg/kg	81.3	55.4	30	40 - 120	Q02
2,4-DB	MS	1506890-55	ND	0.23154	0.18121	mg/kg		128		50 - 120	Q03
	MSD	1506890-55	ND	0.12252	0.17881	mg/kg	61.6	68.5	30	50 - 120	Q02
Dicamba	MS	1506890-55	ND	0.025168	0.020134	mg/kg		125		50 - 120	Q03
	MSD	1506890-55	ND	0.012252	0.019868	mg/kg	69.0	61.7	30	50 - 120	Q02
Dichloroprop	MS	1506890-55	ND	0.11644	0.080537	mg/kg		145		40 - 120	Q03
	MSD	1506890-55	ND	0.056623	0.079470	mg/kg	69.1	71.2	30	40 - 120	Q02
Dinoseb	MS	1506890-55	ND	0.039262	0.040268	mg/kg		97.5		40 - 130	
	MSD	1506890-55	ND	0.028477	0.039735	mg/kg	31.8	71.7	30	40 - 130	Q02
2,4,5-T	MS	1506890-55	ND	0.026510	0.020134	mg/kg		132		30 - 120	Q03
	MSD	1506890-55	ND	0.014901	0.019868	mg/kg	56.1	75.0	30	30 - 120	Q02
2,4,5-TP (Silvex)	MS	1506890-55	ND	0.032215	0.020134	mg/kg		160		40 - 120	Q03
	MSD	1506890-55	ND	0.013245	0.019868	mg/kg	83.5	66.7	30	40 - 120	Q02
2,4-Dichlorophenylacetic acid (Sur	roga MS	1506890-55	ND	0.16678	0.13423	mg/kg		124		40 - 120	S09
	MSD	1506890-55	ND	0.098013	0.13245	mg/kg	51.9	74.0		40 - 120	



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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0343						
Benzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
Bromobenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
Bromochloromethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.00092	
Bromodichloromethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.00084	
Bromoform	BYE0343-BLK1	ND	mg/kg	0.0050	0.0015	
Bromomethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0016	
n-Butylbenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0015	
sec-Butylbenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0012	
tert-Butylbenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0012	
Carbon tetrachloride	BYE0343-BLK1	ND	mg/kg	0.0050	0.0011	
Chlorobenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
Chloroethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0014	
Chloroform	BYE0343-BLK1	ND	mg/kg	0.0050	0.00063	
Chloromethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0014	
2-Chlorotoluene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0018	
4-Chlorotoluene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0014	
Dibromochloromethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.00099	
1,2-Dibromo-3-chloropropane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0017	
1,2-Dibromoethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0010	
Dibromomethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0018	
1,2-Dichlorobenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichlorobenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0014	
1,4-Dichlorobenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0015	
Dichlorodifluoromethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloroethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloroethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.00085	
1,1-Dichloroethene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,2-Dichloroethene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
trans-1,2-Dichloroethene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloropropane	BYE0343-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichloropropane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0011	
2,2-Dichloropropane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloropropene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,3-Dichloropropene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0011	

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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0343						
trans-1,3-Dichloropropene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0012	
Ethylbenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0015	
Hexachlorobutadiene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0017	
Isopropylbenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
p-Isopropyltoluene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
Methylene chloride	BYE0343-BLK1	ND	mg/kg	0.010	0.0024	
Methyl t-butyl ether	BYE0343-BLK1	ND	mg/kg	0.0050	0.00050	
Naphthalene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0014	
n-Propylbenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
Styrene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0014	
1,1,1,2-Tetrachloroethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2,2-Tetrachloroethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0011	
Tetrachloroethene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
Toluene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0012	
1,2,3-Trichlorobenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0021	
1,2,4-Trichlorobenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0020	
1,1,1-Trichloroethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2-Trichloroethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.00077	
Trichloroethene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0011	
Trichlorofluoromethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0011	
1,2,3-Trichloropropane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0016	
1,1,2-Trichloro-1,2,2-trifluoroethane	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
1,2,4-Trimethylbenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0013	
1,3,5-Trimethylbenzene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0015	
Vinyl chloride	BYE0343-BLK1	ND	mg/kg	0.0050	0.0016	
Total Xylenes	BYE0343-BLK1	ND	mg/kg	0.010	0.0034	
t-Amyl Methyl ether	BYE0343-BLK1	ND	mg/kg	0.0050	0.00056	
t-Butyl alcohol	BYE0343-BLK1	ND	mg/kg	0.050	0.017	
Diisopropyl ether	BYE0343-BLK1	ND	mg/kg	0.0050	0.00080	
Ethyl t-butyl ether	BYE0343-BLK1	ND	mg/kg	0.0050	0.00022	
p- & m-Xylenes	BYE0343-BLK1	ND	mg/kg	0.0050	0.0022	
o-Xylene	BYE0343-BLK1	ND	mg/kg	0.0050	0.0012	
1,2-Dichloroethane-d4 (Surrogate)	BYE0343-BLK1	100	%	70 - 12	1 (LCL - UCL)	
Toluene-d8 (Surrogate)	BYE0343-BLK1	99.4	%	81 - 11	7 (LCL - UCL)	

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Report ID: 1000354828



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0343						
4-Bromofluorobenzene (Surrogate)	BYE0343-BLK1	96.0	%	74 - 12	1 (LCL - UCL)	

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Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

<u>its</u>
Lab PD Quals



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

								Control Limits				
		Source	Source		Spike			Percent		Percent	Lab	
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals	
QC Batch ID: BYE0343	Use	d client same	le: N									
Benzene	ш MS	1506890-66	ND	0.10954	0.12500	mg/kg		87.6		70 - 130		
	MSD	1506890-66	ND	0.11638	0.12500	mg/kg	6.1	93.1	20	70 - 130		
Bromodichloromethane	MS	1506890-66	ND	0.11076	0.12500	mg/kg		88.6		70 - 130		
	MSD	1506890-66	ND	0.11704	0.12500	mg/kg	5.5	93.6	20	70 - 130		
Chlorobenzene	MS	1506890-66	ND	0.10298	0.12500	mg/kg		82.4		70 - 130		
	MSD	1506890-66	ND	0.10854	0.12500	mg/kg	5.3	86.8	20	70 - 130		
Chloroethane	MS	1506890-66	ND	0.11220	0.12500	mg/kg		89.8		70 - 130		
	MSD	1506890-66	ND	0.11464	0.12500	mg/kg	2.2	91.7	20	70 - 130		
1,4-Dichlorobenzene	MS	1506890-66	ND	0.10491	0.12500	mg/kg		83.9		70 - 130		
	MSD	1506890-66	ND	0.11082	0.12500	mg/kg	5.5	88.7	20	70 - 130		
1,1-Dichloroethane	MS	1506890-66	ND	0.11061	0.12500	mg/kg		88.5		70 - 130		
	MSD	1506890-66	ND	0.11839	0.12500	mg/kg	6.8	94.7	20	70 - 130		
1,1-Dichloroethene	MS	1506890-66	ND	0.10755	0.12500	mg/kg		86.0		70 - 130		
	MSD	1506890-66	ND	0.11349	0.12500	mg/kg	5.4	90.8	20	70 - 130		
Toluene	MS	1506890-66	ND	0.11059	0.12500	mg/kg		88.5		70 - 130		
	MSD	1506890-66	ND	0.11091	0.12500	mg/kg	0.3	88.7	20	70 - 130		
Trichloroethene	MS	1506890-66	ND	0.10634	0.12500	mg/kg		85.1		70 - 130		
	MSD	1506890-66	ND	0.10931	0.12500	mg/kg	2.8	87.4	20	70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	MS	1506890-66	ND	0.054620	0.050000	mg/kg		109		70 - 121		
	MSD	1506890-66	ND	0.054990	0.050000	mg/kg	0.7	110		70 - 121		
Toluene-d8 (Surrogate)	MS	1506890-66	ND	0.049710	0.050000	mg/kg		99.4		81 - 117		
	MSD	1506890-66	ND	0.050170	0.050000	mg/kg	0.9	100		81 - 117		
4-Bromofluorobenzene (Surrogate)	MS	1506890-66	ND	0.050000	0.050000	mg/kg		100		74 - 121		
	MSD	1506890-66	ND	0.051020	0.050000	mg/kg	2.0	102		74 - 121		

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0716						
Acenaphthene	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
Acenaphthylene	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
Aldrin	BYE0716-BLK1	ND	mg/kg	0.10	0.024	
Aniline	BYE0716-BLK1	ND	mg/kg	0.20	0.053	
Anthracene	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
Benzidine	BYE0716-BLK1	ND	mg/kg	3.0	0.22	
Benzo[a]anthracene	BYE0716-BLK1	ND	mg/kg	0.10	0.012	
Benzo[b]fluoranthene	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
Benzo[k]fluoranthene	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
Benzo[a]pyrene	BYE0716-BLK1	ND	mg/kg	0.10	0.015	
Benzo[g,h,i]perylene	BYE0716-BLK1	ND	mg/kg	0.10	0.056	
Benzoic acid	BYE0716-BLK1	ND	mg/kg	0.50	0.067	
Benzyl alcohol	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
Benzyl butyl phthalate	BYE0716-BLK1	ND	mg/kg	0.10	0.021	
alpha-BHC	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
beta-BHC	BYE0716-BLK1	ND	mg/kg	0.10	0.021	
delta-BHC	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
gamma-BHC (Lindane)	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
bis(2-Chloroethoxy)methane	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
bis(2-Chloroethyl) ether	BYE0716-BLK1	ND	mg/kg	0.10	0.016	
bis(2-Chloroisopropyl)ether	BYE0716-BLK1	ND	mg/kg	0.10	0.021	
bis(2-Ethylhexyl)phthalate	BYE0716-BLK1	ND	mg/kg	0.20	0.043	
4-Bromophenyl phenyl ether	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
4-Chloroaniline	BYE0716-BLK1	ND	mg/kg	0.10	0.027	
2-Chloronaphthalene	BYE0716-BLK1	ND	mg/kg	0.10	0.020	
4-Chlorophenyl phenyl ether	BYE0716-BLK1	ND	mg/kg	0.10	0.015	
Chrysene	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
4,4'-DDD	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
4,4'-DDE	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
4,4'-DDT	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
Dibenzo[a,h]anthracene	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
Dibenzofuran	BYE0716-BLK1	ND	mg/kg	0.10	0.020	
1,2-Dichlorobenzene	BYE0716-BLK1	ND	mg/kg	0.10	0.020	
1,3-Dichlorobenzene	BYE0716-BLK1	ND	mg/kg	0.10	0.021	

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Report ID: 1000354828



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0716						
1,4-Dichlorobenzene	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
3,3-Dichlorobenzidine	BYE0716-BLK1	ND	mg/kg	0.20	0.0067	
Dieldrin	BYE0716-BLK1	ND	mg/kg	0.10	0.031	
Diethyl phthalate	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
Dimethyl phthalate	BYE0716-BLK1	ND	mg/kg	0.10	0.020	
Di-n-butyl phthalate	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
2,4-Dinitrotoluene	BYE0716-BLK1	ND	mg/kg	0.10	0.022	
2,6-Dinitrotoluene	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
Di-n-octyl phthalate	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
1,2-Diphenylhydrazine	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
Endosulfan I	BYE0716-BLK1	ND	mg/kg	0.20	0.020	
Endosulfan II	BYE0716-BLK1	ND	mg/kg	0.20	0.021	
Endosulfan sulfate	BYE0716-BLK1	ND	mg/kg	0.10	0.021	
Endrin	BYE0716-BLK1	ND	mg/kg	0.20	0.025	
Endrin aldehyde	BYE0716-BLK1	ND	mg/kg	0.50	0.022	
Fluoranthene	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
Fluorene	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
Heptachlor	BYE0716-BLK1	ND	mg/kg	0.10	0.021	
Heptachlor epoxide	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
Hexachlorobenzene	BYE0716-BLK1	ND	mg/kg	0.10	0.016	
Hexachlorobutadiene	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
Hexachlorocyclopentadiene	BYE0716-BLK1	ND	mg/kg	0.10	0.019	
Hexachloroethane	BYE0716-BLK1	ND	mg/kg	0.10	0.020	
Indeno[1,2,3-cd]pyrene	BYE0716-BLK1	ND	mg/kg	0.10	0.072	
Isophorone	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
2-Methylnaphthalene	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
Naphthalene	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
2-Naphthylamine	BYE0716-BLK1	ND	mg/kg	3.0	0.16	
2-Nitroaniline	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
3-Nitroaniline	BYE0716-BLK1	ND	mg/kg	0.20	0.015	
4-Nitroaniline	BYE0716-BLK1	ND	mg/kg	0.20	0.025	
Nitrobenzene	BYE0716-BLK1	ND	mg/kg	0.10	0.015	
N-Nitrosodimethylamine	BYE0716-BLK1	ND	mg/kg	0.10	0.037	
N-Nitrosodi-N-propylamine	BYE0716-BLK1	ND	mg/kg	0.10	0.021	

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Report ID: 1000354828



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0716						
N-Nitrosodiphenylamine	BYE0716-BLK1	ND	mg/kg	0.10	0.021	
Phenanthrene	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
Pyrene	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
1,2,4-Trichlorobenzene	BYE0716-BLK1	ND	mg/kg	0.10	0.018	
4-Chloro-3-methylphenol	BYE0716-BLK1	ND	mg/kg	0.20	0.022	
2-Chlorophenol	BYE0716-BLK1	ND	mg/kg	0.10	0.016	
2,4-Dichlorophenol	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
2,4-Dimethylphenol	BYE0716-BLK1	ND	mg/kg	0.10	0.035	
4,6-Dinitro-2-methylphenol	BYE0716-BLK1	ND	mg/kg	0.50	0.012	
2,4-Dinitrophenol	BYE0716-BLK1	ND	mg/kg	0.50	0.0077	
2-Methylphenol	BYE0716-BLK1	ND	mg/kg	0.10	0.017	
3- & 4-Methylphenol	BYE0716-BLK1	ND	mg/kg	0.20	0.033	
2-Nitrophenol	BYE0716-BLK1	ND	mg/kg	0.10	0.016	
4-Nitrophenol	BYE0716-BLK1	ND	mg/kg	0.20	0.018	
Pentachlorophenol	BYE0716-BLK1	ND	mg/kg	0.20	0.013	
Phenol	BYE0716-BLK1	ND	mg/kg	0.10	0.016	
2,4,5-Trichlorophenol	BYE0716-BLK1	ND	mg/kg	0.20	0.018	
2,4,6-Trichlorophenol	BYE0716-BLK1	ND	mg/kg	0.20	0.017	
2-Fluorophenol (Surrogate)	BYE0716-BLK1	63.9	%	20 - 13	0 (LCL - UCL)	
Phenol-d5 (Surrogate)	BYE0716-BLK1	69.3	%	30 - 13	0 (LCL - UCL)	
Nitrobenzene-d5 (Surrogate)	BYE0716-BLK1	68.5	%	30 - 13	0 (LCL - UCL)	
2-Fluorobiphenyl (Surrogate)	BYE0716-BLK1	72.2	%	20 - 14	0 (LCL - UCL)	
2,4,6-Tribromophenol (Surrogate)	BYE0716-BLK1	74.6	%	20 - 15	0 (LCL - UCL)	
p-Terphenyl-d14 (Surrogate)	BYE0716-BLK1	80.6	%	30 - 15	0 (LCL - UCL)	



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID			-						
	UC Samnie III	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
QC Batch ID: BYE0716					0.110					
Acenaphthene	BYE0716-BS1	LCS	1.4789	1.6502	mg/kg	89.6		50 - 140		
1,4-Dichlorobenzene	BYE0716-BS1	LCS	1.2676	1.6502	mg/kg	76.8		40 - 140		
2,4-Dinitrotoluene	BYE0716-BS1	LCS	1.6338	1.6502	mg/kg	99.0		40 - 140		
Hexachlorobenzene	BYE0716-BS1	LCS	1.1206	1.6502	mg/kg	67.9		40 - 130		
Hexachlorobutadiene	BYE0716-BS1	LCS	1.2974	1.6502	mg/kg	78.6		40 - 120		
Hexachloroethane	BYE0716-BS1	LCS	1.3378	1.6502	mg/kg	81.1		40 - 120		
Nitrobenzene	BYE0716-BS1	LCS	1.2209	1.6502	mg/kg	74.0		40 - 130		
N-Nitrosodi-N-propylamine	BYE0716-BS1	LCS	1.3005	1.6502	mg/kg	78.8		40 - 120		
Pyrene	BYE0716-BS1	LCS	1.6072	1.6502	mg/kg	97.4		40 - 150		
1,2,4-Trichlorobenzene	BYE0716-BS1	LCS	1.4178	1.6502	mg/kg	85.9		40 - 140		
4-Chloro-3-methylphenol	BYE0716-BS1	LCS	1.4720	1.6502	mg/kg	89.2		40 - 130		
2-Chlorophenol	BYE0716-BS1	LCS	1.2140	1.6502	mg/kg	73.6		40 - 130		
2-Methylphenol	BYE0716-BS1	LCS	1.3181	1.6502	mg/kg	79.9		40 - 140		
3- & 4-Methylphenol	BYE0716-BS1	LCS	2.6073	3.3003	mg/kg	79.0		40 - 120		
4-Nitrophenol	BYE0716-BS1	LCS	1.1877	1.6502	mg/kg	72.0		20 - 120		
Pentachlorophenol	BYE0716-BS1	LCS	1.1177	1.6502	mg/kg	67.7		20 - 130		
Phenol	BYE0716-BS1	LCS	1.2253	1.6502	mg/kg	74.3		40 - 120		
2,4,6-Trichlorophenol	BYE0716-BS1	LCS	1.4219	1.6502	mg/kg	86.2		40 - 130		
2-Fluorophenol (Surrogate)	BYE0716-BS1	LCS	1.9351	2.6403	mg/kg	73.3		20 - 130		
Phenol-d5 (Surrogate)	BYE0716-BS1	LCS	2.0797	2.6403	mg/kg	78.8		30 - 130		
Nitrobenzene-d5 (Surrogate)	BYE0716-BS1	LCS	1.9574	2.6403	mg/kg	74.1		30 - 130		
2-Fluorobiphenyl (Surrogate)	BYE0716-BS1	LCS	2.1712	2.6403	mg/kg	82.2		20 - 140		
2,4,6-Tribromophenol (Surrogate)	BYE0716-BS1	LCS	2.7224	2.6403	mg/kg	103		20 - 150		
p-Terphenyl-d14 (Surrogate)	BYE0716-BS1	LCS	1.2968	1.6502	mg/kg	78.6		30 - 150		

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Control Limits Source Source Spike Percent Percent Lab Constituent Sample ID Result Added RPD RPD Quals Туре Result Units Recovery Recovery Used client sample: N QC Batch ID: BYE0716 1506890-66 ND 90.6 Acenaphthene 1 5359 1 6949 40 - 140 MS mg/kg 1506890-66 ND 1.1790 1.6892 26.3 69.8 30 40 - 140 MSD mg/kg 1,4-Dichlorobenzene MS 1506890-66 ND 1.4412 1.6949 mg/kg 85.0 30 - 150 1506890-66 ND 1.1714 1.6892 mg/kg 20.7 69.3 30 30 - 150 MSD 2,4-Dinitrotoluene 1506890-66 ND 1.6243 1.6949 95.8 30 - 140 MS mg/kg 1506890-66 ND 1.3071 1.6892 21.6 774 30 30 - 140 mg/kg MSD Hexachlorobenzene 1506890-66 ND 1.1712 1.6949 69.1 30 - 140 MS mg/kg 1506890-66 ND 0.83730 1.6892 mg/kg 33.3 49.6 30 30 - 140 Q02 MSD Hexachlorobutadiene ND 1.4829 1.6949 MS 1506890-66 mg/kg 87.5 20 - 140 1506890-66 ND 1.1667 1.6892 MSD ma/ka 23.9 69.1 30 20 - 140 1506890-66 1.6949 Hexachloroethane MS ND 1.5185 mg/kg 89.6 30 - 140 1506890-66 ND 1.1412 1.6892 28.4 67.6 30 30 - 140 MSD mg/kg Nitrobenzene MS 1506890-66 ND 1.3889 1.6949 81.9 30 - 140 mg/kg 1506890-66 MSD ND 1.1161 1.6892 mg/kg 21.8 66.1 30 30 - 140 N-Nitrosodi-N-propylamine MS 1506890-66 ND 1.4622 1.6949 mg/kg 86.3 30 - 120 1506890-66 ND 1.1244 1.6892 mg/kg 26.1 66.6 30 30 - 120 MSD Pyrene 1506890-66 ND 1.9482 1.6949 115 40 - 150 MS mg/kg 1506890-66 ND 1.4150 1.6892 31.7 83.8 40 - 150 Q02 MSD mg/kg 30 1.2.4-Trichlorobenzene 1506890-66 ND 1 5826 MS 1.6949 mg/kg 93.4 30 - 150 1506890-66 ND 1.2674 1.6892 22.1 75.0 30 - 150 MSD mg/kg 30 4-Chloro-3-methylphenol MS 1506890-66 ND 1.7079 1.6949 mg/kg 101 40 - 1301506890-66 MSD ND 1.1667 1.6892 mg/kg 37.6 69.1 30 40 - 130 Q02 2-Chlorophenol 1506890-66 ND 1.2926 1.6949 76.3 40 - 130 MS mg/kg 1506890-66 ND 1.0101 1.6892 24.5 59.8 30 40 - 130 MSD mg/kg 2-Methylphenol 1506890-66 ND 1.5461 1.6949 91.2 30 - 140 MS mg/kg 1506890-66 ND 1.0859 1.6892 35.0 64.3 30 30 - 140 Q02 MSD mg/kg 3- & 4-Methylphenol MS 1506890-66 ND 2.8508 3.3898 mg/kg 84.1 40 - 130 1506890-66 ND 2.1037 3.3784 30.2 62.3 30 40 - 130 Q02 MSD mg/kg 4-Nitrophenol MS 1506890-66 ND 1.0104 1.6949 mg/kg 59.6 20 - 140 1506890-66 ND 0.73334 1.6892 31.8 43.4 20 - 140 Q02 MSD mg/kg 30 Pentachlorophenol MS 1506890-66 ND 1.1245 1.6949 ma/ka 66.3 20 - 130 1506890-66 ND 0.73268 MSD 1.6892 mg/kg 42.2 43.4 30 20 - 130 Q02 1506890-66 ND Phenol 1 3 3 0 4 1 6949 78 5 30 - 130 MS ma/ka 1506890-66 ND 1.0144 1.6892 mg/kg 26.9 60.1 30 30 - 130 MSD ND 2,4,6-Trichlorophenol 1506890-66 1.5168 1.6949 89.5 40 - 130 MS mg/kg MSD 1506890-66 ND 1.0469 1.6892 mg/kg 36.7 62.0 30 40 - 130 Q02

Quality Control Report - Precision & Accuracy

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Report ID: 1000354828



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

									Conti	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: BYE0716	Use	d client samp	le: N								
2-Fluorophenol (Surrogate)	MS	1506890-66	ND	2.2774	2.7119	mg/kg		84.0		20 - 130	
	MSD	1506890-66	ND	1.7316	2.7027	mg/kg	27.2	64.1		20 - 130	
Phenol-d5 (Surrogate)	MS	1506890-66	ND	2.3606	2.7119	mg/kg		87.0		30 - 130	
	MSD	1506890-66	ND	1.7640	2.7027	mg/kg	28.9	65.3		30 - 130	
Nitrobenzene-d5 (Surrogate)	MS	1506890-66	ND	2.1603	2.7119	mg/kg		79.7		30 - 130	
	MSD	1506890-66	ND	1.7114	2.7027	mg/kg	23.2	63.3		30 - 130	
2-Fluorobiphenyl (Surrogate)	MS	1506890-66	ND	2.3408	2.7119	mg/kg		86.3		20 - 140	
	MSD	1506890-66	ND	1.7865	2.7027	mg/kg	26.9	66.1		20 - 140	
2,4,6-Tribromophenol (Surrogate)	MS	1506890-66	ND	3.0169	2.7119	mg/kg		111		20 - 150	
	MSD	1506890-66	ND	2.0027	2.7027	mg/kg	40.4	74.1		20 - 150	
p-Terphenyl-d14 (Surrogate)	MS	1506890-66	ND	1.5244	1.6949	mg/kg		89.9		30 - 150	
	MSD	1506890-66	ND	1.0975	1.6892	mg/kg	32.6	65.0		30 - 150	



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Method Blank Analysis

				-		
Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0609						
Acenaphthene	BYE0609-BLK1	ND	mg/kg	0.0030	0.0018	
Acenaphthylene	BYE0609-BLK1	ND	mg/kg	0.0030	0.0017	
Anthracene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00080	
Benzo[a]anthracene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00073	
Benzo[b]fluoranthene	BYE0609-BLK1	ND	mg/kg	0.0030	0.0014	
Benzo[k]fluoranthene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[a]pyrene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00073	
Benzo[g,h,i]perylene	BYE0609-BLK1	ND	mg/kg	0.0030	0.0017	
Chrysene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00057	
Dibenzo[a,h]anthracene	BYE0609-BLK1	ND	mg/kg	0.0030	0.0012	
Fluoranthene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00035	
Fluorene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00095	
Indeno[1,2,3-cd]pyrene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00083	
Naphthalene	BYE0609-BLK1	ND	mg/kg	0.0030	0.0023	
Phenanthrene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00040	
Pyrene	BYE0609-BLK1	ND	mg/kg	0.0030	0.00057	
Nitrobenzene-d5 (Surrogate)	BYE0609-BLK1	48.4	%	30 - 11	0 (LCL - UCL)	
2-Fluorobiphenyl (Surrogate)	BYE0609-BLK1	102	%	40 - 12	0 (LCL - UCL)	
p-Terphenyl-d14 (Surrogate)	BYE0609-BLK1	125	%	30 - 12	0 (LCL - UCL)	S09



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Laboratory Control Sample

								Control L	imits	
O a matiture mt	00.0	T	D	Spike	11-27	Percent		Percent	000	Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: BYE0609										
Acenaphthene	BYE0609-BS1	LCS	0.031324	0.033670	mg/kg	93.0		50 - 130		
Acenaphthylene	BYE0609-BS1	LCS	0.031762	0.033670	mg/kg	94.3		50 - 130		
Anthracene	BYE0609-BS1	LCS	0.037791	0.033670	mg/kg	112		50 - 130		
Benzo[a]anthracene	BYE0609-BS1	LCS	0.039121	0.033670	mg/kg	116		60 - 130		
Benzo[b]fluoranthene	BYE0609-BS1	LCS	0.038688	0.033670	mg/kg	115		50 - 130		
Benzo[k]fluoranthene	BYE0609-BS1	LCS	0.036532	0.033670	mg/kg	109		50 - 130		
Benzo[a]pyrene	BYE0609-BS1	LCS	0.038337	0.033670	mg/kg	114		40 - 130		
Benzo[g,h,i]perylene	BYE0609-BS1	LCS	0.021572	0.033670	mg/kg	64.1		50 - 130		
Chrysene	BYE0609-BS1	LCS	0.031415	0.033670	mg/kg	93.3		50 - 130		
Dibenzo[a,h]anthracene	BYE0609-BS1	LCS	0.027217	0.033670	mg/kg	80.8		50 - 130		
Fluoranthene	BYE0609-BS1	LCS	0.032158	0.033670	mg/kg	95.5		60 - 130		
Fluorene	BYE0609-BS1	LCS	0.031391	0.033670	mg/kg	93.2		50 - 130		
Indeno[1,2,3-cd]pyrene	BYE0609-BS1	LCS	0.024872	0.033670	mg/kg	73.9		50 - 130		
Naphthalene	BYE0609-BS1	LCS	0.030282	0.033670	mg/kg	89.9		50 - 130		
Phenanthrene	BYE0609-BS1	LCS	0.033186	0.033670	mg/kg	98.6		50 - 130		
Pyrene	BYE0609-BS1	LCS	0.040921	0.033670	mg/kg	122		50 - 130		
Nitrobenzene-d5 (Surrogate)	BYE0609-BS1	LCS	0.080130	0.13468	mg/kg	59.5		30 - 110		
2-Fluorobiphenyl (Surrogate)	BYE0609-BS1	LCS	0.11527	0.13468	mg/kg	85.6		40 - 120		
p-Terphenyl-d14 (Surrogate)	BYE0609-BS1	LCS	0.13724	0.13468	mg/kg	102		30 - 120		

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

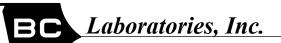
Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: BYE0609	Use	d client samp	le: N								
Acenaphthene	 MS	1506890-30	ND	0.036485	0.033557	mg/kg		109		50 - 130	
·	MSD	1506890-30	ND	0.036611	0.033670	mg/kg	0.3	109	30	50 - 130	
Acenaphthylene	MS	1506890-30	ND	0.036172	0.033557	mg/kg		108		50 - 130	
	MSD	1506890-30	ND	0.036246	0.033670	mg/kg	0.2	108	30	50 - 130	
Anthracene		1506890-30	ND	0.039164	0.033557			117		50 - 130	
	MS MSD	1506890-30	ND	0.040521	0.033670	mg/kg mg/kg	3.4	120	30	50 - 130 50 - 130	
							0.4		00		
Benzo[a]anthracene	MS	1506890-30	ND	0.047898	0.033557	mg/kg	• •	143		50 - 130	Q03
	MSD	1506890-30	ND	0.048287	0.033670	mg/kg	0.8	143	30	50 - 130	Q03
Benzo[b]fluoranthene	MS	1506890-30	ND	0.047211	0.033557	mg/kg		141		40 - 130	Q03
	MSD	1506890-30	ND	0.045323	0.033670	mg/kg	4.1	135	30	40 - 130	Q03
Benzo[k]fluoranthene	MS	1506890-30	ND	0.043660	0.033557	mg/kg		130		40 - 130	
	MSD	1506890-30	ND	0.041937	0.033670	mg/kg	4.0	125	30	40 - 130	
Benzo[a]pyrene	MS	1506890-30	ND	0.037172	0.033557	mg/kg		111		40 - 130	
	MSD	1506890-30	ND	0.044284	0.033670	mg/kg	17.5	132	30	40 - 130	Q03
	MS	1506890-30	ND	0.024697	0.033557	mg/kg		73.6		40 - 130	
	MSD	1506890-30	ND	0.025883	0.033670	mg/kg	4.7	76.9	30	40 - 130	
Chrysene	MS	1506890-30	ND	0.036889	0.033557	mg/kg		110		40 - 130	
	MSD	1506890-30	ND	0.035938	0.033670	mg/kg	2.6	107	30	40 - 130	
Dibenzo[a,h]anthracene	MS	1506890-30	ND	0.032798	0.033557	mg/kg		97.7		40 - 130	
	MSD	1506890-30	ND	0.033357	0.033670	mg/kg	1.7	99.1	30	40 - 130	
	MS	1506890-30	ND	0.037671	0.033557	mg/kg		112		40 - 130	
luorantinene	MSD	1506890-30	ND	0.039582	0.033670	mg/kg	4.9	112	30	40 - 130	
							1.0				
Fluorene	MS	1506890-30 1506890-30	ND ND	0.038004 0.038306	0.033557 0.033670	mg/kg	0.8	113 114	30	40 - 130 40 - 130	
	MSD					mg/kg	0.8		30		
Indeno[1,2,3-cd]pyrene	MS	1506890-30	ND	0.030344	0.033557	mg/kg		90.4		30 - 130	
	MSD	1506890-30	ND	0.030608	0.033670	mg/kg	0.9	90.9	30	30 - 130	
Naphthalene	MS	1506890-30	ND	0.035046	0.033557	mg/kg		104		50 - 130	
	MSD	1506890-30	ND	0.035453	0.033670	mg/kg	1.2	105	30	50 - 130	
Phenanthrene	MS	1506890-30	ND	0.038172	0.033557	mg/kg		114		40 - 130	
	MSD	1506890-30	ND	0.038246	0.033670	mg/kg	0.2	114	30	40 - 130	
Pyrene	MS	1506890-30	ND	0.048845	0.033557	mg/kg		146		40 - 130	Q03
	MSD	1506890-30	ND	0.043291	0.033670	mg/kg	12.1	129	30	40 - 130	
Nitrobenzene-d5 (Surrogate)	MS	1506890-30	ND	0.085061	0.13423	mg/kg		63.4		30 - 110	
(/	MSD	1506890-30	ND	0.098792	0.13468	mg/kg	14.9	73.4		30 - 110	
2-Fluorobiphenyl (Surrogate)	MS	1506890-30	ND	0.13154	0.13423	mg/kg		98.0		40 - 120	
	MSD	1506890-30	ND	0.12048	0.13468	mg/kg	8.8	89.5		40 - 120 40 - 120	

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Report ID: 1000354828



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

	Control Limits										
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
T	- 1										
QC Batch ID: BYE0609	Use	d client samp	ole: N								
p-Terphenyl-d14 (Surrogate)	MS	1506890-30	ND	0.16380	0.13423	mg/kg		122		30 - 120	S09
	MSD	1506890-30	ND	0.14353	0.13468	mg/kg	13.2	107		30 - 120	

Quality Control Report - Precision & Accuracy

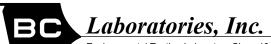


URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
BYE0557-BLK1	ND	mg/kg	20	5.0	
BYE0557-BLK1	ND	mg/kg	10	1.2	
BYE0557-BLK1	ND	mg/kg	20	6.5	
BYE0557-BLK1	72.5	%	30 - 13	0 (LCL - UCL)	
BYE0622-BLK1	ND	mg/kg	20	5.0	
BYE0622-BLK1	ND	mg/kg	10	1.2	
BYE0622-BLK1	ND	mg/kg	20	6.5	
BYE0622-BLK1	72.6	%	30 - 13	0 (LCL - UCL)	
	BYE0557-BLK1 BYE0557-BLK1 BYE0557-BLK1 BYE0557-BLK1 BYE0622-BLK1 BYE0622-BLK1 BYE0622-BLK1	BYE0557-BLK1 ND BYE0557-BLK1 ND BYE0557-BLK1 ND BYE0557-BLK1 72.5 BYE0622-BLK1 ND BYE0622-BLK1 ND BYE0622-BLK1 ND	BYE0557-BLK1 ND mg/kg BYE0557-BLK1 ND mg/kg BYE0557-BLK1 ND mg/kg BYE0557-BLK1 72.5 % BYE0622-BLK1 ND mg/kg BYE0622-BLK1 ND mg/kg	BYE0557-BLK1 ND mg/kg 20 BYE0557-BLK1 ND mg/kg 10 BYE0557-BLK1 ND mg/kg 20 BYE0557-BLK1 ND mg/kg 20 BYE0557-BLK1 ND mg/kg 20 BYE0622-BLK1 ND mg/kg 10 BYE0622-BLK1 ND mg/kg 10 BYE0622-BLK1 ND mg/kg 20	BYE0557-BLK1 ND mg/kg 20 5.0 BYE0557-BLK1 ND mg/kg 10 1.2 BYE0557-BLK1 ND mg/kg 20 6.5 BYE0557-BLK1 ND mg/kg 20 6.5 BYE0557-BLK1 ND mg/kg 20 5.0 BYE0622-BLK1 ND mg/kg 10 1.2 BYE0622-BLK1 ND mg/kg 10 1.2 BYE0622-BLK1 ND mg/kg 20 5.0



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control L	<u>imits</u>	
				Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: BYE0557										
TPH Diesel (C13-C22)	BYE0557-BS1	LCS	66.373	83.333	mg/kg	79.6		64 - 124		
Tetracosane (Surrogate)	BYE0557-BS1	LCS	2.8317	3.3333	mg/kg	85.0		30 - 130		
QC Batch ID: BYE0622										
TPH Diesel (C13-C22)	BYE0622-BS1	LCS	62.188	82.781	mg/kg	75.1		64 - 124		
Tetracosane (Surrogate)	BYE0622-BS1	LCS	2.7462	3.3113	mg/kg	82.9		30 - 130		

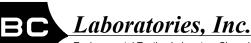


URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

								<u>Cont</u>	rol Limits	
	Source	Source		Spike			Percent		Percent	Lab
Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
Use	d client samp	le: N								
MS	1506890-73	ND	82.299	84.175	mg/kg		97.8		52 - 131	
MSD	1506890-73	ND	73.846	83.893	mg/kg	10.8	88.0	30	52 - 131	
MS	1506890-73	ND	3.5918	3.3670	mg/kg		107		30 - 130	
MSD	1506890-73	ND	3.2037	3.3557	mg/kg	11.4	95.5		30 - 130	
Use	d client samp	ile: N								
MS	1506890-55	ND	55.318	82.781	mg/kg		66.8		52 - 131	
MSD	1506890-55	ND	58.162	81.967	mg/kg	5.0	71.0	30	52 - 131	
MS	1506890-55	ND	2.4863	3.3113	mg/kg		75.1		30 - 130	
MSD	1506890-55	ND	2.5295	3.2787	mg/kg	1.7	77.1		30 - 130	
• • •	MS MSD MSD MSD MSD MSD MSD MSD	Type Sample ID Used client samp MS 1506890-73 MSD 1506890-73 MS 1506890-73 MSD 1506890-73 MSD 1506890-73 MSD 1506890-73 MSD 1506890-73 MSD 1506890-55 MSD 1506890-55 MSD 1506890-55 MS 1506890-55	Type Sample ID Result Used client sample: N MS 1506890-73 ND MSD 1506890-73 ND MS 1506890-73 ND MS 1506890-73 ND MS 1506890-73 ND MSD 1506890-73 ND MSD 1506890-73 ND MSD 1506890-73 ND MSD 1506890-73 ND MS 1506890-55 ND MSD 1506890-55 ND MSD 1506890-55 ND MS 1506890-55 ND	Type Sample ID Result Used client sample: N MS 1506890-73 ND 82.299 MSD 1506890-73 ND 73.846 MS 1506890-73 ND 3.5918 MSD 1506890-73 ND 3.2037 Used client sample: N 3.2037 MS 1506890-55 ND 55.318 MSD 1506890-55 ND 58.162 MS 1506890-55 ND 2.4863	Type Sample ID Result Result Added Used client sample: N	Type Sample ID Result Result Added Units Used client sample: N	Type Sample ID Result Result Added Units RPD Used client sample: N	Type Sample ID Result Result Added Units RPD Recovery Used client sample: N 97.8 MS 1506890-73 ND 82.299 84.175 mg/kg 97.8 MSD 1506890-73 ND 73.846 83.893 mg/kg 10.8 88.0 MS 1506890-73 ND 3.5918 3.3670 mg/kg 107 MSD 1506890-73 ND 3.2037 3.3557 mg/kg 11.4 95.5 Used client sample: N Sacos Sacos 66.8 Sacos 71.0 MS 1506890-55 ND 55.318 82.781 mg/kg 5.0 71.0 MS 1506890-55 ND 58.162 81.967 mg/kg 5.0 71.0 MS 1506890-55 ND 2.4863 3.3113 mg/kg 5.0 75.1	Source Source Source Spike Percent Percent RPD Percent RPD Type Sample ID Result Added Units RPD Recovery RPD Us= client sample: N 97.8 MS 1506890-73 ND 82.299 84.175 mg/kg 10.8 88.0 30 MS 1506890-73 ND 73.846 83.893 mg/kg 10.8 88.0 30 MS 1506890-73 ND 3.5918 3.3670 mg/kg 107 MS 1506890-73 ND 3.2037 3.3557 mg/kg 11.4 95.5 MS 1506890-55 ND 55.318 82.781 mg/kg 66.8 MSD 1506890-55 ND 58.162 81.967 mg/kg 5.0 71.0 30 MS 1506890-55 ND 2.4863 3.3113 mg/kg 5.0	Type Sample ID Result Result Added Units RPD Recovery RPD Recovery Used client sample: N RPD Recovery RPD Recovery <



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

	_	=		=		
Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYE0471						
Antimony	BYE0471-BLK1	ND	mg/kg	5.0	0.33	
Arsenic	BYE0471-BLK1	ND	mg/kg	1.0	0.40	
Barium	BYE0471-BLK1	ND	mg/kg	0.50	0.18	
Beryllium	BYE0471-BLK1	ND	mg/kg	0.50	0.047	
Cadmium	BYE0471-BLK1	ND	mg/kg	0.50	0.052	
Chromium	BYE0471-BLK1	ND	mg/kg	0.50	0.050	
Cobalt	BYE0471-BLK1	ND	mg/kg	2.5	0.098	
Copper	BYE0471-BLK1	ND	mg/kg	1.0	0.050	
Lead	BYE0471-BLK1	ND	mg/kg	2.5	0.28	
Molybdenum	BYE0471-BLK1	ND	mg/kg	2.5	0.050	
Nickel	BYE0471-BLK1	ND	mg/kg	0.50	0.15	
Selenium	BYE0471-BLK1	ND	mg/kg	1.0	0.98	
Silver	BYE0471-BLK1	ND	mg/kg	0.50	0.067	
Thallium	BYE0471-BLK1	ND	mg/kg	5.0	0.64	
Vanadium	BYE0471-BLK1	ND	mg/kg	0.50	0.11	
Zinc	BYE0471-BLK1	0.60091	mg/kg	2.5	0.087	J
QC Batch ID: BYE0474						
Mercury	BYE0474-BLK1	ND	mg/kg	0.16	0.036	
	DIEU4/4-DLKI	ND	під/ку	0.16	0.036	



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Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

								Control L	imits	
O a matitura mt		T	Desult	Spike	11	Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: BYE0471										
Antimony	BYE0471-BS1	LCS	101.11	100.00	mg/kg	101		75 - 125		
Arsenic	BYE0471-BS1	LCS	10.028	10.000	mg/kg	100		75 - 125		
Barium	BYE0471-BS1	LCS	104.50	100.00	mg/kg	104		75 - 125		
Beryllium	BYE0471-BS1	LCS	9.6014	10.000	mg/kg	96.0		75 - 125		
Cadmium	BYE0471-BS1	LCS	10.221	10.000	mg/kg	102		75 - 125		
Chromium	BYE0471-BS1	LCS	105.38	100.00	mg/kg	105		75 - 125		
Cobalt	BYE0471-BS1	LCS	99.107	100.00	mg/kg	99.1		75 - 125		
Copper	BYE0471-BS1	LCS	97.696	100.00	mg/kg	97.7		75 - 125		
Lead	BYE0471-BS1	LCS	98.794	100.00	mg/kg	98.8		75 - 125		
Molybdenum	BYE0471-BS1	LCS	101.10	100.00	mg/kg	101		75 - 125		
Nickel	BYE0471-BS1	LCS	106.11	100.00	mg/kg	106		75 - 125		
Selenium	BYE0471-BS1	LCS	10.002	10.000	mg/kg	100		75 - 125		
Silver	BYE0471-BS1	LCS	9.8034	10.000	mg/kg	98.0		75 - 125		
Thallium	BYE0471-BS1	LCS	112.90	100.00	mg/kg	113		75 - 125		
Vanadium	BYE0471-BS1	LCS	109.39	100.00	mg/kg	109		75 - 125		
Zinc	BYE0471-BS1	LCS	99.931	100.00	mg/kg	99.9		75 - 125		
QC Batch ID: BYE0474										
Mercury	BYE0474-BS1	LCS	0.84112	0.80000	mg/kg	105		80 - 120		



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported: 05/18/2015 15:21 Project: Willow Springs Ph II - 5 day tat Project Number: 28907693.30000 Project Manager: Anthony Schuetze

Total Concentrations (TTLC)

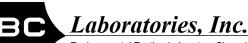
Quality Control Report - Precision & Accuracy

									<u>Cont</u>	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: BYE0471	Use	d client sam	ole: Y - Des	scription: FS	-WS-B4-0.5	, 05/04/20	15 13:2	0			
Antimony	DUP	1510778-07	ND	ND		mg/kg			20		
	MS	1510778-07	ND	14.001	98.039	mg/kg		14.3		16 - 119	Q03
	MSD	1510778-07	ND	14.494	98.039	mg/kg	3.5	14.8	20	16 - 119	Q03
Arsenic	DUP	1510778-07	5.3746	5.1918		mg/kg	3.5		20		
	MS	1510778-07	5.3746	14.310	9.8039	mg/kg		91.1		75 - 125	
	MSD	1510778-07	5.3746	14.303	9.8039	mg/kg	0.0	91.1	20	75 - 125	
Barium	DUP	1510778-07	85.184	83.685		mg/kg	1.8		20		
	MS	1510778-07	85.184	184.46	98.039	mg/kg		101		75 - 125	
	MSD	1510778-07	85.184	181.66	98.039	mg/kg	1.5	98.4	20	75 - 125	
Beryllium	DUP	1510778-07	0.43339	0.43309		mg/kg	0.1		20		J
	MS	1510778-07	0.43339	9.3969	9.8039	mg/kg		91.4		75 - 125	
	MSD	1510778-07	0.43339	9.3069	9.8039	mg/kg	1.0	90.5	20	75 - 125	
Cadmium	DUP	1510778-07	0.077785	0.094431		mg/kg	19.3		20		J
	MS	1510778-07	0.077785	9.6242	9.8039	mg/kg		97.4		75 - 125	
	MSD	1510778-07	0.077785	9.5640	9.8039	mg/kg	0.6	96.8	20	75 - 125	
Chromium	DUP	1510778-07	21.405	21.097		mg/kg	1.4		20		
	MS	1510778-07	21.405	115.25	98.039	mg/kg		95.7		75 - 125	
	MSD	1510778-07	21.405	113.78	98.039	mg/kg	1.3	94.2	20	75 - 125	
Cobalt	DUP	1510778-07	6.5576	6.3708		mg/kg	2.9		20		
	MS	1510778-07	6.5576	90.918	98.039	mg/kg		86.0		75 - 125	
	MSD	1510778-07	6.5576	90.828	98.039	mg/kg	0.1	86.0	20	75 - 125	
Copper	DUP	1510778-07	13.664	13.545		mg/kg	0.9		20		
	MS	1510778-07	13.664	113.72	98.039	mg/kg		102		75 - 125	
	MSD	1510778-07	13.664	114.81	98.039	mg/kg	1.0	103	20	75 - 125	
Lead	DUP	1510778-07	5.1279	5.2402		mg/kg	2.2		20		
	MS	1510778-07	5.1279	98.474	98.039	mg/kg		95.2		75 - 125	
	MSD	1510778-07	5.1279	98.611	98.039	mg/kg	0.1	95.4	20	75 - 125	
Molybdenum	DUP	1510778-07	0.25337	0.26705		mg/kg	5.3		20		J
	MS	1510778-07	0.25337	88.921	98.039	mg/kg		90.4		75 - 125	
	MSD	1510778-07	0.25337	89.533	98.039	mg/kg	0.7	91.1	20	75 - 125	
Nickel	DUP	1510778-07	16.891	16.586		mg/kg	1.8		20		
	MS	1510778-07	16.891	106.34	98.039	mg/kg		91.2		75 - 125	
	MSD	1510778-07	16.891	106.17	98.039	mg/kg	0.2	91.1	20	75 - 125	
Selenium	DUP	1510778-07	ND	ND		mg/kg			20		
	MS	1510778-07	ND	8.0773	9.8039	mg/kg		82.4		75 - 125	
	MSD	1510778-07	ND	7.1120	9.8039	mg/kg	12.7	72.5	20	75 - 125	Q03
Silver	DUP	1510778-07	ND	ND		mg/kg			20		
	MS	1510778-07	ND	9.3206	9.8039	mg/kg		95.1		75 - 125	
	MSD	1510778-07	ND	9.1949	9.8039	mg/kg	1.4	93.8	20	75 - 125	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Report ID: 1000354828



URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455 Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

		Source Sample ID	Source Result						Control Limits		
Constituent					Spike	Units		Percent Recovery	RPD	Percent Recovery	Lab Quals
	Туре			Result	Added		RPD				
QC Batch ID: BYE0471	Use	d client samp	ole: Y - Des	cription: FS	-WS-B4-0.5	, 05/04/20	15 13:2	0			
Thallium	DUP	1510778-07	ND	ND		mg/kg			20		
	MS	1510778-07	ND	94.204	98.039	mg/kg		96.1		75 - 125	
	MSD	1510778-07	ND	95.204	98.039	mg/kg	1.1	97.1	20	75 - 125	
Vanadium	DUP	1510778-07	29.602	29.416		mg/kg	0.6		20		
	MS	1510778-07	29.602	129.95	98.039	mg/kg		102		75 - 125	
	MSD	1510778-07	29.602	127.93	98.039	mg/kg	1.6	100	20	75 - 125	
Zinc	DUP	1510778-07	47.977	47.051		mg/kg	1.9		20		
	MS	1510778-07	47.977	134.55	98.039	mg/kg		88.3		75 - 125	
	MSD	1510778-07	47.977	134.08	98.039	mg/kg	0.4	87.8	20	75 - 125	
QC Batch ID: BYE0474	Use	d client samp	ole: Y - Des	cription: FS	-WS-B4-0.5	, 05/04/20	15 13:2	0			
Mercury	DUP	1510778-07	ND	ND		mg/kg			20		
	MS	1510778-07	ND	0.78831	0.76923	mg/kg		102		80 - 120	
	MSD	1510778-07	ND	0.78646	0.76923	mg/kg	0.2	102	20	80 - 120	

Laboratories, Inc.

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URS Corporation 2625 South Miller Suite 104 Santa Maria, CA 93455

Reported:05/18/201515:21Project:Willow SpringsPh II - 5 day tatProject Number:28907693.30000Project Manager:Anthony Schuetze

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
A01	Detection and quantitation limits are raised due to sample dilution.
A10	Detection and quantitation limits were raised due to matrix interference.
A17	Surrogate not reportable due to sample dilution.
A52	Chromatogram not typical of diesel.
A57	Chromatogram not typical of motor oil.
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.

Appendix C Proposed] Judgment and Physical Solution, Antelope Valley Groundwater Cases (Santa Clara Case No.: 1-05-CV-049053)

	NOT ADMISSIBLE PURSUANT TO	TION: FOR SETTLEMENT DISCUSSIONS ONLY O FRE 408 OR CA EVIDENCE CODE 1152, 1154 NT TO FOIA OR CA PUBLIC RECORDS ACT
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5	SUDEDIAD CAUDT A	F THE STATE OF CALIFORNIA
6		I THE STATE OF CALIFORNIA
7	COUNTI OF LOS AN	GELES - CENTRAL DISTRICT
8	Coordination Proceeding Special Title (Rule 1550(b))	Judicial Council Coordination Proceeding No. 4408
9	ANTELOPE VALLEY	Santa Clara Case No.: 1-05-CV-049053
10	GROUNDWATER CASES	Judge: The Honorable Jack Komar, Dept. 17
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12		SOLUTION
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1	A number of Parties have agreed and stipulated to entry of a Judgment consistent with the
2	terms of this Judgment and Physical Solution (hereafter "this Judgment"). The stipulations of the
3	Parties are conditioned upon further proceedings that will result in a Judgment binding all Parties
4	to the Action. The Court, having considered the pleadings, the stipulations of the Parties, and the
5	evidence presented, and being fully informed in the matter, approves the Physical Solution ¹
6	contained herein. This Judgment is entered as a Judgment binding on all Parties served or
7	appearing in this Action, including without limitation, those Parties which have stipulated to this
8	Judgment, are subject to prior settlement(s) and judgment(s) of this Court, have defaulted or
9	hereafter stipulate to this Judgment.
10	I. DESCRIPTION OF LITIGATION
11	1. <u>PROCEDURAL HISTORY</u>
12	1.1 <u>Initiation of Litigation.</u>
13	On October 29, 1999, Diamond Farming Company ("Diamond Farming") filed in
14	the Riverside County Superior Court (Case No. RIC 344436) the first complaint in what would
15	become these consolidated complex proceedings known as the Antelope Valley Groundwater
16	Cases. Diamond Farming's complaint names as defendants the City of Lancaster, Palmdale
17	Water District, Antelope Valley Water Company, Palm Ranch Irrigation District, Quartz Hill
18	Water District, Rosamond Community Services District, and Mojave Public Utility District.
19	On February 22, 2000, Diamond Farming filed another complaint in the Riverside
20	County Superior Court (Case No. RIC 344468). The two Diamond Farming actions were
21	subsequently consolidated.
22	On January 25, 2001, Wm. Bolthouse Farms, Inc. ("Bolthouse") filed a complaint
23	in the same Court against the same entities, as well as Littlerock Creek Irrigation District and Los
24	Angeles Waterworks Districts Nos. 37 and 40 (Case No. RIC 353840).
25	¹ A "physical solution" describes an agreed upon or judicially imposed resolution of conflicting claims in a manner
26	that advances the constitutional rule of reasonable and beneficial use of the state's water supply. (<i>City of Santa Maria v. Adam</i> (2012) 211 Cal. App. 4th 266, 288.) It is defined as "an equitable remedy designed to alleviate overdrafts
27	and the consequential depletion of water resources in a particular area, consistent with the constitutional mandate to prevent waste and unreasonable water use and to maximize the beneficial use of this state's limited resource."
28	(<i>California American Water v. City of Seaside</i> (2010) 183 Cal. App. 4th 471, 480.) - 1 -
	[PROPOSED] JUDGMENT

1	The Diamond Farming and Bolthouse complaints variously allege that unregulated
2	pumping by these named public agencies (collectively the Public Water Suppliers) has irreparably
3	harmed Diamond Farming and Bolthouse's rights to produce Groundwater from the Antelope
4	Valley Groundwater Basin, and interfered with their rights to put that Groundwater to reasonable
5	and beneficial uses on property they own or lease. Diamond Farming and Bolthouse's complaints
6	seek a determination of their water rights and to quiet title as to the same.
7	In 2001, the Diamond Farming and Bolthouse actions were consolidated in the
8	Riverside County Superior Court.
9	In August 2002, a Phase 1 trial commenced in the Riverside County Superior
10	Court in the consolidated Diamond Farming/Bolthouse proceedings for the purpose of
11	determining the geographic boundary of the area to be adjudicated. That Phase 1 trial was not
12	concluded and the Court did not determine any issues or make any factual findings at that time.
13	1.2 <u>General Adjudication Commenced.</u>
14	In 2004, Los Angeles County Waterworks District No. 40 ("District No. 40")
15	initiated a general Groundwater adjudication for the Antelope Valley Ground Water Basin by
16	filing identical complaints for declaratory and injunctive relief in the Los Angeles and Kern
17	County Superior Courts (Los Angeles County Superior Court Case No. BC 325201 and Kern
18	County Superior Court Case No. S-1500-CV 254348). District No. 40's complaints sought a
19	judicial determination of the respective rights of the Parties to produce Groundwater from the
20	Antelope Valley Groundwater Basin.
21	On December 30, 2004, District No. 40 petitioned the Judicial Council of
22	California for coordination of the above-referenced actions. On June 17, 2005, the Judicial
23	Council of California granted the petition and assigned the "Antelope Valley Groundwater Cases"
24	(Judicial Council Coordination Proceeding No. 4408) to this Court (Santa Clara County Superior
25	Court Case No. 1-05-CV-049053 (Hon. Jack Komar)).
26	For procedural purposes, the Court requested that District No. 40 refile its
27	complaint as a first amended cross-complaint in the now coordinated proceedings. Joined by the
28	
	- 2 - [PROPOSED] JUDGMENT

1	other Public Water Suppliers, District No. 40 filed a first amended cross-complaint seeking
2	declaratory and injunctive relief and an adjudication of the rights to all Groundwater within the
3	Antelope Valley Groundwater Basin. The Public Water Suppliers' cross-complaint, as currently
4	amended, requests an adjudication to protect the public's water supply, prevent water quality
5	degradation, and stop land subsidence. Some of the Public Water Suppliers allege they have
6	acquired prescriptive and equitable rights to the Groundwater in the Basin. They allege the Basin
7	has been in overdraft for more than five consecutive Years and they have pumped water from the
8	Basin for reasonable and beneficial purposes in an open, notorious, and continuous manner. They
9	allege each non-public cross-defendant had actual or constructive notice of these activities,
10	sufficient to establish prescriptive rights in their favor. In order to alleviate overdraft conditions
11	and protect the Basin, the Public Water Suppliers also request a physical solution.
12	1.3 <u>Other Actions</u>
13	In response to the Public Water Suppliers first amended cross-complaint,
14	numerous Parties filed cross-complaints seeking various forms of relief.
15	On August 30, 2006, Antelope Valley-East Kern Water Agency ("AVEK") filed a
16	cross-complaint seeking declaratory and injunctive relief and claiming overlying rights and rights
17	to pump the supplemental yield attributable to return flows from State Water Project water
18	imported to the Basin.
19	On January 11, 2007, Rebecca Lee Willis filed a class action complaint in the Los
20	Angeles County Superior Court (Case No. BC 364553) for herself and on behalf of a class of
21	non-pumping overlying property owners ("Non-Pumper Class"), through which she sought
22	declaratory relief and money damages from various public entities. Following certification, the
23	Non-Pumper Class entered into a settlement agreement with the Public Water Suppliers
24	concerning the matters at issue in the class complaint. On September 22, 2011, the Court
25	approved the settlement through an amended final judgment.
26	On June 2, 2008, Richard A. Wood filed a class action complaint for himself and
27	on behalf of a class of small property owners in this action ("Small Pumper Class"), Wood v. Los
28	- 3 -

Angeles Co. Waterworks Dist. 40, et al., (Case No.: BC 391869) through which he sought
 declaratory relief and money damages from various public entities. The Small Pumper Class was
 certified on September 2, 2008.

On February 24, 2010, following various orders of coordination, the Court granted
the Public Water Suppliers' motion to transfer and consolidate all complaints and crosscomplaints in this matter, with the exception of the complaint in Sheldon R. Blum, etc. v. Wm.
Bolthouse Farms, Inc. (Santa Clara County Superior Court Case No. 1-05-CV-049053), which
remains related and coordinated.

9

1.4 <u>McCarran Amendment Issues</u>

10 The Public Water Suppliers' cross-complaint names Edwards Air Force Base, 11 California and the United States Department of the Air Force as cross-defendants, seeking the 12 same declaratory and injunctive relief as sought against the other cross-defendants. This 13 Judgment, or any other determination in this case regarding rights to water, is contingent on a 14 Judgment satisfying the requirements of the McCarran Amendment, 43 U.S.C. §666. The United 15 States reserves all rights to object or otherwise challenge any interlocutory judgment and reserves 16 all rights to appeal a Judgment that does not satisfy the requirements of the McCarran Amendment. 17

18

1.5 <u>Phased Trials</u>

19 The Court has divided the trial in this matter into multiple phases, four of which20 have been tried.

Through the Phase 1 trial, the Court determined the geographical boundaries of the area adjudicated in this Action which is defined as the Basin. On November 3, 2006, the Court entered an order determining that issue.

Through the Phase 2 trial, the Court determined that all areas within the Basin are
hydrologically connected and a single aquifer, and that there is sufficient hydraulic connection
between the disputed areas and the rest of the Basin such that the Court must include the disputed
areas within the adjudication area. The Court further determined that it would be premature to make

28

1 any determinations regarding, *inter alia*, claims that portions of the Basin should be treated as a 2 separate area for management purposes. On November 6, 2008, the Court entered its Order after 3 Phase Two Trial on Hydrologic Nature of Antelope Valley. 4 Through the Phase 3 trial, the Court determined the Basin is in a current state of 5 overdraft and the safe yield is 110,000 acre-feet per Year. The Court found the preponderance of 6 the evidence presented established that setting the safe yield at 110,000 acre-feet per Year will 7 permit management of the Basin in such a way as to preserve the rights of the Parties in 8 accordance with the California Constitution and California law. On July 13, 2011, the Court filed 9 its Statement of Decision. 10 Through the Phase 4 trial, the Court determined the overall Production occurring 11 in the Basin in calendar Years 2011 and 2012. 12 1.6 **Defaults** Numerous Parties have failed to respond timely, or at all, to the Public Water 13 14 Suppliers' cross-complaint, as amended, and their defaults have been entered. The Court has 15 given the defaulted Parties notice of this Judgment and Physical Solution, together with the 16 opportunity to be heard regarding this Judgment, and hereby enters default judgments against all 17 such Parties and incorporates those default judgments into this Judgment. Pursuant to such 18 default judgments a defaulted Party has no right to Produce Groundwater from the Basin. All 19 Parties against which a default judgment has been entered are identified on Exhibit 1, attached 20 hereto and incorporated herein by reference. 21 2. GENERAL ADJUDICATION DOES NOT APPLY TO SURFACE WATER. 22 Pursuant to California law, surface water use since 1914 has been governed by the Water 23 Code. This Judgment does not apply to surface water as defined in the Water Code and is not 24 intended to interfere with any State permitted or licensed surface water rights or pre-1914 surface 25 water right. The impact of any surface water diversion should be considered as part of the State 26 Water Resources Control Board permitting and licensing process and not as part of this Judgment. 27 28 - 5 -

II. DECREE

2

1

3. JURISDICTION, PARTIES, DEFINITIONS.

3.1 3 **Jurisdiction**. This Action is an *inter se* adjudication of all claims to the 4 rights to Produce Groundwater from the Basin alleged between and among all Parties. This Court 5 has jurisdiction over the subject matter and Parties herein to enter a Judgment declaring and adjudicating the rights to reasonable and beneficial use of water by the Parties in the Action 6 7 pursuant to Article X, section 2 of the California Constitution.

8 3.2 The Court required that all Persons having or claiming any Parties. right, title or interest to the Groundwater within the Basin be notified of the Action. Notice has 9 10 been given pursuant to the Court's order. All Public Water Suppliers, landowners, Non-Pumper 11 Class and Small Pumper Class members and other Persons having or making claims have been or 12 will be included as Parties to the Action. All named Parties who have not been dismissed have 13 appeared or have been given adequate opportunity to appear.

Factual and Legal Issues. The complaints and cross-complaints in the 14 3.3 15 Action frame many legal issues. The Action includes over 4,000 Parties, as well as the members 16 of the Non-Pumper Class and the members of the Small Pumper Class. The Basin's entire Groundwater supply and Groundwater rights, extending over approximately 1390 square miles, 17 18 have been brought to issue. The numerous Groundwater rights at issue in the case include, 19 without limitation, overlying, appropriative, prescriptive, and federal reserved water rights to 20 Groundwater, rights to return flows from Imported Water, rights to recycled water, rights to 21 stored Imported Water subject to the Watermaster rules and regulations, and rights to utilize the 22 storage space within the Basin. After several months of trial, the Court made findings regarding 23 Basin characteristics and determined the Basin's Safe Yield. The Court's rulings and judgments 24 in this case, including the Safe Yield determination, form the basis for this Judgment.

25

3.4 Need for a Declaration of Rights and Obligations for a Physical

26 Solution. A Physical Solution for the Basin, based on a declaration of water rights and a formula 27 for allocation of rights and obligations, is necessary to implement the mandate of Article X,

28

1 section 2 of the California Constitution and to protect the Basin and the Parties' rights to the 2 Basin's water resources. The Physical Solution governs Groundwater, Imported Water and Basin 3 storage space, and is intended to ensure that the Basin can continue to support existing and future 4 reasonable and beneficial uses. A Physical Solution requires determining individual Groundwater 5 rights for the Public Water Suppliers, landowners, Non-Pumper Class and Small Pumper Class 6 members, and other Parties within the Basin. The Physical Solution set forth in this Judgment: 7 (1) is a fair and reasonable allocation of Groundwater rights in the Basin after giving due 8 consideration to water rights priorities and the mandate of Article X, section 2 of the California 9 Constitution; (2) provides for a reasonable sharing of Imported Water costs; (3) furthers the 10 mandates of the State Constitution and State water policy; and (4) is a remedy that gives due 11 consideration to applicable common law rights and priorities to use Basin water and storage space 12 without substantially impairing such rights. Combined with water conservation, water 13 reclamation, water transfers, water banking, and improved conveyance and distribution methods 14 within the Basin, present and future Imported Water sources are sufficient both in quantity and 15 quality to assure implementation of a Physical Solution. This Judgment will facilitate water resource planning and development by the Public Water Suppliers and individual water users. 16 3.5 17 **<u>Definitions</u>**. As used in this Judgment, the following terms shall have the 18 meanings set forth herein: 19 3.5.1 Action. The coordinated and consolidated actions included in the 20 Antelope Valley Groundwater Cases, Judicial Council Coordination Proceeding No. 4408, Santa 21 Clara Superior Court Case No. 1-05-CV-049053. 22 **3.5.2** Adjusted Native Safe Yield. The Native Safe Yield minus (1) the 23 Production Right allocated to the Small Pumper Class under Paragraph 5.1.3, (2) the Federal 24 Reserved Water Right under Paragraph 5.1.4, and (3) the State of California Production Right 25 under Paragraph 5.1.5. The Adjusted Native Safe Yield as of the date of entry of this Judgment is 26 70,686.6 acre-feet per year. 27 28 - 7 -

3.5.3 Administrative Assessment. The amount charged by the 1 2 Watermaster for the costs incurred by the Watermaster to administer this Judgment. 3 3.5.4 Annual Period. The calendar Year. 4 3.5.5 Antelope Valley United Mutuals Group. The members of the 5 Antelope Valley United Mutuals Group are Antelope Park Mutual Water Company, Aqua-J 6 Mutual Water Company, Averydale Mutual Water Company, Baxter Mutual Water Company, 7 Bleich Flat Mutual Water Company, Colorado Mutual Water Co., El Dorado Mutual Water 8 Company, Evergreen Mutual Water Company, Land Projects Mutual Water Co., Landale Mutual 9 Water Co., Shadow Acres Mutual Water Company, Sundale Mutual Water Company, Sunnyside 10 Farms Mutual Water Company, Inc., Tierra Bonita Mutual Water Company, West Side Park 11 Mutual Water Co. and White Fence Farms Mutual Water Co., together with the successor(s)-in-12 interest to any member thereof. Each of the members of the Antelope Valley United Mutuals 13 Group was formed when the owner(s) of the lands that were being developed incorporated the 14 mutual water company and transferred their water rights to the mutual water company in 15 exchange for shares of common stock. The mutual water company owns, operates and maintains 16 the infrastructure for the production, storage, distribution and delivery of water solely to its 17 shareholders. The shareholders of each of these mutual water companies, who are the owners of 18 the real property that is situated within the mutual water company's service area, have the right to 19 have water delivered to their properties, a right appurtenant to their land. [See, Erwin v. Gage 20 *Canal Company* (1964) 226 Cal.App.2d 189]. 21 **3.5.6 AVEK.** The Antelope Valley–East Kern Water Agency. 22 3.5.7 **Balance Assessment.** The amount of money charged by the 23 Watermaster on all Production Rights, excluding the United States' actual Production, to pay for 24 the costs, not including infrastructure, to purchase, deliver, produce in lieu, or arrange for 25 alternative pumping sources in the Basin. 26 **3.5.8 Basin**. The area adjudicated in this Action as shown on Exhibit 2, 27 attached hereto and incorporated herein by reference, which lies within the boundaries of the line 28 - 8 -

1	labeled "Boundaries of the Adjudicated Area" and described therein. The Basin generally
2	encompasses the Antelope Valley bordered on the West and South by the San Gabriel and
3	Tehachapi Mountains, with the eastern boundary being the Los Angeles-San Bernardino County
4	line, as determined by the Court.
5	3.5.9 <u>Carry Over</u> . The right to Produce an unproduced portion of an
6	annual Production Right or a Right to Imported Water Return Flows in a Year subsequent to the
7	Year in which the Production Right or Right to Imported Water Return Flows was originally
8	available.
9	3.5.10 <u>Conjunctive Use</u> . A method of operation of a groundwater basin
10	under which Imported Water is used or stored in the Basin in Years when it is available; allowing
11	the Basin to refill, and more Groundwater is Produced in Years when Imported Water is less
12	available.
13	3.5.11 <u>Defaulting Party</u> . A Party who failed to file a responsive pleading
14	and against which a default judgment has been entered. A list of Defaulting Parties is attached as
15	Exhibit 1.
16	3.5.12 Drought Program . The water management program in effect only
17	during the Rampdown period affecting the operations and Replacement Water Assessments of the
18	participating Public Water Suppliers.
19	3.5.13 Judgment. A judgment, consistent with Cal.C.C.P. §§ 577 and
20	1908(a)(1) and 43 U.S.C. § 666, determining all rights to Groundwater in the Basin, establishing
21	a Physical Solution, and resolving all claims in the Action.
22	3.5.14 <u>Groundwater</u> . Water beneath the surface of the ground and within
23	the zone of saturation, excluding water flowing through known and definite channels.
24	3.5.15 <u>Imported Water</u> . Water brought into the Basin from outside the
25	watershed of the Basin as shown in Exhibit 9.
26	3.5.16 Imported Water Return Flows. Imported Water that net
27	augments the Basin Groundwater supply after use.
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	[PROPOSED] JUDGMENT

1	3.5.17 In Lieu Production. The amount of Imported Water used by a
2	Producer in a Year instead of Producing an equal amount of that Producer's Production Right.
2	3.5.18 <u>Material Injury</u> . Material Injury means impacts to the Basin caused
4	by pumping or storage of Groundwater that:
4 5	3.5.18.1 Causes material physical harm to the Basin, any
6	Subarea, or any Producer, Party or Production Right, including, but not limited to, Overdraft,
7	degradation of water quality by introduction of contaminants to the aquifer by a Party and/or
8	transmission of those introduced contaminants through the aquifer, liquefaction, land subsidence and
9	other material physical injury caused by elevated or lowered Groundwater levels. Material physical
10	harm does not include "economic injury" that results from other than direct physical causes, including
11	any adverse effect on water rates, lease rates, or demand for water.
12	3.5.18.2 If fully mitigated, Material Injury shall no longer be
13	considered to be occurring.
14	3.5.19 <u>Native Safe Yield</u> . Naturally occurring Groundwater recharge to
15	the Basin, including "return flows" from pumping naturally occurring recharge, on an average
16	annual basis. Imported Water Return Flows are not included in Native Safe Yield.
17	3.5.20 <u>New Production</u> . Any Production of Groundwater from the Basin
18	not of right under this Judgment, as of the date of this Judgment.
19	3.5.21 Non-Overlying Production Rights. The rights held by the Parties
20	identified in Exhibit 3, attached hereto and incorporated herein by reference.
21	3.5.22 Non-Pumper Class. All private (i.e., non-governmental) Persons
22	and entities that own real property within the Basin, as adjudicated, that are not presently
23	pumping water on their property and did not do so at any time during the five Years preceding
24	January 18, 2006. The Non-Pumper Class includes the successors-in-interest by way of purchase,
25	gift, inheritance, or otherwise of such Non-Pumper Class members' land within the Basin. The
26	Non-Pumper Class excludes (1) all Persons to the extent their properties are connected to a
27	municipal water system, public utility, or mutual water company from which they receive water
28	- 10 -

[PROPOSED] JUDGMENT

1 service, (2) all properties that are listed as "improved" by the Los Angeles County or Kern 2 County Assessor's offices, unless the owners of such properties declare under penalty of per, 3 that they do not pump and have never pumped water on those properties, and (3) those who 4 out of the Non-Pumper Class. The Non-Pumper Class does not include landowners who hav 5 been individually named under the Public Water Suppliers' cross-complaint, unless such a 6 landowner has opted into such class. 7 3.5.23 8 settled the Non-Pumper Class claims against the Public Water Suppliers approved by the Co 9 on September 22, 2011. 10 3.5.24 Stipulation for Entry of this Judgment prior to the date of approval of this Judgment by the Co 13 an aquifer, which over time will lead to a depletion of the water supply within a groundwate 14 basin as well as other detrimental effects, if the imbalance between pumping and extraction 15 continues. 16 3.5.27 17 Party (Parties). Any Person(s) that has (have) been named an 18 served or otherwise properly joined, or has (have) become subject to this Judgment and any 19 judgments of this Court in this Action and all their respective heirs, succ	
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24 Groundwater, excluding Imported Water Return Flows, at a time prior to this Judgment, or t	
	se of
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25 Production Right, whichever is greater.	
26 3.5.29 <u>Produce(d)</u> . To pump Groundwater for existing and future	
27 reasonable beneficial uses.	
- 11 -	
[PROPOSED] JUDGMENT	

	CONFIDENTIAL COMMUNICATION: FOR SETTLEMENT DISCUSSIONS ONLY NOT ADMISSIBLE PURSUANT TO FRE 408 OR CA EVIDENCE CODE 1152, 1154 NOT RELEASABLE PURSUANT TO FOIA OR CA PUBLIC RECORDS ACT
1	3.5.30 <u>Producer(s)</u> . A Party who Produces Groundwater.
2	3.5.31 <u>Production</u> . Annual amount of Groundwater Produced, stated in
3	acre-feet of water.
4	3.5.32 <u>Production Right</u> . The amount of Native Safe Yield that may be
5	Produced each Year free of any Replacement Water Assessment and Replacement Obligation.
6	The total of the Production Rights decreed in this Judgment equals the Native Safe Yield. A
7	Production Right does not include any right to Imported Water Return Flows pursuant to
8	Paragraph 5.2.
9	3.5.33 <u>Pro-Rata Increase</u> . The proportionate increase in the amount of a
10	Production Right, as provided in Paragraph 18.5.10, provided the total of all Production Rights
11	does not exceed the Native Safe Yield.
12	3.5.34 <u>Pro-Rata Reduction</u> . The proportionate reduction in the amount
13	of a Production Right, as provided in Paragraph 18.5.10, in order that the total of all Production
14	Rights does not exceed the Native Safe Yield.
15	3.5.35 <u>Public Water Suppliers</u>. The Public Water Suppliers are Los
16	Angeles County Waterworks District No. 40, Palmdale Water District, Quartz Hill Water District,
17	Littlerock Creek Irrigation District, California Water Service Company, Desert Lake Community
18	Services District, North Edwards Water District, City of Palmdale, City of Lancaster, Palm Ranch
19	Irrigation District, Rosamond Community Services District, and West Valley County Water
20	District.
21	3.5.36 <u>Purpose of Use.</u> The broad categories of type of water use
22	including but not limited to municipal, irrigation, agricultural and industrial uses.
23	3.5.37 <u>Rampdown</u> . The period of time for Pre-Rampdown Production to
24	be reduced to the Native Safe Yield in the manner described in this Judgment.
25	3.5.38 <u>Recycled Water</u> . Water that, as a result of treatment of waste, is
26	suitable for a direct beneficial use or a controlled use that would not otherwise occur and is
27	therefore considered a valuable resource.
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	[PROPOSED] JUDGMENT

1	3.5.39 <u>Replacement Obligation</u> . The obligation of a Producer to pay for
2	Replacement Water for Production of Groundwater from the Basin in any Year in excess of the
3	sum of such Producer's Production Right and Imported Water Return Flows.
4	3.5.40 <u>Replacement Water</u> . Water purchased by the Watermaster or
5	otherwise provided to satisfy a Replacement Obligation.
6	3.5.41 <u>Replacement Water Assessment</u> . The amount charged by the
7	Watermaster to pay for all costs incurred by the Watermaster related to Replacement Water.
8	3.5.42 <u>Responsible Party</u> . The Person designated by a Party as the
9	Person responsible for purposes of filing reports and receiving notices pursuant to the provisions
10	of this Judgment.
11	3.5.43 Safe Yield. The amount of annual extractions of water from the
12	Basin over time equal to the amount of water needed to recharge the Groundwater aquifer and
13	maintain it in equilibrium, plus any temporary surplus. [City of Los Angeles v. City of San
14	Fernando (1975) 14 Cal. 3d 199, 278.]
15	3.5.44 Small Pumper Class. All private (i.e., non-governmental)
16	Persons and entities that own real property within the Basin, as adjudicated, and that have been
17	pumping less than 25 acre-feet per Year on their property during any Year from 1946 to the
18	present. The Small Pumper Class excludes the defendants in Wood v. Los Angeles Co.
19	Waterworks Dist. 40, et al., any Person, firm, trust, corporation, or other entity in which any such
20	defendants has a controlling interest or which is related to or affiliated with any such defendants,
21	and the representatives, heirs, affiliates, successors-in-interest or assigns of any such excluded
22	party. The Small Pumper Class also excludes all Persons and entities that are shareholders in a
23	mutual water company. The Small Pumper Class does not include those who opted out of the
24	Small Pumper Class.
25	3.5.45 Small Pumper Class Members. Individual members of the Small
26	Pumper Class who meet the Small Pumper Class definition, and for purposes of this Judgment
27	and any terms pertaining to water rights, where two or more Small Pumper Class Members reside
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in the same household, they shall be treated as a single Small Pumper Class Member for purposes
 of determining water rights.

3	3.5.46 <u>State of California</u> . As used herein, State of California shall mean
4	the State of California acting by and through the following State agencies, departments and
5	associations: (1) The California Department of Water Resources; (2) The California Department
6	of Parks and Recreation; (3) The California Department of Transportation; (4) The California
7	State Lands Commission; (5) The California Department of Corrections and Rehabilitation; (6)
8	The 50th District Agricultural Association; (7) The California Department of Veteran Affairs; (8)
9	The California Highway Patrol; and, (9) The California Department of Military.
10	3.5.47 State Water Project. Water storage and conveyance facilities
11	operated by the State of California Department of Water Resources from which it delivers water
12	diverted from the Feather River and the Sacramento-San Joaquin Delta via the California
13	Aqueduct to public agencies it has contracted with.
14	3.5.48 Stipulating Party. Any Party who has executed a Stipulation for
15	Entry of this Judgment prior to the date of approval of this Judgment by the Court.
16	3.5.49 Stored Water. Water held in storage in the Basin, as a result of
17	direct spreading or other methods, for subsequent withdrawal and use pursuant to agreement with
18	the Watermaster and as provided for in this Judgment. Stored Water does not include Imported
19	Water Return Flows.
20	3.5.50 Subareas. Portions of the Basin, as described in this document,
21	divided for management purposes.
22	3.5.51 <u>Total Safe Yield</u> . The amount of Groundwater that may be safely
23	pumped from the Basin on a long-term basis. Total Safe Yield is the sum of the Native Safe
24	Yield plus the Imported Water Return Flows.
25	3.5.52 <u>Watermaster</u> . The Person(s) appointed by the Court to administer
26	the provisions of this Judgment.
27	
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1	3.5.53 <u>Watermaster Engineer</u> . The engineering or hydrology expert or
2	firm retained by the Watermaster to perform engineering and technical analysis and water
3	administration functions as provided for in this Judgment.
4	3.5.54 <u>District No. 40</u> . Los Angeles County Waterworks District No. 40.
5	3.5.55 <u>Year</u> . Calendar year.
6	4. SAFE YIELD AND OVERDRAFT
7	4.1 <u>Safe Yield</u> : The Native Safe Yield of the Basin is 82,300 acre-feet per
8	Year. With the addition of Imported Water Return Flows, the Total Safe Yield is approximately
9	110,000 acre-feet per Year, but will vary annually depending on the volume of Imported Water.
10	4.2 <u>Overdraft</u> : In its Phase 3 trial decision, the Court held that the Basin,
11	defined by the Court's March 12, 2007 Revised Order After Hearing On Jurisdictional
12	Boundaries, is in a state of overdraft based on estimate of extraction and recharge, corroborated
13	by physical evidence of conditions in the Basin. Reliable estimates of the long-term extractions
14	from the Basin have exceeded reliable estimates of the Basin's recharge by significant margins,
15	and empirical evidence of overdraft in the Basin corroborates that conclusion. Portions of the
16	aquifer have sustained a significant loss of Groundwater storage since 1951. The evidence is
17	persuasive that current extractions exceed recharge and therefore that the Basin is in a state of
18	overdraft. The Court's full Phase 3 trial decision is attached as Exhibit 5 and is incorporated
19	herein by reference.
20	5. PRODUCTION RIGHTS
21	5.1 <u>Allocation of Rights to Native Safe Yield</u> . Consistent with the goals of

21 Allocation of Rights to Native Safe Yield. Consistent with the goals of
22 this Judgment and to maximize reasonable and beneficial use of the Groundwater of the Basin
23 pursuant to Article X, section 2 of the California Constitution, all the Production Rights
24 established by this Judgment are of equal priority, except the Federal Reserved Water Right
25 which is addressed in Paragraph 5.1.4, and with the reservation of the Small Pumper Class
26 Members' right to claim a priority under Water Code section 106.

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1	5.1.1 Overlying Production Rights . The Parties listed in Exhibit 4,
2	attached hereto and incorporated herein by reference, have Overlying Production Rights. Exhibit
3	4 sets forth the following for each Overlying Production Right: (1) the Pre-Rampdown
4	Production; (2) the Production Right; and (3) the percentage of the Production from the Adjusted
5	Native Safe Yield.
6	5.1.1.1 The Parties listed on Exhibit 4 have the right to Produce
7	Groundwater, on an annual basis, up to their Overlying Production Right set forth in Exhibit 4 for
8	each Party. Each Party's Overlying Production Right is subject to the following conditions and
9	limitations:
10	5.1.1.2 Pursuant to the terms of this Judgment, the Parties listed on
11	Exhibit 4 have the right to Produce their Overlying Production Right for use on land they own or
12	lease and without the need for Watermaster approval.
13	5.1.1.3 Overlying Production Rights may be transferred pursuant to
14	the provisions of Paragraph 16 of this Judgment.
15	5.1.1.4 Overlying Production Rights are subject to Pro-Rata
16	Reduction or Increase only pursuant to Paragraph 18.5.10.
17	5.1.2 Non-Pumper Class Rights. The Non-Pumper Class members
18	claim the right to Produce Groundwater from the Native Safe Yield for reasonable and beneficial
19	uses on their overlying land as provided for in this Judgment. On September 22, 2011, the Court
20	approved the Non-Pumper Class Stipulation of Settlement through an amended final judgment
21	that settled the Non-Pumper Class' claims against the Public Water Suppliers ("Non-Pumper
22	Class Judgment"). A copy of the Non-Pumper Class Judgment and the Non-Pumper Class
23	Stipulation of Settlement are attached for reference only as Appendices A and B. This Judgment
24	is consistent with the Non-Pumper Class Stipulation of Settlement and Judgment. Future
25	Production by a member of the Non-Pumper Class is addressed in the Physical Solution.
26	5.1.2.1 The Non-Pumper Class members shall have no right to
27	transfer water pursuant to this Judgment.
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1	5.1.3 Small Pumper Class Production Rights. Subject only to the
2	closure of the Small Pumper Class membership, the Small Pumper Class's aggregate Production
3	Right is 3806.4 acre-feet per Year. Allocation of water to the Small Pumper Class is set at an
4	average Small Pumper Class Member amount of 1.2 acre-feet per existing household or parcel
5	based upon the 3172 known Small Pumper Class Member parcels at the time of this Judgment.
6	Any Small Pumper Class Member may Produce up to and including 3 acre-feet per Year per
7	existing household for reasonable and beneficial use on their overlying land, and such Production
8	will not be subject to Replacement Water Assessment. Production by any Small Pumper Class
9	Member above 3 acre-feet per Year per household or parcel will be subject to Replacement Water
10	Assessment, as set forth in this Judgment. Administrative Assessments for unmetered Production
11	by Small Pumper Class Members shall be set based upon the allocation of 1.2 acre-feet per Year
12	per household or parcel, whichever is the case; metered Production shall be assessed in accord
13	with the actual Production. A Small Pumper Class Member who is lawfully, by permit, operating
14	a shared well with an adjoining Small Pumper Class Member, shall have all of the same rights
15	and obligations under this Judgment without regard to the location of the shared well, and such
16	shared use is not considered a prohibited transfer of a pumping right under Paragraph 5.1.3.3.
17	5.1.3.1 The Production of Small Pumper Class Members of up to 3
18	acre-feet per Year of Groundwater per household or per parcel for reasonable and beneficial use
19	shall only be subject to reduction if: (1) the reduction is based upon a statistically credible study
20	and analysis of the Small Pumper Class' actual Native Safe Yield Production, as well as the
21	nature of the use of such Native Safe Yield, over at least a three Year period; and (2) the
22	reduction is mandated by Court order after notice to the Small Pumper Class Members affording a
23	reasonable opportunity for the Court to hear any Small Pumper Class Member objections to such
24	reduction, including a determination that Water Code section 106 may apply so as to prevent a
25	reduction.
26	5.1.3.2 The primary means for monitoring the Small Pumper Class
27	Members' Groundwater use under the Physical Solution will be based on physical inspection by
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the Watermaster, including the use of aerial photographs and satellite imagery. All Small Pumper
Class Members agree to permit the Watermaster to subpoen the electrical meter records
associated with their Groundwater wells on an annual basis. Should the Watermaster develop a
reasonable belief that a Small Pumper Class Member household is using in excess of 3 acre-feet
per Year, the Watermaster may cause to be installed a meter on such Small Pumper Class
Member's well at the Small Pumper Class Member's expense.

7 **5.1.3.3** The pumping rights of Small Pumper Class Members are 8 not transferable separately from the parcel of property on which the water is pumped, provided 9 however a Small Pumper Class Member may move their water right to another parcel owned by 10 that Small Pumper Class Member with approval of the Court. If a Small Pumper Class Member 11 parcel is sold, absent a written contract stating otherwise and subject to the provisions of this 12 Judgment, the water right for that Small Pumper Class Member parcel shall transfer to the new 13 owners of that Small Pumper Class Member parcel. The pumping rights of Small Pumper Class 14 Members may not be aggregated for use by a purchaser of more than one Small Pumper Class 15 Member's property.

5.1.3.4 Defaults or default judgments entered against any Small
Pumper Class Member who did not opt out of the Small Pumper Class are hereby deemed nonoperative and vacated *nunc pro tunc*, but only with respect to their ownership of real property
meeting the Small Pumper Class definition.

5.1.3.5 The Small Pumper Class shall be permanently closed to new
membership upon issuance by the Court of its order granting final approval of the Small Pumper
Class Settlement (the "Class Closure Date"), after the provision of notice to the Class of the Class
Closure Date. Any Person or entity that does not meet the Small Pumper Class definition prior to
the Class Closure Date is not a Member of the Small Pumper Class. Similarly, any additional
household constructed on a Small Pumper Class Member parcel after the Class Closure Date is
not entitled to a Production Right as set forth in Paragraphs 5.1.3 and 5.1.3.1.

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5.1.3.6 Unknown Small Pumper Class Members are defined as: (1) 1 2 those Persons or entities that are not identified on the list of known Small Pumper Class Members 3 maintained by class counsel and supervised and controlled by the Court as of the Class Closure 4 Date; and (2) any unidentified households existing on a Small Pumper Class Member parcel prior 5 to the Class Closure Date. Within ten (10) Court days of the Class Closure Date, class counsel 6 for the Small Pumper Class shall publish to the Court website and file with the Court a list of the 7 known Small Pumper Class Members. 8 **5.1.3.7** Given the limited number of additions to the Small Pumper 9 Class during the more than five Years since the initial notice was provided to the Class, the Court 10 finds that the number of potentially unknown Small Pumper Class Members and their associated 11 water use is likely very low, and any Production by unknown Small Pumper Class Members is 12 hereby deemed to be *de minimis* in the context of this Physical Solution and shall not alter the 13 Production Rights decreed in this Judgment. However, whenever the identity of any unknown 14 Small Pumper Class Member becomes known, that Small Pumper Class Member shall be bound 15 by all provisions of this Judgment, including without limitation, the assessment obligations applicable to Small Pumper Class Members. 16 17 **5.1.3.8** In recognition of his service as class representative, Richard 18 Wood has a Production Right of up to five 5 acre-feet per Year for reasonable and beneficial use 19 on his parcel free of Replacement Water Assessment. This Production Right shall not be 20 transferable and is otherwise subject to the provisions of this Judgment. 21 **5.1.4** Federal Reserved Water Right. The United States has a right to 22 Produce 7,600 acre-feet per Year from the Native Safe Yield as a Federal Reserved Water Right 23 for use for military purposes at Edwards Air Force Base and Air Force Plant 42. See Cappaert v. 24 United States, 426 U.S. 128, 138 (1976); United States v. New Mexico, 438 U.S. 696, 700 (1978). 25 Maps of the boundaries of Edwards Air Force Base and Plant 42 are attached hereto as Exhibits 6 26 and 7. The United States may Produce any or all of this water at any time for uses consistent with 27 the purposes of its Federal Reserved Water Right. Water uses at Edwards Air Force Base and

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Plant 42 as of the date of this Judgment are consistent with the military purposes of the facilities.
 The Federal Reserved Water Right to Produce 7,600 acre-feet per Year is not subject to
 Rampdown or any reduction including Pro-Rata Reduction due to Overdraft.

4 5.1.4.1 In the event the United States does not Produce its 5 entire 7,600 acre-feet in any given Year, the unused amount in any Year will be allocated to the 6 Non-Overlying Production Rights holders, except for Boron Community Services District and 7 West Valley County Water District, in the following Year, in proportion to Production Rights set 8 forth in Exhibit 3. This Production of unused Federal Reserved Water Right Production does not 9 increase any Non-Overlying Production Right holder's decreed Non-Overlying Production Right 10 amount or percentage, and does not affect the United States' ability to fully Produce its Federal 11 Reserved Water Right as provided in Paragraph 5.1.4 in any subsequent Year. Upon entry of a 12 judgment confirming its Federal Reserved Water Rights consistent with this Judgment, the United 13 States waives any rights under State law to a correlative share of the Groundwater in the Basin 14 underlying Edwards Air Force Base and Air Force Plant 42.

155.1.4.2The United States is not precluded from acquiring State law16based Production Rights in excess of its Federal Reserved Water Right through the acquisition of17Production Rights in the Basin.

18 5.1.5 State of California Production Rights. The State of California 19 shall have a Production Right of 207 acre-feet per Year from the Native Safe Yield and shall have 20 the additional right to Produce Native Safe Yield as set forth in Paragraphs 5.1.5.3 and 5.1.5.4 21 below. This Production of Native Safe Yield shall not be subject to Pro-Rata Reduction. Any 22 Production by the State of California above 207 acre-feet per Year that is not Produced pursuant 23 to Paragraphs 5.1.5.3 and 5.1.5.4 below shall be subject to Replacement Assessments. All 24 Production by the State of California shall also be subject to the Administrative Assessment and 25 the Balance Assessment except in emergency situations as provided in Paragraph 5.1.5.4.3 below. 26 Any Production of Native Safe Yield pursuant to Paragraphs 5.1.5.3 and 5.1.5.4 below shall not 27 reduce any other Party's Production Rights pursuant to this Judgment.

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1	5.1.5.1 The State of California's Production Right in the amount of
2	207 acre-feet per Year is allocated separately to each of the State agencies, departments, and
3	associations as listed below in Paragraph 5.1.5.2. Notwithstanding the separate allocations, any
4	Production Right, or portion thereof, of one of the State agencies, departments, and associations
5	may be transferred or used by the other State agencies, departments, and associations on parcels
6	within the Basin. This transfer shall be done by agreement between the State agencies,
7	departments, or associations without a Replacement Water Assessment and without the need for
8	Watermaster approval. Prior to the transfer of another State agency, department, or association's
9	Production Right, the State agency, department, or association receiving the ability to use the
10	Production Right shall obtain written consent from the transferor. Further, the State agency,
11	department, or association receiving the Production Right shall notify the Watermaster of the
12	transfer.
13	5.1.5.2 The Production Rights are allocated as follows and may be
14	exercised by the following nine (9) State agencies:
15	5.1.5.2.1 The California Department of Water Resources-104
16	acre- feet per Year.
17	5.1.5.2.2 The California Department of Parks and Recreation-
18	9 acre-feet per Year.
19	5.1.5.2.3 The California Department of Transportation -47
20	acre-feet per Year.
21	5.1.5.2.4 The California State Lands Commission-3 acre-feet
22	per Year
23	5.1.5.2.5 The California Department of Corrections and
24	Rehabilitation-3 acre-feet per Year.
25	5.1.5.2.6 The 50th District Agricultural Association-32 acre-
26	feet per Year.
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1	5.1.5.2.7 The California Department of Veteran Affairs-3
2	acre-feet per Year.
3	5.1.5.2.8 The California Highway Patrol -3 acre- feet per
4	Year.
5	5.1.5.2.9 The California Department of Military-3 acre-feet
6	per Year.
7	5.1.5.3 If at any time, the amount of water supplied to the State of
8	California by District No. 40, AVEK, or Rosamond Community Service District is no longer
9	available or no longer available at reasonable rates to the State of California, the State of
10	California shall have the additional right to Produce Native Safe Yield to meet its reasonable and
11	beneficial needs up to 787 acre-feet per Year, the amount provided by District No. 40, AVEK and
12	Rosamond Community Services District to the State of California in the Year 2013.
13	5.1.5.4 The following provisions will also apply to each specific
14	agency listed below:
15	5.1.5.4.1 California Department of Corrections &
16	Rehabilitation (CDCR). In addition to its Production Right pursuant to Paragraphs 5.1.5.2.5 and
17	5.1.5.3, CDCR may also pump Groundwater: (1) to the extent necessary to conduct periodic
18	maintenance of its well pumping equipment; and (2) as a supplementary source of drinking water
19	or as an emergency back-up supply as set forth in Water Code section 55338.
20	5.1.5.4.2 California Department of Water Resources (DWR).
21	In addition to its Production pursuant to Paragraphs 5.1.5.2.1 and 5.1.5.3 above, DWR may also
22	pump Native Safe Yield from the area adjacent to and beneath the California Aqueduct and
23	related facilities at a time and in an amount it determines is reasonably necessary to protect the
24	physical integrity of the California Aqueduct and related facilities from high Groundwater.
25	Further, notwithstanding provisions of this Judgment prohibiting the export of Native Safe Yield
26	from the Basin, DWR may place the Native Safe Yield that it pumps for the protection of the
27	California Aqueduct into the California Aqueduct, whether or not such Native Safe Yield is

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ultimately returned to the Basin. However, DWR and AVEK shall use their best efforts to enter
 into an agreement allowing AVEK to recapture the Native Safe Yield DWR puts into the
 California Aqueduct and return it to the Basin.

4 5.1.5.4.3 Department of Military. The Department of Military 5 may Produce additional Groundwater in an amount necessary to protect and promote public 6 health and safety during an event deemed to be an emergency by the Department of Military 7 pursuant to California Government Code sections 8567 and 8571, and California Military and 8 Veterans Code sections 143 and 146. Such Production shall be free from any assessment, including any Administrative, Balance, or Replacement Water Assessment. 9 5.1.5.4.4 10 The California Department of Veterans Affairs. The 11 California Department of Veteran Affairs has begun the expansion and increased occupancy 12 project of the Veterans Home of California – Lancaster facility owned by the State of California 13 by and on behalf of the California Department of Veterans Affairs. The California Department of 14 Veterans Affairs fully expects that it will be able to purchase up to an additional 40 acre-feet per 15 Year for use at this facility from District No. 40.

16 5.1.6 Non-Overlying Production Rights. The Parties listed in Exhibit 3
17 have Production Rights in the amounts listed in Exhibit 3. Exhibit 3 is attached hereto, and
18 incorporated herein by reference. Non-Overlying Production Rights are subject to Pro-Rata
19 Reduction or Increase only pursuant to Paragraph 18.5.10.

20 5.1.7 **City of Lancaster.** The City of Lancaster ("Lancaster") can 21 Produce up to 500 acre-feet of Groundwater for reasonable and beneficial uses at its National 22 Soccer Complex. Such production shall only be subject to Administrative Assessment and no 23 other assessments. Lancaster will stop Producing Groundwater and will use Recycled Water 24 supplied from District No. 40, when it becomes available, to meet the reasonable and beneficial 25 water uses of the National Soccer Complex. Lancaster may continue to Produce up to 500 acre-26 feet of Groundwater until Recycled Water becomes available to serve the reasonable and 27 beneficial water uses of the National Soccer Complex. Nothing in this paragraph shall be

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construed as requiring Lancaster to have any responsibility for constructing, or in any way
 contributing to the cost of, any infrastructure necessary to deliver Recycled Water to the National
 Soccer Complex.

4 5.1.8 Antelope Valley Joint Union High School District. Antelope 5 Valley Joint Union High School District is a public school entity duly organized and existing under the laws of the State of California. In addition to the amounts allocated to Antelope Valley 6 7 Joint Union High School District ("AVJUHSD") and pursuant to Exhibit 4, AVJUHSD can 8 additionally produce up to 29 acre-feet of Groundwater for reasonable and beneficial uses on its 9 athletic fields and other public spaces. When recycled water becomes available to Quartz Hill 10 High School (located at 6040 West Avenue L, Quartz Hill, CA 93535) which is a site that is part 11 of AVJUHSD, at a price equal to or less than the lowest cost of any of the following: 12 Replacement Obligation, Replacement Water, or other water that is delivered to AVJUHSD at 13 Quartz Hill High School, AVJUHSD will stop producing the 29 acre-feet of Groundwater 14 allocated to it and use recycled water as a replacement to its 29 acre-feet production. AVJUHSD 15 retains its production rights and allocation pursuant to Exhibit 4 of this Judgment.

16 5.1.9 Construction of Solar Power Facilities. Any Party may Produce 17 Groundwater in excess of its Production Right allocated to it in Exhibit 4 for the purpose of 18 constructing a facility located on land overlying the Basin that will generate, distribute or store 19 solar power through and including December 31, 2016 and shall not be charged a Replacement 20 Water Assessment or incur a Replacement Obligation for such Production in excess of its 21 Production Rights. Any amount of such production in excess of the Production Right through 22 and including December 31, 2016 shall be reasonable to accomplish such construction but shall 23 not exceed 500 acre-feet per Year for all Parties using such water.

- 5.1.10 Production Rights Claimed by Non-Stipulating Parties. Any
 claim to a right to Produce Groundwater from the Basin by a Non-Stipulating Party shall be
 subject to procedural or legal objection by any Stipulating Party. Should the Court, after taking
 evidence, rule that a Non-Stipulating Party has a Production Right, the Non-Stipulating Party
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1 shall be subject to all provisions of this Judgment, including reduction in Production necessary to 2 implement the Physical Solution and the requirements to pay assessments, but shall not be 3 entitled to benefits provided by Stipulation, including but not limited to Carry Over pursuant to 4 Paragraph 15 and Transfers pursuant to Paragraph 16. If the total Production by Non-Stipulating 5 Parties is less than seven percent (7%) of the Native Safe Yield, such Production will be 6 addressed when Native Safe Yield is reviewed pursuant to Paragraph 18.5.9. If the total 7 Production by Non-Stipulating Parties is greater than seven percent (7%) of the Native Safe 8 Yield, the Watermaster shall determine whether Production by Non-Stipulating Parties would 9 cause Material Injury, in which case the Watermaster shall take action to mitigate the Material 10 Injury, including, but not limited to, imposing a Balance Assessment, provided however, that the 11 Watermaster shall not recommend any changes to the allocations under Exhibits 3 and 4 prior to 12 the redetermination of Native Safe Yield pursuant to Paragraph 18.5.9. In all cases, however, 13 whenever the Watermaster re-determines the Native Safe Yield pursuant to Paragraph 18.5.9, the 14 Watermaster shall take action to prevent Native Safe Yield Production from exceeding the Native 15 Safe Yield on a long-term basis.

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5.2 **Rights to Imported Water Return Flows.**

5.2.1 17 **Rights to Imported Water Return Flows.** Return Flows from 18 Imported Water used within the Basin which net augment the Basin Groundwater supply are not a 19 part of the Native Safe Yield. Subject to review pursuant to Paragraph 18.5.11, Imported Water 20 Return Flows from Agricultural Imported Water use are 34% and Imported Water Return Flows 21 from Municipal and Industrial Imported Water use are 39% of the amount of Imported Water 22 used.

23 5.2.2 Water Imported Through AVEK. The right to Produce Imported 24 Water Return Flows from water imported through AVEK belongs exclusively to the Parties 25 identified on Exhibit 8, attached hereto, and incorporated herein by reference. Each Party shown 26 on Exhibit 8 shall have a right to Produce an amount of Imported Water Return Flows in any 27 Year equal to the applicable percentage multiplied by the average amount of Imported Water used

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1 by that Party within the Basin in the preceding five Year period (not including Imported Stored 2 Water in the Basin). Any Party that uses Imported Water on lands outside the Basin but within the 3 watershed of the Basin shall be entitled to Produce Imported Water Return Flows to the extent 4 such Party establishes to the satisfaction of the Watermaster the amount that its Imported Water 5 Return Flows augment the Basin Groundwater supply. This right shall be in addition to that Party's Overlying or Non-Overlying Production Right. Production of Imported Water Return 6 7 Flows is not subject to the Replacement Water Assessment. All Imported Water Return Flows 8 from water imported through AVEK and not allocated to Parties identified in Exhibit 8 belong 9 exclusively to AVEK, unless otherwise agreed by AVEK. Notwithstanding the foregoing, Boron 10 Community Services District shall have the right to Produce Imported Water Return Flows, up to 11 78 acre-feet annually, based on the applicable percentage multiplied by the average amount of 12 Imported Water used by Boron Community Services District outside the Basin, but within its 13 service area in the preceding five Year period (not including Imported Stored Water in the Basin) 14 without having to establish that the Imported Water Return Flows augment the Basin 15 Groundwater supply.

16 5.2.3 Water Not Imported Through AVEK. After entry of this 17 Judgment, a Party other than AVEK that brings Imported Water into the Basin from a source 18 other than AVEK shall notify the Watermaster each Year quantifying the amount and uses of the 19 Imported Water in the prior Year. The Party bringing such Imported Water into the Basin shall 20 have a right to Produce an amount of Imported Water Return Flows in any Year equal to the 21 applicable percentage set forth above multiplied by the average annual amount of Imported Water 22 used by that Party within the Basin in the preceding five Year period (not including Imported 23 Stored Water in the Basin).

- 24 5.3 <u>Rights to Recycled Water</u>. The owner of a waste water treatment plant
 25 operated for the purpose of treating wastes from a sanitary sewer system shall hold the exclusive
 26 right to the Recycled Water as against anyone who has supplied the water discharged into the
 27 waste water collection and treatment system. At the time of this Judgment those Parties that
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produce Recycled Water are Los Angeles County Sanitation Districts No. 14 and No. 20,
 Rosamond Community Services District, and Edwards Air Force Base. Nothing in this Judgment
 affects or impairs this ownership or any existing or future agreements for the use of Recycled
 Water within the Basin.

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6.

INJUNCTION

6.1 Injunction Against Unauthorized Production. Each and every Party, its 6 7 officers, directors, agents, employees, successors, and assigns, except for the United States, is 8 ENJOINED AND RESTRAINED from Producing Groundwater from the Basin except pursuant 9 to this Judgment. Without waiving or foreclosing any arguments or defenses it might have, the 10 United States agrees that nothing herein prevents or precludes the Watermaster or any Party from 11 seeking to enjoin the United States from Producing water in excess of its 7,600 acre-foot per Year 12 Reserved Water Right if and to the extent the United States has not paid the Replacement 13 Assessments for such excess Production or entered into written consent to the imposition of 14 Replacement Assessments as described in Paragraph 9.2.

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6.2 Injunction Re Change in Purpose of Use Without Notice to The

16 Watermaster. Each and every Party, its officers, directors, agents, employees, successors, and
 17 assigns, is ENJOINED AND RESTRAINED from changing its Purpose of Use of Groundwater at
 18 any time without notifying the Watermaster.

6.3 19 Injunction Against Unauthorized Capture of Stored Water. Each and 20 every Party, its officers, directors, agents, employees, successors and assigns, is ENJOINED 21 AND RESTRAINED from claiming any right to Produce the Stored Water that has been 22 recharged in the Basin, except pursuant to a Storage Agreement with the Watermaster, and as 23 allowed by this Judgment, or pursuant to water banking operations in existence and operating at 24 the time of this Judgment as identified in Paragraph 14. This Paragraph does not prohibit Parties 25 from importing water into the Basin for direct use, or from Producing or using Imported Water 26 Return Flows owned by such Parties pursuant to Paragraph 5.2.

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1	6.4 <u>Injunction Against Transportation From Basin</u> . Except upon further
2	order of the Court, each and every Party, its officers, agents, employees, successors and assigns,
3	is ENJOINED AND RESTRAINED from transporting Groundwater hereafter Produced from the
4	Basin to areas outside the Basin except as provided for by the following. The United States may
5	transport water Produced pursuant to its Federal Reserved Water Right to any portion of Edwards
6	Air Force Base, whether or not the location of use is within the Basin. This injunction does not
7	prevent Saint Andrew's Abbey, Inc., U.S. Borax and Tejon Ranchcorp/Tejon Ranch Company
8	from conducting business operations on lands both inside and outside the Basin boundary, and
9	transporting Groundwater Produced consistent with this Judgment for those operations and for
10	use on those lands outside the Basin and within the watershed of the Basin as shown in Exhibit 9.
11	This injunction also does not apply to any California Aqueduct protection dewatering Produced
12	by the California Department of Water Resources. This injunction does not apply to the recovery
13	and use of stored Imported Water by any Party that stores Imported Water in the Basin pursuant
14	to Paragraph 14 of this Judgment.
15	6.4.1 <u>Export by Boron and Phelan Piñon Hills Community Services</u>
16	<u>Districts.</u>
17	6.4.1.1 The injunction does not prevent Boron Community Services
18	District from transporting Groundwater Produced consistent with this Judgment for use outside
19	the Basin, provided such water is delivered within its service area.
20	6.4.1.2 The injunction does not apply to any Groundwater Produced
21	within the Basin by Phelan Piñon Hills Community Services District and delivered to its service
22	areas, so long as the total Production does not exceed 1,200 acre-feet per Year, such water is
23	available for Production without causing Material Injury, and the District pays a Replacement
24	Water Assessment pursuant to Paragraph 9.2, together with any other costs deemed necessary to
25	protect Production Rights decreed herein, on all water Produced and exported in this manner.
26	6.5 <u>Continuing Jurisdiction</u> . The Court retains and reserves full jurisdiction,
27	power and authority for the purpose of enabling the Court, upon a motion of a Party or Parties
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	[PROPOSED] JUDGMENT

noticed in accordance with the notice procedures of Paragraph 20.6 hereof, to make such further
 or supplemental order or directions as may be necessary or appropriate to interpret, enforce,
 administer or carry out this Judgment and to provide for such other matters as are not
 contemplated by this Judgment and which might occur in the future, and which if not provided for
 would defeat the purpose of this Judgment.

6 III. PHYSICAL SOLUTION

7.

7

GENERAL

7.1 **Purpose and Objective.** The Court finds that the Physical Solution 8 9 incorporated as part of this Judgment: (1) is a fair and equitable basis for satisfaction of all water 10 rights in the Basin; (2) is in furtherance of the State Constitution mandate and the State water 11 policy; and (3) takes into account water rights priorities, applicable public trust interests and the 12 Federal Reserved Water Right. The Court finds that the Physical Solution establishes a legal and 13 practical means for making the maximum reasonable and beneficial use of the waters of the Basin 14 by providing for the long-term Conjunctive Use of all available water in order to meet the 15 reasonable and beneficial use requirements of water users in the Basin. Therefore, the Court 16 adopts, and orders the Parties to comply with this Physical Solution.

17 7.2 <u>Need For Flexibility</u>. This Physical Solution must provide flexibility and
 18 adaptability to allow the Court to use existing and future technological, social, institutional, and
 19 economic options in order to maximize reasonable and beneficial water use in the Basin.

7.3 <u>General Pattern of Operations</u>. A fundamental premise of the Physical
 Solution is that all Parties may Produce sufficient water to meet their reasonable and beneficial
 use requirements in accordance with the terms of this Judgment. To the extent that Production by
 a Producer exceeds such Producer's right to Produce a portion of the Total Safe Yield as provided
 in this Judgment, the Producer will pay a Replacement Water Assessment to the Watermaster and
 the Watermaster will provide Replacement Water to replace such excess production according to
 the methods set forth in this Judgment.

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[PROPOSED] JUDGMENT

1 7.4 Water Rights. A Physical Solution for the Basin based upon a declaration 2 of water rights and a formula for allocation of rights and obligations is necessary to implement 3 the mandate of Article X, section 2 of the California Constitution. The Physical Solution requires 4 quantifying the Producers' rights within the Basin in a manner which will reasonably allocate the 5 Native Safe Yield and Imported Water Return Flows and which will provide for sharing Imported Water costs. Imported Water sources are or will be available in amounts which, when combined 6 7 with water conservation, water reclamation, water transfers, and improved conveyance and 8 distribution methods within the Basin, will be sufficient in quantity and quality to assure 9 implementation of the Physical Solution. Sufficient information and data exists to allocate 10 existing water supplies, taking into account water rights priorities, within the Basin and as among 11 the water users. The Physical Solution provides for delivery and equitable distribution of 12 Imported Water to the Basin.

13

8.

RAMPDOWN

14 8.1 <u>Installation of Meters</u>. Within two (2) Years from the entry of this
15 Judgment all Parties other than the Small Pumper Class shall install meters on their wells for
16 monitoring Production. Each Party shall bear the cost of installing its meter(s). Monitoring or
17 metering of Production by the Small Pumper Class shall be at the discretion of the Watermaster,
18 subject to the provisions of Paragraph 5.1.3.2.

19 8.2 <u>Rampdown Period</u>. The "Rampdown Period" is seven Years beginning
20 on the January 1 following entry of this Judgment and continuing for the following seven (7)
21 Years.

8.3 <u>Reduction of Production During Rampdown.</u> During the first two Years
 of the Rampdown Period no Producer will be subject to a Replacement Water Assessment.
 During Years three through seven of the Rampdown Period, the amount that each Party may
 Produce from the Native Safe Yield will be progressively reduced, as necessary, in equal annual
 increments, from its Pre-Rampdown Production to its Production Right. Except as is determined
 to be exempt during the Rampdown period pursuant to the Drought Program provided for in

Paragraph 8.4, any amount Produced over the required reduction shall be subject to Replacement
 Water Assessment. The Federal Reserved Water Right is not subject to Rampdown.

8.4 <u>Drought Program During Rampdown for Participating Public Water</u>
<u>Suppliers.</u> During the Rampdown period a drought water management program ("Drought
Program") will be implemented by District No. 40, Quartz Hill Water District, Littlerock Creek
Irrigation District, California Water Service Company, Desert Lake Community Services District,
North Edwards Water District, City of Palmdale, and Palm Ranch Irrigation District,

8 (collectively, "Drought Program Participants"), as follows:

9 8.4.1 During the Rampdown period, District No. 40 agrees to purchase 10 from AVEK each Year at an amount equal to 70 percent of District No. 40's total annual demand 11 if that amount is available from AVEK at no more than the then current AVEK treated water rate. 12 If that amount is not available from AVEK, District No. 40 will purchase as much water as 13 AVEK makes available to District No. 40 at no more than the then current AVEK treated water 14 rate. Under no circumstances will District No. 40 be obligated to purchase more than 50,000 15 acre-feet of water annually from AVEK. Nothing in this Paragraph affects AVEK's water 16 allocation procedures as established by its Board of Directors and AVEK's Act.

8.4.2 17 During the Rampdown period, the Drought Program Participants 18 each agree that, in order to minimize the amount of excess Groundwater Production in the Basin, 19 they will use all water made available by AVEK at no more than the then current AVEK treated 20 water rate in any Year in which they Produce Groundwater in excess of their respective rights to 21 Produce Groundwater under this Judgment. During the Rampdown period, no Production by a 22 Drought Program Participant shall be considered excess Groundwater Production exempt from a 23 Replacement Water Assessment under this Drought Program unless a Drought Program 24 Participant has utilized all water supplies available to it including its Production Right to Native 25 Safe Yield, Return Flow rights, unused Production allocation of the Federal Reserved Water 26 Rights, Imported Water, and Production rights previously transferred from another party. 27 Likewise, no Production by a Drought Program Participant will be considered excess

Groundwater Production exempt from a Replacement Water Assessment under this Drought
 Program in any Year in which the Drought Program Participant has placed water from such
 sources described in this Paragraph 8.4.2 into storage or has transferred such water to another
 Person or entity.

8.4.3 5 During the Rampdown period, the Drought Program Participants will be exempt from the requirement to pay a Replacement Water Assessment for Groundwater 6 7 Production in excess of their respective rights to Produce Groundwater under this Judgment up to 8 a total of 40,000 acre-feet over the Rampdown Period with a maximum of 20,000 acre-feet in any 9 single Year for District No. 40 and a total of 5,000 acre-feet over the Rampdown Period for all 10 other Drought Program Participants combined. During any Year that excess Groundwater is 11 produced under this Drought Program, all Groundwater Production by the Drought Program 12 Participants will be for the purpose of a direct delivery to customers served within their respective 13 service areas and will not be transferred to other users within the Basin.

14 8.4.4 Notwithstanding the foregoing, the Drought Program Participants
15 remain subject to the Material Injury limitation as provided in this Judgment.

16 8.4.5 Notwithstanding the foregoing, the Drought Program Participants
17 remain subject to a Balance Assessment as provided in Paragraph 9.3 of this Judgment.

18

9.

ASSESSMENTS.

9.1 19 Administrative Assessment. Administrative Assessments to fund the 20 Administrative Budget adopted by the Watermaster shall be levied uniformly on an annual basis 21 against (1) each acre foot of a Party's Production Right as described in Paragraph 5.1, (2) each 22 acre foot of a Party's right to Produce Imported Water Return Flows as determined pursuant to 23 Paragraph 5.2, (3) each acre foot of a Party's Production for which a Replacement Water 24 Assessment has been imposed pursuant to Paragraph 9.2, and (4) during the Rampdown, each 25 acre foot of a Party's Production in excess of (1)-(3), above, excluding Production from Stored 26 Water and/or Carry Over water, except that the United States shall be subject to the 27 Administrative Assessment only on the actual Production of the United States. During the 28

1 Rampdown the Administrative Assessment shall be no more than five (5) dollars per acre foot, or 2 as ordered by the Court upon petition of the Watermaster. Non-Overlying Production Rights 3 holders using the unused Production allocation of the Federal Reserved Water Right shall be 4 subject to Administrative Assessments on water the Non-Overlying Production Rights holders 5 Produce pursuant to Paragraph 5.1.4.1.

9.2 **Replacement Water Assessment.** In order to ensure that each Party may 6 7 fully exercise its Production Right, there will be a Replacement Water Assessment. Except as is 8 determined to be exempt during the Rampdown period pursuant to the Drought Program provided 9 for in Paragraph 8.4, the Watermaster shall impose the Replacement Water Assessment on any 10 Producer whose Production of Groundwater from the Basin in any Year is in excess of the sum of 11 such Producer's Production Right and Imported Water Return Flow available in that Year, 12 provided that no Replacement Water Assessment shall be imposed on the United States except 13 upon the United States' written consent to such imposition based on the appropriation by 14 Congress, and the apportionment by the Office of Management and Budget, of funds that are 15 available for the purpose of, and sufficient for, paying the United States' Replacement Water Assessment. The Replacement Water Assessment shall not be imposed on the Production of 16 17 Stored Water, In-Lieu Production or Production of Imported Water Return Flows. The amount of 18 the Replacement Water Assessment shall be the amount of such excess Production multiplied by 19 the cost to the Watermaster of Replacement Water, including any Watermaster spreading costs. 20 All Replacement Water Assessments collected by the Watermaster shall be used to acquire 21 Imported Water from AVEK, Littlerock Creek Irrigation District, Palmdale Water District, or 22 other entities. AVEK shall use its best efforts to acquire as much Imported Water as possible in a 23 timely manner. If the Watermaster encounters delays in acquiring Imported Water which, due to 24 cost increases, results in collected assessment proceeds being insufficient to purchase all Imported 25 Water for which the Assessments were made, the Watermaster shall purchase as much water as 26 the proceeds will allow when the water becomes available. If available Imported Water is 27 insufficient to fully meet the Replacement Water obligations under contracts, the Watermaster

shall allocate the Imported Water for delivery to areas on an equitable and practicable basis
 pursuant to the Watermaster rules and regulations.

9.2.1 3 The Non-Pumper Class Stipulation of Settlement, executed by its 4 signatories and approved by the Court in the Non-Pumper Class Judgment, specifically provides 5 for imposition of a Replacement Water Assessment on Non-Pumper Class members. This Judgment is consistent with the Non-Pumper Class Stipulation of Settlement and Judgment. The 6 7 Non-Pumper Class members specifically agreed to pay a replacement assessment if that member 8 produced "more than its annual share" of the Native Safe Yield less the amount of the Federal 9 Reserved Right. (See Appendix B at paragraph V., section D. Replacement Water.) In approving 10 the Non-Pumper Class Stipulation of Settlement this Court specifically held in its Order after 11 Hearing dated November 18, 2010, that "the court determination of physical solution cannot be 12 limited by the Class Settlement." The Court also held that the Non-Pumper Class Stipulation of 13 Settlement "may not affect parties who are not parties to the settlement."

14 9.2.2 Evidence presented to the Court demonstrates that Production by 15 one or more Public Water Suppliers satisfies the elements of prescription and that Production by 16 overlying landowners during portion(s) of the prescriptive period exceeded the Native Safe Yield. 17 At the time of this Judgment the entire Native Safe Yield is being applied to reasonable and 18 beneficial uses in the Basin. Members of the Non-Pumper Class do not and have never Produced 19 Groundwater for reasonable beneficial use as of the date of this Judgment. Pursuant to Pasadena 20 v. Alhambra (1949) 33 Cal 2d 908, 931-32 and other applicable law, the failure of the Non-21 Pumper Class members to Produce any Groundwater under the facts here modifies their rights to 22 Produce Groundwater except as provided in this Judgment. Because this is a comprehensive 23 adjudication pursuant to the McCarran Amendment, consistent with the California Supreme Court 24 decisions, including In Re Waters of Long Valley Creek Stream System (1979) 25 Cal. 3d 339, 25 this Court makes the following findings: (1) certainty fosters reasonable and beneficial use of 26 water and is called for by the mandate of Article X, section 2; (2) because of this mandate for 27 certainty and in furtherance of the Physical Solution, any New Production, including that by a

member of the Non-Pumper Class must comply with the New Production Application Procedure 1 2 specified in Paragraph 18.5.13; (3) as of this Judgment no member of the Non-Pumper Class has 3 established a Production Right to the reasonable and beneficial use of Groundwater based on their 4 unexercised claim of right to Produce Groundwater; (4) if in the future a member of the Non-5 Pumper Class proposes to Produce Groundwater for reasonable and beneficial use, the 6 Watermaster as part of the New Production Application Procedure, has the authority to determine 7 whether such a member has established that the proposed New Production is a reasonable and 8 beneficial use in the context of other existing uses of Groundwater and then-current Basin 9 conditions; and (5) the Watermaster's determinations as to the approval, scope, nature and priority 10 of any New Production is reasonably necessary to the promotion of the State's interest in fostering 11 the most reasonable and beneficial use of its scarce water resources. All provisions of this 12 Judgment regarding the administration, use and enforcement of the Replacement Water 13 Assessment shall apply to each Non-Pumper Class member that Produces Groundwater. Prior to 14 the commencement of Production, each Producing Non-Pumper Class member shall install a 15 meter and report Production to the Watermaster. The Court finds that this Judgment is consistent with the Non-Pumper Stipulation of Settlement and Judgment. 16

9.3 17 **Balance Assessment.** In order to ensure that after Rampdown each Party 18 may fully exercise its Production Right, there may be a Balance Assessment imposed by the 19 Watermaster. The Balance Assessment shall be assessed on all Production Rights, excluding the 20 United States' actual Production, but including that portion of the Federal Reserved Right 21 Produced by other Parties, in an amount determined by the Watermaster. A Balance Assessment 22 may not be imposed until after the end of the Rampdown. In determining whether to adopt a 23 Balance Assessment, and in what amount, the Watermaster Engineer shall consider current Basin 24 conditions as well as then-current pumping existing after Rampdown exclusive of any 25 consideration of an effect on then-current Basin conditions relating to Production of Groundwater 26 pursuant to the Drought Program which occurred during the Rampdown, and shall only assess a

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1	Balance Assessment or curtail a Party's Production under section 9.3.4 below, to avoid or		
2	mitigate Material Injury that is caused by Production after the completion of the Rampdown.		
3	9.3.1 Any proceeds of the Balance Assessment will be used to purchase,		
4	deliver, produce in lieu, or arrange for alternative pumping sources of water in the Basin, but shall		
5	not include infrastructure costs.		
6	9.3.2 The Watermaster Engineer shall determine and collect from any		
7	Party receiving direct benefit of the Balance Assessment proceeds an amount equal to that Party's		
8	avoided Production costs.		
9	9.3.3 The Balance Assessment shall not be used to benefit the United		
10	States unless the United States participates in paying the Balance Assessment.		
11	9.3.4 The Watermaster Engineer may curtail the exercise of a Party's		
12	Production Right under this Judgment, except the United States' Production, if it is determined		
13	necessary to avoid or mitigate a Material Injury to the Basin and provided that the Watermaster		
14	provides an equivalent quantity of water to such Party as a substitute water supply, with such		
15	water paid for from the Balance Assessment proceeds.		
16	10. <u>SUBAREAS</u> . Subject to modification by the Watermaster the following Subareas		
17	are recognized:		
18	10.1 <u>Central Antelope Valley Subarea</u> . The Central Antelope Valley Subarea		
19	is the largest of the five Subareas and underlies Rosamond, Quartz Hill, Lancaster, Edwards AFB		
20	and much of Palmdale. This Subarea also contains the largest amount of remaining agricultural		
21	land use in the Basin. The distinctive geological features of the Central Antelope Valley Subarea		
22	are the presence of surficial playa and pluvial lake deposits; the widespread occurrence of thick,		
23	older pluvial lake bed deposits; and alluvial deposits from which Groundwater is produced above		
24	and below the lake bed deposits. The Central Antelope Valley Subarea is defined to be east of the		
25	largely buried ridge of older granitic and tertiary rocks exposed at Antelope Buttes and extending		
26	beyond Little Buttes and Tropico Hill. The Central Subarea is defined to be southwest and		
27			
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northeast of the extension of the Buttes Fault, and northwest of an unnamed fault historically
 identified from Groundwater level differences, as shown on Exhibit 10.

10.2 <u>West Antelope Valley Subarea</u>. The West Antelope Valley Subarea is
the second largest subarea. The area is characterized by a lack of surficial lake bed deposits, and
little evidence of widespread subsurface lake beds, and thick alluvial deposits. The Western
Antelope Valley Subarea is defined to be south of the Willow Springs-Cottonwood Fault and
west of a largely buried ridge of older granitic and tertiary rocks that are exposed at Antelope
Buttes and Little Buttes, and continue to Tropico Hill, as shown on Exhibit 10.

9 10.3 <u>South East Subarea</u>. The South East Subarea is characterized by granitic
10 buttes to the north, shallow granitic rocks in the southwest, and a lack of lake bed deposits. The
11 South East Subarea is defined to encompass the remainder of the Basin from the unnamed fault
12 between the Central and South East subareas, to the county-line boundary of the Basin. Notably,
13 this area contains Littlerock and Big Rock creeks that emanate from the mountains to the south
14 and discharge onto the valley floor.

1510.4Willow Springs Subarea.The Willow Springs Subarea is separated from16the West Antelope Subarea primarily because the Willow Springs fault shows some signs of17recent movement and there is substantial Groundwater hydraulic separation between the two18adjacent areas, suggesting that the fault significantly impedes Groundwater flow from the Willow19Springs to the lower West Antelope Subarea. Otherwise, the Willow Springs Subarea is20comparable in land use to the West Antelope Subarea, with some limited agricultural land use and21no municipal development, as shown on Exhibit 10.

10.5 <u>Rogers Lake Subarea</u>. The Rogers Lake Subarea is characterized by
surficial pluvial Lake Thompson and playa deposits, and a narrow, fault-bound, central trough
filled with alluvial deposits. The area is divided into north and south subareas on opposite sides
of a buried ridge of granite rock in the north lake, as shown on Exhibit 10.

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11. INCREASE IN PRODUCTION BY THE UNITED STATES.

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[PROPOSED] JUDGMENT

11.1 Notice of Increase of Production Under Federal Reserved Water 1 2 **Right.** After the date of entry of this Judgment, the United States shall provide the Watermaster 3 with at least ninety (90) days advanced notice if Production by the United States is reasonably 4 anticipated to increase more than 200 acre-feet per Year in a following 12 month period.

5 11.2 Water Substitution to Reduce Production by United States. The United 6 States agrees that maximizing Imported Water is essential to improving the Basin's health and 7 agrees that its increased demand can be met by either increasing its Production or by accepting 8 deliveries of Imported Water of sufficient quality to meet the purpose of its Federal Reserved 9 Water Right under the conditions provided for herein. Any Party may propose a water 10 substitution or replacement to the United States to secure a reduction in Groundwater Production 11 by the United States. Such an arrangement would be at the United States' sole discretion and 12 subject to applicable federal law, regulations and other requirements. If such a substitution or 13 replacement arrangement is agreed upon, the United States shall reduce Production by the amount 14 of Replacement Water provided to it, and the Party providing such substitution or replacement of 15 water to the United States may Produce a corresponding amount of Native Safe Yield free from 16 Replacement Water Assessment in addition to their Production Right.

17

12.

MOVEMENT OF PUBLIC WATER SUPPLIERS PRODUCTION FACILITIES.

18

19

12.1 No Requirement to Move Public Water Suppliers' Production Wells.

One or more of the Public Water Suppliers intend to seek Federal or State legislation to pay for 20 21 all costs related to moving the Public Water Suppliers Production wells to areas that will reduce 22 the impact of Public Water Supplier Production on the United States' current Production wells. 23 The Public Water Suppliers shall have no responsibility to move any Production wells until 24 Federal or State legislation fully funding the costs of moving the wells is effective or until 25 required to do so by order of this Court which order shall not be considered or made by this Court 26 until the seventeenth (17th) Year after entry of this Judgment. The Court may only make such an 27 order if it finds that the Public Water Supplier Production from those wells is causing Material

Injury. The Court shall not impose the cost of moving the Public Water Supplier Production
 Facilities on any non-Public Water Supplier Party to this Judgment.

This Judgment is contingent on final approval by the 3 13. FEDERAL APPROVAL. 4 Department of Justice. Such approval will be sought upon final agreement of the terms of this 5 Judgment by the settling Parties. Nothing in this Judgment shall be interpreted or construed as a 6 commitment or requirement that the United States obligate or pay funds in contravention of the 7 Anti-Deficiency Act, 31 U.S.C. § 1341, or any other applicable provision of law. Nothing in this 8 Judgment, specifically including Paragraphs 9.1, 9.2 and 9.3, shall be construed to deprive any 9 federal official of the authority to revise, amend, or promulgate regulations. Nothing in this 10 Judgment shall be deemed to limit the authority of the executive branch to make 11 recommendations to Congress on any particular piece of legislation. Nothing in this Judgment 12 shall be construed to commit a federal official to expend federal funds not appropriated by 13 Congress. To the extent that the expenditure or advance of any money or the performance of any 14 obligation of the United States under this Judgment is to be funded by appropriation of funds by 15 Congress, the expenditure, advance, or performance shall be contingent upon the appropriation of 16 funds by Congress that are available for this purpose and the apportionment of such funds by the 17 Office of Management and Budget and certification by the appropriate Air Force official that 18 funding is available for this purpose, and an affirmative obligation of the funds for payment made 19 by the appropriate Air Force official. No breach of this Judgment shall result and no liability 20 shall accrue to the United States in the event such funds are not appropriated or apportioned.

14. <u>STORAGE</u>. All Parties shall have the right to store water in the Basin pursuant to
a Storage Agreement with the Watermaster. If Littlerock Creek Irrigation District or Palmdale
Water District stores Imported Water in the Basin it shall not export from its service area that
Stored Water. AVEK, Littlerock Creek Irrigation District or Palmdale Water District may enter
into exchanges of their State Water Project "Table A" Amounts. Nothing in this Judgment limits
or modifies operation of preexisting banking projects (including AVEK, District No. 40, Antelope
Valley Water Storage LLC, Tejon Ranchcorp and Tejon Ranch Company, Sheep Creek Water

1 Co., Rosamond Community Services District and Palmdale Water District) or performance of 2 preexisting exchange agreements of the Parties. The Watermaster shall promptly enter into 3 Storage Agreements with the Parties at their request. The Watermaster shall not enter into 4 Storage Agreements with non-Parties unless such non-Parties become expressly subject to the 5 provisions of this Judgment and the jurisdiction of the Court. Storage Agreements shall expressly 6 preclude operations which will cause a Material Injury on any Producer. If, pursuant to a Storage 7 Agreement, a Party has provided for pre-delivery or post-delivery of Replacement Water for the 8 Party's use, the Watermaster shall credit such water to the Party's Replacement Water Obligation 9 at the Party's request. Any Stored Water that originated as State Water Project water imported by 10 AVEK, Palmdale Water District or Littlerock Creek Irrigation District may be exported from the 11 Basin for use in a portion of the service area of any city or public agency, including State Water 12 Project Contractors, that are Parties to this action at the time of this Judgment and whose service 13 area includes land outside the Basin. AVEK may export any of its Stored State Project Water to 14 any area outside its jurisdictional boundaries and the Basin provided that all water demands 15 within AVEK's jurisdictional boundaries are met. Any Stored Water that originated as other 16 Imported Water may be exported from the Basin, subject to a requirement that the Watermaster 17 make a technical determination of the percentage of the Stored Water that is unrecoverable and 18 that such unrecoverable Stored Water is dedicated to the Basin.

19

15.

CARRY OVER

20 15.1 In Lieu Production Right Carry Over. Any Producer identified in 21 Paragraph 5.1.1, 5.1.5 and 5.1.6 can utilize In Lieu Production by purchasing Imported Water and 22 foregoing Production of a corresponding amount of the annual Production of Native Safe Yield 23 provided for in Paragraph 5 herein. In Lieu Production must result in a net reduction of annual 24 Production from the Native Safe Yield in order to be entitled to the corresponding Carry Over 25 benefits under this paragraph. In Lieu Production does not make additional water from the Native 26 Safe Yield available to any other Producer. If a Producer foregoes pumping and uses Imported 27 Water In Lieu of Production, the Producer may Carry Over its right to the unproduced portion of

1 its Production Right for up to ten (10) Years. A Producer must Produce its full current Year's 2 Production Right before any Carry Over water is Produced. Carry Over water will be Produced 3 on a first-in, first-out basis. At the end of the Carry Over period, the Producer may enter into a 4 Storage Agreement with the Watermaster to store unproduced portions, subject to terms and 5 conditions in the Watermaster's discretion. Any such Storage Agreements shall expressly 6 preclude operations, including the rate and amount of extraction, which will cause a Material 7 Injury to another Producer or Party, any subarea or the Basin. If not converted to a Storage 8 Agreement, Carry Over water not Produced by the end of the tenth Year reverts to the benefit of 9 the Basin and the Producer no longer has a right to the Carry Over water. The Producer may 10 transfer any Carry Over water or Carry Over water stored pursuant to a Storage Agreement.

11 15.2 Imported Water Return Flow Carry Over. If a Producer identified in 12 Paragraph 5.1.1, 5.1.5 and 5.1.6 fails to Produce its full amount of Imported Water Return Flows 13 in the Year following the Year in which the Imported Water was brought into the Basin, the 14 Producer may Carry Over its right to the unproduced portion of its Imported Water Return Flows 15 for up to ten (10) Years. A Producer must Produce its full Production Right before any Carry 16 Over water, or any other water, is Produced. Carry Over water will be Produced on a first-in, 17 first-out basis. At the end of the Carry Over period, the Producer may enter into a Storage 18 Agreement with the Watermaster to store unproduced portions, subject to terms and conditions in 19 the Watermaster's discretion. Any such Storage Agreements shall expressly preclude operations, 20 including the rate and amount of extraction, which will cause a Material Injury to another 21 Producer or Party, any subarea or the Basin. If not converted to a Storage Agreement, Carry Over 22 water not Produced by the end of the tenth Year reverts to the benefit of the Basin and the 23 Producer no longer has a right to the Carry Over water. The Producer may transfer any Carry 24 Over water or Carry Over water stored pursuant to a Storage Agreement.

15.3 <u>Production Right Carry Over</u>. If a Producer identified in Paragraph
 5.1.1, 5.1.5 and 5.1.6 fails to Produce its full Production Right in any Year, the Producer may
 Carry Over its right to the unproduced portion of its Production Right for up to ten (10) Years. A

1	Producer must Produce its full Production Right before any Carry Over water, or any other water,		
2	is Produced. Carry Over water will be Produced on a first-in, first-out basis. At the end of the		
3	Carry Over period, the Producer may enter into a Storage Agreement with the Watermaster to		
4	store unproduced portions, subject to terms and conditions in the Watermaster's discretion. Any		
5	such Storage Agreements shall expressly preclude operations, including the rate and amount of		
6	extraction, which will cause a Material Injury to another Producer or Party, any subarea or the		
7	Basin. If not converted to a Storage Agreement, Carry Over water not Produced by the end of the		
8	tenth Year reverts to the benefit of the Basin and the Producer no longer has a right to the Carry		
9	Over water. The Producer may transfer any Carry Over water or Carry Over water stored		
10	pursuant to a Storage Agreement.		
11	16. <u>TRANSFERS</u> .		
12	16.1 When Transfers are Permitted . Pursuant to terms and conditions to be		
13	set forth in the Watermaster rules and regulations, and except as otherwise provided in this		
14	Judgment, Parties may transfer all or any portion of their Production Right to another Party so		
15	long as such transfer does not cause Material Injury. All transfers are subject to hydrologic		
16	review by the Watermaster Engineer.		
17	16.2 <u>Transfers to Non-Overlying Production Right Holders. Overlying</u>		
18	Production Rights that are transferred to Non-Overlying Production Right holders shall remain on		
19	Exhibit 4 and be subject to adjustment as provided in Paragraph 18.5.10, but may be used		
20	anywhere in the transferee's service area.		
21	16.3 <u>Limitation on Transfers of Water by Antelope Valley United Mutuals</u>		
22	<u>Group</u> . After the date of this Judgment, any Overlying Production Rights pursuant to Paragraph		
23	5.1.1, rights to Imported Water Return Flows pursuant to Paragraph 5.2, rights to Recycled Water		
24	pursuant to Paragraph 5.3 and Carry Over water pursuant to Paragraph 15 (including any water		
25	banked pursuant to a Storage Agreement with the Watermaster) that are at any time held by any		
26	member of the Antelope Valley United Mutuals Group may only be transferred to or amongst		
27	other members of the Antelope Valley United Mutuals Group, except as provided in Paragraph		
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	[PROPOSED] JUDGMENT		

1 16.3.1. Transfers amongst members of the Antelope Valley United Mutuals Group shall be 2 separately reported in the Annual Report of the Watermaster pursuant to Paragraphs 18.4.8 and 3 18.5.17. Transfers amongst members of the Antelope Valley United Mutuals Group shall not be 4 deemed to constitute an abandonment of any member's non-transferred rights.

5 16.3.1 Nothing in Paragraph 16.3 shall prevent Antelope Valley United Mutuals Group members from transferring Overlying Production Rights to Public Water 6 7 Suppliers who assume service of an Antelope Valley United Mutuals Group member's 8 shareholders.

9 16.4 Notwithstanding section 16.1, the Production Right of Boron Community 10 Services District shall not be transferable. If and when Boron Community Services District 11 permanently ceases all Production of Groundwater from the Basin, its Production Right shall be 12 allocated to the other holders of Non-Overlying Production Rights, except for West Valley 13 County Water District, in proportion to those rights.

14

CHANGES IN POINT OF EXTRACTION AND NEW WELLS. Parties may 17. 15 change the point of extraction for any Production Right to another point of extraction so long as 16 such change of the point of extraction does not cause Material Injury. A replacement well for an existing point of extraction which is located within 300 feet of a Party's existing well shall not be 17 18 considered a change in point of extraction.

17.1 Notice of New Well. Any Party seeking to construct a new well in order to 19 20 change the point of extraction for any Production Right to another point of extraction shall notify 21 the Watermaster at least 90 days in advance of drilling any well of the location of the new point 22 of extraction and the intended place of use of the water Produced.

23 17.2 Change in Point of Extraction by the United States. The point(s) of 24 extraction for the Federal Reserved Water Right may be changed, at the sole discretion of the 25 United States, and not subject to the preceding limitation on Material Injury, to any point or 26 points within the boundaries of Edwards Air Force Base or Plant 42. The point(s) of extraction 27 for the Federal Reserved Water Right may be changed to points outside the boundaries of

Edwards Air Force Base or Plant 42, provided such change in the point of extraction does not cause Material Injury. In exercising its discretion under this Paragraph 17.2, the United States shall consider information in its possession regarding the effect of Production from the intended new point of extraction on the Basin, and on other Producers. Any such change in point(s) of extraction shall be at the expense of the United States. Nothing in this Paragraph is intended to waive any monetary claim(s) another Party may have against the United States in federal court based upon any change in point of extraction by the United States.

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18.

WATERMASTER

18.1 <u>Appointment of Initial Watermaster</u>.

18.1.1 10 Appointment and Composition: The Court hereby appoints a 11 Watermaster. The Watermaster shall be a five (5) member board composed of one representative 12 each from AVEK and District No. 40, a second Public Water Supplier representative selected by 13 District No. 40, Palmdale Water District, Quartz Hill Water District, Littlerock Creek Irrigation 14 District, California Water Service Company, Desert Lake Community Services District, North 15 Edwards Water District, City of Palmdale, City of Lancaster, Palm Ranch Irrigation District, and 16 Rosamond Community Services District, and two (2) landowner Parties, exclusive of public 17 agencies and members of the Non-Pumper and Small Pumper Classes, selected by majority vote 18 of the landowners identified on Exhibit 4 (or their successors in interest) based on their proportionate share of the total Production Rights identified in Exhibit 4. The United States may 19 20 also appoint a non-voting Department of Defense (DoD) Liaison to the Watermaster committee to 21 represent DoD interests. Participation by the DoD Liaison shall be governed by Joint Ethics 22 Regulation 3-201. The opinions or actions of the DoD liaison in participating in or contributing 23 to Watermaster proceedings cannot bind DoD or any of its components. 24 18.1.2 Voting Protocol for Watermaster Actions: 18.1.2.1 25 The Watermaster shall make decisions by unanimous vote 26 for the purpose of selecting or dismissing the Watermaster Engineer. 27 28 - 44 -

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2 consultation with the Watermaster Engineer, the types of decisions that shall require unanimous vote and those that shall require only a simple majority vote. 4 18.1.2.3 All decisions of the Watermaster, other than those 5 specifically designated as being subject to a simple majority vote, shall be by a unanimous vote 6 18.1.2.4 All board members must be present to make any decision 7 requiring a unanimous vote. 8 18.1.3 In carrying out this appointment, the Watermaster shall segregat 9 and separately exercise in all respects the Watermaster powers delegated by the Court under the 10 Judgment. All funds received, held, and disbursed by the Watermaster shall be by way of 11 separate Watermaster accounts, subject to separate accounting and auditing. Meetings and 12 hearings held by the Watermaster shall be noticed and conducted separately. 13 18.1.4 Pursuant to duly adopted Watermaster rules, Watermaster staff a 14 administrative functions may be accomplished by AVEK, subject to strict time and cost 15 accounting principles so that this Judgment does not subsidize, and is not subsidized by AVEF 16 18.2 Standard of Performance. The Watermaster shall carry out its duties, 17 powers and responsibilities in an impartial man				
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	25	to act in the manner consistent with the provisions set forth in this Judgment or subsequent order		
	26	of the Court.		
27	27			
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1**18.4Powers and Duties of the Watermaster.** Subject to the continuing2supervision and control of the Court, the Watermaster shall have and may exercise the following3express powers and duties, together with any specific powers and duties set forth elsewhere in4this Judgment or ordered by the Court:

5 18.4.1 Selection of the Watermaster Engineer. The Watermaster shall
6 select the Watermaster Engineer with the advice of the Advisory Committee described in
7 Paragraph 19.

18.4.2 8 Adoption of Rules and Regulations. The Court may adopt 9 appropriate rules and regulations prepared by the Watermaster Engineer and proposed by the 10 Watermaster for conduct pursuant to this Judgment. Before proposing rules and regulations, the 11 Watermaster shall hold a public hearing. Thirty (30) days prior to the date of the hearing, the 12 Watermaster shall send to all Parties notice of the hearing and a copy of the proposed rules and 13 regulations or amendments thereto. All Watermaster rules and regulations, and any amendments 14 to the Watermaster rules and regulations, shall be consistent with this Judgment and are subject to 15 approval by the Court, for cause shown, after consideration of the objections of any Party.

16 18.4.3 Employment of Experts and Agents. The Watermaster may
 17 employ such administrative personnel, engineering, legal, accounting, or other specialty services,
 18 and consulting assistants as appropriate in carrying out the terms of this Judgment.

19 18.4.4 Notice List. The Watermaster shall maintain a current list of
20 Parties to receive notice. The Parties have an affirmative obligation to provide the Watermaster
21 with their current contact information. For Small Pumper Class Members, the Watermaster shall
22 initially use the contact information contained in the list of Small Pumper Class members filed
23 with the Court by class counsel.

24**18.4.5Annual Administrative Budget.** The Watermaster shall prepare a25proposed administrative budget for each Year. The Watermaster shall hold a public hearing26regarding the proposed administrative budget and adopt an administrative budget. The27administrative budget shall set forth budgeted items and Administrative Assessments in sufficient

detail to show the allocation of the expense among the Producers. Following the adoption of the
 budget, the Watermaster may make expenditures within budgeted items in the exercise of powers
 herein granted, as a matter of course.

18.4.6 Investment of Funds. The Watermaster may hold and invest any
funds in investments authorized from time to time for public agencies in the State of California.
All funds shall be held in separate accounts and not comingled with the Watermaster's personal
funds.

8 18.4.7 Borrowing. The Watermaster may borrow in anticipation of
9 receipt of proceeds from any assessments authorized in Paragraph 9 in an amount not to exceed
10 the annual amount of assessments.

11**18.4.8Transfers.** On an annual basis, the Watermaster shall prepare and12maintain a report or record of any transfer of Production Rights among Parties. Upon reasonable13request, the Watermaster shall make such report or record available for inspection by any Party.14A report or records of transfer of Production Rights under this Paragraph shall be considered a15ministerial act.

16 18.4.9 New Production Applications. The Watermaster shall consider
 17 and determine whether to approve applications for New Production after consideration of the
 18 recommendation of the Watermaster Engineer.

19 18.4.10 Unauthorized Actions. The Watermaster shall bring such action
20 or motion as is necessary to enjoin any conduct prohibited by this Judgment.

18.4.11 Meetings and Records. Watermaster shall provide notice of and
conduct all meetings and hearings in a manner consistent with the standards and timetables set
forth in the Ralph M. Brown Act, Government Code sections 54950, et seq. Watermaster shall
make its files and records available to any Person consistent with the standards and timetables set
forth in the Public Records Act, Government Code sections 6200, et seq.

26**18.4.12Assessment Procedure**. Each Party hereto is ordered to pay the27assessments authorized in Paragraph 9 of this Judgment, which shall be levied and collected in

1 accordance with the procedures and schedules determined by the Watermaster. Any assessment 2 which becomes delinquent, as defined by rules and regulations promulgated by the Watermaster 3 shall bear interest at the then current real property tax delinquency rate for the county in which 4 the property of the delinquent Party is located. The United States shall not be subject to payment 5 of interest absent congressional waiver of immunity for the imposition of such interest. This 6 interest rate shall apply to any said delinquent assessment from the due date thereof until paid. 7 The delinquent assessment, together with interest thereon, costs of suit, attorneys fees and reasonable costs of collection, may be collected pursuant to (1) motion by the Watermaster giving 8 9 notice to the delinquent Party only; (2) Order to Show Cause proceeding, or (3) such other lawful 10 proceeding as may be instituted by the Watermaster or the Court. The United States shall not be 11 subject to costs and fees absent congressional waiver of immunity for such costs and fees. The 12 delinquent assessment shall constitute a lien on the property of the Party as of the same time and 13 in the same manner as does the tax lien securing county property taxes. The property of the 14 United States shall not be subject to any lien. The Watermaster shall annually certify a list of all 15 such unpaid delinquent assessments. The Watermaster shall include the names of those Parties 16 and the amounts of the liens in its list to the County Assessor's Office in the same manner and at the same time as it does its Administrative Assessments. Watermaster shall account for receipt of 17 18 all collections of assessments collected pursuant to this Judgment, and shall pay such amounts 19 collected pursuant to this Judgment to the Watermaster. The Watermaster shall also have the 20 ability to seek to enjoin Production of those Parties, other than the United States, who do not pay 21 assessments pursuant to this Judgment. 22 18.5 Watermaster Engineer. The Watermaster Engineer shall have the 23 following duties:

18.5.1 Monitoring of Safe Yield. The Watermaster Engineer shall
monitor all the Safe Yield components and include them in the annual report for Court approval.
The annual report shall include all relevant data for the Basin.

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18.5.2 **Reduction in Groundwater Production.** The Watermaster 1 2 Engineer shall ensure that reductions of Groundwater Production to the Native Safe Yield 3 (Rampdown) take place pursuant to the terms of this Judgment and any orders by the Court. 4 18.5.3 **Determination of Replacement Obligations.** The Watermaster 5 Engineer shall determine Replacement Obligations for each Producer, pursuant to the terms of this Judgment. 6 7 18.5.4 Balance Obligations. The Watermaster Engineer shall determine 8 Balance Assessment obligations for each Producer pursuant to the terms of this Judgment. In 9 addition, the Watermaster Engineer shall determine the amount of water derived from the Balance 10 Assessment that shall be allocated to any Producer to enable that Producer to fully exercise its 11 Production Right. 12 18.5.5 Measuring Devices, Etc. The Watermaster Engineer shall 13 propose, and the Watermaster shall adopt and maintain, rules and regulations regarding 14 determination of Production amounts and installation of individual water meters. The rules and 15 regulations shall set forth approved devices or methods to measure or estimate Production. 16 Producers who meter Production on the date of entry of this Judgment shall continue to meter 17 Production. The Watermaster rules and regulations shall require Producers who do not meter 18 Production on the effective date of entry of this Judgment, except the Small Pumper Class, to 19 install water meters within two Years. 20 18.5.6 **Hydrologic Data Collection.** The Watermaster Engineer shall (1) 21 operate, and maintain such wells, measuring devices, and/or meters necessary to monitor stream 22 flow, precipitation, Groundwater levels, and Basin Subareas, and (2) to obtain such other data as 23 may be necessary to carry out this Judgment. 18.5.7 24 Purchases of and Recharge with Replacement Water. To the 25 extent Imported Water is available, the Watermaster Engineer shall use Replacement Water 26 Assessment proceeds to purchase Replacement Water, and deliver such water to the area deemed 27 most appropriate as soon as practicable. The Watermaster Engineer may pre-purchase 28 - 49 -[PROPOSED] JUDGMENT

Replacement Water and apply subsequent assessments towards the costs of such pre-purchases.
 The Watermaster Engineer shall reasonably and equitably actively manage the Basin to protect
 and enhance the health of the Basin.

18.5.8 Water Quality. The Watermaster Engineer shall take all
reasonable steps to assist and encourage appropriate regulatory agencies to enforce reasonable
water quality regulations affecting the Basin, including regulation of solid and liquid waste
disposal, and establishing Memorandums of Understanding with Kern and Los Angeles Counties
regarding well drilling ordinances and reporting.

9 18.5.9 Native Safe Yield. Ten (10) Years following the end of the seven 10 Year Rampdown period, in the seventeenth (17th) Year, or any time thereafter, the Watermaster 11 Engineer may recommend to the Court an increase or reduction of the Native Safe Yield. The 12 Watermaster Engineer shall initiate no recommendation to change Native Safe Yield prior to the 13 end of the seventeenth (17th) Year. In the event the Watermaster Engineer recommends in its 14 report to the Court that the Native Safe Yield be revised based on the best available science, the 15 Court shall conduct a hearing regarding the recommendations and may order a change in Native 16 Safe Yield. Watermaster shall give notice of the hearing pursuant to Paragraph 20.3.2. The most recent Native Safe Yield shall remain in effect until revised by Court order according to this 17 18 paragraph. If the Court approves a reduction in the Native Safe Yield, it shall impose a Pro-Rata 19 Reduction as set forth herein, such reduction to be implemented over a seven (7) Year period. If 20 the Court approves an increase in the Native Safe Yield, it shall impose a Pro-Rata Increase as set 21 forth herein, such increase to be implemented immediately. Only the Court can change the 22 Native Safe Yield.

18.5.10 Change in Production Rights in Response to Change in Native
Safe Yield. In the event the Court changes the Native Safe Yield pursuant to Paragraph 18.5.9,
the increase or decrease will be allocated among the Producers in the agreed percentages listed in
Exhibits 3 and 4, except that the Federal Reserved Water Right of the United States is not subject
to any increase or decrease.

1	18.5.11 Review of Calculation of Imported Water Return Flow		
2	Percentages. Ten (10) Years following the end of the Rampdown, in the seventeenth (17th)		
3	Year, or any time thereafter, the Watermaster Engineer may recommend to the Court an increase		
4	or decrease of Imported Water Return Flow percentages. The Watermaster Engineer shall initiate		
5	no recommendation to change Imported Water Return Flow percentages prior to end of the		
6	seventeenth (17th) Year. In the event the Watermaster Engineer recommends in its report to the		
7	Court that Imported Water Return Flow percentages for the Basin may need to be revised based		
8	on the best available science, the Court shall conduct a hearing regarding the recommendations		
9	and may order a change in Imported Water Return Flow percentages. Watermaster shall give		
10	notice of the hearing pursuant to Paragraph 20.6. The Imported Water Return Flow percentages		
11	set forth in Paragraph 5.2 shall remain in effect unless revised by Court order according to this		
12	Paragraph. If the Court approves a reduction in the Imported Water Return Flow percentages,		
13	such reduction shall be implemented over a seven (7) Year period. Only the Court can change the		
14	Imported Water Return Flow percentages.		
15	18.5.12 Production Reports . The Watermaster Engineer shall require each		
16	Producer, other than unmetered Small Pumper Class Members, to file an annual Production report		
17	with the Watermaster. Producers shall prepare the Production reports in a form prescribed by the		
18	rules and regulations. The Production reports shall state the total Production for the reporting		
19	Party, including Production per well, rounded off to the nearest tenth of an acre foot for each		
20	reporting period. The Production reports shall include such additional information and supporting		
21	documentation as the rules and regulations may reasonably require.		
22	18.5.13 New Production Application Procedure. The Watermaster		

18.5.13 New Production Application Procedure. The Watermaster
Engineer shall determine whether a Party or Person seeking to commence New Production has
established the reasonableness of the New Production in the context of all other uses of
Groundwater in the Basin at the time of the application, including whether all of the Native Safe
Yield is then currently being used reasonably and beneficially. Considering common law water
rights and priorities, the mandate of certainty in Article X, section 2, and all other relevant

1	factors, the Watermaster Engineer has authority to recommend that the application for New		
2	Production be denied, or approved on condition of payment of a Replacement Water Assessment.		
3	The Watermaster Engineer shall consider, investigate and recommend to the Watermaster		
4	whether an application to commence New Production of Groundwater may be approved as		
5	follows:		
6	18.5.13.1 All Parties or Person(s) seeking approval from the		
7	Watermaster to commence New Production of Groundwater shall submit a written application to		
8	the Watermaster Engineer which shall include the following:		
9	18.5.13.1.1 Payment of an application fee sufficient to recover		
10	all costs of application review, field investigation, reporting, and hearing, and other associated		
11	costs, incurred by the Watermaster and Watermaster Engineer in processing the application for		
12	New Production;		
13	18.5.13.1.2 Written summary describing the proposed quantity,		
14	sources of supply, season of use, Purpose of Use, place of use, manner of delivery, and other		
15	pertinent information regarding the New Production;		
16	18.5.13.1.3 Maps identifying the location of the proposed New		
17	Production, including Basin Subarea;		
18	18.5.13.1.4 Copy of any water well permits, specifications and		
19	well-log reports, pump specifications and testing results, and water meter specifications		
20	associated with the New Production;		
21	18.5.13.1.5 Written confirmation that the applicant has obtained		
22	all applicable Federal, State, County, and local land use entitlements and other permits necessary		
23	to commence the New Production;		
24	18.5.13.1.6 Written confirmation that the applicant has complied		
25	with all applicable Federal, State, County, and local laws, rules and regulations, including but not		
26	limited to, the California Environmental Quality Act (Public Resources Code §§ 21000, et. seq.);		
27			
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1	18.5.13.1.7 Preparation of a water conservation plan, approved		
1			
2	and stamped by a California licensed and registered professional civil engineer, demonstrating		
3	that the New Production will be designed, constructed and implemented consistent with		
4	California best water management practices.		
5	18.5.13.1.8 Preparation of an analysis of the economic impact of		
6	the New Production on the Basin and other Producers in the Subarea of the Basin;		
7	18.5.13.1.9 Preparation of an analysis of the physical impact of		
8	the New Production on the Basin and other Producers in the Subarea of the Basin;		
9	18.5.13.1.10 A written statement, signed by a California licensed		
10	and registered professional civil engineer, determining that the New Production will not cause		
11	Material Injury;		
12	18.5.13.1.11 Written confirmation that the applicant agrees to pay		
13	the applicable Replacement Water Assessment for any New Production.		
14	18.5.13.1.12 Other pertinent information which the Watermaster		
15	Engineer may require.		
16	18.5.13.2 Finding of No Material Injury. The Watermaster Engineer		
17	shall not make recommendation for approval of an application to commence New Production of		
18	Groundwater unless the Watermaster Engineer finds, after considering all the facts and		
19	circumstances including any requirement that the applicant pay a Replacement Water Assessment		
20	required by this Judgment or determined by the Watermaster Engineer to be required under the		
21	circumstances, that such New Production will not cause Material Injury. If the New Production is		
22	limited to domestic use for one single-family household, the Watermaster Engineer has the		
23	authority to determine the New Production to be <i>de minimis</i> and waive payment of a Replacement		
24	Water Assessment; <i>provided</i> , the right to Produce such <i>de minimis</i> Groundwater is not		
25	transferable, and shall not alter the Production Rights decreed in this Judgment.		
26			
27			
28			
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18.5.13.3 New Production. No Party or Person shall commence New 1 2 Production of Groundwater from the Basin absent recommendation by the Watermaster Engineer 3 and approval by the Watermaster.

4 18.5.13.4 **Court Review.** Court review of a Watermaster decision on 5 a New Production application shall be pursuant to Paragraph 20.3.

6

18.5.14 **Storage Agreements**. The Watermaster shall adopt uniformly 7 applicable rules for Storage Agreements. The Watermaster Engineer shall calculate additions, 8 extractions and losses of water stored under Storage Agreements and maintain an Annual account 9 of all such water. Accounting done by the Watermaster Engineer under this Paragraph shall be 10 considered ministerial.

11 18.5.15 **Diversion of Storm Flow**. No Party may undertake or cause the 12 construction of any project within the Watershed of the Basin that will reduce the amount of 13 storm flows that would otherwise enter the Basin and contribute to the Native Safe Yield, without 14 prior notification to the Watermaster Engineer. The Watermaster Engineer may seek an 15 injunction or to otherwise impose restrictions or limitations on such project in order to prevent 16 reduction to Native Safe Yield. The Party sought to be enjoined or otherwise restricted or limited is entitled to notice and an opportunity for the Party to respond prior to the imposition of any 17 18 restriction or limitation. Any Person may take emergency action as may be necessary to protect 19 the physical safety of its residents and personnel and its structures from flooding. Any such 20 action shall be done in a manner that will minimize any reduction in the quantity of Storm Flows.

21 18.5.16 Data, Estimates and Procedures. The Watermaster Engineer 22 shall rely on and use the best available science, records and data to support the implementation of 23 this Judgment. Where actual records of data are not available, the Watermaster Engineer shall 24 rely on and use sound scientific and engineering estimates. The Watermaster Engineer may use 25 preliminary records of measurements, and, if revisions are subsequently made, may reflect such 26 revisions in subsequent accounting.

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1	18.5.17 Filing	of Annual Report. The Watermaster Engineer shall prepare
2	an Annual Report for filing with the	Court not later than April 1 of each Year, beginning April 1
3	following the first full Year after ent	ry of this Judgment. Prior to filing the Annual Report with
4	the Court, Watermaster shall notify a	all Parties that a draft of the Annual Report is available for
5	review by the Parties. Watermaster s	shall provide notice to all Parties of a public hearing to
6	receive comments and recommendat	ions for changes in the Annual Report. The public hearing
7	shall be conducted pursuant to rules	and regulations promulgated by the Watermaster. The notice
8	of public hearing may include such s	ummary of the draft Annual Report as Watermaster may
9	deem appropriate. Watermaster shall	distribute the Annual Report to any Parties requesting
10	copies.	
11	18.5.18 Annua	al Report to Court. The Annual Report shall include an
12	Annual fiscal report of the preceding	Year's operation; details regarding the operation of each of
13	the Subareas; an audit of all Assessm	nents and expenditures; and a review of Watermaster
14	activities. The Annual Report shall i	nclude a compilation of at least the following:
15	18.5.18.1	Replacement Obligations;
16	18.5.18.2	Hydrologic Data Collection;
17	18.5.18.3	Purchase and Recharge of Imported Water;
18	18.5.18.4	Notice List;
19	18.5.18.5	New Production Applications
20	18.5.18.6	Rules and Regulations;
21	18.5.18.7	Measuring Devices, etc;
22	18.5.18.8	Storage Agreements;
23	18.5.18.9	Annual Administrative Budget;
24	18.5.18.10	Transfers;
25	18.5.18.11	Production Reports;
26	18.5.18.12	Prior Year Report;
27	18.5.18.13	Amount of Stored Water owned by each Party;
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	CONFIDENTIAL COMMUNICATION: FOR SETTLEMENT DISCUSSIONS ONLY NOT ADMISSIBLE PURSUANT TO FRE 408 OR CA EVIDENCE CODE 1152, 1154 NOT RELEASABLE PURSUANT TO FOIA OR CA PUBLIC RECORDS ACT		
1		18.5.18.14	Amount of Stored Imported Water owned by each Party;
2		18.5.18.15	Amount of unused Imported Water Return Flows owned by
3	each Party;		
4		18.5.18.16	Amount of Carry Over Water owned by each Party;
5		18.5.18.17	All changes in use.
6	18.6	Recommend	lations of the Watermaster Engineer. Unless otherwise
7	determined pursua	nt to Paragraph 1	8.1.2.2, all recommendations of the Watermaster Engineer
8	must be approved	by unanimous vo	te of all members of the Watermaster. If there is not
9	unanimous vote ar	nong Watermaste	er members, Watermaster Engineer recommendations must be
10	presented to the Co	ourt for action an	d implementation.
11	18.7	<u>Interim App</u>	provals by the Court. Until the Court approves rules and
12	regulations proposed by the Watermaster, the Court, upon noticed motion, may take or approve		
13	any actions that the Watermaster or the Watermaster Engineer otherwise would be authorized to		
14	take or approve under this Judgment.		
15	19. <u>ADVISORY COMMITTEE</u>		
16	19.1 <u>Authorization</u> . The Producers are authorized and directed to cause a		
17	committee of Producer representatives to be organized and to act as an Advisory Committee.		
18	19.2	<u>Compensati</u>	on. The Advisory Committee members shall serve without
19	compensation.		
20	19.3	Powers and	Functions. The Advisory Committee shall act in an advisory
21	capacity only and shall have the duty to study, review, and make recommendations on all		
22	discretionary determinations by Watermaster. Parties shall only provide input to the Watermaster		
23	through the Advisory Committee.		
24	19.4	Advisory Co	ommittee Meetings. The Advisory Committee shall 1) meet
25	on a regular basis; 2) review Watermaster's activities pursuant to this Judgment on at least a		
26	semi-annual basis; and 3) receive and make advisory recommendations to Watermaster.		
27	Advisory Committee Meetings shall be open to all members of the public. Edwards Air Force		
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Base and the State of California shall be ex officio members of the committee. The United States 1 2 may also appoint a DoD Liaison to the Watermaster pursuant to Joint Ethics Regulation 3-201. 19.5 3 Subarea Advisory Management Committees. Subarea Advisory 4 Management Committees will meet on a regular basis and at least semi-annually with the 5 Watermaster Engineer to review Watermaster activities pursuant to this Judgment and to submit 6 advisory recommendations. 7 19.5.1 Authorization. The Producers in each of the five Management 8 Subareas are hereby authorized and directed to cause committees of Producer representatives to 9 be organized and to act as Subarea Management Advisory Committees. 19.5.2 10 **Composition and Election**. Each Management Subarea 11 Management Advisory Committee shall consist of five (5) Persons who shall be called 12 Management Advisors. In the election of Management Advisors, every Party shall be entitled to 13 one vote for every acre-foot of Production Right for that Party in that particular subarea. Parties 14 may cumulate their votes and give one candidate a number of votes equal to the number of 15 advisors to be elected, multiplied by the number of votes to which the Party is normally entitled, 16 or distribute the Party's votes on the same principle among as many candidates as the Party thinks 17 fit. In any election of advisors, the candidates receiving the highest number of affirmative votes 18 of the Parties are elected. Elections shall be held upon entry of this Judgment and thereafter 19 every third Year. In the event a vacancy arises, a temporary advisor shall be appointed by 20 unanimous decision of the other four advisors to continue in office until the next scheduled 21 election. Rules and regulations regarding organization, meetings and other activities shall be at 22 the discretion of the individual Subarea Advisory Committees, except that all meetings of the 23 committees shall be open to the public. 24 19.5.3 Compensation. The Subarea Management Advisory Committee shall serve without compensation. 25 **Powers and Functions.** 26 19.5.4 The Subarea Management Advisory 27 Committee for each subarea shall act in an advisory capacity only and shall have the duty to 28 - 57 -[PROPOSED] JUDGMENT

study, review and make recommendations on all discretionary determinations made or to be made
 hereunder by Watermaster Engineer which may affect that subarea.

3

20. <u>MISCELLANEOUS PROVISIONS</u>.

20.1 <u>Water Quality</u>. Nothing in this Judgment shall be interpreted as relieving
any Party of its responsibilities to comply with State or Federal laws for the protection of water
quality or the provisions of any permits, standards, requirements, or orders promulgated
thereunder.

20.2 8 Actions Not Subject to CEQA Regulation. Nothing in this Judgment or 9 the Physical Solution, or in the implementation thereof, or the decisions of the Watermaster 10 acting under the authority of this Judgment shall be deemed a "project" subject to the California 11 Environmental Quality Act (CEQA). See e.g., California American Water v. City of Seaside 12 (2010) 183 Cal.App.4th 471, and Hillside Memorial Park & Mortuary v. Golden State Water Co. 13 (2011) 205 Cal.App.4th 534. Neither the Watermaster, the Watermaster Engineer, the Advisory 14 Committee, any Subarea Management Committee, nor any other Board or committee formed 15 pursuant to the Physical Solution and under the authority of this Judgment shall be deemed a 16 "public agency" subject to CEQA. (See Public Resources Code section 21063.)

17 20.3 <u>Court Review of Watermaster Actions.</u> Any action, decision, rule,
18 regulation, or procedure of Watermaster or the Watermaster Engineer pursuant to this Judgment
19 shall be subject to review by the Court on its own motion or on timely motion by any Party as
20 follows:

21 20.3.1 Effective Date of Watermaster Action. Any order, decision or
 action of Watermaster or Watermaster Engineer pursuant to this Judgment on noticed specific
 agenda items shall be deemed to have occurred on the date of the order, decision or action.

- 24 20.3.2 Notice of Motion. Any Party may move the Court for review of an
 action or decision pursuant to this Judgment by way of a noticed motion. The motion shall be
 served pursuant to Paragraph 20.7 of this Judgment. The moving Party shall ensure that the
 Watermaster is served with the motion under that Paragraph 20.7 or, if electronic service of the
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Watermaster is not possible, by overnight mail with prepaid next-day delivery. Unless ordered by
 the Court, any such petition shall not operate to stay the effect of any action or decision which is
 challenged.

20.3.3 Time for Motion. A Party shall file a motion to review any action
or decision within ninety (90) days after such action or decision, except that motions to review
assessments hereunder shall be filed within thirty (30) days of Watermaster mailing notice of the
assessment.

8 20.3.4 De Novo Nature of Proceeding. Upon filing of a motion to review 9 a decision or action, the Watermaster shall notify the Parties of a date for a hearing at which time 10 the Court shall take evidence and hear argument. The Court's review shall be *de novo* and the 11 Watermaster's decision or action shall have no evidentiary weight in such proceeding.

20.3.5 Decision. The decision of the Court in such proceeding shall be an
appealable supplemental order in this case. When the Court's decision is final, it shall be binding
upon Watermaster and the Parties.

15 20.4 <u>Multiple Production Rights</u>. A Party simultaneously may be a member
16 of the Small Pumper Class and hold an Overlying Production Right by virtue of owning land
17 other than the parcel(s) meeting the Small Pumper Class definition. The Small Pumper Class
18 definition shall be construed in accordance with Paragraph 3.5.44 and 3.5.45.

1920.5Payment of Assessments.Payment of assessments levied by Watermaster20hereunder shall be made pursuant to the time schedule developed by the Watermaster,

21 notwithstanding any motion for review of Watermaster actions, decisions, rules or procedures,

22 including review of assessments implemented by the Watermaster.

23 20.6 Designation of Address for Notice and Service. Each Party shall
24 designate a name and address to be used for purposes of all subsequent notices and service herein,
25 either by its endorsement on this Judgment or by a separate designation to be filed within thirty
26 (30) days after judgment has been entered. A Party may change its designation by filing a written
27 notice of such change with Watermaster. A Party that desires to be relieved of receiving notices

1 of Watermaster activity may file a waiver of notice in a form to be provided by Watermaster. At 2 all times, Watermaster shall maintain a current list of Parties to whom notices are to be sent and 3 their addresses for purpose of service. Watermaster shall also maintain a full current list of said 4 names and addresses of all Parties or their successors, as filed herein. Watermaster shall make 5 copies of such lists available to any requesting Person. If no designation is made, a Party's designee shall be deemed to be, in order of priority: (1) the Party's attorney of record; (2) if the 6 7 Party does not have an attorney of record, the Party itself at the address on the Watermaster list; 8 (3) for Small Pumper Class Members, after this Judgment is final, the individual Small Pumper Class Members at the service address maintained by the Watermaster. 9

1020.7Service of Documents.Unless otherwise ordered by the Court, delivery to11or service to any Party by the Court or any Party of any document required to be served upon or12delivered to a Party pursuant to this Judgment shall be deemed made if made by e-filing on the13Court's website at www.scefiling.org.14notifications via electronic filing at the above identified website.

15 20.8 <u>No Abandonment of Rights</u>. In the interest of the Basin and its water
16 supply, and the principle of reasonable and beneficial use, no Party shall be encouraged to
17 Produce and use more water in any Year than is reasonably required. Failure to Produce all of the
18 Groundwater to which a Party is entitled shall not, in and of itself, be deemed or constitute an
19 abandonment of such Party's right, in whole or in part, except as specified in Paragraph 15.

20 20.9 Intervention After Judgment. Any Person who is not a Party or
 21 successor to a Party and who proposes to Produce Groundwater from the Basin, to store water in
 22 the Basin, to acquire a Production Right or to otherwise take actions that may affect the Basin's
 23 Groundwater is required to seek to become a Party subject to this Judgment through a noticed
 24 motion to intervene in this Judgment prior to commencing Production. Prior to filing such a
 25 motion, a proposed intervenor shall consult with the Watermaster Engineer and seek the
 26 Watermaster's stipulation to the proposed intervention. A proposed intervenor's failure to consult

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1	with the Watermaster Engineer may be grounds for denying the intervention motion. Thereafter,			
2	if approved by the Court, such intervenor shall be a Party bound by this Judgment.			
3	20.10 Judgment Binding on Successors, etc. Subject to specific provisions			
4	hereinbefore contai	ned, this Judgment applies to and is binding upon, and inures to the benefit of		
5	the Parties to this Action and all their respective heirs, successors-in-interest and assigns.			
6	20.11	Costs. Except subject to any existing court orders, each Party shall bear its		
7	own costs and attor	neys fees arising from the Action.		
8	20.12	Headings; Paragraph References. Captions and headings appearing in		
9	this Judgment are in	nserted solely as reference aids for ease and convenience; they shall not be		
10	deemed to define or	r limit the scope or substance of the provisions they introduce, nor shall they		
11	be used in construir	ng the intent or effect of such provisions.		
12	20.13 <u>No Third Party Beneficiaries</u> . There are no intended third party			
13	beneficiaries of any	right or obligation of the Parties.		
14	20.14 <u>Severability</u> . Except as specifically provided herein, the provisions of this			
15	Judgment are not severable.			
16	20.15	Cooperation; Further Acts. The Parties shall fully cooperate with one		
17	another, and shall take any additional acts or sign any additional documents as may be necessary,			
18	appropriate or convenient to attain the purposes of this Judgment.			
19	20.16 <u>Exhibits and Other Writings</u> . Any and all exhibits, documents,			
20	instruments, certificates or other writings attached hereto or required or provided for by this			
21	Judgment, if any, shall be part of this Judgment and shall be considered set forth in full at each			
22	reference thereto in this Judgment.			
23				
24	Dated: JUDGE OF THE SUPERIOR COURT			
25				
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27				
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Appendix D Biological Resources Technical Report, by Ironwood Consulting for First Solar, dated December 2011

Biological Resources Technical Report

Willow Springs Solar Array Kern County, California



Prepared for: First Solar, Inc. 18300 Von Karman Avenue, Suite 930 Irvine, CA 92612

Prepared by: Ironwood Consulting 2436 W. Coast Highway, Suite 207 Newport Beach, CA 92663

December 2011

Summary

First Solar, Inc. is in the process of CEQA permitting for a solar photovoltaic (PV) development in unincorporated Kern County, California. The solar facility, and associated generation interconnection line (Gen-Tie Line) are collectively referred to in this report as the Willow Springs Solar Array (Project). The Project and surrounding buffer areas that were included in the survey are collectively called the Study Area.

Focused surveys were conducted throughout the 2010 Study Area for rare plants, nesting Swainson's hawks, desert tortoise, Mohave ground squirrel, and burrowing owl. Supplemental focused surveys for rare plants, nesting Swainson's hawks, desert tortoise, and burrowing owl were conducted in the spring of 2011 on the proposed and alternative 220-kV Gen-Tie Line routes included in the 2011 Study Area. Botanical surveys resulted in the presence of one special status plant species identified within the Study Area, the alkali mariposa lily (*Calochortus striatus* - CNPS 1B.2).

The desert tortoise (*Gopherus agassizii*) was identified as absent from the solar facility and the proposed and alternate Gen-Tie Line routes as a result of 2010 and 2011 protocol level surveys for this species. The Mohave ground squirrel (*Xerospermophilus mohavenesis*) was also identified as absent from the solar facility as a result of 2010 protocol level surveys for this species conducted on the solar facility in 2010. Focused surveys confirmed the presence of State-listed (threatened) Swainson's hawk (*Buteo swainsoni*) within the Study Area. Nine additional special status wildlife species were detected during the surveys:

- western burrowing owl (Athene cunicularia California Species of Special Concern/SSC)
- ferruginous hawk (Buteo regalis California watch list species/WL)

Nesting sites of the following species are protected:

- Golden eagle (Aquila chrysaetos SSC)
- Cooper's hawk (Accipiter cooperii WL)
- northern harrier (*Circus cyaneus* SSC)
- prairie falcon (Falco mexicanus WL)
- loggerhead shrike (*Lanius ludovivianus* SSC)
- purple martin (*Progne subis* SSC)
- yellow-headed blackbird (*Xanthocephalus xanthocephalus* SSC)

Pre-construction surveys for desert tortoise, burrowing owls, burrowing mammals (including American badger and desert kit fox), and nesting birds (including Swainson's hawk) will be required for this project and surveys for Mohave ground squirrel may be required within 1-year prior to construction.

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List of Acronyms

AC	alternating current
APN	Assessor Parcel Numbers
BLM	U.S. Bureau of Land Management
BRTR	Biological Resources Technical Report
CBOC	California Burrowing Owl Consortium
CDFG	California Department of Fish and Game
CdTe	Cadmium Telluride
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPSEI	California Native Plant Society's Electronic Inventory
DC	direct current
GIS	Geographic Information System
GPS	Global Positioning System
kV	kilovolt
kW	kilowatt
LADWP	Los Angeles County Department of Water and Power
MVA	megavolt ampere
MW-AC	megawatt alternating current
Gen-Tie Line	generation interconnection line
PV	photovoltaic
PVCS	photovoltaic combining switchgear
PCS	Power Conversion Stations
ROW	right-of-way
SCE	Southern California Edison
SHTAC	Swainson's Hawk Technical Advisory Committee
SSC	State Species of Special Concern
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM NAD	Universal Transverse Mercator North American Datum

1.0 INTRODUCTION

1.1 Purpose of the Biological Resources Technical Report

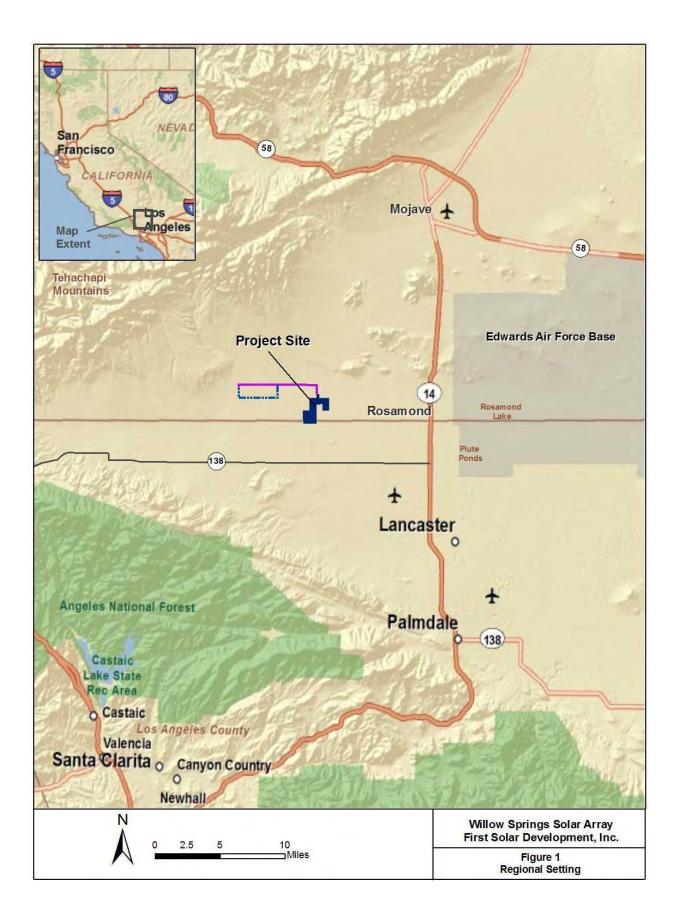
This Biological Resources Technical Report (BRTR) provides a comprehensive summary of methods and results of biological resources surveys and investigations conducted between March 2010 and May 2011 within the Study Area for the Willow Springs Solar Array (Project) as proposed by First Solar, Inc. (First Solar). In addition, this report evaluates the environmental characteristics of the Project area, evaluates potential impacts resulting from Project implementation, and provides recommendations on avoidance and minimization of potential impacts. The data contained within this report provides information to promote compliance with requirements of the California Environmental Quality Act (CEQA) and any necessary incidental-take authorization from the California Department of Fish and Game (CDFG) with respect to the California Endangered Species Act (CESA).

1.2 Project Description

First Solar is proposing to develop a renewable energy project to provide electricity generated from clean solar technology. The Project would consist of a nominal 150-megawatt alternating current (MW-AC) solar PV power generating facility on approximately 1,402 of fallow and active agricultural land located in rural southeastern Kern County, California. First Solar has identified two 220-kilovolt (kV) generation tie-line (Gen-Tie Line) routes that could deliver the Project's generated power to the Whirlwind Substation, located at the southwest corner of Rosamond Boulevard and 170th Street West. The proposed route would convey power via approximately seven miles of a 220-kV Gen-Tie Line, and the alternative route would convey power via approximately nine miles of a 220-kV Gen-Tie Line. Both routes would be located primarily within the public rights-of-way (ROW).

1.3 Project Location

The Project site is located in the Antelope Valley, approximately three miles north of State Route 138 (SR-138)/West Avenue D and 9 miles west of Rosamond, in the northwestern portion of the Mojave Desert, within Kern County (Figure 1, Regional Setting). The majority of the approximately 1,402 acre proposed solar facility site is fallow agricultural land and is comprised of the following Assessor Parcel Numbers (APNs): 359-032-17, 359-032-01, 359-031-15, 359-031-06, 359-031-05, 359-031-04, 359-031-03, 359-031-02, and 359-052-02.



The proposed solar facility is located in Township 9 North, Range 14 West, Sections 24, 25, 26, and 35. A Los Angeles County Department of Water and Power (LADWP) easement, associated with transmission lines, crosses the solar facility diagonally from southwest to northeast. In addition, there is a Southern California Edison (SCE) easement, associated with transmission lines, running north-south through the eastern portion of the proposed solar facility. Land use surrounding the project area consists of agriculture and scattered rural residences. The proposed solar facility is located within the Little Buttes (USGS 1965a) 7.5-minute series topographic quadrangle (Figure 2, Project Components).

Two 220-kV gen-tie line routes have been identified for delivery of the Project's power to the new Whirlwind substation (Figure 2) for interconnection with the power grid - one approximately seven miles long, and one approximately nine miles long.

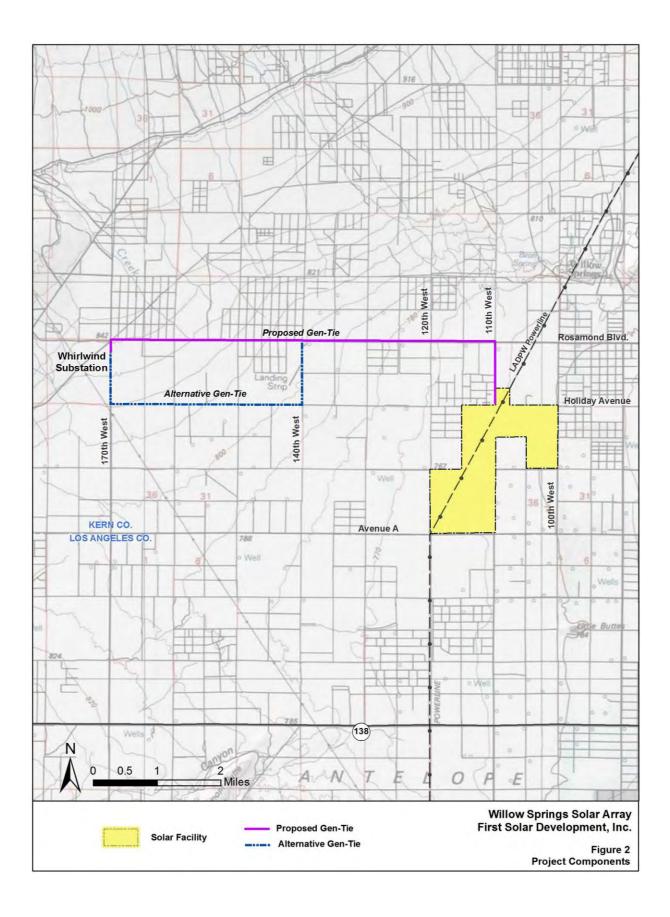
As shown in Figure 2, the proposed project includes an approximate seven-mile 220 kV generation tieline that would deliver the project's generated power to the local grid at the Whirlwind Substation. The generation tie-line would extend north one mile along 110th Street West then extend six miles west along the West Rosamond Boulevard, from 110th Street West to 170th Street West, at which point the power would be delivered to the Whirlwind Substation. The alternative routing of the 220 kV generation tie-line would be located along an approximate nine-mile route that extends north 1 mile along 110th Street West to West Rosamond Boulevard, then three miles west along the West Rosamond Boulevard to 140th Street West, then south one mile along 140th Street West to Holiday Avenue, then west three miles to 170th Street West, then north one mile to West Rosamond Boulevard, then west across 170th Street West, at which point the power would be delivered to the Whirlwind Substation.

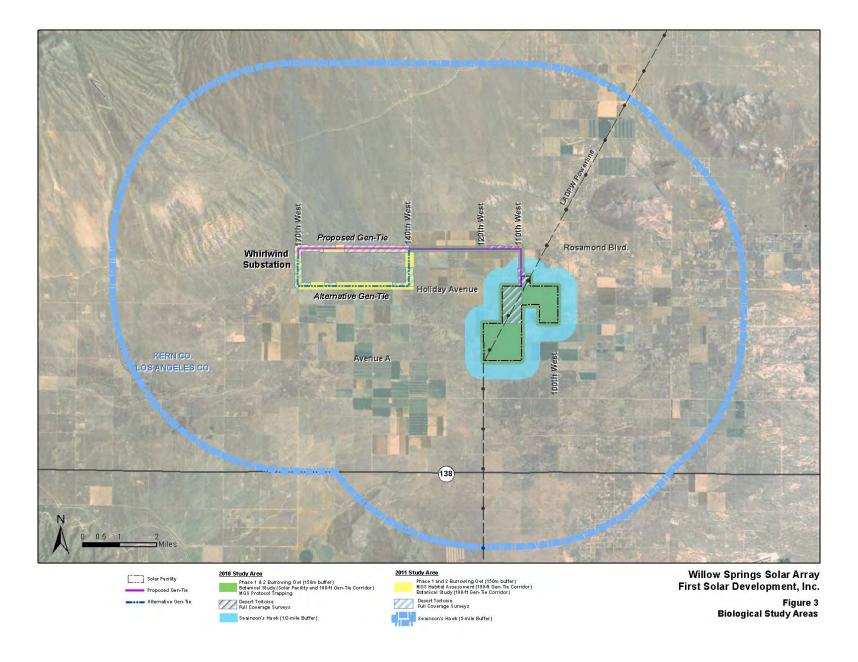
Both of the gen-tie line routes are located within Fairmont Butte (1995) and Little Buttes (USGS 1965a) 7.5-minute series topographic quadrangles. The gen-tie line routes are located in those portions of Township 9 North, Range 14 West, Sections 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, and 30; Township 9 North, Range 15 West, Sections 13, 14, 23, 24, 25, and 26 (Figure 2).

1.4 Study Areas

Study Areas are defined as the area where biological resource surveys were conducted and include preliminary and focused biological surveys. The Biological Study Areas are broken down into the 2010 Study Area and 2011 Study Area (Figure 3, Biological Study Areas). In 2010 focused biological surveys were conducted within the 2010 Study Area which includes the proposed solar facility, the proposed and

alternative gen-tie routes east of 140th Street West (3.0 linear miles along Rosamond Blvd between 140th Street West and 110th Street West, and one linear mile on 110th Street West from Rosamond Boulevard to Holiday Avenue), and any buffer areas required by focused survey protocols. With the exception of 2011 Swainson's hawk surveys, all 2011 focused biological surveys were conducted within the 2011 Study Area which includes the proposed gen-tie, and the alternative gen-tie west of 140th Street West, and any buffer areas required by focused survey buffer consisting of 100-foot wide study corridor was applied to the gen-tie routes to allow for flexibility during final engineering design to assure that the resulting disturbance area would be covered by the Study Area.





2.0 SURVEY METHODS

The following section describes the methods used to determine the need for focused surveys and the methods used to conduct focused biological surveys for special status species and habitats.

2.1 Preliminary Survey

For assessment purposes, a special status species has been defined as a plant or wildlife species that meets the following criteria:

- Designated as either rare, threatened, or endangered by CDFG or the USFWS, and are protected under either the California or Federal Endangered Species Acts;
- Candidate species being considered or proposed for listing under these same Acts;
- State Species of Concern as designated by CDFG; or
- Considered endangered, threatened, or rare pursuant to California Environmental Quality Act (CEQA) Guidelines, Section 15380.
- Plants occurring on Lists 1, 2, 3, and 4 of the California Native Plant Society Electronic Inventory (CNPSEI 2010)

Prior to conducting site surveys, a literature search was performed, which included searches of the CDFG's California Natural Diversity Data Base (CNDDB) and the California Native Plant Society's Electronic Inventory (CNPSEI) to determine special status species that have been documented in the Project vicinity. These searches included a radius of 5 miles surrounding the Study Area. In addition to the lists generated from the CNDDB and the CNPSEI, environmental documents including extensive biological survey information from nearby proposed renewable energy projects were reviewed. These reports were reviewed to determine whether any special status species found during surveys of those project sites, not identified as a result of the CNDDB and CNPSEI, might be relevant to the Project (Aspen 2009; Kern County 2009; Los Angeles County 2010; Sundance 2009; ICF 2010). Using this information and observations in the field, a comprehensive list was generated of special status species that have the potential to occur within the Study Area.

A preliminary survey of the Study Area was conducted on February 2, 2010 by Ironwood Consulting, Inc (Ironwood) biologist Kent Hughes. An additional preliminary survey was conducted on the proposed and alternative 220-kV Gen-Tie Line alignments on February 15, 2011. The purpose of these field surveys was to characterize existing plant communities and habitats and assess the potential occurrence for listed and special status plant and animal species. No focused surveys for special status species were conducted

during the 2010 and 2011 preliminary site visits. Incidental observations of special status species were recorded, if observed. The results of the 2010 and 2011 preliminary site visits and the literature review were used to develop a list of species for which later focused surveys would be necessary.

Based on the results of the preliminary survey, literature review, and database searches, 19 special status wildlife species and 10 special status plant species were identified as potentially occurring in the vicinity of the Study Area. These 29 plant and wildlife species were selected based on considerations of the reported occurrences in the vicinity of the Study Area, habitat suitability and availability, habitat connectivity, and presumed extant status of species with known and/or historic ranges that include the Study Area. The following species were identified for protocol-level surveys:

- Special status plants
- Desert tortoise
- Swainson's hawk
- Western burrowing owl
- Mohave ground squirrel

2.2 Botanical Study

The 2010 Botanical Study Area consisted of the proposed solar facility and a 100-foot corridor of the gen-tie line routes east of 140th Street West (4 linear miles) (Figure 3). The 2011 Botanical Study Area consisted of the proposed and alternative gen-tie lines west of 140th Street West (8 linear miles) (Figure 3). Botanical surveys were conducted within the 2010 and 2011 Botanical Study Areas by biologists familiar with the flora of the Western Mojave. 2010 focused botanical surveys were conducted within the 2010 Botanical Study Area by Ironwood biologist Kent Hughes and Ironwood subcontractors Lehong Chow and Brian Sandstrom, from May 29- June 1, 2010. 2011 focused botanical surveys were conducted within the 2011 Botanical Study Area by Ironwood subcontractors Michael Honer and Crissy Slaughter from April 13-17, 2011. Surveys were performed to maximize the likelihood of locating special status plant species or special status natural communities within the Study Area. On average, linear pedestrian transects were walked at 15-meter spacing. All special status species plant species observed were recorded by GPS and assigned a unique identifier. The primary objective was to identify all plant species within the Study Area to the taxonomic level (i.e., species, subspecies, or variety) necessary to determine rarity status. The botanical study followed the guidelines set forth by:

 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFG 2009); • Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 2000).

2.3 Desert Tortoise Focused Surveys

Ironwood Consulting, Inc. conducted focused desert tortoise surveys within suitable habitat on May 8–12, 2010 and March 15-19 and 22-26, 2011. The 2010 Desert Tortoise Study Area included Project areas supporting Desert Saltbush Scrub and Creosote Bush Scrub habitats which included approximately 200 acres of the proposed solar facility, and a 1-mile long 100-foot wide corridor of the gen-tie (the north side of Rosamond Boulevard between 110th Street West and 120th Street West) (Figure 3). The 2011 Desert Tortoise Study Area included approximately 6.5 miles of Desert Saltbush Scrub and Creosote Bush Scrub habitats along the proposed and alternative gen-tie line routes west of 140th Street West (Figure 3).

In spring of 2010, the USFWS issued revised desert tortoise survey protocols (USFWS 2010). The full coverage survey option described in each of the protocols was essentially unchanged from the 1992 protocol (USFWS 1992), with the exception of the definition of the "action area". This concept was used by the survey team when determining the desert tortoise Study Area. The revised protocols were designed to estimate abundance and distribution of tortoises that occurred within the survey area. However, according to the 2010 protocol suitable habitat for the desert tortoise within the Project's action area was below the threshold of 1066 acres for projects located in the Western Mojave Recovery Unit that would trigger probabilistic sampling. Desert tortoise surveys were conducted by seven qualified desert tortoise surveyors in accordance with the 2010 Desert Tortoise survey protocol (USFWS 2010). 100 percent coverage (full coverage) surveys were conducted in all areas of suitable habitat within the Study Area; survey transects were spaced at 10 m in accordance with established protocols (USFWS 2010). In addition, buffer transects were conducted within suitable habitat for desert tortoise at 100, 300, 600, 1200, and 2400-foot intervals from and parallel to the Study Area boundaries.

Full coverage surveys (10-meter transect interval) were conducted by teams of 1 to 6 experienced desert tortoise biologists within suitable habitat. Global Positioning System (GPS) units were used to navigate between the boundaries of the survey area and to maintain 10-meter spacing of transects between surveyors. During full coverage and buffer transect surveys, biologists searched under vegetation and inspected any holes or borrows encountered to assess the potential presence of desert tortoise. Biologists searched for all forms of tortoise sign (e.g., live tortoises, shell/bone/scutes, scats, burrows/pallets, tracks, egg shell fragments, and courtship rings).

2.4 Swainson's Hawk Surveys

In response to the decline of Swainson's hawks, protocols outlining specifically timed survey methodology have been created by the Swainson's Hawk Technical Advisory Committee (SHTAC 2000) to meet the CDFG's recommendations for mitigation and protection of Swainson's hawks. In June 2010, a new protocol was finalized by the CDFG and California Energy Commission (CEC) specifically addressing renewable energy projects in the Antelope Valley of Los Angeles and Kern Counties (CEC and CDFG 2010). The survey protocols were essentially unchanged, with the exception of the survey buffer distance. The 2010 CEC and CDFG protocol specifies that surveys be conducted in suitable habitat within a 5 mile survey buffer surrounding the Project, and the 2000 SHTAC protocol specifies a ¹/₂ mile survey buffer. Swainson's hawk surveys were conducted within the Study Area in the spring of 2010 before the new protocol was finalized, and therefore follow the 2000 SHTAC guidelines. In the spring of 2011 Swainson's hawk surveys were conducted according to the 2010 guidelines.

Per the 2000 SHTAC recommendations, focused Swainson's hawk surveys were conducted in 2010 by Ironwood biologists and contract biologists in all suitable nesting habitats located within the proposed solar facility and the proposed and alternative gen-tie corridor east of 140th Street West during survey Periods I, II, and III (SHTAC 2000). In addition, the 2010 Swainson's hawk Study Area included surveys of suitable nesting habitat within 0.5 mile of the proposed solar facility and the gen-tie routes east of 140th Street West.

The 2011 Swainson's Hawk Study Area included surveys within the solar facility site, the proposed and alternative gen-tie line corridors, and a 5 mile survey buffer surrounding these areas. Surveys were conducted by Ironwood biologists and contract biologists in all suitable nesting habitats located within the 2011 Swainson's Hawk Study Area during survey Periods I, II, and III (CEC and CDFG 2010).

The 2010 and 2011 Swainson's hawk surveys were conducted by foot and vehicle, depending on habitat structure, geography, roads, and visibility. Vehicular windshield surveys were conducted at 5 mph, and access roads were approached from both directions. Surveys focused on locating and mapping, with GPS, all large stick nests, especially those of the size and structure used by Swainson's hawks, as well as any visual observation of Swainson's hawks. Nests and individuals of other potentially competitive raptor species and ravens were identified and mapped by GPS. Behavior of birds was recorded as well as vocalizations, condition and occupancy of nests, and interactions with other species. Binoculars and high-powered spotting scopes were used to facilitate visual coverage. With the exception of the Period I

surveys, all 2010 Swainson's hawk surveys were conducted between the hours of 0600-1000 and 1600sunset. The 2011 Swainson's hawk surveys were conducted between the hours of 0800-dusk.

2010 Swainson's Hawk Surveys

Period I: January – March 20

Swainson's Hawk surveys were conducted in the Study Area by Ironwood biologists Chris Blandford and Kolby Olson, on March 8 and 9, 2010. Two full-day surveys - from early morning until dusk - were conducted over the two-day period.

Period II: March 20 – April 5

Swainson's hawk surveys were conducted in the Study Area between March 31 to April 2, 2010 by Ironwood biologists Crissy Slaughter and Lehong Chow. Three surveys were conducted over a three-day period from sunrise to 1000 and 1600 to sunset.

Period III: April 5 to April 20

Swainson's hawk surveys were conducted in the Study Area between April 18 to April 20, 2010 by Ironwood biologists Crissy Slaughter and Elizabeth Stands. Three surveys were conducted over a threeday period from sunrise to 1000 and 1600 to sunset.

2011 Swainson's Hawk Surveys

Period I: January – March 31

Swainson's Hawk surveys were conducted in the Study Area by Ironwood biologists Crissy Slaughter and Elizabeth Stands, on March 20 and 21, 2011. Two full-day surveys - from early morning until dusk - were conducted over the two-day period.

Period II: April 1 – April 30

Swainson's hawk surveys were conducted in the Study Area between April 18 to April 20, 2011 by Ironwood biologists Crissy Slaughter and Corey Chan. Three surveys were conducted over a three-day period from 0800 to dusk.

Period III: May 1 to May 30

Swainson's hawk surveys were conducted in the Study Area between May 23 to May 24, 2010 by Ironwood biologists Crissy Slaughter and Elizabeth Stands. Three surveys were conducted over a two-day period from 0800 to dusk.

2.5 Western Burrowing Owl Surveys

Due to the Project site's proximity to documented burrowing owl occurrences and available suitable habitat, burrowing owl protocol surveys were conducted on the proposed solar facility site and along the gen-tie routes east of 140th Street West during spring 2010. Protocol burrowing owl surveys were conducted on the proposed and alternative gen-tie routes west of 140th Street West in the spring of 2011. Surveys for the presence of western burrowing owls followed the California Burrowing Owl Consortium (CBOC) Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC 1993). The methodology includes four phases of study, as follows:

- Phase 1 assessment of suitable habitat and potential presence of burrowing owl habitat within the site and 150-meter buffer;
- Phase 2 burrow survey to assess and record burrows suitable for nesting;
- Phase 3 burrowing owl surveys, census, and mapping of individual and pairs; and
- Phase 4 summary of results and findings from the previous phases.

Phase I Methods

A Phase I burrowing owl habitat assessment was conducted during the preliminary survey site visit and literature review for the proposed solar facility and gen-tie east of 140th Street West on February 2, 2010. An additional Phase I burrowing owl habitat assessment was conducted on February 15, 2011 for the proposed and alternative gen-tie west of 140th Street West. These habitat assessments were conducted by vehicle and on foot to identify constituent elements of burrowing owl habitat. These elements include the presence of small mammal burrows and suitable foraging areas within the burrowing owl's preferred habitat: open, dry grasslands, agricultural lands, and desert habitats. Areas within the proposed solar facility and two Gen-Tie Line routes containing these elements were identified as potentially suitable burrowing owl habitat.

Phase II Methods

Phase II burrow mapping surveys were conducted by experienced biologists in the 2010 Burrowing Owl Study Area on March 8, 11-13 and on May 8, 10-13, 2010. The 2010 Burrowing Owl Study Area included the proposed solar facility site, the gen-tie routes east of 140th Street West, and 150-meter buffer zone surrounding these areas. Phase II surveys were conducted in the 2011 Burrowing Owl Study Area from March 15-19 and March 22-25, 2011. The 2011 Burrowing Owl Study Area included the proposed and alternative gen-tie routes west of 140th Street West and associated 150-meter buffer zone. Phase II

surveys were also conducted on April 21, 2011 on a small portion of fallow agricultural land on the solar facility site that was formerly actively farmed in 2010. Biologists familiar with burrowing owl and their sign (e.g., active burrows, tracks, feathers, pellets, prey remains, and white-wash), surveyed the entire Study Area by walking transects spaced 30 meters (approximately 100 feet) apart. Due to the dominance of grassland habitats, low-growing annual plants, even terrain, and low shrub density, 100 percent visual coverage of the ground surface could be maintained at this transect spacing interval.

On the select areas of the Study Area on which desert tortoise surveys were conducted at 10 meter (30foot) intervals, Phase II burrow surveys were conducted concurrently with full coverage desert tortoise surveys. The width of pedestrian transects used during the full coverage tortoise surveys were narrower than those recommended for burrowing owl surveys, resulting in more comprehensive coverage.

All burrows suitable for burrowing owl use were recorded during the survey. All visual or audible detections of burrowing owls and burrowing owl sign were recorded on standardized datasheets. The physical location of each observation was recorded by GPS. In addition, observers noted the presence and condition of burrowing owl sign at burrow locations to aid in determining which burrows were in active use by burrowing owls.

Phase III Methods

Prior to conducting Phase III surveys, a site visit was conducted on April 20, 2010 by biologists Crissy Slaughter and Elizabeth Stands to determine the status (i.e., occupied/not occupied, active nest site) of burrows identified in the 2010 Burrowing Owl Study Area during Phase II surveys. Potential burrows were assessed for the presence and freshness of pellets and white wash, the presence of owls near the burrows, and any other signs of recent burrowing owl activity. Phase III surveys were not conducted on the active burrowing owl burrows identified in 2011.

Phase III burrowing owl surveys were conducted on active burrowing owl burrows by qualified biologists Kip Kermoian and Rachel Woodard on May 8, and June 23 - 25, 2010. All surveys were conducted either over a three hour period in the evening, beginning approximately two hours before sunset and ending approximately one hour after sunset, or over a three hour period in the morning, beginning one hour before sunrise and ending approximately two hours after sunrise. Observers used both binoculars (Eagle Optics Ranger 8x42 and Leica Ultravid 10 x 25 binoculars) and spotting scopes (Pentax PF-80ED spotting scope with Pentax 8-24mm zoom eyepiece).

The four Phase III surveys were focused on active burrows and surrounding areas. Observation points were selected to maximize viewing opportunities of owls both in the vicinity of the burrow and over a large portion of the Project area. Each observer spent approximately 1-3 hours at a single observation point fitting these criteria no nearer than 50 meters (approximately 150 feet) from the burrow. During each survey, biologists noted: owl movement near active burrows and throughout the Project area; breeding-related behaviors; and the numbers of owls, pairs, and juveniles observed.

2.6 Mohave Ground Squirrel Protocol-level Surveys

On April 15, 2010 Ironwood biologist Kathy Simon conducted a visual assessment for potentially suitable habitats within the proposed solar facility location. Based on the visual assessment, two grids – the Gaskell grid and the Holiday grid – were created to insure adequate coverage of the proposed solar facility for Mojave ground squirrel. Pursuant to CDFG Mohave ground squirrel guidelines (2003) two small mammal trapping grids locations were chosen within the proposed solar facility boundaries that represented suitable habitat for the Mohave ground squirrel and because of their proximity to CNDDB occurrence records. Biologists established two Mohave ground squirrel trapping grids consisting of 100 XLK Sherman live-traps (3"x3.75"x12") placed at 35 meter intervals, on-center, in a 10x10 array, for a total of 200 traps on the proposed solar facility. Traps were staged in a north-south orientation, dependent upon and corresponding to the shape of the habitat present. On the Holiday grid, each trap was shaded from the sun by a cardboard A-frame or box shade which covered the trap entirely from direct sun exposure. Traps were baited with four-way horse feed and opened one hour before sunrise and closed one hour before sunset, unless adverse weather conditions were recorded (i.e., temperatures >90°F (32°C), heavy rain, or sustained winds > 35 mph).

Randel Wildlife Consulting, Inc. (Charles Randel) conducted protocol Mohave ground squirrel surveys within the Gaskell Trapping Grid on April 26–30, May 17–21, and June 20–24, 2010. Ironwood biological contractor Barbara Stein conducted protocol Mohave ground squirrel surveys on the Holiday Trapping Grid on April 26–30, May 24–28, and June 15–19, 2010.

On February 15, 2011 Ironwood biologist Kathy Simon conducted an additional visual assessment for potentially suitable habitats for the State-listed (Threatened) Mohave ground squirrel (*Xerospermophilus mohavensis*) within the proposed and alternative 220-kV Gen-Tie Line routes. Approximately 6.5 linear miles of Mojave Creosote Scrub and Desert Saltbush Scrub, representing suitable habitats for Mohave Ground Squirrel was identified along these routes. Protocol Mohave ground squirrel trapping was not conducted in these areas in 2011.

2.6 Other Special Status Species

Special status species observations were recorded during desert tortoise, Swainson's hawk, Mohave ground squirrel, and western burrowing owl protocol surveys. Additionally, surveyors recorded all plant and wildlife species, regardless of status, encountered during all surveys. All special status species recorded as incidental data were recorded by GPS (UTM NAD 83 Zone 11) and assigned a unique identifier. All other species were tallied at the end of each transect and recorded each day by all survey crews. Data were entered from these datasheets and incorporated into a GIS system.

3.0 RESULTS

The following section discusses the results of 2010 and 2011 focused surveys for special status plant and wildlife species conducted within the Study Area. Special status species with the potential to occur in the vicinity of the Project are also discussed in this section. Lists of all plant and wildlife species observed during surveys are included in Appendices A and B, respectively.

3.1 Preliminary Survey

Three native vegetation communities occur within the Study Area: Mojave Creosote Bush Scrub [Holland 1986; analogous to Creosote Bush Series (Sawyer and Keeler-Wolf 1995)], Desert Saltbush Scrub [Holland 1986; analogous to Mixed Saltbush Series (Sawyer and Keeler-Wolf 1995)], and Non-native Grassland [Holland 1986; analogous to California Annual Grassland Series (Sawyer and Keeler-Wolf 1995)]. Areas of disturbed, developed, and agricultural land also occur within the Study Area (Figure 4). A complete list of plant species occurring in these communities is summarized in Appendix A.

The majority of the proposed solar facility consists of fallow and abandoned agricultural lands representing approximately two-thirds of the solar facility. These areas are dominated by herbaceous plant species such as cheatgrass (*Bromus tectorum*), redstem filaree (*Erodium cicutaium*), and fiddleneck (*Amsinkia menziessii*), with scattered rubber rabbitbrush (*Ericameria nauseosa*) shrubs. The remaining approximate one-third of the solar facility supports a Mixed Saltbush Series community. Dominant plant species associated with this community include fourwing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), and spinescale (*Atriplex spinifera*).

The majority of the 7.0 mile long proposed Gen-Tie Line corridor consists of agricultural lands in active crop production (approximately 3.0 linear miles), and an approximately equal amount of Desert Saltbush Scrub habitat (approximately 2.6 linear miles). Evidence of sheep grazing was apparent within the proposed gen-tie corridor in all habitats except active agricultural lands. Habitat within the remaining portion of the proposed gen-tie corridor includes approximately 1.0 linear mile of Mojave Creosote Bush Scrub, approximately 0.3 miles of California Annual Grassland/ruderal vegetation, as well as areas of disturbed and developed land. Dominant plant species associated with the California Annual Grassland/ruderal community include native annuals such as fiddleneck and goldfields (*Lasthenia californica*), and non-natives such as cheatgrass, and redstem filaree.

The majority of the 9.0 mile long alternative Gen-Tie Line corridor consists of agricultural lands in active crop production (approximately 4.0 linear miles). Evidence of sheep grazing was apparent throughout the alternative gen-tie corridor habitats, except for active agricultural lands. Habitats within the remaining

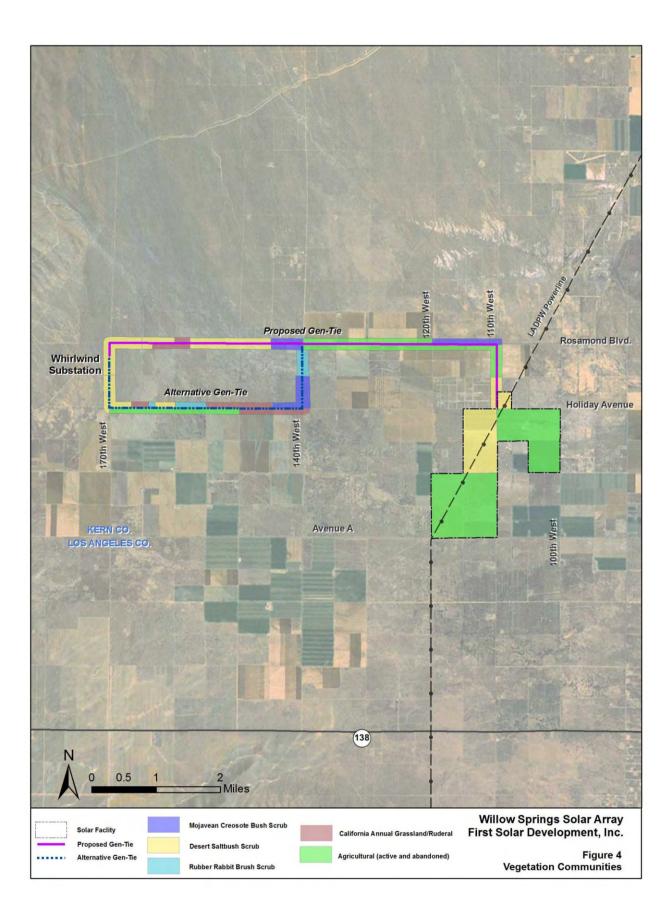
portion of the alternative gen-tie corridor include approximately 1.7 linear miles of Desert Saltbush Scrub, approximately 1.2 linear miles of Mojave Creosote Bush Scrub, approximately 1.2 linear miles of California Annual Grassland/Ruderal vegetation, and approximately 0.8 linear miles of Rabbitbrush Scrub. Rabbitbrush Scrub is a disturbance maintained community (i.e. the result of fire, grazing, soil tilling, and other ground disturbance activities), and often colonizes rangeland. Rabbitbrush Scrub within the alternative Gen-Tie Line consists of scattered rubber rabbitbrush shrubs with a California Annual Grassland understory.

Based on the results of the preliminary survey, literature review, and database searches, 19 special status wildlife species and 10 special status plant species were identified as potentially occurring in the vicinity of the Study Area. These 29 plant and wildlife species were selected based on considerations of the reported occurrences in the vicinity of the Study Area, habitat suitability and availability, habitat connectivity, and presumed extant status of species with known and/or historic ranges that include the Study Area. A discussion of each special status plant and wildlife species with potential for occurrence on or near the Study Area is included in Tables 1 and 2.

3.2 Desert Tortoise

No desert tortoises (*Gopherus agassizii*) or desert tortoise sign (i.e., live tortoises, burrows, pallets, scat, courtship rings, and carcasses) were found in the 2010 and 2011 Desert Tortoise Study Areas.

Desert tortoise is a Federal- and State-listed (Threatened) species that occurs in the Mojave and Sonoran deserts of southeastern California, southern Nevada, and south through Arizona into Mexico. Within the known range, the desert tortoise is most commonly found in desert washes, canyon bottoms, and rocky hillsides below 3,530 foot elevation. The dominant shrub commonly associated with desert tortoise habitat is creosote bush. Other shrubs including white bursage (*Ambrosia dumosa*), cheese bush (*Ambrosia salsola*), Desert senna (*Cassia armata*), and Mojave prickly-pear (*Opuntia mojavensis*) provide suitable habitat for the desert tortoise. Desert tortoises spend 95 percent of their lives underground; therefore, suitable soil is a requirement for burrow construction. Throughout most of the Mojave region, desert tortoises occur most commonly on gently sloping terrain with soils ranging from sand to sandy-gravel and with scattered shrubs, and where there is abundant inter-shrub space for growth of herbaceous plants. Desert tortoises can also be found in steeper, rockier areas throughout their range. The most recent range maps show this species occurring predominately east of SR-14 in the Rosamond area, over 15 miles from the Project. However, in 2009 a desert tortoise observation was recorded west of Hwy 14 approximately 7 miles northeast of the proposed solar facility, and approximately 5 miles northeast of the gen-tie (CNDDB 2010).



Tuble 1. Special Status				i iant species with i otential to occur	within the start jill the	
Scientific Name	Common Name	Regulatory Status	Blooming Period	Habitat Requirements	Site Suitability/Survey Results	Potential to Occur
Abronia villosa var. aurita	Chaparral sand- verbena	CNPS 1B.1	January – September	Chaparral, coastal scrub, and desert habitats in sandy soil from 80 to 1,600 meters (approximately 262 to 5,249 feet) elevation.	May be present in areas where soil conditions are appropriate. Recorded in Los Angeles County, West Mojave Desert region 15 miles east of Palmdale on southern slope of Lovejoy Buttes in Mojave Desert in 1971.	Unlikely – not found during focused botanical surveys
Arenaria macradenia var. kuschei	Kusche's sandwort	CNPS 1B.1	June – July	Decomposed granitic sunny openings in oak woodlands, chaparral or low scrub from 1,220 to 1,700 meters (4,003 to 5,577 feet) elevation.	No suitable habitat is present. Known from approximately 5 observations in 1997 in Burnt Peak and Liebre Mountain quadrangles, in NW Los Angeles County.	Unlikely
Erodium macrophylla	Round-leaved filaree	CNPS 1B.1	March – May	Cismontane woodland and valley and foothill grassland from 15 to 1,200 meters (approximately 50 to 3,900 feet) elevation, where it grows in clay soils.	No suitable habitat exists on the site. Known from Elizabeth Lake in 1888.	Unlikely
Calochortus striatus	Alkali mariposa lily	CNPS 1B.2	April – June	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps in alkaline, mesic soils from 70 to 1,595 (approximately 230 to 5,233 feet) elevation.	Suitable habitat present on-site. Alkali mariposa lilies were found on the proposed solar facility during 2010 surveys.	Present, observed during surveys
Calystegia peirsonii	Peirson's morning-glory	CNPS 4.2	April – June	Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland from 30 to 1,500 meters (approximately 100 to 4,900 feet) elevation. Often found in disturbed areas, along roadsides, or in grassy open areas.	Suitable habitat found on-site. Known from the Elizabeth Lake and Lake Hughes areas. Also known from 1982 on valley floor.	Unlikely – not found during focused botanical surveys
Canbya candida	White pygmy- poppy	CNPS 4.2	March – June	Joshua tree "woodland," Mojavean desert scrub, pinyon and juniper woodland in gravelly, sandy, and granitic soils from 600 to 1,460 meters (approximately 1,969 to 4,790 feet) elevation.	Suitable habitat found on-site. One or more known populations in Los Angeles County, quadrangle-level data pending.	Unlikely – not found during focused botanical surveys
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	SE, CNPS 1B.1	April – July	Sandy soils in coastal scrub and valley and foothill grassland from 150 to 1,220 meters (approximately 500 to 4,000 feet) elevation.	Suitable habitat found on-site. Three plants collected approximately 8 miles west of the Project from Elizabeth Lake, Lake Hughes quadrangle, in 1929, but possibly extirpated.	Unlikely – not found during focused botanical surveys
Harpagonella palmeri	Palmer's grapplinghook	CNPS 4.2	March – May	Chaparral, coastal scrub, valley and foothill grassland in clay soil from 20 to 955 meters (approximately 66 to 3,133 feet) elevation.	Appropriate soil is rare on the Project. One or more populations known in Los Angeles County, pending additional quadrangle-level data.	Unlikely
Layia heterotricha	Pale-yellow layia	CNPS 1B.1	March – June	Valley grassland, foothill woodland, pinyon-juniper woodland, and wetland-riparian habitats in alkaline or clay soils from 300 to 1,705 meters (approximately 984 to 5,594 feet) elevation.	Suitable habitat may be present on-site. Closest recorded occurrence in the Liebre Mountains region, north of San Franscisquito Canyon, on road to Palmdale in 1969.	Unlikely
Opuntia basilaris var. brachyclada	Short-joint beavertail	CNPS 1B.2	April – June	Rocky habitats in chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland from 425 to 1,800 meters (approximately 1,400 to 5,850 feet) elevation.	May occur in along the Gen-Tie Line routes. Occurs, north of Lake Hughes.	Unlikely – not found during focused botanical surveys

Table 1. Special Status Plant Species with Potential to Occur within the Study Area

	Regulatory Hulter Decision of the Study Area Potential to					
Common Name	Scientific Name	Regulatory Status	Habitat Requirements	Site Suitability /Survey Results	Occur	
Reptiles						
Coast horned lizard	Phrynosoma blainvilii	SSC	Habitats include: valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland 3,000 to 6,000 feet in elevation in southern California. Inhabits open country, esp. sandy areas, washes, flood plains and wind-blown deposits in a wide variety of habitats.	Annual grasslands with sandy soils present at the proposed solar facility and gen-tie routes. Coast horned lizard was not identified during field surveys.	Low	
Desert tortoise	Gopherus agassizii	FT/ST	Firm ground for burrows, sandy or gravelly desert habitats, washes, oasis, canyons, alluvial fans. Desert plants for food: grass, cactus, herbs, flowers, legumes. Agriculture renders habitat unsuitable (USFWS 2008).	Desert scrub habitats including Desert Saltbush Scrub are present at the proposed solar facility and gen-tie routes. The project is approximately 6 miles southwest of the nearest reported occurrences.	Absent during focused surveys in 2010 and 2011	
Silvery legless lizard	Anniella pulchra pulchra	SSC	Moist warm loose soil with plant cover. Occurs in sparsely vegetated area of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy marshses, and stream terraces with sycamores, cottonwoods, or oaks.	Desert scrub habitats on sandy soils present at the proposed solar facility and gen-tie routes. Silvery legless lizard were not identified during field surveys	Low	
Birds						
Burrowing owl	Athene cunicularia	SSC	Open, dry grasslands, brushlands, and deserts. Needs burrows (such as dug by ground squirrels) and friable soils. Prefers low perches such as fence posts.	Suitable habitats including grassland and scrubland were present at the proposed solar facility and gen-tie routes.	Present on the proposed solar facility during 2010 surveys and on the gen- tie routes during 2011 surveys	
Golden eagle	Aquila chrysaetos	SSC	Needs open terrain for hunting; grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats. Prey is mostly lagomorphs and rodents; also takes other mammals, birds, reptiles, and some carrion. Diet most varied in nonbreeding season.	Suitable hunting habitat including grasslands and deserts. This species was observed approximately 3 miles from the gen-tie and 7 miles from the solar facility site.	Species observed in the vicinity of solar facility (approx. 7 miles) and gen-tie (approx. 3 miles during 2011 Swainson's hawk surveys.	
Cooper's Hawk	Accipiter cooperii	WL	Open woodlands and forests, desert regions with areas of dense vegetation. Preys mostly on small birds and mammals.	Suitable habitat including dense vegetation within desert habitat. This species was observed on the proposed solar facility.	Species present on the proposed solar facility during 2010 surveys, no nests observed	
Ferruginous hawk	Buteo regalis	WL	Open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys. Perches on power poles and on ground. Avoids urban areas.	Suitable habitats including open grasslands, and desert scrubs were present at the proposed solar facility and gen-tie routes.	Species present on the proposed solar facility and along Gen-Tie Line during 2010 and 2011 surveys, no nests observed	

Table 2. Special Status Wildlife Species with Potential to Occur in the Study Area

Common Name	Scientific Name	Regulatory Status	Habitat Requirements	Site Suitability /Survey Results	Potential to Occur
Loggerhead shrike	Lanius ludovicianus	SSC (nesting)	Requires tall shrubs or trees for perching and nest placement; open grassy or brushy areas for hunting; and impaling sites, including thorny plants and barbed wired fences, for manipulating and storing prey.	Suitable habitat including windrows of trees and open grassy areas were present on the proposed solar facility and gen-tie routes.	Species present on the proposed solar facility and along the Gen- Tie Line during 2010 and 2011 surveys, no nests observed
Mountain Plover	Charadrius montanus	FC/SSC	Uses open grasslands and plowed or burned fields with little or no vegetation. Avoids areas with cover.	Suitable wintering habitat present. Species known to winter in the Antelope Valley. This species was not observed during surveys.	Low
Northern harrier	Circus cyaneus	SSC (nesting)	Found mostly in flat, or hummocky, open areas that contain tall, dense grasses, moist or dry shrubs, and edges. Uses tall grasses and forbs in wetlands, or at wetland/field borders, for cover. Roosts on the ground.	Suitable foraging habitats are present at the proposed solar facility and gen-tie routes.	Species present on the proposed solar facility and gen-tie routes during 2010 and 2011 surveys, no nests observed
Prairie falcon	Falco mexicanus	WL	Inhabits dry, open terrain, either level or hilly, and requires breeding sites located on cliffs. May travel more than 20 km from nest.	Suitable foraging habitats are present at the proposed solar facility and gen-tie routes.	Species present on the proposed solar facility during 2010 surveys, no nests observed
Purple martin	Progne subis	SSC	Breeds near anthropogenic structures where nest houses are provided near water and open areas. Known to breed in montane forest habitats	No suitable habitat was present at the proposed solar facility. This species was identified during migration.	Low
Swainson's hawk	Buteo swainsoni	ST	Open stands of trees in juniper-sage flats, riparian areas, and oak savanna. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Feeds on a variety of vertebrates during the breeding season.	Suitable habitat including grassland, and agricultural fields present on and adjacent to the proposed solar facility and gen-tie routes.	Species present on the proposed solar facility and along Gen-Tie routes during 2010 and 2011 surveys.
Tricolored blackbird	Agelaius tricolor	SSC	Breeds near fresh water, often in emergent vegetation, but also in thickets of willow, blackberry, wild rose, and tall herbs. Feeds in grasslands, agricultural lands, flooded fields, and pond edges. May travel more than six miles to forage.	Suitable foraging habitats including agricultural lands were present at the proposed solar facility location and gen-tie routes. This species was not observed during surveys.	Low
Yellow-headed blackbird	Xanthocephalus xanthocephalus	SSC	Breeds in wetlands and adjacent to lakes and marshes. Forages in wetlands and surrounding grasslands and agricultural lands. Winters in agricultural areas.	Suitable foraging habitat (agricultural and grasslands) were present at proposed solar facility and gen-tie routes This species was identified on the southern portion of the proposed solar facility.	Species present on the proposed solar facility during 2010 surveys, no nests observed
Mammals					
American badger	Taxidea taxus	SSC	Open, dry, shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, uncultivated ground, preys on burrowing rodents.	Suitable habitats are present at the proposed solar facility and on gen-tie routes. This species was not observed during focused surveys.	Moderate – not observed during 2010 and 2011 surveys.

Common Name	Scientific Name	Regulatory Status	Habitat Requirements	Site Suitability /Survey Results	Potential to Occur
Desert kit fox	Vulpes macrotis arsipus	None	Inhabits open shrub areas throughout the California desert. Requires friable soils for building burrows and sufficient rodent population.	Suitable habitats are present at the proposed solar facility and on gen-tie routes. This species was not observed during focused surveys.	Moderate – not observed during 2010 and 2011 surveys.
Mohave ground squirrel	Xerospermophilus mohavensis	ST	Optimum habitats are open desert scrub, alkali desert scrub, and Joshua tree woodlands. Can feed in annual grasslands. Very rare throughout its range. Negatively affected by agriculture.	Suitable habitats including desert scrubs were present at the proposed solar facility and gen-tie lines. This species was not detected during guideline surveys on the solar facility.	Low
Tehachapi pocket mouse	Perognathus alticolus inexpectatus	SSC	Known from Tehachapi Pass to the area of Mt. Pinos, and around Elizabeth, Hughes, and Quail Lakes. Known localities are between about 3,500 and 6,000 feet in elevation. Habitat requirements "not well defined."	Suitable habitat was not present at the proposed solar facility and gen-tie routes. The Project occurs outside of the known range of this species.	Low
Townsend's big- eared bat	Corynorhinus townsendii	Corvnorhinus townsendu		Suitable foraging habitat was present at the proposed solar facility and gen-tie routes. Suitable roost locations were not identified in the Study Area.	Low

Status Definitions:

- FE = Federally listed as Endangered FT = Federal-listed Threatened
- FC = federal candidate speciesSE = State-listed as Endangered

- ST = State-listed as threatened SSC = State Species of Special Concern
- WL = State Watch List Species

CNPS = California Native Plant Society

1A = Presumed extinct/extirpated in California 1B = Plants that are rare, threatened, or endangered in California and elsewhere 3 = Plants about which more information is needed

- 4 = A watch list of plants of limited distribution
 .1 = Seriously endangered in California
 .2 = Fairly endangered in California

.3 =Not very endangered in California

3.3 Swainson's Hawk

The Swainson's hawk (*Buteo swainsonii*) is a State-listed (Threatened) raptor species that breeds in much of western North America. Within California, nesting occurs primarily in the Central Valley and northern territories; however, regular nesting occurs in the high desert between the Tehachapi Mountains and Lancaster. In California, breeding populations of Swainson's hawks occur in grassland, shrubland, and agricultural areas where it has open areas to forage for its small prey and where roost sites are available. Swainson's hawks construct their nests in a wide variety of trees species, existing as riparian forest, remnant riparian trees, planted windbreaks, shade trees at residences and along roadsides, and solitary upland oaks. Swainson's hawks mainly hunt mice, ground squirrels, rabbits, birds, and reptiles during the breeding season, and largely live off insects like grasshoppers, locust, and beetles during the non-breeding season. This species winters in southern South America with a migration route of over 20,000 miles (Woodbridge 2008). Arrival on breading areas generally occurs from late February to early May depending on geographical characteristics of the breeding area (Woodbridge 2008).

2010 Swainson's Hawk Study Area

A minimum of eight Swainson's hawks and as many as twelve Swainson's hawks were observed on the proposed solar facility or within 0.5–1 mile of the solar facility. These observations also occurred within the 0.5–2.5 miles of the gen-tie included in the 2010 Swainson's Hawk Study Area. Exact numbers of Swainson's hawks observed during surveys is difficult to determine due to the possibility of multiple sightings of the same individual. Swainson's hawks were not detected during protocol surveys conducted during Period I. All observations of Swainson's hawks were recorded during Period 2 and 3 protocol surveys or incidentally during other focused biological surveys. No Swainson's hawk nests were found within the 2010 Swainson's hawk Study Area, or within the ½ mile survey buffer surrounding these areas.

The majority of 2010 Swainson's hawk observations were located within a 1-mile square area bounded by Gaskell Avenue to the north, 100th Street West to the east, Avenue A to the south, and 110th Street West to the east. These occurrences are within one-half mile to 1 mile of the proposed solar facility and within 1.5-2.5 miles of the Gen-Tie Line included in the 2010 Study Area. Although no Swainson's hawk nests were detected during surveys, due to repeated observations of a pair of Swainson's hawks and Swainson's hawk individuals in this vicinity, it is likely that nesting is occurring within 1 mile of the proposed solar facility and within 2.5 miles of the gen-tie included in the 2010 Swainson's Hawk Study Area.

A summary of Swainson's hawk observations recorded during all 2010 biological surveys is provided in Table 3. The locations of 2010 Swainson's hawk observations are mapped on Figure 5. Figure 5 also

includes the locations of potentially competing raptor species observed during all surveys including redtailed hawk, ferruginous hawk, a CDFG Watch List (WL) species; Cooper's hawk (WL); prairie falcon (WL); great-horned owl; northern harrier, a State Species of Concern (SSC); as well as nesting ravens.

2011 Swainson's Hawk Study Area

Six Swainson's hawk nests were observed in the 2011 Swainson's Hawk Study Area. Swainson's hawk observations within the 2011 Study Area were recorded during all survey Periods (1, 2, and 3), and incidentally during other focused biological surveys. The locations of all 2011 Swainson's hawk observations and nests are mapped on Figure 6. Figure 6 also includes the locations of potentially competing raptor species observed during all surveys including red-tailed hawk, ferruginous hawk, a CDFG Watch List (WL) species; great-horned owl; northern harrier, a State Species of Concern (SSC); golden eagle, a SSC; as well as nesting ravens. A summary of all 2011 Swainson's hawk observations is provided in Table 4.

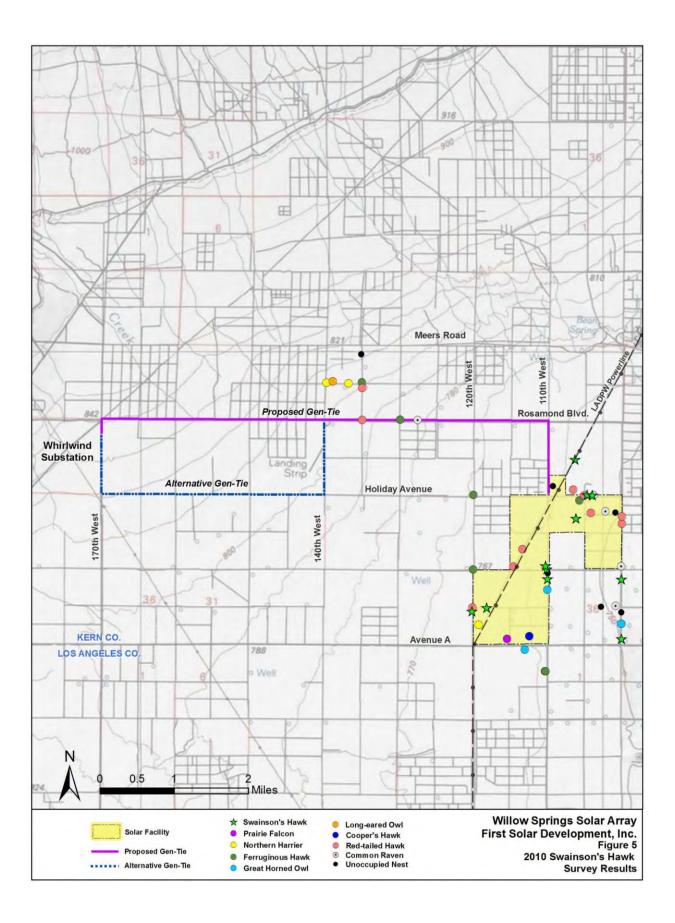
The majority of 2011 Swainson's hawk observations took place in pistachio orchards, windrow trees, power line poles, and fallow agricultural fields located on the north and south side of Gaskell Road between 100th Street West to the east and 110th Street West to the west. The peak observation of Swainson's hawk individuals occurred during Period 2 surveys on April 19, 2011 when a minimum of twelve Swainson's hawks and as many as fifteen Swainson's hawks were observed in this area, which includes a portion of the southeast corner of the solar facility site, and is within 1.0 mile of the proposed gen-tie.

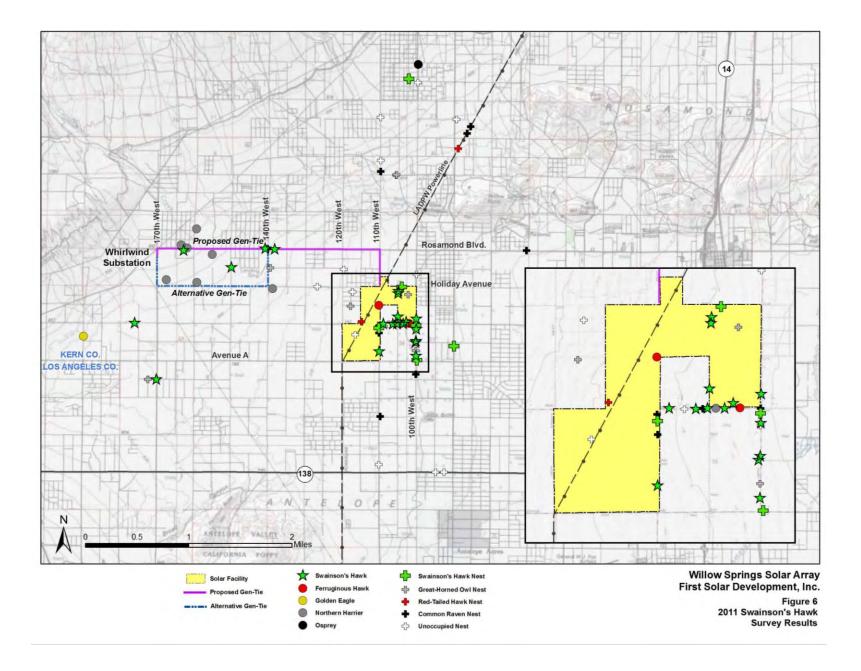
Two of the six Swainson's hawk nests were observed in the process of construction during Period 2 surveys, and one pair of Swainson's hawks was observed breeding within 200 feet of the solar facility site during Period 2 surveys on April 19, 2011. The remaining four nests were identified during Period 3 surveys on May 23 and 24, 2011. All nests were observed to be occupied by breeding pairs of Swainson's hawks during Period 3 surveys.

One Swainson's hawk nest was identified on the proposed solar facility site located in an elm tree in a fallow agricultural field near the northern boundary of the site and Holiday Avenue (Figure 6). Two nests were located on the solar facility boundary or within approximately 200 feet of the solar facility. The nest on the solar facility site boundary was located in an Arizona cypress tree on 110th Street west, approximately 600 feet south of Gaskell Road. The nest adjacent to the solar facility site was located in an

ornamental tree on 100th Street West, approximately 200 feet south of Gaskell Road and the southeast corner of the site.

The remaining three Swainson's hawk nests were located between approximately 1.0-5.8 miles of the solar facility site. The closest nest of these three was located in windbreak of trees surrounding a residence approximately 1.0 mile from the southeastern corner of the solar facility site. The nest was about 35 feet up in cypress tree on Avenue A, approximately 150 feet east of the Avenue A and 100th Street West intersection. The next nearest Swainson's Hawk nest was located approximately 1.2 miles from the solar facility site in a windrow ornamental tree (elm) on the west side of 90th Street West, approximately 0.4 miles north of Avenue A. The final nest identified was approximately 5.8 miles from the solar facility site, and approximately 5.0 miles from the gen-tie line. This nest was located in a Joshua tree approximately 300 feet east of 102nd Street West (power line road) and 400 feet north of Highgate Avenue in Mojave Creosote Bush Scrub habitat.





Date	Observers	Survey Type	Location	Number of Individuals Observed	Observations
April 1, 2010	Crissy Slaughter Lehong Chow	Swainson's Hawk Survey Period II	*Proposed Solar Facility Site *within 2 miles of gen-tie	Individuals: 1	One Swainson's Hawk flying over a fallow agriculture field in the southern portion of the proposed solar facility, south side of tamarisk windrow between Gaskell Road and Avenue A.
April 18 & 19 2010	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period III	*within ½ mile of Solar facility *within 2.5 miles of gen-tie	Individuals: 2	Two adult Swainson's, one light and one dark morph, perched on pole 70m (second pole) north of intersection of 100th St West and Avenue A. A search was made in adjacent property and vicinity for a nest - nothing located. On May 19, the same pair was perched on a pole on 100th Street West, south of intersection of Kingbird Street & 100th St West. The dark morph was feeding; the light morph flew away.
April 19, 2010	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period III	*Proposed Solar Facility Site *within 1/2 mile of gen-tie	Individuals: 1 (juvenile)	One juvenile Swainson's Hawk observed roosting on tree on north boundary of alfalfa field, heading west on the field road north of Wilmar Farms.
April 20, 2010	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period III	*within ½ mile of solar facility *within 1/2 mile of gen-tie	Individuals: 1	One Swainson's Hawk flying over an alfalfa field on proposed solar facility being chased by ravens. This hawk may be one of the pair seen on previous days.
April 28, 2010	C. J. Randel	Mojave Ground Squirrel Survey	*Proposed Solar Facility Site *within 1.5 miles of gen-tie	Individuals: 1	One Swainson's Hawk perched in a tamarisk wind break at the intersection of Gaskell Rd. and 110th Street West. The hawk flew off in a west-northwest direction over the adjacent alfalfa field.
May 9, 2010	Patty Kermoian	Desert Tortoise survey	*Proposed Solar Facility Site *within 1.5 miles of gen-tie	Individuals: 1	One Hawk flying northwest of the Gaskell Road & 110th Street West intersection.
May 10, 2010	Patty Kermoian	Desert Tortoise and Burrowing Owl buffer zone surveys	*Proposed Solar Facility Site *within 1.5 miles of gen-tie	Individuals: 2	Hawks flying overhead, near the Gaskell Road & 110th Street West intersection. One of these hawks may be the hawk observed on May 9, as the observation was made in the same location.
May 11, 2010	Garrett Hyzer	Desert Tortoise and Burrowing Owl buffer zone surveys	*Proposed Solar Facility Site *within 1.5 miles of gen-tie	Individuals: 2	Hawks observed flying near the fallow agriculture field east of 110th Street West. These are separate observations; they may be observations of the same individual.
June 23 & 25, 2010	Rachel Woodard	Burrowing Owl Phase III Survey	*Proposed Solar Facility Site *within 1.5 miles of gen-tie	Individuals: 1	Two observations, very likely that of the same Swainson's Hawk, flying over the burrowing owl Gaskell Burrow around 5:30 a.m. each morning.

Table 3. Summary of 2010 Swainson's Hawk Observations within the Study Area.

Date	Observers	Survey Type	Location	Number of Individuals Observed	Observations
March 21, 2011	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period I	*within 5 miles of Solar Facility Site *within 2.5 miles of alternative gen-tie	Individuals: 1	One dark morph Swainson's Hawk perched on power line on west side of 170 th Street West between Avenue A and Avenue B.
March 21, 2011	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period I	*within 5.5 miles of Solar Facility Site *within 1.2 miles of alternative gen-tie	Individuals: 1	One dark morph Swainson's Hawk perched on power line on Gaskell Road, west of 170 th Street West.
March 24, 2011	Crissy Slaughter Elizabeth Stands	Desert Tortoise and Burrowing Owl buffer zone surveys	*within 3 miles of Solar Facility Site *On proposed and alternative gen-tie routes	Individuals: 2	Two dark morph adult Swainson's Hawks in tamarisk windrow near alfalfa field south side of Rosamond Ave. and east of 140 th Street West.
March 24, 2011	Crissy Slaughter Elizabeth Stands	Desert Tortoise and Burrowing Owl buffer zone surveys	*within 5 miles of Solar Facility Site *On proposed gen-tie route	Individuals: 1 (juvenile)	One dark morph juvenile Swainson's Hawk flying over desert saltbush scrub habitat.
March 24, 2011	Crissy Slaughter Elizabeth Stands	Desert Tortoise and Burrowing Owl buffer zone surveys	*within 3.5 miles of Solar Facility Site *On proposed gen-tie route	Individuals: 1	One Swainson's Hawk soaring/hunting over abandoned agricultural land.
April 16, 2011	Crissy Slaughter Michael Honer	Botanical Surveys	*within 3.0 miles of Solar Facility Site *On proposed gen-tie route	Individuals: 1	One Swainson's Hawk flying west over Mojave Creosote Bush Scrub habitat.
April 18, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*within 1.0 miles of Solar Facility Site *within 2.3 miles of proposed gen-tie route	Individuals: 1	One Swainson's hawk with a leg band observed perched on top of dead tree, approx. 100 feet east of the intersection of 100 th Street West and Avenue A. Hawk flew north up 100 th Street West and perched on power pole north of the intersection, then flew down into field (orchard) and stayed on ground.
April 18, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*within 0.5 miles of Solar Facility Site *within 2.0 miles of proposed gen-tie route	Individuals: 4- 6 (juveniles)	Four to six juvenile Swainson's Hawks in tamarisk windrow on the west side of 100 th Street West, approx. 0.5 north of Avenue A. Hawks were seen perched in the windrow and flying over adjacent agricultural fields.
April 18, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*within 0.2 miles of Solar Facility Site *within 1.5 miles of proposed gen-tie route	Individuals: 1	One adult Swainson's Hawk observed calling, perched on power pole on 100 th Street West, approximately 700 feet south of Gaskell Road.
April 18, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*adjacent to Solar Facility Site *within 1.3 miles of proposed gen-tie route	Individuals: 1	One adult Swainson's Hawk observed in roadway of 100 th Street West adjacent to fallow ag fields on proposed solar facility site. Hawk observed with kill in talons, flew east over ag field, approximately 800 feet north of Gaskell Road.
April 18, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*adjacent to Solar Facility Site *within 1.2 miles of proposed gen-tie route	Individuals: 1	One adult Swainson's Hawk flying/foraging over fallow ag field on proposed solar facility site, approx. 0.35 miles west of Gaskell Road and 100 th Street West intersection. May be repeat observation of individual hawk seen earlier in the vicinity.
April 18, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*adjacent to Solar Facility Site *within 1.1 miles of proposed gen-tie route	Individuals: 2	Pair of Swainson's Hawks observed on the ground in pistachio orchard south of Gaskell Road, approx. 0.5 miles west of Gaskell Road and 100 th Street West intersection. One hawk believed to be repeat sighting of

Table 4. Summary of 2011 Swainson's Hawk Observations within the Study Area.

Date	Observers	Survey Type	Location	Number of Individuals Observed	Observations
					individual hawk seen in previous observation.
April 18, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*adjacent to Solar Facility Site *within 1.0 miles of proposed gen-tie route	Individuals: 3	One juvenile and one pair of Swainson's Hawks observed on the ground in pistachio orchard south of Gaskell Road, approx. 0.8 miles west of Gaskell Road and 100 th Street West intersection. Pair of hawks believed to be repeat sighting of hawks seen in previous observation.
April 19, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*within 0.5 mile of Solar Facility Site *within 1.7 miles of proposed gen-tie route	Individuals: 3	Three adult Swainson's Hawks observed foraging in fallow ag lands east and west of 100 th Street West, approx. 0.5 mile north of Avenue A. Pair observed flying east, likely same pair that was observed in the vicinity from day before.
April 19, 2011 and May 23-24, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II and III	*within 200 feet of Solar Facility Site *within 1.5 miles of proposed gen-tie route	Individuals: 2 (1 nest)	On April 19, 2011 a pair of Swainson's Hawks seen exhibiting courtship behaviour, male dark morph, female light morph. Male initially observed in tree with a nest that appears under construction. Male began calling then female appeared and flew overhead male still calling. Nest is on east side of 100 th Street West in ornamental roadside tree, approx. 200 feet south of the Gaskell Road intersection. On May 23, 2011, male hawk observed in tree and female on nest, only head visible, little to no movement, likely incubating eggs. Both hawks were observed again on May 24, 2011, female on nest, male foraging nearby in ag field.
April 19, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*within 0.2 miles of Solar Facility Site *within 1.1 miles of proposed gen-tie route	Individuals: 12-15	At least 12 Swainson's Hawks consisting of 11 adults and 1 juvenile observed around dusk, flying and foraging over pistachio orchards to the north and south of Gaskell Road, approx. $\frac{1}{2}$ -1 mile west of the Gaskell Road and 100 th Street West intersection. One pair in group may be same pair of hawks observed in the vicinity of Gaskell and 100 th Street West with a nest under construction. One individual observed hunting, then perched on power pole and consumed prey.
April 20, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*within 200 feet of Solar Facility Site *within 1.5 miles of proposed gen-tie route	Individuals: 6	Gaskell pair observed copulating on power pole across the street from the nest. Male is a light morph and female is a dark morph. Male has a leg band, no leg band visible on the female. Male was calling to female and brought stick to the nest. Four other Swainson's Hawks observed in the vicinity flying over the ag fields west of the Gaskell Road and 100 th Street West intersection.
April 20, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*adjacent to Solar Facility Site *within 1.0 miles of proposed gen-tie route	Individuals: 4 (2 juveniles)	Pair of Swainson's Hawks observed near a raven nest in a cypress tree on 110 th Street West approx. 100 meters south of Gaskell Road. Pair calling a lot. Two other juvenile hawks were observed near another nest approx. 50 meters south in a cypress tree.
April 20, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II	*adjacent to Solar Facility Site *within 1.7 miles of proposed gen-tie route	Individuals: 4	Four Swainson's Hawks observed flying over a raven in a nest in a pine tree near a residence on 110 th Street West between Avenue A and Gaskell Road.
April 20, 2011 and May 23-24, 2011	Crissy Slaughter Corey Chan	Swainson's Hawk Survey Period II and III	*On Solar Facility Site *within 0.6 miles of proposed gen-tie route	Individuals: 2 (1 nest)	Swainson's Hawk nest in elm tree in fallow ag field on the north end of the solar facility site, near Holiday Avenue, approx. ¹ / ₂ mile west of 100 th Street West. Pair observed in tree. On May 23 and 24, 2011 one hawk observed sitting low on the nest, only back of tail is visible, little to no movement, appears to be incubating eggs.

Date	Observers	Survey Type	Location	Number of Individuals Observed	Observations
April 21, 2011	Crissy Slaughter Corey Chan	Burrowing Owl Phase II	*On Solar Facility Site *within 0.5 miles of proposed gen-tie route	Individuals: 4	Light morph adult Swainson's hawk observed flying over tamarisk windrow, approx. 150 meters south of nest in elm on solar facility site near the northern boundary. Another adult hawk seen on power pole about 70 meters south of nest. Also pair of hawks seen flying over fallow ag field on solar facility site.
May 23-24, 2011	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period III	*On Solar Facility Site *within 1.1 miles of proposed gen-tie route	Individuals: 2 (1 nest)	Swainson's Hawk nest in Arizona cypress tree on 110 th Street West, approx. 600 feet south of Gaskell Road. Adult hawk seen on branch of cypress tree both days, hawk is skittish and flies to power pole near nest. Nest barely visible from observation point on Gaskell Road, cannot tell if other adult is on the nest.
May 23-24, 2011	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period III	*within 1.0 mile of Solar Facility Site *within 2.2 miles of proposed gen-tie route	Individuals: 2 (1 nest)	Swainson's Hawk nest about 35 feet up in cypress tree on Avenue A, approx. 150 feet east of the Avenue A and 100 th Street West intersection. Nest is in windbreak of trees surrounding residence. Nest is very high up, difficult to get a vantage point. One adult seen perched in the tree about 20 feet from the nest. The head of the other adult hawk was seen peaking out the top of the nest on May 24, 2011.
May 23-24, 2011	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period III	*within 1.2 miles of Solar Facility Site *within 2.6 miles of proposed gen-tie route	Individuals: 2 (1 nest)	Swainson's Hawk nest in windrow ornamental tree (elm) on west side of 90 th Street West, approx. 0.4 miles north of Avenue A. One adult was observed in the tree near the nest on May 23, 2011, then flew into nearby ag field. Later that day, the hawk was observed on the nest. On May 24, 2011 one adult was observed low on the nest, only back of tail visible, likely incubating eggs.
May 23-24, 2011	Crissy Slaughter Elizabeth Stands	Swainson's Hawk Survey Period III	*within 5.8 miles of Solar Facility Site *within 5.0 miles of proposed gen-tie route	Individuals: 2 (1 nest)	Swainson's Hawk nest in Joshua tree about 100 meters east of 102 nd Street West (power line road) and 400 feet north of Highgate Ave. in Mojave Creosote Scrub habitat. On May 23 and 24, 2011, one adult was observed low in the nest with top of head and back visible, little movement, likely incubating eggs.

3.4 Mohave Ground Squirrel

Protocol trapping of the Gaskell and Holiday grids did not detect the presence of Mohave ground squirrel (*Xerospermophilus mohavenesis*). The locations of the trapping grids on the proposed solar facility are shown in Figure 7. The Mohave ground squirrel visual assessment conducted on the proposed and alternative Gen-Tie Line alignments in February 2011 identified approximately 6.5 linear miles of Mojave Creosote Bush Scrub and Desert Saltbush Scrub, representing suitable habitat for Mohave Ground Squirrel. Protocol Mohave ground squirrel trapping was not conducted in 2011 within the suitable habitat identified during the visual assessment of the proposed and alternative gen-tie alignments.

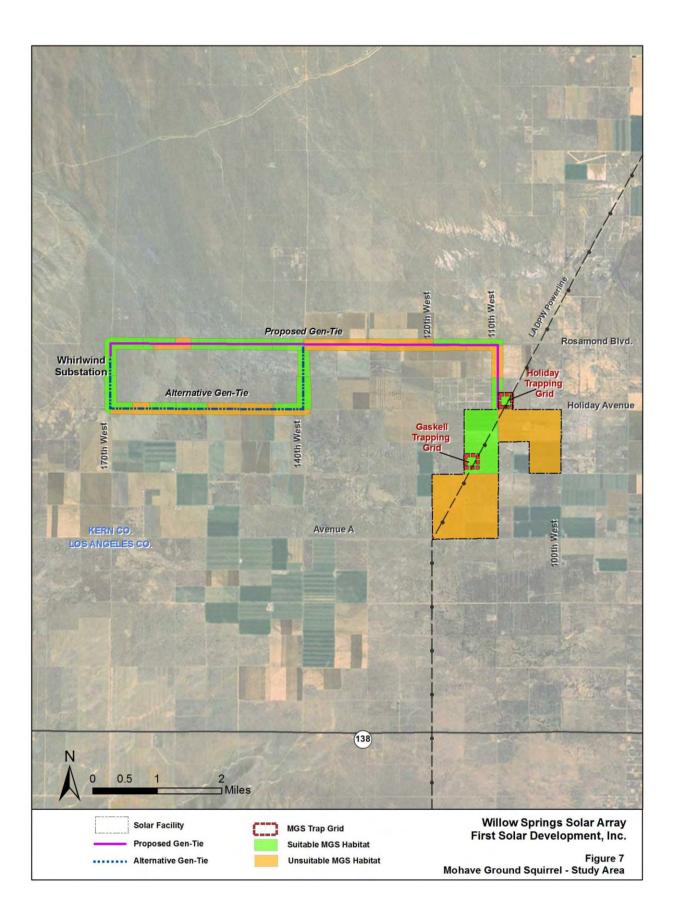
The Mohave ground squirrel is a State-listed (Threatened), rare burrowing rodent species that occurs exclusively in the Mojave Desert. Optimal habitats include open desert scrub, alkali desert scrub, and Joshua tree woodlands. Joshua tree fruits are a favored food source, but Mohave ground squirrels eat a wide variety of green vegetation, seeds, and fruits, and can also forage in annual grasslands (CDFG 2008). The species has the ability to forgo reproduction and aestivate for long periods when rainfall is insufficient to provide forage. Prolonged drought periods can lead to the extirpation of local populations, and these areas are re-colonized from remaining populations during years of good forage production (BLM 1999). However, agriculture and urban development have fragmented the habitat and prevented the re-colonization of some areas, greatly reducing the population and range of the Mohave ground squirrel over the past several decades.

3.5 Western Burrowing Owl

Western burrowing owl (*Athene cunicularia*) is a SSC. Burrowing owls inhabit open dry grasslands and desert scrubs, and typically nests in mammal burrows although they may use man-made structures including culverts and debris piles. They exhibit strong nest site fidelity. Burrowing owls eat insects, small mammals and reptiles. Burrowing owls can be found from California to Texas and into Mexico. In some case, owls migrate into southern deserts during the winter.

Phase I Results

The results of the Phase I burrowing owl habitat assessment for the Project indicated that the entire approximate 1,402 acre proposed solar facility, and the two 220-kV Gen-Tie Line alignments contained suitable habitat for burrowing owls including open, dry grasslands, agricultural lands, and other desert habitats. Burrowing owl habitat may be limited within the agricultural lands found within the Project due ongoing agricultural practices (i.e., active tilling).



Phase II Results

2010 Burrowing Owl Study Area

Phase II surveys conducted in 2010 identified two burrows within the buffer of the proposed solar facility and one within the boundaries of the proposed solar facility with visible burrowing owl sign including whitewash and pellets. No burrowing owl burrows were identified on the gen-tie included in the 2010 Phase II survey Study Area. Although no owls were observed at the two burrows identified within the buffer burrow during Phase II surveys, due to the presence of burrowing owl sign these burrows were considered to have potential to be occupied by burrowing owls. These burrows were located within the Desert Saltbush Scrub habitat adjacent to the proposed solar facility. A follow up site visit conducted on April 19, 2010 confirmed that these burrows were not active. Therefore, Phase III burrowing owl surveys were not conducted on these burrows.

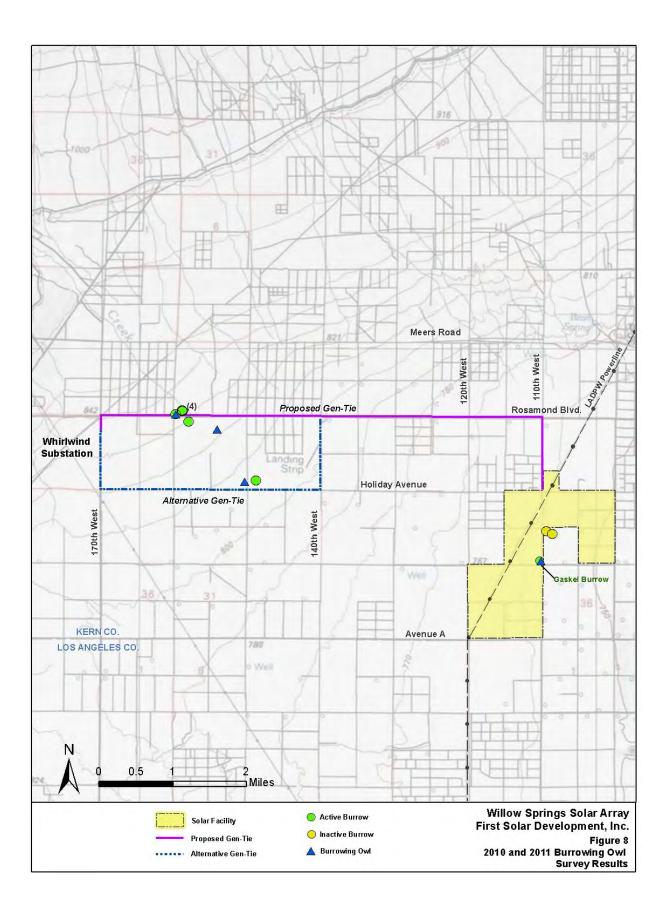
The remaining burrow (Gaskell Burrow), which was determined to be active, was located within the proposed solar facility boundaries on the northwest corner of the intersection of Gaskell Road and 110th Street West on the west side of a dirt road across from a residence. The burrow consists of a complex with several entrances located within a large mound of dirt on fallow agriculture land. No burrowing owls were observed when the burrow was first identified on March 13, 2010, although abundant burrowing owl sign including whitewash and pellets was noted. A return visit to the burrow on April 20, 2010 confirmed the burrow's status as active by the presence of a burrowing owl standing on top of the burrow mound.

The Gaskell Burrow was the focus of the 2010 Phase III burrowing owl surveys. The locations of this burrow as well as the inactive burrowing owl burrows identified during Phase II surveys are depicted in Figure 8. Figure 8 also includes the locations of all observations of burrowing owl individuals recorded within the Study Area.

2011 Burrowing Owl Study Area

Phase II surveys conducted in the 2011 Burrowing Owl Study Area identified five active burrows with visible burrowing owl sign including whitewash, pellets, and/or owls on the proposed gen-tie corridor and associated buffer areas, and two active burrowing owl burrows within the buffer areas surveyed on the alternative gen-tie corridor. The locations of these burrows identified during 2011 Phase II surveys are depicted in Figure 8. Figure 8 also includes the locations of all observations of burrowing owl individuals recorded within the Study Area.

Out of the five active burrowing owl burrows identified during surveys of the proposed gen-tie, only one was located within the 100-foot proposed gen-tie corridor, and the other four were located within 200-300 feet of the proposed gen-tie corridor. The two active burrowing owl burrows identified during surveys of the alternative gen-tie were both found in the buffer areas within approximately 300-450 feet of the alternative gen-tie corridor. Phase III surveys were not conducted on the active burrowing owl burrows identified on the proposed and alternative gen-ties in 2011. These burrows will be checked prior to construction and Phase III surveys will be conducted on these burrows if they are determined to be active. Phase III surveys will also be conducted on any additional active burrowing owl burrows identified within the Study Area during pre-construction surveys.



Phase III Results

Gaskell Burrow

The Phase III survey of the Gaskell burrow took place on May 8, and June 23 - 25, 2010. During the May 8, 2010 observation, two adult burrowing owls and two chicks were observed at the burrow. The adults foraged on the proposed solar facility to a distance of approximately 50 meters from the burrow. On the first day of observation in June, four owls were seen at the burrow. However, on the final two days of observation in June, no owls were observed at the Gaskell burrow. A summary of the Phase III observations of the Gaskell burrow is provided in Table 5.

Table 5. Summary of 2010 Phase III Burrowing Owl Surveys at the Gaskell Burrow.

DATE & TIME	WIND & TEMPERATURE	NUMBER OF INDIVIDUALS OBSERVED	OBSERVATIONS
Date: May 8, 2010 Time: 1730-2030 Sunset: 1929	Wind: 10 – 25 mph Temp: 82°F	Adults: 2 Chicks: 2	Over the course of the observation period, the two adult owls frequently foraged successfully. Most foraging took place within 5 meters of the burrow, with a few forays extending out to about 40-50 meters. Insects constituted the largest form of prey, though one mouse species and one kangaroo rat were also captured. On all but one or two occasions the female adult would take prey from the male adult to feed to the chicks; on most occasions the male would offer the prey to the female before leaving to once again forage. The chicks emerged from time to time, spent most of the observation period underground.
Date: June 23, 2010 Time: 0506-0616 Sunrise: 0540	Wind: Calm Temp: 54°F	Individuals: 4 (Adults: 2)	Throughout the course of the observation period, owls are primarily observed perching, either on the burrow mound or on a large, dirt berm nearby. Two of the four owls are certainly adults, but due to nearby agricultural activity, visibility is diminished by dust and makes it impossible to distinguish the age class of the two remaining owls. During the first hour of the survey, one owl flies to the burrow from a distance of approximately 100 meters away.
Date : June 24, 2010 Time : 0520-0608 Sunset : 0540	Wind : 5-8 mph Temp: 6 °F	Adults: 0 Chicks: 0	No burrowing owl observations made on this date. Observer tried to detect owls from two locations. After 45 minutes, after no visible or audible owl sigh, the observer approached the burrow on foot. Though considerable sign was evident at burrow, no owls were seen or heard.
Date : June 25, 2010 Time : 0504-0538 Sunset : 0540	Wind: 5-8 mph Temp: 6 °F	Adults: none Chicks: none	No burrowing owl observations made on this date; no owls seen or heard by observer. Photos taken of burrow.

3.6 Other Special Status Wildlife

Birds

Loggerhead shrike (*Lanius ludovicianus*) is a SSC and year-round resident in parts of the Southern California desert. As a predatory bird its diet consists of insects, amphibians, small reptiles, small mammals, and other birds. Loggerhead shrikes occur across much of California excluding the far northern limits. In Southern California, they are more numerous in the desert regions than along the coast. Loggerhead shrike's highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, desert riparian, and Joshua tree habitats. They prefer open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Shrikes typically build nests one to three meters above the ground depending on the height of the vegetation.

Within the proposed solar facility, sixteen observations of loggerhead shrikes were recorded (Figure 9). One shrike was observed on the gen-tie included in the 2010 Study Area. In the 2011 Study Area eight shrikes were observed on the proposed gen-tie, and two shrikes were observed on the alternative gen-tie. Shrikes were observed individually, in pairs and in family groups. At least 5 of the shrikes observed were juveniles, some in the company of adults. Shrikes were most often observed perching, in trees and shrubs, such as tamarisk and creosote, and on utility poles and power lines. Their perches were often adjacent to open fields and fallow agriculture lands.

Loggerhead shrikes were observed throughout the 2010 and 2011 spring surveys, from early March until mid-June. Based on the amount and nature of observations made during the surveys, loggerhead shrikes are likely year-round residents within the Study Area.

Ferruginous hawk (*Buteo regalis*) is raptor species on the CDFG's Watch List. This species typically nests in northern latitudes of North America and over-winters in southern regions of the U.S. from Texas to California. Migrant ferruginous hawks are a regular but uncommon during spring and fall in California's southern desert region. Over-wintering hawks are often associated with grassland and agricultural areas within Southern California, but they are not known to breed in the state (CDFG 2010). Ferruginous Hawks roost in open areas, usually in a lone tree or utility pole. They are expected to forage within the open grasslands, agricultural lands, and scrub of the Study Area.

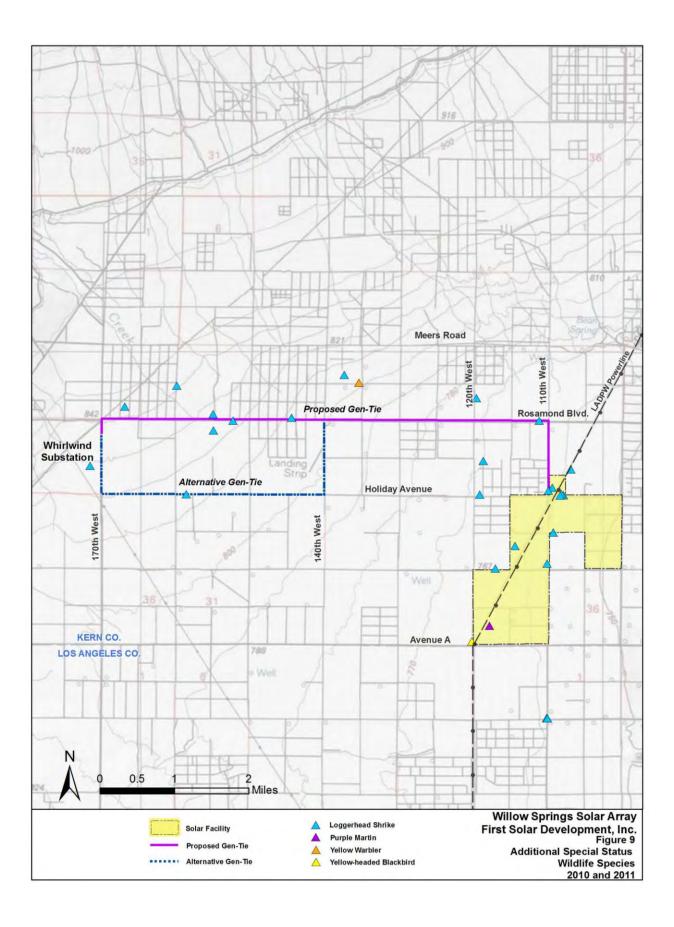
Twenty-three ferruginous hawk observations were recorded during 2010 biological surveys on the proposed solar facility and along the gen-tie included in the 2010 Study Area. Based on the fact that many of these observations were likely of the same individual hawk, it is estimated that the number of

observations represents a greater number of hawks that were actually present. Ferruginous hawks were first observed and recorded in the vicinity of the proposed solar facility in early March 2010. A pair was seen resting on the ground in a fallow agriculture field on the proposed solar facility. The next day, a juvenile hawk was observed flying over the proposed solar facility. A dark morph, juvenile ferruginous hawk was observed flying over the gen-tie in early March. The remaining observations were recorded in early April on the proposed solar facility, during Swainson's hawk surveys. Two light juvenile ferruginous hawks were detected on the north side of a tamarisk wind row intersecting the southern portion of the proposed solar facility. The remaining observations of ferruginous hawks took place over multiple days in an actively farmed alfalfa field within the proposed solar facility. One observation conducted during this time recorded one adult and six juvenile ferruginous hawks perched on trees, on the road or flying over the alfalfa field. A final observation of an adult ferruginous hawk was recorded on April 19, 2010. This individual was observed sitting on the road next to the alfalfa field located on the proposed solar facility. The locations of ferruginous hawk observations are included in Figure 5, which includes all raptor observations within the 2010 Study Area.

Two ferruginous hawk observations were recorded during 2011 biological surveys on the proposed solar facility. Two juvenile hawks were observed in the fallow agricultural field in the southern portion of the proposed solar facility during Swainson's hawk surveys on March 21, 2011. The second observation of an individual adult ferruginous hawk also took place on the solar facility site and was recorded on April 14, 2011 during botanical surveys. The locations of ferruginous hawk observations are included in Figure 6, which includes all raptor observations within the 2011 Study Area.

Cooper's Hawk (*Accipiter cooperii*) is a is raptor species on the CDFG's Watch List. Native to the North American continent and found from Canada to Mexico, the Cooper's hawk prefers forests and open woodlands, although desert regions with areas of dense vegetation can also serve as habitat for this hawk. Though once thought to avoid developed lands and cities, Cooper's hawks are now fairly common in urban and suburban areas. The hawk preys mostly on small birds and mammals, though in the desert environment it is also believed to include lizards and snakes in its diet.

One Cooper's hawk was observed flying overhead on the proposed solar facility during the course of a burrowing owl survey. The location of the Cooper's hawk observation is mapped on Figure 5, which includes all raptor observations within the 2010 Study Area.



Golden eagle (Aquila chrysaetos) is a SSC. Golden eagles and their primary prey species, jackrabbits, have declined in the California desert regions due to prolonged drought conditions that have persisted since 1998 (WRI 2010). Breeding in Southern California starts in January, nest building and egg laying in February to March, and hatching and raising the young eagles occur from April through June. Once the young eagles are flying on their own, the adult eagles will continue to feed them and teach them to hunt until late November.

One golden eagle was observed during Swainson's hawk surveys in 2011 approximately 3.0 miles from the proposed gen-tie and approximately 7.0 from the solar facility site. The eagle was flushed from the side of a dirt road where it appeared to be feeding on a sheep carcass. The location of the golden eagle observation is mapped on Figure 6, which includes all raptor observations within the 2011 Study Area.

Prairie falcon (*Falco mexicanus*) is a SSC that breeds throughout the arid West from southern Canada to central Mexico. The overall distribution appears to be stable. In the desert they are found in all vegetation types, although sparse vegetation provides the best foraging habitat. The Prairie Falcon preys mostly on small mammals and birds captured in flight. It often hunts by flying fast and low, to ambush prey as it comes over the terrain or around a bush. It also pursues prey sighted from a perch, again often flying very low.

One prairie falcon was observed on the proposed solar facility during the course of a Mojave ground squirrel survey in 2010. The falcon was observed flying over the southern portion of the proposed solar facility north of Gaskell Rd. and east of the Los Angeles Department of Water and Power transmission line. The location of the prairie falcon observation is mapped on Figure 5, which includes all raptor observations within the 2010 Study Area.

Northern harrier (*Circus cyaneus*), a SSC, is a raptor species that occurs in a wide range of habitats throughout North America. In Southern California, harriers typically nest and forage in open habitats that provide adequate vegetative cover, suitable prey base, and scattered perches such as shrubs or fence posts. Harriers are ground-nesting birds and in the southern California desert, suitable habitat is limited (Shuford 2008). Some individuals seasonally migrate into California (CDFG 2010).

During 2010 surveys one observation of a female northern harrier was recorded on the proposed solar facility. The harrier was seen foraging on the southern portions of the proposed solar facility north of

Gaskell Rd. and west of the Los Angeles Department of Water and Power transmission line. The location of the northern harrier observation is mapped on Figure 5, which includes all raptor observations within the 2010 Study Area.

Eight observations of northern harriers were recorded during 2011 surveys. Seven were observed along the proposed and alternative gen-tie corridors, and one was observed during Swainson's hawk surveys over the fallow agricultural field in the southern portion of the solar facility. All northern harriers were observed foraging flying low over agricultural fields or desert scrub habitats. The locations of the northern harrier observations are mapped on Figure 6, which includes all raptor observations within the 2011 Study Area.

Purple martin (*Progne subis*), a State Species of Special Concern (breeding), occurs locally in Pacific Coast states. This species occurs as a summer resident and migrant from mid-March to late September; and is widely but locally distributed in forest and woodland area at low to intermediate elevations. The Tehachapi Mountains, north of the Project, are thought to be the last location in California where martins regularly nest in oak woodland habitats (Airola and Williams 2008). A single purple martin was observed on the southern portion of the proposed solar facility north of Gaskell Rd. and west of the Los Angeles Department of Water and Power transmission line on April 28, 2010 flying over the site (Figure 9).

Yellow-headed blackbird (*Xanthocephalus xanthocephalus*), a State Species of Special Concern (breeding), occurs primarily as a migrant and summer resident from April to early October, in California. This species breeds almost exclusively in marshes with tall emergent vegetation, generally in open areas and edges over relatively deep water (Jaramillo 2008). A single yellow-headed black bird was observed in 2010 on the southern portion of the proposed solar facility in a mixed blackbird flock adjacent to alfalfa fields north of Gaskell Rd. and east of 110th Street W (Figure 9).

Mammals

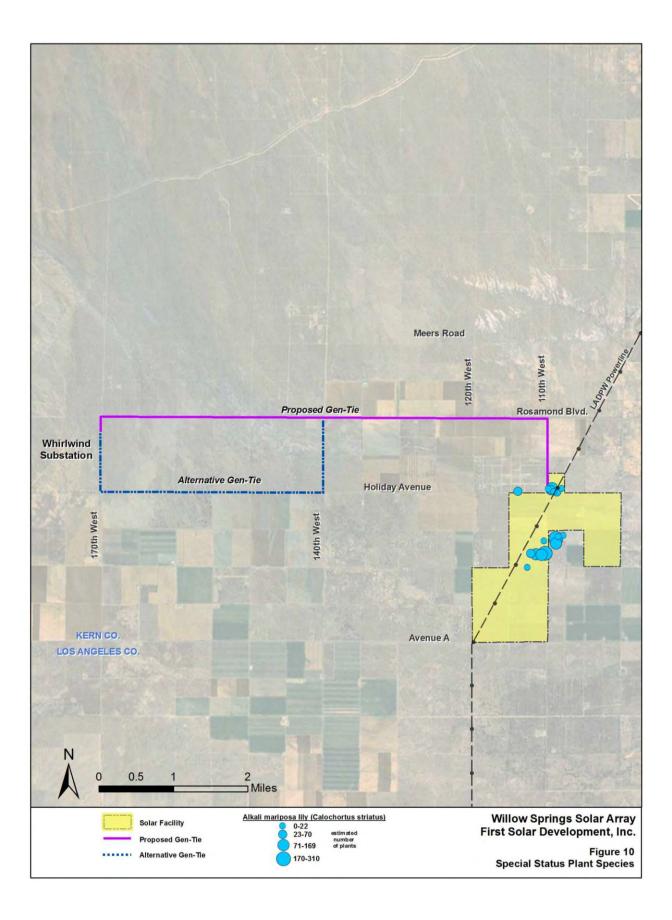
American badger (*Taxidea taxus*) is a SSC that inhabits open shrub areas throughout the California desert. They require friable soils for building burrows and sufficient rodent population. Badgers eat small and medium-sized mammals, terrestrial insects, invertebrates, reptiles, small and medium-sized birds, and eggs (CDFG 2010). This species was not observed during the 2010 and 2011 surveys. However, one potential badger dig was noted in 2010 on the proposed solar facility in fallow agricultural land south of Gaskell Road between 110th and 120th Streets West. Suitable habitat and adequate prey for badger is

found throughout the Project although no sign was found during 2010 and 2011 surveys, therefore this species has a moderate potential to occur.

Desert kit fox (*Vulpes macrotis arsipus*) has not traditionally been considered a "special-status" species and it does not occur on CDFG's Special Animals List, although CDFG is moving towards protection for the desert kit fox. According to the CDFG "take" of desert kit fox is prohibited for any reason (CCR, Title 14, Chapter 5, Section 460) and if any active or potential dens are found on any site consultation with CDFG regarding appropriate avoidance and minimization measures would be warranted. The desert kit fox is a nocturnal species that inhabits open shrub areas throughout the California desert. They require friable soils for building burrows and sufficient rodent population. Desert kit foxes primary prey item consists of nocturnal rodent species including Merriam's kangaroo rat (*Dipodomys merria*). Additional prey items include black-tailed jackrabbits (*Lepus californicus*), and desert cottontails (*Sylvilagus auduboni*), birds, reptiles, and terrestrial insects. This species was not observed during the 2010 and 2011 surveys. Suitable habitat and adequate prey for desert kit fox is found throughout the Project, therefore this species has a moderate potential to occur.

3.7 Special Status Plants

Only one special status plant species, the alkali mariposa lily, *Calochortus striatus*, was observed in the 2010 Botanical Study Area. This species was observed incidentally during desert tortoise and Phase II burrowing owl surveys conducted within the Study Area from May 8-11, 2010. No special status plant species were identified along the proposed and alternative gen-ties west of 140th Street West included in the 2011 Botanical Study Area. The largest concentrations of lilies were observed within two general locations on the proposed solar facility. Both of these locations were estimated to include several hundred individuals. One large concentration of lilies was located north of the Gaskell Street and 110th Street West intersection, in desert saltbush scrub habitat. The other concentration of alkali mariposa lilies was located in the vicinity of the Holiday Avenue and 110th West intersection, also within in desert saltbush scrub habitat. Locations of alkali mariposa lilies within the 2010 Botanical Study Area are mapped on Figure 10. Figure 10 location data also includes estimates of numbers of individual alkali mariposa lilies observed.



4.0 DISCUSSION AND RECOMMENDATIONS

4.1 Discussion

Resources are discussed here for which additional surveys or avoidance, minimization and mitigation measures are recommended in Section 4.2 below. These include:

- 1. Alkali mariposa lily
- 2. Swainson's hawk and other nesting raptors (including ferruginous hawk, Cooper's hawk, prairie falcon, and northern harrier)
- 3. Desert tortoise and burrowing owl
- 4. Nesting songbirds (also including loggerhead shrike, purple martin, and yellow-headed blackbird)
- 5. Mohave ground squirrel
- 6. Desert kit fox and American badger

4.2 Recommendations

4.2.1 General Recommendations

Avoidance and Minimization

It is recommended that native habitats should be avoided to the maximum extent possible during project development and engineering. Areas known to support special status species (i.e., Swainson's hawk nests), should be avoided during project design if possible. If avoidance of impacts to native habitats and special status species is not feasible, then it is recommended that minimization measures to limit the degree or magnitude of the impact be developed and implemented.

Seasonal Restrictions

To the extent possible construction activities should be restricted to periods which result in minimal disturbance to special status wildlife species. It is recommended that construction activities be conducted outside the typical breeding bird season (15 February - 15 September).

Worker Awareness Training

Due to the presence of a special status species within the Study Area, it is recommended that a worker awareness training be conducted for all participating employees, construction and maintenance personnel, and other authorized to implement actions. Instruction should include training on distribution, general ecology and behavior, regulatory status and statues (e.g., California Endangered Species Act and Federal Endangered Species Act), reporting procedures, and penalties for non-compliance. The worker awareness training may consist of a video or class presented by a Qualified Biologist. It is recommended that workers be provided reference materials to assist in identification of listed species and information, including, contact information for reporting requirements.

Agency Coordination

The California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS) should be contacted prior to finalization of project design. The results described in this BRTR should be conveyed to these agencies to determine if additional assessments are necessary. Early coordination may also reveal additional methods in minimizing impacts to biological resources during project design and implementation. Agency coordination would also help determine appropriate mitigation for impacts resulting from project implementation.

4.2.2 Alkali Mariposa Lily

If pre-construction surveys conducted for desert tortoise and burrowing owl (see section 4.2.4 below) are conducted during the blooming period for alkali mariposa lily (April-June), they would also identify current locations of this species. The Project MMR will discuss detailed steps that will be taken to avoid or attempt to transplant this species. If construction is planned for outside the blooming period of this species, the Project will attempt to avoid those areas where the highest concentrations of this species were found.

4.2.3 Swaison's Hawk and other Nesting Raptors

Coordination with the CDFG is required to determine the need for an Incidental Take Permit pursuant to Section 2081 of the California Department of Fish and Game Code for the state-listed (threatened) Swainson's hawk. A Mitigation and Monitoring Report (MMR) that includes avoidance, minimization and mitigation measures for Swainson's hawk is recommended and may be required under CEQA for this project. Other raptor nests should be avoided to the extent possible during project development and construction.

4.2.4 Desert Tortoise and Burrowing Owl

A Mitigation and Monitoring Report (MMR) that includes avoidance, minimization and mitigation measures for desert tortoise and burrowing owl is recommended and may be required under CEQA for this project. For both desert tortoise and burrowing owl, a pre-construction survey will be required (which can often be done concurrently) to determine the location of these species immediately prior to construction, typically within 30 days of initial vegetation removal activities. If desert tortoises are identified on the Project at that time and they cannot be avoided, they would be translocated under a Translocation Plan approved by both USFWS and CDFG. Burrowing owls would be passively relocated during the non-breeding season (September 1-January 31) by CDFG approved methods included in the project's MMR.

4.2.5 Nesting Songbirds

If the active nesting season of 15 February - 15 September cannot be avoided, then specific nest avoidance of active nests is recommended to avoid impacts to these resources. During pre-construction surveys, active nests would be located and flagged for avoided, with appropriate buffer distances based on the individual species.

4.2.6 Mohave ground Squirrel

Mohave ground squirrel was determined absent from the potential habitat on the proposed solar facility in 2010. Habitat along the gen-tie alternatives has not been studied for this species. Prior to completion of CEQA analysis, protocol trapping for this species along the approximately 6.5 miles of habitat along these alternatives is recommended and additional trapping may be required by CDFG within the year immediately prior to construction.

4.2.7 Desert kit fox and American Badger

The Project MMR will include specific avoidance and minimization measures for dens and burrows of desert kit fox (*Vulpes macrotis arsipus*) and American badger (*Taxidea taxus*) that would be directly affected by construction. Specific measures will be included to address the excavation of inactive desert kit fox and American badger dens to prevent reuse by kit fox and badgers. Additional measures, including passive relocation techniques approved by CDFG, will be included to address active desert kit fox and American badger burrows and dens that would be affected by construction.

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Appendix A

PLANT SPECIES OBSERVED ON THE WILLOW SPRINGS SOLAR ARRAY SITE AND GEN-TIE LINE

ASCLEPIADACEAE – Milkweed

Asclepias erosa ² APIACEAE – Carrot Lomatium mohavense ²

ASTERACEAE – Sunflower

Acamptopappus sphaerocephalus 1 Ambrosia acanthacarpa¹ Ambrosia dumosa¹ Ambrosia salsola 1 Artemesia spinescens¹ Chaenactis carphoclinia Chaenactis fremontii Chamomila suaveolens Chrysothamnus nauseosus 1 Coreopsis bigelovii² Encelia actoni 2 Ericameria cooperi 1 Ericameria linearifolia 1 Gutierrezia micrcephala 1 Gutierrezia sarothrae Helianthus annuus 1 Lasthenia californica 1 Layia glandulosa 1 Lepidospartum squamatum² Lessingia lemmonii 1 Malacothrix glabrata 1 Psathyrotes annua Stephanomeria exigua 1 Stephanomeria parryi¹ Stephanomeria pauciflora¹ Tetradymia axillaris² Tetradymia spinosa Tetradymia stenolepis² Uropappus lindleyi² Xylorhiza tortifolia **BORAGINACEAE – Borage** Amsinckia menziesii var. menziesii 2 Amsinckia tessellate 1 Cryptantha sp. 1

Cryptantha micrantha Cryptantha recurvata Heliotropium curassavicum

Common Name

Desert Milkweed

Mohave Wild Parsley

Golden Head Annual Bursage White Bursage Cheesebush Budsage Pebble Pincushion Fremont's Pincushion Pineapple plant Rabbitbrush **Bigelow Coreopsis** Acton Encelia Cooper's Goldenbush Interior Goldenbush Sticky Snakeweed **Broom Snakeweed** Common Sunflower Goldfields White Layia Scalebroom Lemmon's Lessingia Desert Dandelion Annual Turtleback Small Wirelettuce Parry's Wirelettuce Wirelettuce Longspine Horsebrush Spiny Horsebrush Mojave Horsebrush Silver Puffs Mojave Aster

Menzies' Fiddleneck Devil's Lettuce

Redroot Cryptantha Curvenut Cryptantha Heliotrope

Pectocarya heterocarpa² Pectocarya penicillata 1 Pectocarya platycarpa 1 Plagibothrys arizonicus² **BRASSICACEAE – Mustard** Descurainia pinnata Descurainia Sophia¹ Hirschfeldia incana Lepidium fremontii 1 Sisymbrium altissimum 1 Sisymbrium irio² **CACTACAE – Cactus** Cylindropuntia echinocarpa² Opuntia basilaris var. basilaris² **CAPPARACEAE – Caper** Isomeris arborea ² **CHENOPODIACEAE – Goosefoot** Atriplex canescens Atriplex confertifolia 1 Atriplex polycarpa 1 Grayia spinosa 1 Krascheninnikovia lanata 1 Salsola tragus 1 Suaeda moquini CONVOLVULACEAE – Morning-glory Convolvulus arvensis CUCURBITACEAE – Gourd Marah fabaceus² **CUPRESSACEAE – Juniper** Juniperus sp.² **EPHEDRACEAE – Ephedra** Ephedra nevadensis 1 **EUPHORBIACEAE – Spurge** Chamaesyce albomarginata 1 Eremocarpus setigerus 1 FABACEAE – Legume Astragalus didymocarpus var. didymocarpus ² Astragalus lentiginosus var. variabilis 1 Lupinus sp. 2 Lupinus concinus² Lupinus microcarpus² **GERANIACEAE – Geranium** Erodium cicutarium 1

Common Name

Chuckwalla Combseed Sleeping Combseed Broadfruit Combseed Arizona Popcornflower

Tansy Mustard Flix Weed Shortpod Mustard Bush Peppergrass Tumble Mustard London Rocket

Silver Cholla Beavertail Cactus

Bladderpod

Four-wing Saltbush Spiny Saltbush Cattle Spinach Hop Sage Winter Fat Russian Thistle **Bush Seepweed** Morning Glory Wild Cucumber Juniper (non-native) Nevada Ephedra Rattlesnake Weed Dove Weed Dwarf White Milkweed Freckled Milkvetch Lupine species Bajada Lupine

Chick Lupine

Crane's Bill Filaree

HYDROPHYLLACEAE – Phacelia

Phacelia crenulata Phacelia distans 1 Phacelia ramocissima² LAMIACEAE – Mint Marrubium vulgare 1 Salvia columbariae² LILIACEAE - Lily Dichelostoma pulchellum Calochortus striatus 1 Yucca brevifolia 1 LOASACEAE - Loasa Mentzelia albicaulis Mentzelia sp. **MALVACEAE – Mallow** Eremalche exilis² **OLEACEAE – Ash** Fraxinus sp. 2 **ONAGRACEAE – Evening Primrose** Camissonia boothi Camissonia campestris² Camissonia claviformis 2 Camissonia pallida 2 Oenotheria primiveris ssp. Bufonius² **PAPAVERACEAE – Poppy** Escholzia californica² Escholzia minutiflora 1 **PINACEACE – Pine** Pinus sp. 2 **POACEACE – Grass** Achnatherum hymenoides¹ Achnatherum speciosum 1 Avena fatua Brassica tournefortii Bromus diandrus² Bromus madritensis rubens 1 Bromus tectorum 1 Bromus trinii 2 Cynodon dactylon Elymus elymoides 1 Hordeum murinum ssp. leporinum ¹ Hordeum vulgare 1 Poa secunda²

Common Name

Notch-leaf Phacelia Lace-leaf Phacelia Branch Leaf Phacelia

Horehound Chia

Blue Dick Alkali Mariposa Lily Joshua Tree

Small Flowered Blazing Star

White Mallow

Ash Tree

Booth's Primrose Mojave Sun Cup Brown-eyed Primrose Pale Yellow Sun Cup Desert Evening Primrose

California Poppy Pygmy Goldenpoppy

Pine Tree

Indian Ricegrass Desert Needlegrass Wild Oat Asian Mustard Ripgut Brome Red Brome June Grass Chilean Chess Bermuda Grass Squirreltail Bulbous Barley Common Barley Pine Bluegrass

Scientific Name	Common Name
Schismus barbatus ¹	Common Mediterranean Grass
Triticum aestivum ²	Common Wheat
Vulpia microstachys var. pauciflora ²	Pacific Fescue
Vulpia myuros ²	Foxtail Fescue
POLEMONIACEAE – Phlox	
Eriastrum eremicum ²	Desert Woollystar
<i>Gilia</i> sp. ¹	
Gilia cana ²	Showy Gilia
Loeseliastrum matthewsii	Desert Calico
Loeseliastrum schotti	Schott's Calico
POLYGONACEAE – Buckwheat	
Chorizanthe brevicornu	Brittle Spineflower
Chorizanthe watsonii	Watson's Spineflower
Eriogonum angulosum	Angle-stem Buckstem
Eriogonum deflexum	Flat-topped Buckwheat
Eriogonum fasciculatum var. polifolium ¹	E. Mojave Buckwheat
Eriogonum maculatum	Spotted Buckwheat
Eriogonum nidularium	Birdnest Buckwheat
Eriogonum plumatella ²	Yucca Buckwheat
Oxytheca perfoliata	Punctured Bract
Rumex crispus ²	Curly Dock
Rumex hymenosepalus ¹	Wild Rhubarb
SOLANACEAE – Nightshade	
Datura wrightii ¹	Jimson Weed
Lycium andersonii 1	Anderson's Boxthorn
Lycium cooperi ¹	Cooper's Boxthorn
Solanum elaeagnifolium	White Horse Nettle
TAMARICACEAE – Tamarisk	
Tamarix aphylla ¹	Athel Tree
Tamarix ramosissima ¹	Tamarisk
TYPHACEAE – Cattail	
Typha sp. ²	Cattail
ZYGOPHYLLACEAE – Caltrop	
Larrea tridentata 1	Creosote Bush
Tribulus terrestris	Puncture Vine

All plant species above were observed within the proposed solar facility site unless otherwise noted. ¹ Indicates plant species observed on solar facility site and Gen-Tie Line.

² Indicates plant species only observed on the Gen-Tie Line.

Appendix B

WILDLIFE SPECIES OBSERVED ON THE WILLOW SPRINGS SOLAR ARRAY SITE AND GEN-TIE LINE

Scientific Name	Common Name
REPTILES	
Phrynosomatidae – Zebra-tailed, Earless, Fringe-toe	d, Spiny, Tree, Side-blotched, and Horned Lizards
Uta stansburiana	Side-blotched lizard
Teiidae – Whiptails and Racerunners	
Aspidoscelis tigris	Western whiptail
Colubridae – Colubrids	
Pituophis catenifer	Gopher snake
Viperidae – Vipers	
Crotalus cerastes	Sidewinder
Crotalus scutulatus scutulatus	Mojave rattlesnake
BIRDS	
Anatidae – Ducks and Geese	
Anas platyrhynchos	Mallard
Odontophoridae – New World Quail	
Calipepla californica	California quail
Phalacrocoracidae – Cormorants	
Phalacrocorax auritus	Double-crested cormorant
Ardeidae – Herons and Bitterns	
Ardea alba	Great egret
Egretta thula	Snowy egret
Threskiornithinae – Ibises and Spoonbills	
Plegadis chihi	White-faced ibis
Cathartidae – New World Vultures	
Cathartes aura	Turkey vulture
Pandionidae – Osprey	
Pandion haliaetus	Osprey
Accipitridae – Hawks, Kites, and Eagles	
Circus cyaneus	Northern harrier
Accipiter cooperii	Cooper's hawk
Buteo lineatus	Red-shouldered hawk
Buteo swainsoni	Swainson's hawk
Buteo jamaicensis	Red-tailed hawk
Buteo regalis	Ferruginous hawk
Buteo lagopus¹	Rough legged hawk
Aquila chrysaetos ¹	Golden eagle
Falconidae – Caracaras and Falcons	

Scientific Name	Common Name
Falco sparverius	American kestrel
Falco mexicanus	Prairie falcon
Charadriidae – Lapwings and Plovers	
Charadrius vociferus ¹	Killdeer
Scolopacidae – Sandpipers and Phalaropes	
Numenius phaeopus ¹	Whimbrel
Numenius americanus	Long-billed curlew
Columbidae – Pigeons and Doves	
Columba livia ¹	Rock dove
Streptopelia decaocto	Eurasian collared-dove
Zenaida macroura	Mourning dove
Neomorphinidae – Cuckoos and Roadrunners	
Geococcyx californianus ¹	Greater roadrunner
Tytonidae – Barn and Ashy-faced Owls	
Tyto alba	Barn owl
Strigidae – Typical Owls	
Bubo virginianus	Great horned owl
Athene cunicularia	Burrowing owl
Caprimulgidae – Nighthawks and Nightjars	
Chordeiles acutipennis	Lesser nighthawk
Trochilidae – Hummingbirds	
Calypte costae	Costa's hummingbird
Picidae – Woodpeckers	
Colaptes auratus	Northern flicker
Tyrannidae – Tyrant Flycatchers	
Contopus cooperii	Olive-sided flycatcher
Empidonax difficilis	Pacific-slope flycatcher
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Myiarchus cinerascens	Ash-throated flycatcher
Tyrannus verticalis	Western kingbird
Laniidae – Shrikes	
Lanius Iudovicianus	Loggerhead shrike
Vireonidae - Vireos	
Vireo gilvus	Warbling vireo
Corvidae – Crows and Jays	
Pica hudsonia	Black-billed magpie

Scientific Name	Common Name		
Corvus corax	Common raven		
Alaudidae – Larks			
Eremophila alpestris	Horned lark		
Hirundinidae – Swallows			
Tachycineta bicolor	Tree swallow		
Tachycineta thalassina	Violet-green swallow		
Petrochelidon pyrrhonota	Cliff swallow		
Hirundo rustica	Barn swallow		
Progne subis	Purple martin		
Stelgidopteryx serripennis	Northern rough-winged swallow		
Troglodytidae – Wrens			
Campylorhynchus brunneicapillus ¹	Cactus wren		
Regulidae – Kinglets			
Regulus calendula	Ruby-crowned kinglet		
Turdidae – Thrushes			
Catharus guttatus	Hermit thrush		
Sialia currucoides	Mountain bluebird		
Mimidae – Mockingbirds and Thrashers			
Mimus polyglottus	Northern mockingbird		
Sturnidae – Starlings			
Sturnus vulgaris	European starling		
Ptilogonatidae – Silky-Flycatchers			
Phainopepla nitens	Phainopepla		
Parulidae – Wood-Warblers			
Dendroica coronata	Yellow-rumped warbler		
Dendroica nigrescens	Black-throated gray warbler		
Geothlypis trichas	Common yellowthroat		
Wilsonia pusilla	Wilson's warbler		
Emberizidae – Towhees, Sparrows, and Longspurs			
Pipilo maculatus ¹	Spotted towhee		
Chondestes grammacus	Lark sparrow		
Amphispiza bilineata	Black-throated sparrow		
Amphispiza belli	Sage sparrow		
Zonotrichia leucophrys	White-crowned sparrow		
Junco hyemalis	Dark-eyed junco		
Cardinalidae – Cardinals			
Piranga ludoviciana	Western tanager		

Scientific Name	Common Name
Pheucticus melanocephalus	Black-headed grosbeak
Passerina caerulea	Blue grosbeak
Icteridae – Blackbirds	
Agelaius phoeniceus ¹	Red-winged blackbird
Sturnella neglecta	Western meadowlark
Xanthocephalus xanthocephalus	Yellow-headed blackbird
Euphagus cyanocephalus ¹	Brewer's blackbird
Molothrus ater	Brown-headed cowbird
Icterus cucullatus	Hooded oriole
lcterus bullockii	Bullock's oriole
Fringillidae – Finches	
Carpodacus mexicanus ¹	House finch
Carduelis psaltria	Lesser goldfinch
Carduelis lawrencei	Lawrence's goldfinch
Passeridae – Old World Sparrows	
Passer domesticus	House sparrow
MAMMALS	
Canidae – Dogs, Foxes, and Allies	
Canis latrans	Coyote
Vulpes macrotis	Kit fox
Sciuridae – Squirrels	
Ammospermophilus leucurus	White-tailed antelope squirrel
Spermophilus beecheyi	California ground squirrel
Heteromyidae – Pocket Mice and Kangaroo Rats	
Dipodomys microps	Chisel-toothed kangaroo rat
Muridae – Rats, Mice, Voles, and Allies	
Peromyscus species	Deer mouse
Leporidae – Rabbits and Hares	
Sylvilagus audubonii	Audubon's cottontail
Lepus californicus	Black-tailed jackrabbit

¹ Observed on Gen-Tie Line only.

Appendix E Letter from Dr. Jim Estep to First Solar re: Swainson's hawk, dated May, 2015



MEMO Date: June 2, 2015 To: Anne Mudge – Cox, Castle & Nicholson From: Jim Estep – Estep Environmental Consulting Subject: Compensatory Mitigation Options to Address Impacts on Swainson's Hawk for Willow Springs Solar Energy Project

The following summarizes my professional opinion regarding the status of the statethreatened Swainson's hawk in the Antelope Valley, the role of agricultural expansion and subsequent decline in the distribution and abundance of the species, and the need for and extent of compensatory mitigation to offset impacts from the Willow Springs solar energy project.

The Swainson's hawk occurs in the vicinity of the proposed Willow Springs solar energy project in Antelope Valley in southern Kern County. The species' range includes the Antelope Valley and the larger Mojave Desert region, but it naturally occurs there in low breeding densities compared with other portions of its California range that mainly include the Central Valley and Great Basin deserts. While small, in my opinion the breeding population found in the Antelope Valley is unusually dense for the Mojave Desert and is largely a result of conversion of native desert to irrigated agriculture. The relationship of Swainson's hawk breeding distribution and agricultural landscapes is well-documented throughout its California range. In the Antelope Valley, irrigated agriculture, especially alfalfa production, along with the planting of ornamental trees along field borders and roadsides, has created higher value nesting and foraging habitat, for which the Swainson's hawk has exploited resulting in a small, isolated nesting population that has typically numbered between 4 and 14 breeding pairs each year since at least the early 2000s.

Farming in the Antelope Valley has relied to large extent on ground water for irrigation. Over several decades, over-drafting has substantially reduced the availability of this resource resulting in significant ground subsidence, increased costs, and widespread abandonment of farming throughout the Antelope Valley. The condition and habitat value of abandoned farm fields ranges from those that contain no vegetation and support no value to Swainson's hawks to those that support a variety of invasive weeds and in some cases early successional desert shrubs and support marginal habitat for Swainson's hawks. Many of the nonnative trees associated with these abandoned agricultural lands that relied on irrigation water for growth and survival have either died or are in a declining condition. In my opinion, the result of previous and ongoing farmland abandonment in the Antelope Valley is the loss of higher value nesting and foraging habitat ultimately leading to a decline in this isolated nesting population. It is likely that over time, the nesting population will revert back to its low density pre-agricultural distribution.

In the meantime, in 2010 the California Department of Fish and Wildlife issued guidelines for surveying, assessing impacts, and mitigating for losses of Swainson's hawk foraging habitat in the Antelope Valley. Among the mitigation recommendations is compensatory mitigation for losses of foraging habitat. The recommended ratio is 2:1 (acquire in fee or easement 2 acres of habitat for each acre of habitat removed). The guidelines do not address the history of Swainson's hawk distribution and abundance in the Antelope Valley as it relates to agricultural expansion nor do they address the potential for decline of this small population in the event that the extent of irrigated agriculture is reduced due to farmland abandonment.

I have reviewed the environmental impact report (Kern County 2015) and related documentation for the Willow Springs solar energy project in Kern County. The project occurs within an area where many of the reported Swainson's hawk nests have been or continue to be reported. However, most of the land within the project area is abandoned farmland. I generally agree with the EIR assessment of the condition of the foraging habitat as low quality and that associated trees, including some that have supported active Swainson's hawk nests, are dead or dying. As the EIR indicates, the project area may not be suitable or available for long-term agricultural use due to a history of over-drafting ground water and subsequent subsidence. In other words, this area may not be, and in my opinion should not be, restored to active agricultural use.

Still, as reported in the 2014 Focused Swainson's Hawk Survey Report (Ironwood Consulting 2014), the area continues to support several pairs of nesting Swainson's hawks. While there remains some active agriculture in the vicinity that is considered higher value foraging habitat, some of the abandoned farm fields in the project area continue to support marginal foraging habitat, which may be occasionally used by Swainson's hawks. There also continue to be some non-native trees in the vicinity that, while in decline, continue to provide suitable nesting opportunities, several of which were found to be occupied during the 2014 surveys. Therefore, while in my opinion the Swainson's hawk will continue to decline due to farmland abandonment, the project meets the conditions in the CDFW guidelines for which compensatory mitigation is recommended.

The EIR indicates that the proposed project would have an incremental contribution to a cumulative loss of low-quality foraging habitat for Swainson's hawk. I agree with this assessment. However, the Draft EIR considers this impact to be significant and unavoidable (Table 5-1, page 5-3 of the EIR) and does not include compensatory mitigation to address the impact.

Because the Swainson's hawk continues to occur on and in the vicinity of the proposed Willow Springs solar energy project, it is reasonable to conclude that the project would remove low value habitat near several active nests and possibly accelerate the likely abandonment of some of these nesting territories. Therefore, it is reasonable to suggest compensatory mitigation as a viable mitigation option.

However, as I indicated above, in my opinion irrigated agriculture is likely not a viable future land use in the Antelope Valley and therefore the distribution and abundance of the species will likely revert back to the low density pre-agricultural condition. Preserving active irrigated agricultural lands in the Antelope Valley for purposes of Swainson's hawk conservation is therefore unlikely to provide long-term conservation value for the species. Therefore, in my opinion conservation efforts derived from compensatory mitigation should focus on preservation of native desert or grassland landscapes in the Antelope Valley, which will provide the greatest value for long-term sustainability of nesting Swainson's hawks and other native desert organisms.

The extent of compensatory mitigation should also reflect the value of the land impacted relative to the value of the land conserved. While irrigated agriculture in the Antelope Valley was likely responsible for the increase in the local population, once these farmlands are abandoned, which would occur with or without solar development, in most cases they represent low value foraging habitat for the Swainson's hawk. If these farmlands were active and would continue to be active, compensatory mitigation at a 2:1 ratio could be appropriate given the relatively small area of irrigated agriculture and the extent of proposed solar development projects in the region. However, because these lands represent low value habitat, because they are unlikely to be restored to active agriculture, and because in my opinion the distribution and abundance of the Swainson's hawk is likely to decline as farmlands continue to be abandoned, this level of compensatory mitigation is unreasonably high.

Native desert scrub and grassland habitats in the Antelope Valley represent the vegetation types that are likely to provide the highest value and most sustainable habitat conditions for Swainson's hawks in the future. These lands support substantially greater value than abandoned farmlands. While scaling mitigation based on habitat value is a standard approach to compensatory mitigation, there is no standardized method for doing so in this unusual situation. However, in my opinion a ratio of 0.5:1 is a reasonable starting point. This suggests that uncultivated grassland habitats and native desert scrub support twice the value of abandoned farmlands. A reasonable argument may be made that they in fact have even greater value in some cases.

I recommend that compensatory mitigation for the Willow Springs solar energy project be explored to offset habitat impacts to the Swainson's hawk. I further recommend that the mitigation be focused on native desert or grassland habitats in the Antelope Valley and that it be appropriately scaled to address the relative value of the abandoned farmland in the project area compared with the potential conservation area.

Appendix F Letter from Ironwood Consulting to First Solar re: Swainson's hawk, dated May 27, 2015



Mailing Address: PO Box 10068 San Bernardino, CA 92423 (909) 798-0330 phone and fax www.ironwoodbio.com

May 27, 2015

Willow Springs Solar, LLC Attention: Mr. Jack Pigott 135 Main Street, 6th Floor San Francisco, CA 94105

Subject: Willow Springs Solar SHWA Mitigation Review

Dear Mr. Pigott,

Ironwood Consulting, Inc (Ironwood) was requested to review the Willow Springs Solar Array Project (Project) site to assist Kern County and Willow Springs Solar, LLC in assessing the adequacy of the current and/or potentially proposed mitigation and minimization measures for Swainson's hawk (*Buteo swainsoni*) for the species. This is a brief explanation of this review and our recommendations.

The current scientific data on the species centered within Antelope Valley are limited with regard to Swainson's hawk nesting home range size and exact locations and amount of foraging habitat within this region. Studies for Swainson's hawk within California have historically been focused within the Central Valley, since approximately 95% of the breeding pairs of Swainson's hawks in California are located in the Central Valley (CDFG 2007). According to the 1993 5-year Status Review: Swainson's hawk (Buteo swainsoni) written by the California Department of Fish and Game Wildlife Management Division, the deserts of Southern California support much smaller populations (extremely low densities) of hawks than the Central Valley.

All individual Swainson's hawks belong to one species no matter where they reside in the state. Currently, there is no known, identified subspecies, distinct population segments, or evolutionary significant units formally described for Swainson's hawk. Thus, there is no biological distinction that correlates with geographical occupancy between the hawks that live within Antelope Valley and those that live elsewhere in the state. Although there may not be any genetic biological differences, as the species adapts to certain habitats, there are some differences in foraging and nesting behavior between various populations in the state (Estep 1989). The desert population of hawks also typically nest in Joshua trees (*Yucca brevifolia*) and planted non-native trees, whereas the Central Valley population of hawks is usually associated with riparian systems, including riparian forest (CDFG 1994).

Although the Central Valley hawk population is associated closely with riparian habitat, this does not appear to the case with the desert population. Within the Antelope Valley, current research suggests that the species usually forages in grasslands, Joshua tree woodlands and other desert



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scrub habitats that support a suitable prey base, including dry land, irrigated pasture, alfalfa, fallow fields, low growing crops, new orchards and cereal grain crops (DRECP Species Account 2012). Their prey base is primarily Botta's pocket gopher (*Thomomoys bottae*) in agricultural areas, and they have more varied prey within desert scrub and grasslands habitat (CEC and CDFW 2012). Like with other raptors, the predator-prey relationship is critical for the Swainson's hawk survival.

The Willow Springs site consists of fallow fields, and it has been five or more years since they have been actively farmed. Fallow fields are considered primary and/or secondary habitat for the hawk in many research documents throughout the state. The literature provides no distinction as to the proximity of fallow lands to active agriculture, the length of time the land has been fallow, the type of vegetation that has reestablished on the site, or the abundance of prey base for foraging hawks. The Willow Springs site would, given the current knowledge of the species' foraging habits within the region, be considered lower quality foraging habitat when compared to other foraging habitat types (i.e., irrigated pasture, active alfalfa, and other low-growing crops) that are available to the local population of Swainson's hawk.

Although the foraging habitat may not be optimal on the site, we found four nesting birds within six miles of the site, including one under a mile from the site. The density of nesting Swainson's hawks is higher in agriculture than in grasslands and desert scrub (Boal 2013). Thus, Ironwood would agree with biologist, Dr. Shawn Smallwood, when he states that the cluster of Swainson's hawk nesting around the Willow Springs project site has probably been due to the production of alfalfa hay in the project's vicinity. This is in all probability still the case as three nests are within one mile of active agricultural land, and one nest appears to be just over one and half miles from active agricultural lands using the latest aerials of the area. Swainson's hawks can fly up to 18 miles from their nest for foraging during nesting season; however, 10 miles is the typical distance utilized in most research reports. Not all habitat in a hawk's home range is utilized for foraging, but the Swainson's hawk nesting in this region would have other foraging opportunities, including alfalfa fields, in the potential home ranges.

When the Willow Spring Solar Project is viewed from a cumulative impact perspective, it would seem that proposed and existing renewable energy projects located close together within this area could have a measurable effect on available foraging habitat for the species. Given the absence of existing research on the amount of foraging habitat required for individual hawks or breeding pairs and various other elements that would determine a hawk's risk resulting from lands being converted, an alternate approach to a conservation-based objective, which would offset the possible effects of habitat conversion, would be to assess how impacts to this species are currently being mitigated for throughout California.

After reviewing existing guidelines, habitat conservation plans, and other guidance documents, it would appear that, for similar projects, the mitigation that has been accepted by many resource agencies for prime active agricultural habitat is compensatory mitigation ratios of 0.5:1 to 2:1.



Throughout the state the average mitigation ratio for active agricultural habitat for the species is 1:1. Although Ironwood could not determine any scientific research to support this ratio, it would seem that this is what has normally been associated with adequate mitigation land replacement for the species.

It should also be noted, with the current conservation strategy between 1979 to the 2005, there may have been an increase in the population according to the Bird Breeding Survey Swainson's hawk data for California (CDFW website). And according to a recently published paper, entitled *First Successful nesting on Swainson's hawk in Santa Clara County, California, Since the 1800s,* "...efforts toward Swainson's hawk conservation in California have allowed this species to recolonize some of its historical breeding range, or that it may be adapting to human modified habitats." (Phillips 2014) Although these higher population estimates may also be due to actively searching for the species and having better surveying techniques, these numbers may imply there are potentially more birds out there than originally found in baseline surveys across the state.

With the above information and taking into account the factors below, an acceptable level of compensatory mitigation for this project would be 0.5:1, which is consistent with similarly acceptable mitigation levels currently being utilized to offset impacts to the species throughout the state and considering the following factors:

- The site is made up of fallow fields and its source of water for agricultural production is severely limited;
- There are active alfalfa fields and/or other grain fields within the home range of the current hawk's nests;
- Minimization measures for direct and indirect impacts to the individual birds and their nests are being proposed; and
- Swainson's hawk in this region are not currently accepted as genetically different or completely isolated from for the rest of state's hawk populations.

Ironwood appreciates this opportunity to discuss Swainson's hawk and mitigation for the Willow Springs Array Project.

Sincerely, Senior Biologist/Project Mahager



Mailing Address: PO Box 10068 San Bernardino, CA 92423 (909) 798-0330 phone and fax www.ironwoodbio.com

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Boal, C.W., Nishida, C., DeStefano, S. and Hobbs R.J. 2013. Nesting Habitat and Productivity of Swainson's Hawks in Southerneastern Arizona. Journal of Raptor Research Dec 2013; Vol. 47, Issue 4 pg(s) 377-384 doi: 10.3356/JRR-12-16.2

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Appendix G Letter from Department of Conservation, Division of Land Resource Protection, re: Willow Springs Solar Array Notice of Preparation, dated April 7, 2010



DEPARTMENT OF CONSERVATION

DIVISION OF LAND RESOURCE PROTECTION

801 K STREET • MS 18-01 • SACRAMENTO, CALIFORNIA 95814 PHONE 916 / 324-0850 • FAX 916 / 327-3430 • TDD 916 / 324-2555 • WEBSITE conservation.ca.gov

April 7, 2010

VIA FACSIMILE: (661) 862-8601

Sara Kopp Kern County Planning Department 2700 M Street, Suite 100 Bakersfield, CA 93301

Dear Ms. Kopp:

Subject: Willow Springs Solar Array Notice of Preparation (Kern County) SCH#: 2010031023

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation for the Willow Springs Solar Array project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation Williamson (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's impacts on agricultural land and resources.

Project Description

The purpose of the Willow Springs Solar Array project is the construction of a 160 megawatt photovoltaic solar facility in Kern County. The project site is located in the northwestern portion of the Mojave Desert, within unincorporated Kern County, and within the jurisdiction of the Willow Springs Specific Plan. The project site is situated within the County approximately 4.25 miles north of the City of Lancaster, nine miles west of SR 14, 30 miles east of SR 99 and 11 miles south of the Tehachapi Mountains. The project site is comprised of approximately 1,402 acres and is generally bordered by Holiday Avenue to the north, 100th Street West to the east, West Avenue A to the south and 120th Street to the west.

The project site does not contain any Williamson Act contracts. However, according to the Department of Conservation Farmland Mapping and Monitoring Program (FMMP), the soils within the project boundaries are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the Division recommends that the Draft Environmental Impact Report (DEIR) address the following items to provide a comprehensive discussion of potential impacts of the project on agricultural land and activities:

The Department of Conservation's mission is to balance today's needs with tomorrow's challenges and foster intelligent, sustainable, and efficient use of California's energy, land, and mineral resources.

Ms. Sara Kopp April 7, 2010 Page 2 of 3

1. Agricultural Setting of the Project

 Location and extent of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and other types of farmland in and adjacent to the project area.
 Current and past agricultural use of the project area. Please include data on the types of crops grown, and crop yields and farm gate sales values. To help describe the full agricultural resource value of the soils on the site, the Department recommends the use of economic multipliers to assess the total contribution of the site's potential or actual agricultural production to the local, regional and state economies. Two sources of economic multipliers can be found at the University of California Cooperative Extension Service and the United States Department of Agriculture (USDA).

2. Project Impacts on Agricultural Land

- Type, amount, and location of farmland conversion resulting directly and indirectly from project implementation and growth inducement, respectively.
- Impacts on current and future agricultural operations; e.g., land-use conflicts, increases in land values and taxes, vandalism, etc.
- Incremental project impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely projects in the future.

Under California Code of Regulations section 15064.7, impacts on agricultural resources may also be both quantified and qualified by use of established thresholds of significance. As such, the Division has developed a California version of the USDA Land Evaluation and Site Assessment (LESA) Model. The California LESA model is a semi-quantitative rating system for establishing the environmental significance of project-specific impacts on farmland. The model may also be used to rate the relative value of alternative project sites. The LESA Model is available on the Division's website at:

http://www.consrv.ca.gov/DLRP/qh_lesa.htm

Conditional Use Permit and Mitigation Measures

The loss of agricultural land represents a permanent reduction in the State's agricultural land resources. The Division has witnessed the negative impacts of non-operational wind power generation facilities and related equipment that have been left to deteriorate on agricultural land. For that reason, the Division offers a variety of permitting conditions a County might use for energy projects on agricultural land:

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Ms. Sara Kopp April 7, 2010 Page 3 of 3 .)

- Require a reclamation plan suited for solar farm facilities, based on the Surface Mining and Reclamation Act (SMARA) principals. As part of this plan, a performance bond or other similar measure may be used.
 - A typical requirement would be for the soil to be restored to the same condition it was in prior to the solar farm's construction. Whatever projectrelated materials have been brought in, or changes made to the land (i.e. graveling, roads, compaction, equipment), is to be removed once the solar farm (or portions of) is no longer active.
- Solar farm projects are generally considered to be temporary. The County could require a time frame for the conditional use permit where a new permit must be applied for after a certain period of time. Because this is a new and unprecedented use for agricultural land, this would allow the County flexibility in determining what conditional uses or conditions may be appropriate in the long term.
- Require permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land.

Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: the outright purchase of easements or the donation of mitigation fees to a local, regional or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements. The proposed conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands can be conducted regionally or statewide, and need not be limited strictly to lands within the project's surrounding area. The use of conservation easements is only one form of mitigation, and any other feasible mitigation measures should also be considered.

Thank you for giving us the opportunity to comment on the above Notice of Preparation. Please provide this Department with the date of any hearings for this particular action, a copy of the DEIR, and any other documents pertaining to the project. If you have questions regarding these comments, or require technical assistance or information on agricultural land conservation, please contact Elliott Lum, Environmental Planner, at 801 K Street, MS 18-01, Sacramento, California 95814, or by phone at (916) 324-0869.

Sincerely,

Dań Otis Program Manager Williamson Act Program

cc: State Clearing House

Appendix H RBF Willow Springs Solar Array Modeling Results (CalEEMod 2013.2.2), dated April 28, 2015

Willow Springs Solar

Kern County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land	d Uses	Size		Metric	Lot Acreage	Floor Surface Area	Population
		0.00			1,402.00		0
1.2 Other Project Characteristics							
Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Da	ays) 32		
Climate Zone	7			Operational Year	2015		
Utility Company Southern California Edison							
CO2 Intensity (Ib/MWhr)	630.89	CH4 Intensity (Ib/MWhr)	0.029	N2O Intensity (Ib/MWhr)	0.006		

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site Acreage = 1,009

Construction Phase - Total days per anticipated construction schedule

Off-road Equipment - construction fleet

Off-road Equipment - project equipment fleet

Off-road Equipment - equipment fleet

Off-road Equipment - construction fleet

Trips and VMT - construction trip generation, vendor trips = material deliveries, haul trips= cut and fill, solar array haul trips = concrete deliveries

Grading - site grading and acreage

Construction Off-road Equipment Mitigation -

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

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tblOffRoadEquipment	PhaseName	Construction - Solar Module Installation

tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Grading - Move On
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Construction - Substation
tblOffRoadEquipment	UsageHours	7.00	4.30
tblOffRoadEquipment	UsageHours	7.00	4.30
tblOffRoadEquipment	UsageHours	8.00	4.30
tblOffRoadEquipment	UsageHours	8.00	4.30
tblOffRoadEquipment	UsageHours	8.00	4.30
tblOffRoadEquipment	UsageHours	8.00	24.00
tblOffRoadEquipment	UsageHours	8.00	4.30
tblOffRoadEquipment	UsageHours	8.00	7.70
tblOffRoadEquipment	UsageHours	8.00	7.70
tblOffRoadEquipment	UsageHours	8.00	6.80
tblOffRoadEquipment	UsageHours	8.00	6.80
tblOffRoadEquipment	UsageHours	8.00	7.70
tblOffRoadEquipment	UsageHours	8.00	5.10
tblOffRoadEquipment	UsageHours	7.00	4.30
tblOffRoadEquipment	UsageHours	7.00	4.30
tblProjectCharacteristics	OperationalYear	2014	2015
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	VendorTripLength	6.60	112.00
tblTripsAndVMT	VendorTripLength	6.60	112.00
tblTripsAndVMT	VendorTripLength	6.60	112.00
tblTripsAndVMT	VendorTripLength	6.60	112.00

tblTripsAndVMT	VendorTripLength	6.60	112.00
tblTripsAndVMT	VendorTripLength	6.60	112.00
tblTripsAndVMT	VendorTripLength	6.60	112.00
tblTripsAndVMT	VendorTripNumber	0.00	14.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripNumber	70.00	100.00
tblTripsAndVMT	WorkerTripNumber	105.00	100.00
tblTripsAndVMT	WorkerTripNumber	0.00	200.00
tblTripsAndVMT	WorkerTripNumber	0.00	400.00
tblTripsAndVMT	WorkerTripNumber	108.00	100.00
tblTripsAndVMT	WorkerTripNumber	0.00	80.00
tblTripsAndVMT	WorkerTripNumber	0.00	80.00

2.0 Emissions Summary

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2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					ton	s/yr							MT	/yr		
2013	3.6980	31.9841	24.9368	0.0348	4.5303	1.5790	6.1093	2.0771	1.4637	3.5407	0.0000	3,233.182 4	3,233.182 4	0.7193	0.0000	3,248.287 0
2014	9.3565	78.6362	63.9501	0.0983	5.7476	4.0135	9.7611	2.3708	3.7227	6.0935	0.0000	9,010.630 2	9,010.630 2	1.9083	0.0000	9,050.704 1
2015	2.2808	19.6422	15.9908	0.0279	4.4182	0.9782	5.3964	2.0132	0.9069	2.9201	0.0000	2,512.787 6	2,512.787 6	0.4942	0.0000	2,523.165 5
Total	15.3352	130.2624	104.8776	0.1609	14.6961	6.5707	21.2668	6.4611	6.0932	12.5543	0.0000	14,756.60 01	14,756.60 01	3.1217	0.0000	14,822.15 66

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					ton	s/yr							MT	/yr		
2013	3.6980	31.9841	24.9368	0.0348	2.2723	1.5790	3.8513	0.9781	1.4637	2.4418	0.0000	3,233.179 6	3,233.179 6	0.7193	0.0000	3,248.284 1
2014	9.3564	78.6361	63.9500	0.0983	3.6117	4.0135	7.6252	1.3239	3.7226	5.0466	0.0000	9,010.622 7	9,010.622 7	1.9083	0.0000	9,050.696 5
2015	2.2808	19.6421	15.9907	0.0279	2.2824	0.9782	3.2605	0.9663	0.9069	1.8732	0.0000	2,512.785 6	2,512.785 6	0.4942	0.0000	2,523.163 6
Total	15.3352	130.2623	104.8775	0.1609	8.1664	6.5707	14.7371	3.2683	6.0932	9.3616	0.0000	14,756.58 79	14,756.58 79	3.1217	0.0000	14,822.14 42

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	44.43	0.00	30.70	49.42	0.00	25.43	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading - Move On	Grading	7/1/2013	9/20/2013	5	60	
2	Grading - Site Preparation	Grading	7/22/2013	2/27/2015	5	420	
	Construction - Solar Array Structural	Building Construction	9/16/2013	2/27/2015	5	380	
	Construction - Solar Module Installation	Building Construction	10/22/2013	6/1/2015	5	420	
5	Trenching	Trenching	10/28/2013	3/13/2015	5	360	
6	Construction - Substation	Building Construction	10/1/2014	3/17/2015	5	120	
7	Construction - Gen-Tie Line	Building Construction	10/1/2014	3/17/2015	5	120	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading - Move On	Excavators	0	8.00	157	0.38
Grading - Move On	Forklifts	3	4.30	90	0.20
Grading - Move On	Generator Sets	3	24.00	20	0.74

	· · ·	10.00	·'	
Generator Sets	1	12.00	45	0.74
Graders	1	7.70	162	0.41
Off-Highway Trucks	4	9.00	300	0.38
Off-Highway Trucks	2	6.80	479	0.38
Other Construction Equipment	5	7.70	120	0.42
Other General Industrial Equipment	2	4.30	200	0.34
Pumps	1	4.30	45	0.74
Rollers	1	7.70	160	0.38
Rubber Tired Dozers	1	6.80	210	0.40
Rubber Tired Loaders	1	6.80	190	0.36
Scrapers	2	7.70	356	0.48
Tractors/Loaders/Backhoes	0	8.00	175	0.37
Trenchers	1	5.10	175	0.50
Excavators	0	8.00	157	0.38
Graders	3	7.70	350	0.41
Off-Highway Trucks	5	5.00	300	0.38
Off-Highway Trucks	10	7.70	200	0.38
Other Construction Equipment	5	4.30	24	0.42
Other Construction Equipment	1	4.30	100	0.42
Other Material Handling Equipment	1	7.70	120	0.40
Other Material Handling Equipment	1	6.80	300	0.40
Pumps	4	2.50	45	0.74
Rollers	3	7.70	160	0.38
Rubber Tired Dozers	3	6.80	300	0.40
Rubber Tired Loaders	3	6.80	45	0.36
Scrapers	3	5.10	300	0.48
Tractors/Loaders/Backhoes	0	8.00	75	0.37
Air Compressors	3	6.80	90	0.48
	Off-Highway Trucks Off-Highway Trucks Other Construction Equipment Other General Industrial Equipment Pumps Rollers Rubber Tired Dozers Rubber Tired Loaders Scrapers Tractors/Loaders/Backhoes Trenchers Excavators Graders Off-Highway Trucks Other Construction Equipment Other Construction Equipment Other Construction Equipment Other Material Handling Equipment Other Material Handling Equipment Pumps Rollers Rubber Tired Dozers Rubber Tired Dozers Rubber Tired Loaders Scrapers	Graders1Off-Highway Trucks4Off-Highway Trucks2Other Construction Equipment5Other General Industrial Equipment2Pumps1Rollers1Rubber Tired Dozers1Rubber Tired Dozers1Scrapers2Tractors/Loaders/Backhoes0Off-Highway Trucks5Off-Highway Trucks5Off-Highway Trucks5Off-Highway Trucks5Off-Highway Trucks5Off-Highway Trucks10Other Construction Equipment1Other Material Handling Equipment1Other Material Handling Equipment1Pumps4Rollers3Rubber Tired Dozers3Rubber Tired Dozers3Rubber Tired Dozers3Rubber Tired Loaders3Scrapers3Tractors/Loaders/Backhoes0	Graders17.70Off-Highway Trucks49.00Off-Highway Trucks26.80Other Construction Equipment57.70Other General Industrial Equipment24.30Pumps14.30Rollers17.70Rubber Tired Dozers16.80Scrapers27.70Tractors/Loaders/Backhoes08.00Graders37.70Off-Highway Trucks55.00Off-Highway Trucks55.00Off-Highway Trucks55.00Off-Highway Trucks17.70Other Construction Equipment17.70Other Construction Equipment17.70Other Material Handling Equipment16.80Pumps42.50Rollers37.70Other Material Handling Equipment16.80Pumps42.50Rollers37.70Other Inter Loaders36.80Pumps42.50Rollers36.80Rubber Tired Loaders36.80Rubber Tired Loaders36.80 <td>Graders 1 7.70 162 Off-Highway Trucks 4 9.00 300 Off-Highway Trucks 2 6.80 479 Other Construction Equipment 5 7.70 120 Other General Industrial Equipment 2 4.30 200 Pumps 1 4.30 45 Rollers 1 7.70 160 Rubber Tired Dozers 1 6.80 2100 Rubber Tired Loaders 1 6.80 190 Scrapers 2 7.70 386 Tractors/Loaders/Backhoes 0 8.00 175 Excavators 0 8.00 157 Graders 3 7.70 380 Off-Highway Trucks 5 5.00 300 Off-Highway Trucks 0 8.00 157 Graders 3 7.70 380 Other Construction Equipment 5 4.30 24 Other Construction Equipment 1 <td< td=""></td<></td>	Graders 1 7.70 162 Off-Highway Trucks 4 9.00 300 Off-Highway Trucks 2 6.80 479 Other Construction Equipment 5 7.70 120 Other General Industrial Equipment 2 4.30 200 Pumps 1 4.30 45 Rollers 1 7.70 160 Rubber Tired Dozers 1 6.80 2100 Rubber Tired Loaders 1 6.80 190 Scrapers 2 7.70 386 Tractors/Loaders/Backhoes 0 8.00 175 Excavators 0 8.00 157 Graders 3 7.70 380 Off-Highway Trucks 5 5.00 300 Off-Highway Trucks 0 8.00 157 Graders 3 7.70 380 Other Construction Equipment 5 4.30 24 Other Construction Equipment 1 <td< td=""></td<>

Construction - Solar Array Structural	Cement and Mortar Mixers	12	6.80	49	0.56
Construction - Solar Array Structural	Cranes	0	7.00		0.29
· · · · · · · · · · · · · · · · · · ·					
Construction - Solar Array Structural	Forklifts	15	4.30	49	0.20
Construction - Solar Array Structural	Generator Sets	0	8.00	84	0.74
Construction - Solar Array Structural	Other Construction Equipment	10	4.30	24	0.42
Construction - Solar Array Structural	Other Construction Equipment	8	4.30	162	0.42
Construction - Solar Array Structural	Tractors/Loaders/Backhoes	0	7.00	75	0.37
Construction - Solar Array Structural	Welders	0	8.00	46	0.45
Construction - Solar Module Installation	Cranes	0	7.00	208	0.29
Construction - Solar Module Installation	Forklifts	10	4.30	145	0.20
Construction - Solar Module Installation	Generator Sets	1	24.00	54	0.74
Construction - Solar Module Installation	Off-Highway Trucks	2	9.00	300	0.38
Construction - Solar Module Installation	Other Construction Equipment	20	4.30	24	0.42
Construction - Solar Module Installation	Skid Steer Loaders	10	7.70	86	0.37
Construction - Solar Module Installation	Tractors/Loaders/Backhoes	0	7.00	75	0.37
Construction - Solar Module Installation	Welders	0	8.00	45	0.45
Trenching	Cranes	1	4.30	400	0.29
Trenching	Forklifts	4	5.10	145	0.20
Trenching	Generator Sets	1	24.00	42	0.74
Trenching	Off-Highway Trucks	2	9.00	300	0.38
Trenching	Off-Highway Trucks	2	5.10	480	0.38
Trenching	Other Construction Equipment	2	7.70	120	0.42
Trenching	Other Construction Equipment	5	4.30	24	0.42
Trenching	Plate Compactors	6	6.80	180	0.43
Trenching	Pumps	2	2.50	45	0.74
Trenching	Rollers	2	7.70	95	0.38
Trenching	Tractors/Loaders/Backhoes	4	4.30	90	0.37
Trenching	Trenchers	4	6.80	42	0.50

Trenching	Trenchers	8	6.80	63	0.50
Construction - Substation	Aerial Lifts	2	4.30	400	0.31
Construction - Substation	Bore/Drill Rigs	1	4.30	238	0.50
Construction - Substation	Cranes	1	4.30	400	0.29
Construction - Substation	Forklifts	0	8.00	149	0.20
Construction - Substation	Generator Sets	0	8.00	84	0.74
Construction - Substation	Off-Highway Trucks	2	9.00	300	0.38
Construction - Substation	Off-Highway Trucks	5	2.10	200	0.38
Construction - Substation	Off-Highway Trucks	2	5.10	480	0.38
Construction - Substation	Pumps	1	2.50	45	0.74
Construction - Substation	Tractors/Loaders/Backhoes	4	4.30	90	0.37
Construction - Substation	Trenchers	4	7.70	42	0.50
Construction - Substation	Welders	0	8.00	46	0.45
Construction - Gen-Tie Line	Cranes	2	4.30	400	0.29
Construction - Gen-Tie Line	Crawler Tractors	1	4.30	147	0.43
Construction - Gen-Tie Line	Forklifts	1	4.30	145	0.20
Construction - Gen-Tie Line	Generator Sets	1	4.30	45	0.74
Construction - Gen-Tie Line	Off-Highway Tractors	4	4.30	147	0.44
Construction - Gen-Tie Line	Off-Highway Trucks	2	9.00	300	0.38
Construction - Gen-Tie Line	Other Construction Equipment	1	4.30	45	0.42
Construction - Gen-Tie Line	Other Construction Equipment	4	4.30	238	0.42
Construction - Gen-Tie Line	Pumps	1	2.50	45	0.74
Construction - Gen-Tie Line	Tractors/Loaders/Backhoes	2	4.30	90	0.37
Construction - Gen-Tie Line	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading - Move On	28	100.00	14.00	3,375.00	20.00	112.00	2.00	LD_Mix	HDT_Mix	HHDT
Grading - Site Preparation	42	100.00	3.00	54,000.00	20.00	112.00	2.00	LD_Mix	HDT_Mix	HHDT
Construction - Solar	48	200.00	5.00	0.00	20.00	112.00	20.00	LD_Mix	HDT_Mix	HHDT
Construction - Solar	43	400.00	10.00	0.00	20.00	112.00	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	43	100.00	3.00	0.00	20.00	112.00	20.00	LD_Mix	HDT_Mix	HHDT
Construction -	22	80.00	10.00	0.00	20.00	112.00	20.00	LD_Mix	HDT_Mix	HHDT
Construction - Gen-	19	80.00	10.00	0.00	20.00	112.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - Move On - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Fugitive Dust					0.2134	0.0000	0.2134	0.0910	0.0000	0.0910	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6211	6.3178	3.1760	5.4100e- 003		0.3134	0.3134		0.2912	0.2912	0.0000	506.3819	506.3819	0.1424	0.0000	509.3716
Total	0.6211	6.3178	3.1760	5.4100e- 003	0.2134	0.3134	0.5268	0.0910	0.2912	0.3822	0.0000	506.3819	506.3819	0.1424	0.0000	509.3716

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0478	0.1030	0.6524	1.6000e- 004	2.9400e- 003	2.1000e- 003	5.0400e- 003	8.1000e- 004	1.9300e- 003	2.7400e- 003	0.0000	14.3568	14.3568	2.2000e- 004	0.0000	14.3615
Vendor	0.0530	0.7115	0.4010	1.4100e- 003	0.0418	0.0226	0.0644	0.0119	0.0208	0.0327	0.0000	131.7723	131.7723	1.5500e- 003	0.0000	131.8049
Worker	0.0276	0.0459	0.4328	5.2000e- 004	0.0447	4.1000e- 004	0.0452	0.0119	3.7000e- 004	0.0123	0.0000	42.6643	42.6643	2.9700e- 003	0.0000	42.7267
Total	0.1283	0.8605	1.4862	2.0900e- 003	0.0895	0.0251	0.1146	0.0246	0.0231	0.0477	0.0000	188.7933	188.7933	4.7400e- 003	0.0000	188.8931

3.2 Grading - Move On - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Fugitive Dust					0.0912	0.0000	0.0912	0.0389	0.0000	0.0389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6211	6.3178	3.1760	5.4100e- 003		0.3134	0.3134		0.2912	0.2912	0.0000	506.3813	506.3813	0.1424	0.0000	509.3709
Total	0.6211	6.3178	3.1760	5.4100e- 003	0.0912	0.3134	0.4046	0.0389	0.2912	0.3301	0.0000	506.3813	506.3813	0.1424	0.0000	509.3709

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0478	0.1030	0.6524	1.6000e- 004	2.9400e- 003	2.1000e- 003	5.0400e- 003	8.1000e- 004	1.9300e- 003	2.7400e- 003	0.0000	14.3568	14.3568	2.2000e- 004	0.0000	14.3615
Vendor	0.0530	0.7115	0.4010	1.4100e- 003	0.0418	0.0226	0.0644	0.0119	0.0208	0.0327	0.0000	131.7723	131.7723	1.5500e- 003	0.0000	131.8049
Worker	0.0276	0.0459	0.4328	5.2000e- 004	0.0447	4.1000e- 004	0.0452	0.0119	3.7000e- 004	0.0123	0.0000	42.6643	42.6643	2.9700e- 003	0.0000	42.7267
Total	0.1283	0.8605	1.4862	2.0900e- 003	0.0895	0.0251	0.1146	0.0246	0.0231	0.0477	0.0000	188.7933	188.7933	4.7400e- 003	0.0000	188.8931

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	7/yr		
Fugitive Dust					3.7308	0.0000	3.7308	1.8286	0.0000	1.8286	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4101	15.0254	8.0767	0.0129		0.6894	0.6894		0.6357	0.6357	0.0000	1,242.074 1	1,242.074 1	0.3646	0.0000	1,249.731 6
Total	1.4101	15.0254	8.0767	0.0129	3.7308	0.6894	4.4201	1.8286	0.6357	2.4644	0.0000	1,242.074 1	1,242.074 1	0.3646	0.0000	1,249.731 6

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.2128	0.4592	2.9078	7.3000e- 004	0.0383	9.3700e- 003	0.0477	9.8000e- 003	8.5900e- 003	0.0184	0.0000	63.9902	63.9902	1.0000e- 003	0.0000	64.0111
Vendor	0.0222	0.2973	0.1676	5.9000e- 004	0.0175	9.4300e- 003	0.0269	4.9800e- 003	8.6700e- 003	0.0137	0.0000	55.0620	55.0620	6.5000e- 004	0.0000	55.0756
Worker	0.0538	0.0895	0.8440	1.0100e- 003	0.0873	8.1000e- 004	0.0881	0.0232	7.2000e- 004	0.0239	0.0000	83.1953	83.1953	5.8000e- 003	0.0000	83.3171
Total	0.2888	0.8461	3.9193	2.3300e- 003	0.1430	0.0196	0.1626	0.0380	0.0180	0.0559	0.0000	202.2475	202.2475	7.4500e- 003	0.0000	202.4038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	7/yr		
Fugitive Dust					1.5949	0.0000	1.5949	0.7817	0.0000	0.7817	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4101	15.0254	8.0767	0.0129		0.6894	0.6894		0.6357	0.6357	0.0000	1,242.072 6	1,242.072 6	0.3646	0.0000	1,249.730 1
Total	1.4101	15.0254	8.0767	0.0129	1.5949	0.6894	2.2843	0.7817	0.6357	1.4175	0.0000	1,242.072 6	1,242.072 6	0.3646	0.0000	1,249.730 1

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.2128	0.4592	2.9078	7.3000e- 004	0.0383	9.3700e- 003	0.0477	9.8000e- 003	8.5900e- 003	0.0184	0.0000	63.9902	63.9902	1.0000e- 003	0.0000	64.0111
Vendor	0.0222	0.2973	0.1676	5.9000e- 004	0.0175	9.4300e- 003	0.0269	4.9800e- 003	8.6700e- 003	0.0137	0.0000	55.0620	55.0620	6.5000e- 004	0.0000	55.0756
Worker	0.0538	0.0895	0.8440	1.0100e- 003	0.0873	8.1000e- 004	0.0881	0.0232	7.2000e- 004	0.0239	0.0000	83.1953	83.1953	5.8000e- 003	0.0000	83.3171
Total	0.2888	0.8461	3.9193	2.3300e- 003	0.1430	0.0196	0.1626	0.0380	0.0180	0.0559	0.0000	202.2475	202.2475	7.4500e- 003	0.0000	202.4038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Fugitive Dust					3.7308	0.0000	3.7308	1.8286	0.0000	1.8286	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9899	31.4349	17.3034	0.0288		1.4374	1.4374		1.3255	1.3255	0.0000	2,756.114 9	2,756.114 9	0.8119	0.0000	2,773.163 9
Total	2.9899	31.4349	17.3034	0.0288	3.7308	1.4374	5.1682	1.8286	1.3255	3.1542	0.0000	2,756.114 9	2,756.114 9	0.8119	0.0000	2,773.163 9

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	∵/yr		
Hauling	0.3487	0.9033	5.4621	1.6000e- 003	0.0425	0.0103	0.0528	0.0113	9.4700e- 003	0.0208	0.0000	141.6721	141.6721	1.6800e- 003	0.0000	141.7074
Vendor	0.0372	0.5744	0.2948	1.3100e- 003	0.0390	0.0129	0.0519	0.0111	0.0118	0.0230	0.0000	122.1426	122.1426	1.0700e- 003	0.0000	122.1651
Worker	0.1001	0.1723	1.6012	2.2500e- 003	0.1946	1.5900e- 003	0.1962	0.0517	1.4200e- 003	0.0531	0.0000	180.1248	180.1248	0.0114	0.0000	180.3632
Total	0.4860	1.6500	7.3581	5.1600e- 003	0.2761	0.0248	0.3009	0.0741	0.0227	0.0968	0.0000	443.9395	443.9395	0.0141	0.0000	444.2357

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust					1.5949	0.0000	1.5949	0.7817	0.0000	0.7817	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9899	31.4349	17.3033	0.0288		1.4374	1.4374		1.3255	1.3255	0.0000	2,756.111 6	2,756.111 6	0.8119	0.0000	2,773.160 6
Total	2.9899	31.4349	17.3033	0.0288	1.5949	1.4374	3.0323	0.7817	1.3255	2.1073	0.0000	2,756.111 6	2,756.111 6	0.8119	0.0000	2,773.160 6

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.3487	0.9033	5.4621	1.6000e- 003	0.0425	0.0103	0.0528	0.0113	9.4700e- 003	0.0208	0.0000	141.6721	141.6721	1.6800e- 003	0.0000	141.7074
Vendor	0.0372	0.5744	0.2948	1.3100e- 003	0.0390	0.0129	0.0519	0.0111	0.0118	0.0230	0.0000	122.1426	122.1426	1.0700e- 003	0.0000	122.1651
Worker	0.1001	0.1723	1.6012	2.2500e- 003	0.1946	1.5900e- 003	0.1962	0.0517	1.4200e- 003	0.0531	0.0000	180.1248	180.1248	0.0114	0.0000	180.3632
Total	0.4860	1.6500	7.3581	5.1600e- 003	0.2761	0.0248	0.3009	0.0741	0.0227	0.0968	0.0000	443.9395	443.9395	0.0141	0.0000	444.2357

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust					3.7308	0.0000	3.7308	1.8286	0.0000	1.8286	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4754	4.9435	2.7517	4.6300e- 003		0.2259	0.2259		0.2083	0.2083	0.0000	439.1077	439.1077	0.1305	0.0000	441.8472
Total	0.4754	4.9435	2.7517	4.6300e- 003	3.7308	0.2259	3.9567	1.8286	0.2083	2.0370	0.0000	439.1077	439.1077	0.1305	0.0000	441.8472

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0517	0.1270	0.8291	2.6000e- 004	0.0361	1.3400e- 003	0.0375	9.0100e- 003	1.2300e- 003	0.0102	0.0000	22.4949	22.4949	2.6000e- 004	0.0000	22.5005
Vendor	5.1000e- 003	0.0767	0.0412	2.1000e- 004	6.2700e- 003	1.5700e- 003	7.8500e- 003	1.7900e- 003	1.4500e- 003	3.2400e- 003	0.0000	19.3998	19.3998	1.5000e- 004	0.0000	19.4029
Worker	0.0134	0.0240	0.2189	3.6000e- 004	0.0313	2.3000e- 004	0.0316	8.3200e- 003	2.1000e- 004	8.5200e- 003	0.0000	27.9545	27.9545	1.6100e- 003	0.0000	27.9884
Total	0.0702	0.2276	1.0891	8.3000e- 004	0.0737	3.1400e- 003	0.0769	0.0191	2.8900e- 003	0.0220	0.0000	69.8493	69.8493	2.0200e- 003	0.0000	69.8918

Mitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Fugitive Dust			- - - - -		1.5949	0.0000	1.5949	0.7817	0.0000	0.7817	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4754	4.9435	2.7517	4.6300e- 003		0.2259	0.2259		0.2083	0.2083	0.0000	439.1072	439.1072	0.1305	0.0000	441.8467
Total	0.4754	4.9435	2.7517	4.6300e- 003	1.5949	0.2259	1.8208	0.7817	0.2083	0.9901	0.0000	439.1072	439.1072	0.1305	0.0000	441.8467

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0517	0.1270	0.8291	2.6000e- 004	0.0361	1.3400e- 003	0.0375	9.0100e- 003	1.2300e- 003	0.0102	0.0000	22.4949	22.4949	2.6000e- 004	0.0000	22.5005
Vendor	5.1000e- 003	0.0767	0.0412	2.1000e- 004	6.2700e- 003	1.5700e- 003	7.8500e- 003	1.7900e- 003	1.4500e- 003	3.2400e- 003	0.0000	19.3998	19.3998	1.5000e- 004	0.0000	19.4029
Worker	0.0134	0.0240	0.2189	3.6000e- 004	0.0313	2.3000e- 004	0.0316	8.3200e- 003	2.1000e- 004	8.5200e- 003	0.0000	27.9545	27.9545	1.6100e- 003	0.0000	27.9884
Total	0.0702	0.2276	1.0891	8.3000e- 004	0.0737	3.1400e- 003	0.0769	0.0191	2.8900e- 003	0.0220	0.0000	69.8493	69.8493	2.0200e- 003	0.0000	69.8918

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	'/yr		
Off-Road	0.3599	2.3124	1.5785	1.9000e- 003		0.1660	0.1660		0.1560	0.1560	0.0000	179.2902	179.2902	0.0474	0.0000	180.2845
Total	0.3599	2.3124	1.5785	1.9000e- 003		0.1660	0.1660		0.1560	0.1560	0.0000	179.2902	179.2902	0.0474	0.0000	180.2845

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0243	0.3261	0.1838	6.5000e- 004	0.0192	0.0103	0.0295	5.4700e- 003	9.5100e- 003	0.0150	0.0000	60.3956	60.3956	7.1000e- 004	0.0000	60.4106
Worker	0.0708	0.1178	1.1109	1.3300e- 003	0.1148	1.0600e- 003	0.1159	0.0305	9.4000e- 004	0.0314	0.0000	109.5050	109.5050	7.6300e- 003	0.0000	109.6652
Total	0.0951	0.4440	1.2947	1.9800e- 003	0.1340	0.0114	0.1454	0.0360	0.0105	0.0464	0.0000	169.9006	169.9006	8.3400e- 003	0.0000	170.0758

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Off-Road	0.3599	2.3124	1.5785	1.9000e- 003		0.1660	0.1660		0.1560	0.1560	0.0000	179.2900	179.2900	0.0474	0.0000	180.2843
Total	0.3599	2.3124	1.5785	1.9000e- 003		0.1660	0.1660		0.1560	0.1560	0.0000	179.2900	179.2900	0.0474	0.0000	180.2843

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0243	0.3261	0.1838	6.5000e- 004	0.0192	0.0103	0.0295	5.4700e- 003	9.5100e- 003	0.0150	0.0000	60.3956	60.3956	7.1000e- 004	0.0000	60.4106
Worker	0.0708	0.1178	1.1109	1.3300e- 003	0.1148	1.0600e- 003	0.1159	0.0305	9.4000e- 004	0.0314	0.0000	109.5050	109.5050	7.6300e- 003	0.0000	109.6652
Total	0.0951	0.4440	1.2947	1.9800e- 003	0.1340	0.0114	0.1454	0.0360	0.0105	0.0464	0.0000	169.9006	169.9006	8.3400e- 003	0.0000	170.0758

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	1.1565	7.4989	5.2932	6.4400e- 003		0.5319	0.5319		0.4994	0.4994	0.0000	605.4288	605.4288	0.1589	0.0000	608.7660
Total	1.1565	7.4989	5.2932	6.4400e- 003		0.5319	0.5319		0.4994	0.4994	0.0000	605.4288	605.4288	0.1589	0.0000	608.7660

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0620	0.9573	0.4913	2.1800e- 003	0.0650	0.0215	0.0864	0.0185	0.0197	0.0382	0.0000	203.5710	203.5710	1.7900e- 003	0.0000	203.6086
Worker	0.2001	0.3446	3.2024	4.5000e- 003	0.3893	3.1800e- 003	0.3925	0.1034	2.8400e- 003	0.1062	0.0000	360.2495	360.2495	0.0227	0.0000	360.7264
Total	0.2621	1.3019	3.6937	6.6800e- 003	0.4542	0.0246	0.4789	0.1219	0.0226	0.1445	0.0000	563.8205	563.8205	0.0245	0.0000	564.3350

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Off-Road	1.1565	7.4989	5.2932	6.4400e- 003		0.5319	0.5319		0.4994	0.4994	0.0000	605.4281	605.4281	0.1589	0.0000	608.7653
Total	1.1565	7.4989	5.2932	6.4400e- 003		0.5319	0.5319		0.4994	0.4994	0.0000	605.4281	605.4281	0.1589	0.0000	608.7653

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0620	0.9573	0.4913	2.1800e- 003	0.0650	0.0215	0.0864	0.0185	0.0197	0.0382	0.0000	203.5710	203.5710	1.7900e- 003	0.0000	203.6086
Worker	0.2001	0.3446	3.2024	4.5000e- 003	0.3893	3.1800e- 003	0.3925	0.1034	2.8400e- 003	0.1062	0.0000	360.2495	360.2495	0.0227	0.0000	360.7264
Total	0.2621	1.3019	3.6937	6.6800e- 003	0.4542	0.0246	0.4789	0.1219	0.0226	0.1445	0.0000	563.8205	563.8205	0.0245	0.0000	564.3350

3.4 Construction - Solar Array Structural - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Off-Road	0.1808	1.1721	0.8508	1.0400e- 003		0.0825	0.0825		0.0773	0.0773	0.0000	96.6466	96.6466	0.0253	0.0000	97.1782
Total	0.1808	1.1721	0.8508	1.0400e- 003		0.0825	0.0825		0.0773	0.0773	0.0000	96.6466	96.6466	0.0253	0.0000	97.1782

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.5000e- 003	0.1278	0.0686	3.5000e- 004	0.0105	2.6200e- 003	0.0131	2.9800e- 003	2.4100e- 003	5.3900e- 003	0.0000	32.3331	32.3331	2.5000e- 004	0.0000	32.3382
Worker	0.0269	0.0480	0.4377	7.2000e- 004	0.0626	4.6000e- 004	0.0631	0.0166	4.2000e- 004	0.0171	0.0000	55.9091	55.9091	3.2300e- 003	0.0000	55.9768
Total	0.0354	0.1757	0.5063	1.0700e- 003	0.0731	3.0800e- 003	0.0762	0.0196	2.8300e- 003	0.0224	0.0000	88.2421	88.2421	3.4800e- 003	0.0000	88.3150

3.4 Construction - Solar Array Structural - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.1808	1.1721	0.8508	1.0400e- 003		0.0825	0.0825		0.0773	0.0773	0.0000	96.6465	96.6465	0.0253	0.0000	97.1780
Total	0.1808	1.1721	0.8508	1.0400e- 003		0.0825	0.0825		0.0773	0.0773	0.0000	96.6465	96.6465	0.0253	0.0000	97.1780

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.5000e- 003	0.1278	0.0686	3.5000e- 004	0.0105	2.6200e- 003	0.0131	2.9800e- 003	2.4100e- 003	5.3900e- 003	0.0000	32.3331	32.3331	2.5000e- 004	0.0000	32.3382
Worker	0.0269	0.0480	0.4377	7.2000e- 004	0.0626	4.6000e- 004	0.0631	0.0166	4.2000e- 004	0.0171	0.0000	55.9091	55.9091	3.2300e- 003	0.0000	55.9768
Total	0.0354	0.1757	0.5063	1.0700e- 003	0.0731	3.0800e- 003	0.0762	0.0196	2.8300e- 003	0.0224	0.0000	88.2421	88.2421	3.4800e- 003	0.0000	88.3150

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.2465	2.2482	1.4295	2.1700e- 003		0.1339	0.1339		0.1251	0.1251	0.0000	206.2698	206.2698	0.0560	0.0000	207.4447
Total	0.2465	2.2482	1.4295	2.1700e- 003		0.1339	0.1339		0.1251	0.1251	0.0000	206.2698	206.2698	0.0560	0.0000	207.4447

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	0.4320	0.2435	8.5000e- 004	0.0254	0.0137	0.0391	7.2400e- 003	0.0126	0.0198	0.0000	80.0046	80.0046	9.4000e- 004	0.0000	80.0244
Worker	0.0938	0.1561	1.4716	1.7600e- 003	0.1521	1.4100e- 003	0.1535	0.0404	1.2500e- 003	0.0417	0.0000	145.0585	145.0585	0.0101	0.0000	145.2708
Total	0.1259	0.5881	1.7150	2.6100e- 003	0.1775	0.0151	0.1926	0.0476	0.0139	0.0615	0.0000	225.0632	225.0632	0.0111	0.0000	225.2952

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Off-Road	0.2465	2.2482	1.4295	2.1700e- 003		0.1339	0.1339		0.1251	0.1251	0.0000	206.2695	206.2695	0.0560	0.0000	207.4444
Total	0.2465	2.2482	1.4295	2.1700e- 003		0.1339	0.1339		0.1251	0.1251	0.0000	206.2695	206.2695	0.0560	0.0000	207.4444

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	'/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0322	0.4320	0.2435	8.5000e- 004	0.0254	0.0137	0.0391	7.2400e- 003	0.0126	0.0198	0.0000	80.0046	80.0046	9.4000e- 004	0.0000	80.0244
Worker	0.0938	0.1561	1.4716	1.7600e- 003	0.1521	1.4100e- 003	0.1535	0.0404	1.2500e- 003	0.0417	0.0000	145.0585	145.0585	0.0101	0.0000	145.2708
Total	0.1259	0.5881	1.7150	2.6100e- 003	0.1775	0.0151	0.1926	0.0476	0.0139	0.0615	0.0000	225.0632	225.0632	0.0111	0.0000	225.2952

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	1.1774	10.6825	7.2132	0.0111		0.6266	0.6266		0.5850	0.5850	0.0000	1,051.128 2	1,051.128 2	0.2849	0.0000	1,057.110 1
Total	1.1774	10.6825	7.2132	0.0111		0.6266	0.6266		0.5850	0.5850	0.0000	1,051.128 2	1,051.128 2	0.2849	0.0000	1,057.110 1

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	'/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1240	1.9145	0.9827	4.3700e- 003	0.1299	0.0429	0.1728	0.0370	0.0395	0.0765	0.0000	407.1420	407.1420	3.5800e- 003	0.0000	407.2171
Worker	0.4002	0.6892	6.4048	9.0100e- 003	0.7785	6.3700e- 003	0.7849	0.2067	5.6800e- 003	0.2124	0.0000	720.4991	720.4991	0.0454	0.0000	721.4529
Total	0.5242	2.6037	7.3874	0.0134	0.9085	0.0493	0.9577	0.2438	0.0451	0.2889	0.0000	1,127.641 1	1,127.641 1	0.0490	0.0000	1,128.670 0

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	∵/yr		
Off-Road	1.1774	10.6824	7.2132	0.0111		0.6266	0.6266		0.5850	0.5850	0.0000	1,051.127 0	1,051.127 0	0.2849	0.0000	1,057.108 9
Total	1.1774	10.6824	7.2132	0.0111		0.6266	0.6266		0.5850	0.5850	0.0000	1,051.127 0	1,051.127 0	0.2849	0.0000	1,057.108 9

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1240	1.9145	0.9827	4.3700e- 003	0.1299	0.0429	0.1728	0.0370	0.0395	0.0765	0.0000	407.1420	407.1420	3.5800e- 003	0.0000	407.2171
Worker	0.4002	0.6892	6.4048	9.0100e- 003	0.7785	6.3700e- 003	0.7849	0.2067	5.6800e- 003	0.2124	0.0000	720.4991	720.4991	0.0454	0.0000	721.4529
Total	0.5242	2.6037	7.3874	0.0134	0.9085	0.0493	0.9577	0.2438	0.0451	0.2889	0.0000	1,127.641 1	1,127.641 1	0.0490	0.0000	1,128.670 0

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Off-Road	0.4730	4.2471	2.9794	4.5900e- 003		0.2478	0.2478		0.2311	0.2311	0.0000	431.0846	431.0846	0.1171	0.0000	433.5444
Total	0.4730	4.2471	2.9794	4.5900e- 003		0.2478	0.2478		0.2311	0.2311	0.0000	431.0846	431.0846	0.1171	0.0000	433.5444

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	'/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0437	0.6570	0.3527	1.8000e- 003	0.0538	0.0135	0.0673	0.0153	0.0124	0.0277	0.0000	166.2844	166.2844	1.2600e- 003	0.0000	166.3109
Worker	0.1382	0.2468	2.2511	3.7200e- 003	0.3222	2.3700e- 003	0.3245	0.0856	2.1400e- 003	0.0877	0.0000	287.5323	287.5323	0.0166	0.0000	287.8807
Total	0.1819	0.9038	2.6039	5.5200e- 003	0.3759	0.0159	0.3918	0.1009	0.0146	0.1154	0.0000	453.8167	453.8167	0.0179	0.0000	454.1916

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Off-Road	0.4730	4.2471	2.9794	4.5900e- 003		0.2478	0.2478		0.2311	0.2311	0.0000	431.0841	431.0841	0.1171	0.0000	433.5438
Total	0.4730	4.2471	2.9794	4.5900e- 003		0.2478	0.2478		0.2311	0.2311	0.0000	431.0841	431.0841	0.1171	0.0000	433.5438

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0437	0.6570	0.3527	1.8000e- 003	0.0538	0.0135	0.0673	0.0153	0.0124	0.0277	0.0000	166.2844	166.2844	1.2600e- 003	0.0000	166.3109
Worker	0.1382	0.2468	2.2511	3.7200e- 003	0.3222	2.3700e- 003	0.3245	0.0856	2.1400e- 003	0.0877	0.0000	287.5323	287.5323	0.0166	0.0000	287.8807
Total	0.1819	0.9038	2.6039	5.5200e- 003	0.3759	0.0159	0.3918	0.1009	0.0146	0.1154	0.0000	453.8167	453.8167	0.0179	0.0000	454.1916

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.3918	3.1863	1.8545	2.7400e- 003		0.2010	0.2010		0.1865	0.1865	0.0000	257.6225	257.6225	0.0748	0.0000	259.1932
Total	0.3918	3.1863	1.8545	2.7400e- 003		0.2010	0.2010		0.1865	0.1865	0.0000	257.6225	257.6225	0.0748	0.0000	259.1932

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9000e- 003	0.1194	0.0673	2.4000e- 004	7.0200e- 003	3.7900e- 003	0.0108	2.0000e- 003	3.4800e- 003	5.4900e- 003	0.0000	22.1189	22.1189	2.6000e- 004	0.0000	22.1244
Worker	0.0216	0.0360	0.3390	4.1000e- 004	0.0351	3.3000e- 004	0.0354	9.3100e- 003	2.9000e- 004	9.6000e- 003	0.0000	33.4204	33.4204	2.3300e- 003	0.0000	33.4693
Total	0.0305	0.1554	0.4064	6.5000e- 004	0.0421	4.1200e- 003	0.0462	0.0113	3.7700e- 003	0.0151	0.0000	55.5393	55.5393	2.5900e- 003	0.0000	55.5937

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.3918	3.1863	1.8545	2.7400e- 003		0.2010	0.2010		0.1865	0.1865	0.0000	257.6222	257.6222	0.0748	0.0000	259.1928
Total	0.3918	3.1863	1.8545	2.7400e- 003		0.2010	0.2010		0.1865	0.1865	0.0000	257.6222	257.6222	0.0748	0.0000	259.1928

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9000e- 003	0.1194	0.0673	2.4000e- 004	7.0200e- 003	3.7900e- 003	0.0108	2.0000e- 003	3.4800e- 003	5.4900e- 003	0.0000	22.1189	22.1189	2.6000e- 004	0.0000	22.1244
Worker	0.0216	0.0360	0.3390	4.1000e- 004	0.0351	3.3000e- 004	0.0354	9.3100e- 003	2.9000e- 004	9.6000e- 003	0.0000	33.4204	33.4204	2.3300e- 003	0.0000	33.4693
Total	0.0305	0.1554	0.4064	6.5000e- 004	0.0421	4.1200e- 003	0.0462	0.0113	3.7700e- 003	0.0151	0.0000	55.5393	55.5393	2.5900e- 003	0.0000	55.5937

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	2.0530	16.8070	10.0784	0.0152		1.0562	1.0562		0.9800	0.9800	0.0000	1,424.087 6	1,424.087 6	0.4118	0.0000	1,432.734 5
Total	2.0530	16.8070	10.0784	0.0152		1.0562	1.0562		0.9800	0.9800	0.0000	1,424.087 6	1,424.087 6	0.4118	0.0000	1,432.734 5

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	'/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0372	0.5744	0.2948	1.3100e- 003	0.0390	0.0129	0.0519	0.0111	0.0118	0.0230	0.0000	122.1426	122.1426	1.0700e- 003	0.0000	122.1651
Worker	0.1001	0.1723	1.6012	2.2500e- 003	0.1946	1.5900e- 003	0.1962	0.0517	1.4200e- 003	0.0531	0.0000	180.1248	180.1248	0.0114	0.0000	180.3632
Total	0.1372	0.7467	1.8960	3.5600e- 003	0.2336	0.0145	0.2481	0.0628	0.0133	0.0761	0.0000	302.2674	302.2674	0.0124	0.0000	302.5284

Mitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	2.0530	16.8070	10.0783	0.0152		1.0562	1.0562		0.9800	0.9800	0.0000	1,424.085 9	1,424.085 9	0.4118	0.0000	1,432.732 8
Total	2.0530	16.8070	10.0783	0.0152		1.0562	1.0562		0.9800	0.9800	0.0000	1,424.085 9	1,424.085 9	0.4118	0.0000	1,432.732 8

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0372	0.5744	0.2948	1.3100e- 003	0.0390	0.0129	0.0519	0.0111	0.0118	0.0230	0.0000	122.1426	122.1426	1.0700e- 003	0.0000	122.1651
Worker	0.1001	0.1723	1.6012	2.2500e- 003	0.1946	1.5900e- 003	0.1962	0.0517	1.4200e- 003	0.0531	0.0000	180.1248	180.1248	0.0114	0.0000	180.3632
Total	0.1372	0.7467	1.8960	3.5600e- 003	0.2336	0.0145	0.2481	0.0628	0.0133	0.0761	0.0000	302.2674	302.2674	0.0124	0.0000	302.5284

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.3973	3.2731	1.9938	3.0300e- 003		0.2052	0.2052		0.1903	0.1903	0.0000	281.1114	281.1114	0.0814	0.0000	282.8210
Total	0.3973	3.2731	1.9938	3.0300e- 003		0.2052	0.2052		0.1903	0.1903	0.0000	281.1114	281.1114	0.0814	0.0000	282.8210

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.3100e- 003	0.0949	0.0510	2.6000e- 004	7.7700e- 003	1.9500e- 003	9.7200e- 003	2.2100e- 003	1.7900e- 003	4.0100e- 003	0.0000	24.0189	24.0189	1.8000e- 004	0.0000	24.0227
Worker	0.0166	0.0297	0.2710	4.5000e- 004	0.0388	2.9000e- 004	0.0391	0.0103	2.6000e- 004	0.0106	0.0000	34.6104	34.6104	2.0000e- 003	0.0000	34.6523
Total	0.0229	0.1246	0.3219	7.1000e- 004	0.0466	2.2400e- 003	0.0488	0.0125	2.0500e- 003	0.0146	0.0000	58.6292	58.6292	2.1800e- 003	0.0000	58.6750

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.3973	3.2731	1.9938	3.0300e- 003		0.2052	0.2052		0.1903	0.1903	0.0000	281.1110	281.1110	0.0814	0.0000	282.8206
Total	0.3973	3.2731	1.9938	3.0300e- 003		0.2052	0.2052		0.1903	0.1903	0.0000	281.1110	281.1110	0.0814	0.0000	282.8206

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	∵/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.3100e- 003	0.0949	0.0510	2.6000e- 004	7.7700e- 003	1.9500e- 003	9.7200e- 003	2.2100e- 003	1.7900e- 003	4.0100e- 003	0.0000	24.0189	24.0189	1.8000e- 004	0.0000	24.0227
Worker	0.0166	0.0297	0.2710	4.5000e- 004	0.0388	2.9000e- 004	0.0391	0.0103	2.6000e- 004	0.0106	0.0000	34.6104	34.6104	2.0000e- 003	0.0000	34.6523
Total	0.0229	0.1246	0.3219	7.1000e- 004	0.0466	2.2400e- 003	0.0488	0.0125	2.0500e- 003	0.0146	0.0000	58.6292	58.6292	2.1800e- 003	0.0000	58.6750

3.7 Construction - Substation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Off-Road	0.2772	2.8854	1.4128	2.9200e- 003		0.1303	0.1303		0.1200	0.1200	0.0000	279.7865	279.7865	0.0825	0.0000	281.5193
Total	0.2772	2.8854	1.4128	2.9200e- 003		0.1303	0.1303		0.1200	0.1200	0.0000	279.7865	279.7865	0.0825	0.0000	281.5193

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0314	0.4841	0.2485	1.1000e- 003	0.0329	0.0109	0.0437	9.3600e- 003	9.9800e- 003	0.0193	0.0000	102.9555	102.9555	9.0000e- 004	0.0000	102.9745
Worker	0.0202	0.0349	0.3239	4.6000e- 004	0.0394	3.2000e- 004	0.0397	0.0105	2.9000e- 004	0.0107	0.0000	36.4390	36.4390	2.3000e- 003	0.0000	36.4873
Total	0.0516	0.5190	0.5724	1.5600e- 003	0.0722	0.0112	0.0834	0.0198	0.0103	0.0301	0.0000	139.3945	139.3945	3.2000e- 003	0.0000	139.4617

3.7 Construction - Substation - 2014

Mitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.2772	2.8854	1.4128	2.9200e- 003		0.1303	0.1303		0.1200	0.1200	0.0000	279.7862	279.7862	0.0825	0.0000	281.5190
Total	0.2772	2.8854	1.4128	2.9200e- 003		0.1303	0.1303		0.1200	0.1200	0.0000	279.7862	279.7862	0.0825	0.0000	281.5190

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0314	0.4841	0.2485	1.1000e- 003	0.0329	0.0109	0.0437	9.3600e- 003	9.9800e- 003	0.0193	0.0000	102.9555	102.9555	9.0000e- 004	0.0000	102.9745
Worker	0.0202	0.0349	0.3239	4.6000e- 004	0.0394	3.2000e- 004	0.0397	0.0105	2.9000e- 004	0.0107	0.0000	36.4390	36.4390	2.3000e- 003	0.0000	36.4873
Total	0.0516	0.5190	0.5724	1.5600e- 003	0.0722	0.0112	0.0834	0.0198	0.0103	0.0301	0.0000	139.3945	139.3945	3.2000e- 003	0.0000	139.4617

3.7 Construction - Substation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.2226	2.2973	1.1444	2.3900e- 003		0.1034	0.1034		0.0953	0.0953	0.0000	226.6033	226.6033	0.0675	0.0000	228.0196
Total	0.2226	2.2973	1.1444	2.3900e- 003		0.1034	0.1034		0.0953	0.0953	0.0000	226.6033	226.6033	0.0675	0.0000	228.0196

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0219	0.3285	0.1764	9.0000e- 004	0.0269	6.7500e- 003	0.0336	7.6600e- 003	6.2100e- 003	0.0139	0.0000	83.1422	83.1422	6.3000e- 004	0.0000	83.1554
Worker	0.0138	0.0247	0.2251	3.7000e- 004	0.0322	2.4000e- 004	0.0325	8.5500e- 003	2.1000e- 004	8.7700e- 003	0.0000	28.7532	28.7532	1.6600e- 003	0.0000	28.7881
Total	0.0357	0.3532	0.4015	1.2700e- 003	0.0591	6.9900e- 003	0.0661	0.0162	6.4200e- 003	0.0226	0.0000	111.8954	111.8954	2.2900e- 003	0.0000	111.9435

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3.7 Construction - Substation - 2015

Mitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	'/yr		
Off-Road	0.2226	2.2973	1.1444	2.3900e- 003		0.1034	0.1034		0.0953	0.0953	0.0000	226.6030	226.6030	0.0675	0.0000	228.0193
Total	0.2226	2.2973	1.1444	2.3900e- 003		0.1034	0.1034		0.0953	0.0953	0.0000	226.6030	226.6030	0.0675	0.0000	228.0193

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0219	0.3285	0.1764	9.0000e- 004	0.0269	6.7500e- 003	0.0336	7.6600e- 003	6.2100e- 003	0.0139	0.0000	83.1422	83.1422	6.3000e- 004	0.0000	83.1554
Worker	0.0138	0.0247	0.2251	3.7000e- 004	0.0322	2.4000e- 004	0.0325	8.5500e- 003	2.1000e- 004	8.7700e- 003	0.0000	28.7532	28.7532	1.6600e- 003	0.0000	28.7881
Total	0.0357	0.3532	0.4015	1.2700e- 003	0.0591	6.9900e- 003	0.0661	0.0162	6.4200e- 003	0.0226	0.0000	111.8954	111.8954	2.2900e- 003	0.0000	111.9435

3.8 Construction - Gen-Tie Line - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.1898	1.9872	1.1691	1.8700e- 003		0.0957	0.0957		0.0885	0.0885	0.0000	177.6268	177.6268	0.0520	0.0000	178.7177
Total	0.1898	1.9872	1.1691	1.8700e- 003		0.0957	0.0957		0.0885	0.0885	0.0000	177.6268	177.6268	0.0520	0.0000	178.7177

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0314	0.4841	0.2485	1.1000e- 003	0.0329	0.0109	0.0437	9.3600e- 003	9.9800e- 003	0.0193	0.0000	102.9555	102.9555	9.0000e- 004	0.0000	102.9745
Worker	0.0202	0.0349	0.3239	4.6000e- 004	0.0394	3.2000e- 004	0.0397	0.0105	2.9000e- 004	0.0107	0.0000	36.4390	36.4390	2.3000e- 003	0.0000	36.4873
Total	0.0516	0.5190	0.5724	1.5600e- 003	0.0722	0.0112	0.0834	0.0198	0.0103	0.0301	0.0000	139.3945	139.3945	3.2000e- 003	0.0000	139.4617

3.8 Construction - Gen-Tie Line - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.1898	1.9872	1.1691	1.8700e- 003		0.0957	0.0957		0.0885	0.0885	0.0000	177.6266	177.6266	0.0520	0.0000	178.7175
Total	0.1898	1.9872	1.1691	1.8700e- 003		0.0957	0.0957		0.0885	0.0885	0.0000	177.6266	177.6266	0.0520	0.0000	178.7175

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0314	0.4841	0.2485	1.1000e- 003	0.0329	0.0109	0.0437	9.3600e- 003	9.9800e- 003	0.0193	0.0000	102.9555	102.9555	9.0000e- 004	0.0000	102.9745
Worker	0.0202	0.0349	0.3239	4.6000e- 004	0.0394	3.2000e- 004	0.0397	0.0105	2.9000e- 004	0.0107	0.0000	36.4390	36.4390	2.3000e- 003	0.0000	36.4873
Total	0.0516	0.5190	0.5724	1.5600e- 003	0.0722	0.0112	0.0834	0.0198	0.0103	0.0301	0.0000	139.3945	139.3945	3.2000e- 003	0.0000	139.4617

3.8 Construction - Gen-Tie Line - 2015

Unmitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Off-Road	0.1500	1.5710	0.9465	1.5300e- 003		0.0751	0.0751		0.0695	0.0695	0.0000	143.9058	143.9058	0.0423	0.0000	144.7948
Total	0.1500	1.5710	0.9465	1.5300e- 003		0.0751	0.0751		0.0695	0.0695	0.0000	143.9058	143.9058	0.0423	0.0000	144.7948

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0219	0.3285	0.1764	9.0000e- 004	0.0269	6.7500e- 003	0.0336	7.6600e- 003	6.2100e- 003	0.0139	0.0000	83.1422	83.1422	6.3000e- 004	0.0000	83.1554
Worker	0.0138	0.0247	0.2251	3.7000e- 004	0.0322	2.4000e- 004	0.0325	8.5500e- 003	2.1000e- 004	8.7700e- 003	0.0000	28.7532	28.7532	1.6600e- 003	0.0000	28.7881
Total	0.0357	0.3532	0.4015	1.2700e- 003	0.0591	6.9900e- 003	0.0661	0.0162	6.4200e- 003	0.0226	0.0000	111.8954	111.8954	2.2900e- 003	0.0000	111.9435

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3.8 Construction - Gen-Tie Line - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Off-Road	0.1500	1.5710	0.9465	1.5300e- 003		0.0751	0.0751		0.0695	0.0695	0.0000	143.9056	143.9056	0.0423	0.0000	144.7947
Total	0.1500	1.5710	0.9465	1.5300e- 003		0.0751	0.0751		0.0695	0.0695	0.0000	143.9056	143.9056	0.0423	0.0000	144.7947

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0219	0.3285	0.1764	9.0000e- 004	0.0269	6.7500e- 003	0.0336	7.6600e- 003	6.2100e- 003	0.0139	0.0000	83.1422	83.1422	6.3000e- 004	0.0000	83.1554
Worker	0.0138	0.0247	0.2251	3.7000e- 004	0.0322	2.4000e- 004	0.0325	8.5500e- 003	2.1000e- 004	8.7700e- 003	0.0000	28.7532	28.7532	1.6600e- 003	0.0000	28.7881
Total	0.0357	0.3532	0.4015	1.2700e- 003	0.0591	6.9900e- 003	0.0661	0.0162	6.4200e- 003	0.0226	0.0000	111.8954	111.8954	2.2900e- 003	0.0000	111.9435

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Avei	rage Daily Trip Ra	ite	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.358792	0.043989	0.190434	0.132708	0.068652	0.010207	0.015299	0.153173	0.002662	0.000258	0.016442	0.001375	0.006010

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	со	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	ī/yr		
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	 	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

<u>Unmitigated</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr						MT/yr									
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000	1 1 1 1 1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr						MT/yr									
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

PV3-PM10. out

AERSCREEN 11126 / AERMOD 1110 11/14/1211:44:12 TITLE: PM10_PV3 SOURCE EMISSION RATE: 0.7900 g/s 6.270 lb/hr 0.329E-05 g/(s-m2) 3.66 meters AREA EMISSION RATE: 0. 261E-04 lb/(hr-m2)AREA HEI GHT: 12.01 feet AREA SOURCE LONG SIDE: 490.00 meters 1607.61 feet AREA SOURCE SHORT SIDE: 490.00 meters 1607.61 feet INITIAL VERTICAL DIMENSION: 1.70 meters 5.58 feet RURAL OR URBAN: RURAL INITIAL PROBE DISTANCE = 5000. meters 16404. feet BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES 25 meter receptor spacing: 1. meters - 5000. meters _____ MAXIMUM IMPACT RECEPTOR SURFACE 1-HR CONC RADIAL DIST Zo TEMPORAL ROUGHNESS (ug/m3) (deg) (m) SECTOR PERI OD

23. 63 45 350. 0

0.260

1*

Page 1

ANN

PV3-PM10. out

* = worst case diagonal

_____ 271.0 / 308.0 (K) MIN/MAX TEMPERATURE: MINIMUM WIND SPEED: 4.6 m/s ANEMOMETER HEIGHT: 10.000 meters SURFACE CHARACTERISTICS INPUT: USER ENTERED ALBEDO: 0.33 BOWEN RATIO: 4.75 ROUGHNESS LENGTH: 0.260 (meters) METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT YR MO DY JDY HR 10 01 01 1 01 HO U* W* DT/DZ ZI CNV ZI MCH M-O LEN ZO BOWEN ALBEDO REF WS - 55, 39 0, 513 - 9, 000 0, 020 - 999, 846. 203. 4 0. 260 4. 75 0. 33 5.00 HT REF TA ΗT 10.0 271.0 2.0 METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT YR MO DY JDY HR _____ 10 01 01 1 01

				PV3-PM10. out								
НО	U*	W*	DT/DZ ZI CNV	ZI MCH	M-O LEN	ZO	BOWEN	ALBEDO	REF WS			
- 55. 39	0.513 -	9.000	0. 020 - 999.	846.	203.4	0.260	4.75	0.33	5.00			
НТ	REF TA	НТ										
10. 0	271.0	2.0										

DI ST (m)	MAXI MUM 1-HR CONC (ug/m3)	DI ST (m)	MAXI MUM 1-HR CONC (ug/m3)
$(m) \\ 1.00 \\ 25.00 \\ 50.01 \\ 75.00 \\ 100.00 \\ 125.00 \\ 150.01 \\ 175.00 \\ 200.00 \\ 225.00 \\ 250.00 \\ 250.00 \\ 275.00 \\ 300.00 \\ 325.00 \\ 350.00 \\ 375.01 \\ 400.00 \\ 425.00 \\ 450.00 \\ 475.01 \\ 500.00 \\ 1.00$	(ug/m3) 17. 71 18. 28 18. 84 19. 37 19. 89 20. 38 20. 86 21. 33 21. 78 22. 21 22. 63 23. 03 23. 40 23. 52 23. 63 19. 83 16. 76 15. 64 14. 00 12. 67 11. 58	$\begin{array}{c} (m) \\ 2524. 99 \\ 2550. 00 \\ 2575. 00 \\ 2600. 00 \\ 2625. 01 \\ 2650. 00 \\ 2675. 00 \\ 2700. 00 \\ 2725. 01 \\ 2749. 99 \\ 2775. 00 \\ 2800. 00 \\ 2825. 00 \\ 2849. 99 \\ 2875. 00 \\ 2900. 00 \\ 2925. 00 \\ 2925. 00 \\ 2950. 01 \\ 2975. 00 \\ 3000. 00 \\ 3025. 00 \end{array}$	$\begin{array}{c} 1.\ 253\\ 1.\ 236\\ 1.\ 220\\ 1.\ 204\\ 1.\ 188\\ 1.\ 173\\ 1.\ 158\\ 1.\ 173\\ 1.\ 158\\ 1.\ 144\\ 1.\ 129\\ 1.\ 115\\ 1.\ 102\\ 1.\ 088\\ 1.\ 075\\ 1.\ 063\\ 1.\ 050\\ 1.\ 038\\ 1.\ 026\\ 1.\ 014\\ 1.\ 003\\ \end{array}$
500.00 525.00 550.00 575.01	11. 58 10. 66 9. 891 9. 227	3050. 01 3075. 00 3100. 00	0.9694

599. 99	8.652	3125.	
625.00	8.143	3150.	
$650.\ 00\ 675.\ 00$	7.694 7.290	3174. 3200.	
699.99	6. 930	3225.	
725.00	6. 601	3250.	
750.00	6. 302	3275.	
775. 00 800. 01	6. 027 5. 775	3300. 3325.	
800.01	5. 543	3350.	
850.00	5. 326	3375.	
875.00	5.124	3400.	00 0. 8359
900.01	4. 937	3425.	
924.99	4.762	3450.	
$950.\ 00$ $975.\ 00$	$\begin{array}{c} 4.597 \\ 4.443 \end{array}$	3475. 3500.	
1000.00	4. 297	3525.	
1024.99	4. 160	3550.	00 0. 7880
1050.00	4.030	3575.	
1075.00	3. 908	3600.	
1100. 00 1125. 01	3. 791 3. 681	3625. 3650.	
1150.00	3. 577	3674.	
1175.00	3. 478	3699.	
1200.00	3. 382	3725.	
1225.01	3. 291	3750.	
$1250.\ 00\ 1275.\ 00$	3. 205 3. 123	3775. (3800. (
1300.00	3. 044	3825.	
1325.01	2.967	3850.	
1349.99	2.895	3875.	
1375.00	2.825	3900.	
1400.00 1425.00	2. 759 2. 696	3925.	
1425.00	2. 696	3950. 3975.	
1475.00	2. 575	4000.	
1500.00	2.518	4025.	
1525.00	2.463	4050.	
1550.00	2.411	4075.	
$1575.00 \\ 1600.00$	2.360 2.311	4100. 4125.	
1625.00	2. 264	4125.	
1650.01	2.219	4175.	
1674.99	2.175	4200.	00 0. 6266

		PV3-PM10. out
1700.00	2.132	4225.00 0.6215
1725.00	2. 091	4250.00 0.6165
1750.00	2.051	4275.00 0.6115
1774.99	2.012	4300.00 0.6067
1800.00	1.975	4325.00 0.6019
1825.00	1. 939	4350.00 0.5971
1850.00	1. 904	4375.00 0.5924
1875.01	1.870	4400.00 0.5878
1900.00	1.837	4425.00 0.5833
1925.00	1.805	4450.00 0.5788
1950. 00	1.774	4475.00 0.5745
1975. 01	1.744	4500.00 0.5701
1999. 99	1.715	$4525.\ 00$ 0. 5659
2025.00	1.687	4550.00 0.5617
2050. 00	1.659	4575.00 0.5575
2075.00	1.632	4600. 00 0. 5533
2099.99	1.606	4625.00 0.5492
2125.00	1.581	4650.00 0.5452
2150.00	1.556	4675.00 0.5412
2175.00	1.532	4700.00 0.5373
2199.99	1.509	4725.00 0.5334
2225.00	1.486	4750.00 0.5296
2250.00	1.463	4775.00 0.5258
2275.00	1.442	4800.00 0.5221
2300.01	1.420	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$
$2325.00 \\ 2350.00$	1. 400 1. 380	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$
2375.00	1. 360	4875.00 0.5110 4900.00 0.5074
2400.01	1. 341	4900.00 0.5074 4925.00 0.5039
2400.01	1. 323	4923.00 0.5039
2450.00	1. 305	4975.00 0.4969
2475.00	1. 287	5000.00 0.4935
2500.00	1. 270	0000.00 0.4000
2000.00		

3-hour, 8-hour, and 24-hour scaled concentrations are equal to the 1-hour concentration as referenced in SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)

PV3-PM10. out

Report number EPA-454/R-92-019 http://www.epa.gov/scram001/guidance_permit.htm under Screening Guidance

CALCULATI ON PROCEDURE	MAXI MUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	23. 91	23. 91	23. 91	23. 91	N/A
DISTANCE FROM SOURC	CE 34	7.01 meters			
IMPACT AT THE AMBIENT BOUNDARY	17. 71	17.71	17. 71	17. 71	N/A
DISTANCE FROM SOURC	CE	1.00 meters			

PV3-PM2. 5. out

AERSCREEN 11126 / AERMOD 1110

11/14/12 11: 47: 40

TI TLE: PM2. 5_PV3

******	** AREA PARAMET	ERS ***************	*****
SOURCE EMISSION RATE:	0.1700 g/s	1. 349	l b/hr
AREA EMI SSI ON RATE: AREA HEI GHT: AREA SOURCE LONG SI DE: AREA SOURCE SHORT SI DE: I NI TI AL VERTI CAL DI MENSI ON: RURAL OR URBAN:	0.708E-06 g/(s 3.66 mete 490.00 mete 490.00 mete 1.70 mete RURAL	rs 12.01 rs 1607.61 rs 1607.61	feet
INITIAL PROBE DISTANCE =	5000. mete	rs 16404.	feet

*******	BUI LDI NG	DOWNWASH	PARAMETERS	* * * * * * * * * * * * * * * * * * * *

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

MAXI MUM	I MPACT REC	CEPTOR			
Zo SECTOR		1-HR CONC (ug/m3)		DI ST (m)	TEMPORAL PERI OD
1*	0. 260	5. 084	45	350.0	ANN

Page 1

PV3-PM2. 5. out

* = worst case diagonal

_____ 271.0 / 308.0 (K) MIN/MAX TEMPERATURE: MINIMUM WIND SPEED: 4.6 m/s ANEMOMETER HEIGHT: 10.000 meters SURFACE CHARACTERISTICS INPUT: USER ENTERED ALBEDO: 0.33 BOWEN RATIO: 4.75 ROUGHNESS LENGTH: 0.260 (meters) METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT YR MO DY JDY HR 10 01 01 1 01 HO U* W* DT/DZ ZI CNV ZI MCH M-O LEN ZO BOWEN ALBEDO REF WS - 55, 39 0, 513 - 9, 000 0, 020 - 999, 846. 203. 4 0. 260 4. 75 0. 33 5.00 HT REF TA ΗT 10.0 271.0 2.0 METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT YR MO DY JDY HR _____ 10 01 01 1 01

			PV3-PM2. 5. out								
НО	U*	W*	DT/DZ ZI CNV	ZI MCH	M-O LEN	ZO	BOWEN	ALBEDO	REF WS		
- 55. 39	0.513 -	9.000	0. 020 - 999.	846.	203.4	0.260	4.75	0.33	5.00		
НТ	REF TA	НТ									
10.0	271.0	2.0									

DI ST (m)	MAXI MUM 1-HR CONC (ug/m3)	DI ST (m)	MAXI MUM 1-HR CONC (ug/m3)
$\begin{array}{c} 1.\ 00\\ 25.\ 00\\ 50.\ 01\\ 75.\ 00\\ 100.\ 00\\ 125.\ 00\\ 150.\ 01\\ 175.\ 00\\ 200.\ 00\\ 225.\ 00\\ 250.\ 00\\ 255.\ 00\\ 300.\ 00\\ 325.\ 00\\ 350.\ 00\\ 375.\ 01\\ 400.\ 00\\ \end{array}$	$\begin{array}{c} 3.812\\ 3.933\\ 4.054\\ 4.169\\ 4.280\\ 4.387\\ 4.490\\ 4.590\\ 4.686\\ 4.780\\ 4.686\\ 4.780\\ 4.869\\ 4.956\\ 5.037\\ 5.061\\ 5.084\\ 4.268\\ 3.608 \end{array}$	2524.99 2550.00 2575.00 2600.00 2625.01 2650.00 2675.00 2700.00 2725.01 2749.99 2775.00 2800.00 2825.00 2849.99 2875.00 2900.00 2925.00	$\begin{array}{c} 0.\ 2695\\ 0.\ 2660\\ 0.\ 2625\\ 0.\ 2591\\ 0.\ 2557\\ 0.\ 2524\\ 0.\ 2492\\ 0.\ 2461\\ 0.\ 2430\\ 0.\ 2440\\ 0.\ 2371\\ 0.\ 2342\\ 0.\ 2314\\ 0.\ 2287\\ 0.\ 2260\\ 0.\ 2233\\ 0.\ 2208 \end{array}$
$\begin{array}{c} 425.\ 00\\ 450.\ 00\\ 475.\ 01\\ 500.\ 00\\ 525.\ 00\\ 550.\ 00\\ 575.\ 01 \end{array}$	3. 365 3. 013 2. 727 2. 491 2. 295 2. 129 1. 986	$\begin{array}{c} 2950.\ 01\\ 2975.\ 00\\ 3000.\ 00\\ 3025.\ 00\\ 3050.\ 01\\ 3075.\ 00\\ 3100.\ 00\\ \end{array}$	0. 2182 0. 2158 0. 2133 0. 2110 0. 2086 0. 2063 0. 2041

		PV3-	PM2. 5. out
599.99	1.862	3125.00	0. 2018
625.00	1. 752	3150.00	0. 1997
650.00	1. 656	3174.99	0. 1975
675.00	1. 569	3200.00	0. 1954
699.99	1.491	3225.00	0. 1934
725.00	1.421	3250.00	0. 1913
750.00	1.356	3275.00	0. 1893
775.00	1.297	3300.00	0. 1874
800.01	1.243	3325.00	0. 1855
825.00	1.193	3350.00	0. 1836
850.00	1.146	3375.00	0. 1817
875.00	1.103	3400.00	0.1799
900. 01	1.062	3425.00	0. 1781
924.99	1.025	3450.00	0.1763
950.00	0. 9893	3475.00	0.1746
975.00	0.9562	3500.00	0. 1729
1000.00	0. 9248	3525.00	0. 1712
1024.99	0.8953	3550.00	0.1696
1050.00	0.8673	3575.00	0.1680
1075.00	0.8409	$3600.\ 00\ 3625.\ 00$	0.1664
1100. 00 1125. 01	$0.8158 \\ 0.7922$	3650.00	$0.1648 \\ 0.1633$
1125.01	0. 7698	3674.99	0. 1633
1175.00	0. 7484	3699.99	0. 1613
1200.00	0. 7277	3725.00	0. 1588
1225.01	0. 7082	3750.00	0. 1574
1250.00	0. 6896	3775.00	0. 1560
1275.00	0. 6720	3800.00	0. 1546
1300.00	0.6550	3825.00	0.1532
1325.01	0.6386	3850.00	0.1518
1349. 99	0. 6229	3875.00	0. 1505
1375.00	0. 6080	3900. 00	0.1492
1400. 00	0. 5937	3925.00	0.1479
1425.00	0. 5801	3950.00	0.1466
1449.99	0. 5669	3975.00	0. 1454
1475.00	0. 5542	4000. 00	0. 1441
1500.00	0. 5419	4025.00	0. 1429
1525.00	0. 5301	4050.00	0. 1417
1550.00	0.5188	4075.00	0.1405
1575.00	0.5079	4100.00	0. 1393
$1600.\ 00 \\ 1625.\ 00$	$\begin{array}{c} 0.\ 4974 \\ 0.\ 4873 \end{array}$	$\begin{array}{c} 4125.\ 00\\ 4150.\ 00\end{array}$	0. 1382 0. 1371
1625.00	0. 4875	4130.00	0. 1371
1674.99	0. 4775	4175.00	0. 1348
1074.00	0. 1000	4200.00	0.1040

		PV3-PM2.5.out
1700.00	0.4588	4225. 00 0. 1338
1725.00	0. 4499	4250.00 0.1327
1750.00	0. 4413	4275.00 0.1316
1774.99	0. 4330	4300.00 0.1306
1800.00	0. 4250	4325.00 0.1295
1825.00	0. 4173	4350.00 0.1285
1850.00	0. 4098	4375.00 0.1275
1875.01	0.4025	4400.00 0.1265
1900.00	0. 3953	4425.00 0.1255
1925.00	0. 3885	4450.00 0.1246
1950. 00	0. 3818	4475.00 0.1236
1975. 01	0. 3753	4500.00 0.1227
1999. 99	0. 3691	4525.00 0.1218
2025.00	0.3630	4550.00 0.1209
2050. 00	0. 3570	4575.00 0.1200
2075.00	0. 3512	4600. 00 0. 1191
2099. 99	0.3456	4625. 00 0. 1182
2125.00	0.3402	4650.00 0.1173
2150.00	0. 3349	4675.00 0.1165
2175.00	0. 3297	4700.00 0.1156
2199.99	0. 3246	4725.00 0.1148
2225.00	0.3197	4750.00 0.1140
2250.00	0.3149	4775.00 0.1131
2275.00	0. 3102	4800.00 0.1123
2300.01	0.3057	4825.00 0.1116
2325.00	0.3013	4850.00 0.1108
2350.00	0. 2970	4875.00 0.1100
2375.00	0. 2928	4900.00 0.1092
2400.01	0.2887	4925.00 0.1084
2424.99 2450.00	0. 2847 0. 2808	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$
2450.00 2475.00	0. 2808	4975.00 0.1069 5000.00 0.1062
2500.00	0. 2732	5000.00 0.1002
£300.00	0. 2102	

3-hour, 8-hour, and 24-hour scaled concentrations are equal to the 1-hour concentration as referenced in SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)

PV3-PM2. 5. out

Report number EPA-454/R-92-019 http://www.epa.gov/scram001/guidance_permit.htm under Screening Guidance

CALCULATI ON PROCEDURE	MAXI MUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	5. 146	5. 146	5. 146	5. 146	N/A
DISTANCE FROM SOURCE 347.01 meters					
I MPACT AT THE AMBI ENT BOUNDARY	3. 812	3. 812	3. 812	3. 812	N/A
DI STANCE FROM SOUR	CE	1.00 meters			

Project Construction Risk Calculations

Maximum 1-Hour Conc: 1.86E-05 Annual Average Conc: 1.86E-05

Cancer Risk

Cancer Risk: 9.799E-05 Threshold: 10 in one million

Cancer Risk = Slope * Inhalation Dose

Inhalation Dose = (Cair*DBR*A*EF*ED*10⁻⁶)/AT

Slope	1.1	(mg/kg/da	/) ⁻¹
Inhalation D	Dose		Dose through inhalation (mg/kg-d)
10 ⁻⁶			Micrograms to milligrams conversions, liters to cubic meters conversion
Cair			Concentration in air (ug/m ³), modeled annual average concentration
DBR	303	L/kg-day	Daily breathing Rate (I/kg body weight-day) (80%ile)
A	1		Inhalation absorption factor
EF	245	days/year	Exposure frequency (days/year)
ED	2	years	Exposure duration (years)
AT	25550	days	Averaging time period over which exposure is averaged, in days (70 years*365 = 25,550 days)

Chronic Noncancer Hazard

Threshold:

Hazard Quotient = C_i/REL_i

HQ =	3.71E-06
C _i	1.86E-05 Concentration (annual average)
REL _i	5 Reference Exposure Level

1

1

Acute NonCancer Hazard

Threshold:

Acute HQ = Maximum Hourly Concentration/Acute REL

Max Hourly	1.855E-05
Acute REL (Acrolein)	0.19

Appendix I Letter from Dr. Gary Fujimoto, M.D. to First Solar re: Valley Fever, dated May, 2015

Gary R. Fujimoto, MD

OCCUPATIONAL MEDICINE CONSULTANT

PO Box 3583 Los Altos, CA 94024 650-619-6011 DRGARYFUJIMOTO@GMAIL.COM

6/2/2015

Mr. Rob Dmohowski Kern County Planning Department 2700 "M" Street, Suite 100 Bakersfield, CA 93301 dmohowskir@co.kern.ca.us planning@co.kern.ca.us

Re: Response to Comment on the Draft Environmental Impact Report for the Willow Springs Solar Array Project (PP10232) (State Clearinghouse No. 2010031023)

Dear Mr. Dmohowski

I have reviewed the material prepared by Kern County Planning Department, as the Lead Agency for the Willow Springs Solar Array Project (Project) Draft Environmental Impact Report (DEIR), in response to comments submitted to the County by Adams, Broadwell, Joseph & Cardozo on April 13th, 2015. This letter specifically addresses those comments associated with the assessment of potential air quality impacts of the Project associated with Valley Fever.

I am a board certified internal and occupational medicine specialist and have served as the principal medical consultant for biological and chemical exposures at Stanford University for over 20 years. A résumé summarizing my additional qualifications is attached to this letter.

As a medical professional, I concur that the Lead Agency's assessment of potential Valley Fever, as amended in the County's responses in Comments A-21 through A-26, adequately addresses the potential risk of exposure of personnel, and mitigates potential impacts associated with Valley Fever.

Regards.

Gary R. Fujimoto, MD

Occupational Medicine Consultant

Attachment: Curriculum Vitae: Gary Randall Fujimoto, M.D.