BEACON SOLAR ENERGY PROJECT

Responses to CEC Data Requests 1 through 70

Submitted by:

Beacon Solar, LLC

Submitted to:

California Energy Commission

July 16, 2008

Prepared by:

ENSR | AECOM

DOCKET

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DATE JUL 16 2008

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Data Request 1:

Please describe:

a. the months of the year and the duration and number of hours of the day that the boilers would operate to provide freeze protection of the heat transfer fluid; and
b. whether the boilers would startup and operate at full load for this procedure or whether partial load would be possible.

Response:

BSEP will operate the anti-freeze system as needed to keep the heat transfer fluid from freezing. It has been estimated that the anti-freeze heater will be required during the coldest evenings during winter and including the annual outage in December. The number of hours per month are as follows:

October: .5 hour per day
November: 1 hour per day
December: 2.5 hours per day
January: 2.5 hours per day
Febuary: 1 hour per day.
20 hours reserved for forced shutdown or scheduled shutdowns

The boiler will operate as required based on ambient conditions and HTF fluid temperature. The BSEP auxiliary boiler would reach emissions compliance within 15 minutes from start up. Depending on anti-freeze heating requirement the boiler may operate at full load or part load.

Data Request 2:

Please describe:

a. the months of the year and the duration and number of hours of the day that the boilers would operate to provide pre-warming for the daily startup; and
b. whether the boilers would startup and operate at full load for this procedure or whether partial load would be possible.

Response:

The boiler will be operated two hours everyday that the plant is operating. The number of hours per month are as follows:

January: 62 hours
Febuary: 58 hours

March: 62 hours
April: 60 hours
May: 62 hours
June: 60 hours
July: 62 hours
August: 62 hours
September: 60 hours
October: 62 hours
November: 60 hours
December: 30 hours

The boiler will operate as required based on seal steam and other start-up steam demand requirements. The BSEP auxiliary boiler would reach emissions compliance within 15 minutes from start up. Depending on the steam demand the boiler may operate at full load or part load. During the winter months the plant will shutdown for a period of time for maintenance. The outage has been estimated to occur in December as shown above based on historical information, but may occur during any winter month.

Data Request 3:

Please describe the size (in acres) of the new substation.

Response:

The size of the proposed new substation would be approximately 1.7 acres.

Data Request 4:

[For construction and operation of the new substation], please describe the construction equipment necessary and the duration of construction.

Response:

Please see the request for extension that was filed on July 7, 2008.

Data Request 5:

[For construction and operation of the new substation], please quantify the expected criteria pollutant emissions from the construction equipment identified in Soils Data Request 45.

Response:

Please see the request for extension that was filed on July 7, 2008.

Data Request 6:

Please quantify and show the calculations of the sulfur hexafluoride greenhouse gas release estimates from the substation switching equipment for the case in which the new substation would be required.

Response:

Please see the request for extension that was filed on July 7, 2008.

Data Request 7:

Please provide data to justify the soil moisture content assumption of 15 percent taking into consideration the actual local soil characteristics and moisture levels.

Response:

The assumption of 15 percent moisture content was based on a value for moist soil listed in Table 9-9-G-1 of the South Coast Air Quality Management District "CEQA Air Quality Handbook" (November 1993). It was assumed that application of water would maintain the moisture content at approximately this level during earthmoving activities.

According to the Preliminary Geotechnical Investigation Report prepared for BSEP by Kleinfelder dated February 20, 2008, contained in Appendix B.2 to the AFC, the Optimum Water Content (the moisture content of the soil at which the maximum compacted dry unit weight can be achieved) varies from 9.5 to 12.5% (please see Plates B-9, B-10, and B-11 from the Preliminary Geotechnical Investigation Report, by Kleinfelder, dated February 20, 2008). A moisture content of 15% is above the Optimum Moisture Content of the soil. This moisture content will help control fugitive dust, and it will help having the soil above the Optimum Moisture during the movement of the soil, as moisture loss can be expected during movement/placement of the soil due to the arid location of the project. Because the existing

soil is below the Optimum Water Content (see response to Data Request 8, below) and below the level desired to ensure adequate dust control, water will need to be added in order to maintain the soil at or near a moisture content of 15%. For more information on the water content of the existing soils, please refer to the Preliminary Geotechnical Investigation Report, contained in Appendix B.2 to the AFC.

Data Request 8:

Please describe the quantity of water and frequency of watering that would be required to establish and maintain the 15 percent soil moisture content and provide effective PM10 emission control.

Response:

According to the Preliminary Geotechnical Investigation Report, the water content of the onsite soils varies between 2.7 to 5.2 percent (3.6 percent average) and the maximum dry density of the soils varies from 114.5 to 124.0 pounds per cubic foot (119.25 pounds per cubic foot average). The amount of water required to increase the moisture content from 3.6 percent to 15 percent is about 1.6 gallons of water per cubic foot of soil being moved or graded.

The frequency of watering will vary with temperature, relative humidity and wind speed, which affect the rate of evaporation of the water that is added to the soil. Rather than specifying a fixed watering frequency, the frequency will be determined based on visual observation of dust plumes, as required in proposed Condition of Certification AQ-C4 (AFC p. 5.2-46). Specifically, additional water will be applied if visible dust plumes are observed that have the potential to be transported to public roadways or within 100 feet upwind of any regularly occupied structures not owned by the project owner.

Data Request 9:

Please clarify whether all the site preparation work will be completed before the foundations and major equipment installation will take place. If that is so, please describe how fugitive dust control methods will be employed (including dust palliative materials that could be used) to stabilize the recently disturbed soils before the commencement of foundation work.

Response:

The site preparation work, which consists of scarifying, grading and compacting the terrain, will be done by areas or zones. Construction of foundations and installation of equipment will

occur in some areas, following the site preparation work in those areas, while site preparation is occurring in other areas.

Dust control methods that could be used to stabilize surfaces following site preparation include:

- **Plain Water Sprays:** using plain water to wet the material;
- **Water Sprays with Surfactant:** using a surfactant added to the water would lower the surface tension of the water, and increase the ability of the water to penetrate the soil. Many commercial products are available for this purpose; and
- **Dust Palliative:** a blend of water and commercially available dust palliative materials could be used in areas where grading operations have been completed. Dust palliatives work by either agglomerating the fine particles, adhering/binding the surface particles together, or increasing the density of the near surface materials.

Data Request 10:

Please explain why water dispensing vehicles would not be used for approximately one-half of the grading activities. Please revise Table 7-A through 7-K, if necessary, if this presumption is in error.

Response:

Water dispensing vehicles will be used throughout the grading period (construction months 2 through 9) and should have been included during construction months 7 through 9. Tables 7-A through 7-K have been revised and are included on a CD that is being submitted with these responses.

A revised version of Table 5.2-17 from the AFC that reflects these changes is also provided below. Additionally, some of the values in the original table in the AFC, particularly maximum daily emissions, were not consistent with the detailed emission calculations in Appendix E. The values in the revised table are consistent with the revised detailed calculations.

Table 5.2-17R Maximum Onsite Solar Facility Construction Emissions

Time Period	CO	VOC	NOx	SOx	PM10	PM2.5
Daily (lb/day)	714.4	119.3	1,037.3	0.9	215.7	102.9
Annual (tpy)	70.9	10.3	86.2	0.1	21.2	9.1

Data Request 11:

a. Please describe in detail how the dust generated by the earth moving operations will be managed;
b. Describe in detail the number and type of water dispensing vehicles that will be employed during the grading of each 15-acre parcel; and
c. Describe how and by what criteria a determination would be made for additional water dispensing to control fugitive dust.

Response:

a. Dust control will be managed primarily by wet suppression using plain water. A water truck will spray water onto sites whenever earth moving activities occur. When needed, areas will be pre-watered and soils will be maintained in a stabilized condition where support equipment and vehicles operate (graders, scrappers, bulldozers, etc.). Disturbed soils will be watered to form a crust. Water spray application will be controlled to prevent overwatering and minimize pooling.
b. Two-4,000 gallons capacity water trucks or larger will be needed to water each 15-acre parcel during the site preparation work. The amount of water needed will depend on the amount of soil being moved (about 1.6 gallons of water per cubic foot to maintain about 15 percent water content as described in the response to Data Request 8).

Pre-watering may be needed when high temperature, low humidity, or high wind speeds occur. As discussed in the response to Data Request 8, additional water will be applied if visible dust plumes are observed that have the potential to be transported to public roadways or within 100 feet upwind of any regularly occupied structures not owned by the project owner.

Data Request 12:

Please describe at what wind speeds construction scraping and grading would be suspended due to the inability to adequately control fugitive dust emissions. Staff would very likely recommend a permit condition that would require such a suspension of grading in order to adequately control fugitive dust emissions.

Response:

We do not propose suspending scraping and grading when the wind speed exceeds a pre-determined value since, depending on the type of construction activity, we may be able to effectively control dust even in relatively high winds. Instead, we propose to suspend scraping

and grading when additional watering does not prevent visible plumes from coming within 100 feet upwind of any regularly occupied structures not owned by the project owner (see above).

Attachment DR-10

Construction Emissions

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
A/C Tug Narrow Body	0	250	0.7523	2.4266	0.1032	0.0020	0.2577
A/C Tug Wide Body	0	500	2.2871	4.1595	0.1722	0.0033	0.4346
Aerial Lifts	0	15	0.0530	0.0697	0.0042	0.0001	0.0108
Aerial Lifts	16	25	0.0617	0.1052	0.0073	0.0001	0.0233
Aerial Lifts	26	50	0.2022	0.2030	0.0202	0.0003	0.0831
Aerial Lifts	51	120	0.2540	0.4815	0.0386	0.0004	0.0772
Aerial Lifts	121	500	0.6441	2.0756	0.0648	0.0021	0.1667
Aerial Lifts	501	750	1.1642	3.8473	0.1187	0.0039	0.3102
Agricultural Mowers	0	120	0.2317	0.4381	0.0339	0.0004	0.0677
Agricultural Tractors	0	15	0.0643	0.0770	0.0039	0.0002	0.0123
Agricultural Tractors	16	25	0.0839	0.1645	0.0091	0.0003	0.0256
Agricultural Tractors	26	50	0.3763	0.3596	0.0367	0.0004	0.1550
Agricultural Tractors	51	120	0.4948	0.9348	0.0754	0.0009	0.1485
Agricultural Tractors	121	175	0.6843	1.4229	0.0720	0.0014	0.1679
Agricultural Tractors	176	250	0.4790	1.8992	0.0619	0.0020	0.1615
Agricultural Tractors	251	500	0.9402	2.8342	0.0934	0.0029	0.2373
Air Compressors	0	15	0.0526	0.0888	0.0066	0.0001	0.0154
Air Compressors	16	25	0.0893	0.1439	0.0106	0.0002	0.0352
Air Compressors	26	50	0.2948	0.2443	0.0284	0.0003	0.1278
Air Compressors	51	120	0.3409	0.6410	0.0583	0.0006	0.1110
Air Compressors	121	175	0.5160	1.0887	0.0606	0.0010	0.1384
Air Compressors	176	250	0.3710	1.5102	0.0510	0.0015	0.1352
Air Compressors	251	500	0.7626	2.3945	0.0822	0.0023	0.2133
Air Compressors	501	750	1.1786	3.7946	0.1288	0.0036	0.3355
Air Compressors	751	1000	2.0763	6.3334	0.1946	0.0049	0.5679
Air Conditioner	0	175	0.7700	1.2286	0.0632	0.0016	0.1317
Air Conditioner	176	250	0.3866	1.6635	0.0460	0.0023	0.1176
Air Conditioner	251	500	0.7521	2.7988	0.0856	0.0047	0.2052
Air Start Unit	0	175	0.7862	1.5461	0.0731	0.0015	0.1696
Air Start Unit	176	250	0.5213	2.0852	0.0629	0.0021	0.1632
Air Start Unit	251	500	1.1261	3.7726	0.1173	0.0042	0.2901
Air Start Unit	501	750	1.6892	5.8088	0.1785	0.0064	0.4500

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Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Baggage Tug	0	120	0.3842	0.7453	0.0674	0.0006	0.1306
Balers	0	50	0.2875	0.3588	0.0296	0.0005	0.1065
Balers	51	120	0.3362	0.6373	0.0435	0.0006	0.0912
Belt Loader	0	120	0.2553	0.4875	0.0435	0.0004	0.0835
Bobtail	0	120	0.5648	1.0860	0.0924	0.0009	0.1806
Bore/Drill Rigs	0	15	0.0631	0.0756	0.0038	0.0002	0.0121
Bore/Drill Rigs	16	25	0.0664	0.1295	0.0072	0.0002	0.0201
Bore/Drill Rigs	26	50	0.2607	0.2852	0.0221	0.0004	0.0668
Bore/Drill Rigs	51	120	0.4862	0.6800	0.0520	0.0009	0.0857
Bore/Drill Rigs	121	175	0.7534	1.0190	0.0527	0.0016	0.1049
Bore/Drill Rigs	176	250	0.3475	1.3088	0.0395	0.0021	0.0997
Bore/Drill Rigs	251	500	0.5589	1.8438	0.0624	0.0031	0.1518
Bore/Drill Rigs	501	750	1.1044	3.7874	0.1256	0.0062	0.3075
Bore/Drill Rigs	751	1000	1.7278	8.7507	0.2160	0.0093	0.5743
Cargo Loader	0	120	0.4550	0.8371	0.0748	0.0007	0.1408
Cargo Tractor	0	120	0.4386	0.7893	0.0735	0.0007	0.1358
Catering Truck	0	250	0.3039	1.3308	0.0358	0.0018	0.0907
Cement and Mortar Mixers	0	15	0.0391	0.0531	0.0033	0.0001	0.0082
Cement and Mortar Mixers	16	25	0.0991	0.1677	0.0116	0.0002	0.0375
Chippers/Stump Grinders	0	25	0.0829	0.1582	0.0086	0.0003	0.0246
Chippers/Stump Grinders	26	120	0.5038	0.9191	0.0739	0.0009	0.1432
Chippers/Stump Grinders	121	175	0.7085	1.4209	0.0706	0.0015	0.1629
Chippers/Stump Grinders	176	250	0.5786	2.2668	0.0731	0.0025	0.1892
Chippers/Stump Grinders	251	500	0.7253	2.2714	0.0748	0.0024	0.1876
Chippers/Stump Grinders	501	750	1.7461	5.6232	0.1827	0.0060	0.4650
Chippers/Stump Grinders	751	1000	3.0785	10.0692	0.2975	0.0085	0.8466
Combines	0	120	0.5930	1.1235	0.0789	0.0011	0.1636
Combines	121	175	0.6309	1.3131	0.0578	0.0014	0.1410
Combines	176	250	0.4269	1.7267	0.0492	0.0020	0.1314
Combines	251	500	0.6289	2.2088	0.0644	0.0024	0.1649
Commercial Turf Equipment	0	15	0.0589	0.0719	0.0040	0.0002	0.0102
Commercial Turf Equipment	16	25	0.0596	0.1120	0.0059	0.0002	0.0176

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Compressor (Entertainment)	0	120	0.2501	0.4629	0.0410	0.0004	0.0776
Compressor (GSE)	0	120	0.3988	0.7119	0.0626	0.0007	0.1166
Compressor (GSE)	121	250	0.3095	1.2232	0.0413	0.0013	0.1076
Compressor (GSE)	251	500	0.6945	2.2359	0.0777	0.0024	0.1976
Compressor (GSE)	501	750	1.0261	3.3924	0.1165	0.0036	0.2978
Compressor (Railyard)	0	120	0.2329	0.4310	0.0381	0.0004	0.0722
Concrete/Industrial Saws	0	25	0.0678	0.1294	0.0071	0.0002	0.0201
Concrete/Industrial Saws	26	50	0.3307	0.3120	0.0317	0.0004	0.1322
Concrete/Industrial Saws	51	120	0.5025	0.9097	0.0754	0.0009	0.1439
Concrete/Industrial Saws	121	175	0.8820	1.7461	0.0902	0.0018	0.2052
Crane (Rail-CHE)	0	120	0.3864	0.7150	0.0633	0.0006	0.1199
Crane (Rail-CHE)	121	175	0.3626	0.7432	0.0355	0.0008	0.0837
Cranes	0	50	0.3258	0.2582	0.0304	0.0003	0.1373
Cranes	51	120	0.3759	0.6894	0.0632	0.0006	0.1185
Cranes	121	175	0.4901	0.9835	0.0562	0.0009	0.1274
Cranes	176	250	0.3665	1.3089	0.0501	0.0013	0.1313
Cranes	251	500	0.7164	1.8761	0.0727	0.0018	0.1912
Cranes	501	750	1.2055	3.2282	0.1237	0.0030	0.3239
Cranes	751	9999	4.4728	12.6382	0.3966	0.0098	1.1493
Crawler Tractors	0	50	0.3612	0.2814	0.0336	0.0003	0.1538
Crawler Tractors	51	120	0.5075	0.9510	0.0858	0.0008	0.1641
Crawler Tractors	121	175	0.7655	1.5591	0.0894	0.0014	0.2036
Crawler Tractors	176	250	0.6045	2.0496	0.0831	0.0019	0.2152
Crawler Tractors	251	500	1.2964	2.8731	0.1160	0.0025	0.3039
Crawler Tractors	501	750	2.3239	5.2476	0.2098	0.0047	0.5475
Crawler Tractors	751	1000	3.6776	8.9154	0.2951	0.0066	0.8398
Crushing/Proc. Equipment	0	50	0.5722	0.4760	0.0543	0.0006	0.2403
Crushing/Proc. Equipment	51	120	0.5999	1.0900	0.0996	0.0010	0.1858
Crushing/Proc. Equipment	121	175	0.9757	1.9583	0.1105	0.0019	0.2482
Crushing/Proc. Equipment	176	250	0.6613	2.6825	0.0900	0.0027	0.2385
Crushing/Proc. Equipment	251	500	1.1535	3.6453	0.1263	0.0037	0.3267
Crushing/Proc. Equipment	501	750	1.7704	5.9389	0.2012	0.0059	0.5230

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Crushing/Proc. Equipment	751	9999	5.2003	16.6064	0.5026	0.0131	1.4602
Dumpers/Tenders	0	25	0.0345	0.0661	0.0039	0.0001	0.0114
Excavators	0	25	0.0676	0.1271	0.0066	0.0002	0.0200
Excavators	26	50	0.3260	0.2677	0.0297	0.0003	0.1251
Excavators	51	120	0.5368	0.8983	0.0839	0.0009	0.1515
Excavators	121	175	0.6709	1.1969	0.0702	0.0013	0.1560
Excavators	176	250	0.4137	1.6020	0.0555	0.0018	0.1528
Excavators	251	500	0.6596	2.0634	0.0754	0.0023	0.2070
Excavators	501	750	1.0934	3.5238	0.1269	0.0039	0.3458
Forklift	0	175	0.3276	0.6438	0.0345	0.0007	0.0778
Forklifts	0	50	0.1960	0.1577	0.0182	0.0002	0.0786
Forklifts	51	120	0.2288	0.3828	0.0385	0.0004	0.0684
Forklifts	121	175	0.3327	0.6146	0.0374	0.0006	0.0826
Forklifts	176	250	0.1775	0.7899	0.0244	0.0009	0.0696
Forklifts	251	500	0.2459	0.9851	0.0328	0.0011	0.0918
Fuel Truck	0	250	0.1524	0.6028	0.0198	0.0007	0.0513
Generator	0	120	0.6080	1.0701	0.1016	0.0009	0.1858
Generator	121	175	0.9293	1.7965	0.1052	0.0017	0.2358
Generator	176	250	0.6200	2.4489	0.0852	0.0025	0.2319
Generator	251	500	1.0553	3.4001	0.1231	0.0040	0.3350
Generator	501	750	1.7036	5.6459	0.2020	0.0064	0.5453
Generator (Entertainment)	0	50	0.4225	0.4431	0.0418	0.0006	0.1665
Generator (Entertainment)	51	120	0.5820	1.0832	0.0832	0.0010	0.1657
Generator (Entertainment)	121	175	0.7911	1.6213	0.0775	0.0017	0.1826
Generator (Entertainment)	176	250	0.5299	2.0299	0.0649	0.0022	0.1690
Generator (Entertainment)	251	500	0.8467	2.6012	0.0844	0.0027	0.2133
Generator (Entertainment)	501	750	1.6621	5.2270	0.1676	0.0055	0.4304
Generator (Entertainment)	751	9999	3.6146	11.4568	0.3456	0.0097	0.9794
Generator (Railyard)	0	175	0.7370	1.5105	0.0722	0.0016	0.1701
Generator (Railyard)	176	9999	3.2914	10.4323	0.3147	0.0088	0.8918
Generator Sets	0	15	0.0744	0.1220	0.0075	0.0002	0.0185
Generator Sets	16	25	0.1090	0.1757	0.0115	0.0002	0.0322

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Generator Sets	26	50	0.3039	0.3144	0.0305	0.0004	0.1236
Generator Sets	51	120	0.5136	0.9729	0.0766	0.0009	0.1540
Generator Sets	121	175	0.7527	1.5955	0.0770	0.0016	0.1837
Generator Sets	176	250	0.5434	2.2361	0.0676	0.0024	0.1804
Generator Sets	251	500	0.9836	3.2513	0.0998	0.0033	0.2569
Generator Sets	501	750	1.5879	5.3806	0.1632	0.0055	0.4274
Generator Sets	751	9999	3.9872	12.7668	0.3898	0.0105	1.1113
Graders	0	50	0.3692	0.3001	0.0342	0.0004	0.1507
Graders	51	120	0.5512	0.9807	0.0896	0.0009	0.1659
Graders	121	175	0.7435	1.4365	0.0821	0.0014	0.1841
Graders	176	250	0.5194	1.8997	0.0705	0.0019	0.1856
Graders	251	500	0.8122	2.2486	0.0853	0.0023	0.2248
Graders	501	750	1.7191	4.8761	0.1829	0.0049	0.4795
Ground Power Unit	0	175	0.8743	1.6762	0.0936	0.0017	0.2078
Hydrant Truck	0	175	0.8534	1.7148	0.0894	0.0017	0.2042
Hydro Power Units	0	15	0.0367	0.0440	0.0022	0.0001	0.0070
Hydro Power Units	16	25	0.0475	0.0932	0.0052	0.0001	0.0145
Hydro Power Units	26	50	0.2742	0.2303	0.0261	0.0003	0.1171
Hydro Power Units	51	120	0.3032	0.5703	0.0501	0.0005	0.0957
Lav Truck	0	175	0.3102	0.6037	0.0348	0.0006	0.0777
Lawn & Garden Tractors	0	15	0.0574	0.0777	0.0047	0.0001	0.0110
Lawn & Garden Tractors	16	25	0.0606	0.1191	0.0066	0.0002	0.0181
Leaf Blowers/Vacuums	0	15	0.0184	0.0240	0.0014	0.0000	0.0034
Leaf Blowers/Vacuums	16	120	0.2977	0.5445	0.0380	0.0006	0.0773
Leaf Blowers/Vacuums	121	250	0.2363	0.9449	0.0265	0.0011	0.0698
Lift	0	120	0.5017	0.8959	0.0784	0.0008	0.1462
Materials Handling (Rail-CHE)	0	120	0.4241	0.7848	0.0695	0.0007	0.1316
Off-Highway Tractors	0	120	0.7524	1.4824	0.1303	0.0011	0.2575
Off-Highway Tractors	121	175	0.8643	1.8473	0.1052	0.0015	0.2423
Off-Highway Tractors	176	250	0.5600	1.7836	0.0773	0.0015	0.1965
Off-Highway Tractors	251	750	3.8330	7.1549	0.2995	0.0057	0.7713
Off-Highway Tractors	751	1000	5.9483	11.8428	0.4197	0.0082	1.1731

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Off-Highway Trucks	0	175	0.7638	1.3725	0.0815	0.0014	0.1837
Off-Highway Trucks	176	250	0.4534	1.7307	0.0614	0.0019	0.1724
Off-Highway Trucks	251	500	0.8106	2.4795	0.0925	0.0027	0.2601
Off-Highway Trucks	501	750	1.3148	4.1397	0.1523	0.0044	0.4246
Off-Highway Trucks	751	1000	2.2333	7.6483	0.2329	0.0063	0.6759
Other Agricultural Equipment	0	15	0.0468	0.0586	0.0035	0.0001	0.0092
Other Agricultural Equipment	16	25	0.0711	0.1287	0.0083	0.0002	0.0253
Other Agricultural Equipment	26	50	0.2620	0.2647	0.0258	0.0003	0.1059
Other Agricultural Equipment	51	120	0.3397	0.6423	0.0500	0.0006	0.0998
Other Agricultural Equipment	121	175	0.4979	1.0356	0.0506	0.0010	0.1193
Other Agricultural Equipment	176	250	0.3515	1.4003	0.0441	0.0015	0.1158
Other Agricultural Equipment	251	500	0.5928	1.8471	0.0590	0.0019	0.1502
Other Construction Equipment	0	15	0.0617	0.0739	0.0037	0.0002	0.0118
Other Construction Equipment	16	25	0.0549	0.1071	0.0059	0.0002	0.0167
Other Construction Equipment	26	50	0.3030	0.2830	0.0282	0.0004	0.1134
Other Construction Equipment	51	120	0.5469	0.9231	0.0788	0.0009	0.1437
Other Construction Equipment	121	175	0.5909	1.0639	0.0572	0.0012	0.1254
Other Construction Equipment	176	500	0.6529	2.1202	0.0721	0.0025	0.1813
Other General Industrial Equipmen	0	15	0.0390	0.0466	0.0019	0.0001	0.0066
Other General Industrial Equipmen	16	25	0.0631	0.1188	0.0062	0.0002	0.0186
Other General Industrial Equipmen	26	50	0.3231	0.2471	0.0307	0.0003	0.1415
Other General Industrial Equipmen	51	120	0.4734	0.8818	0.0855	0.0007	0.1594
Other General Industrial Equipmen	121	175	0.5876	1.2283	0.0725	0.0011	0.1641
Other General Industrial Equipmen	176	250	0.3979	1.6228	0.0560	0.0015	0.1522
Other General Industrial Equipmen	251	500	0.8990	2.8205	0.1001	0.0026	0.2697
Other General Industrial Equipmen	501	750	1.4818	4.7757	0.1674	0.0044	0.4484
Other General Industrial Equipmen	751	1000	2.4564	7.5251	0.2362	0.0056	0.6885
Other GSE	0	175	0.5338	1.1339	0.0626	0.0011	0.1438
Other Lawn & Garden Equipment	0	15	0.0746	0.0931	0.0054	0.0002	0.0132
Other Lawn & Garden Equipment	16	25	0.0671	0.1281	0.0070	0.0002	0.0199
Other Material Handling Equipment	0	50	0.4462	0.3435	0.0425	0.0004	0.1955
Other Material Handling Equipment	51	120	0.4608	0.8596	0.0829	0.0007	0.1548

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Other Material Handling Equipment	121	175	0.7442	1.5585	0.0915	0.0014	0.2072
Other Material Handling Equipment	176	250	0.4241	1.7307	0.0595	0.0016	0.1613
Other Material Handling Equipment	251	500	0.6477	2.0324	0.0719	0.0019	0.1925
Other Material Handling Equipment	501	9999	3.2486	9.9414	0.3110	0.0073	0.9073
Passenger Stand	0	120	0.4456	0.8012	0.0544	0.0009	0.1104
Pavers	0	25	0.0870	0.1644	0.0100	0.0002	0.0294
Pavers	26	50	0.3948	0.3147	0.0371	0.0004	0.1709
Pavers	51	120	0.5283	1.0159	0.0887	0.0008	0.1726
Pavers	121	175	0.8031	1.6818	0.0938	0.0014	0.2144
Pavers	176	250	0.7383	2.4499	0.1009	0.0022	0.2555
Pavers	251	500	1.2684	2.6606	0.1078	0.0023	0.2747
Paving Equipment	0	25	0.0524	0.1023	0.0057	0.0002	0.0159
Paving Equipment	26	50	0.3350	0.2686	0.0315	0.0003	0.1454
Paving Equipment	51	120	0.4131	0.7963	0.0694	0.0006	0.1350
Paving Equipment	121	175	0.6264	1.3192	0.0731	0.0011	0.1673
Paving Equipment	176	250	0.4603	1.5346	0.0628	0.0014	0.1589
Plate Compactors	0	15	0.0263	0.0321	0.0018	0.0001	0.0051
Pressure Washers	0	15	0.0356	0.0585	0.0036	0.0001	0.0089
Pressure Washers	16	25	0.0442	0.0712	0.0047	0.0001	0.0130
Pressure Washers	26	50	0.1194	0.1421	0.0124	0.0002	0.0461
Pressure Washers	51	120	0.1509	0.2865	0.0207	0.0003	0.0431
Pumps	0	15	0.0541	0.0912	0.0068	0.0001	0.0159
Pumps	16	25	0.1204	0.1941	0.0143	0.0002	0.0475
Pumps	26	50	0.3589	0.3563	0.0358	0.0004	0.1480
Pumps	51	120	0.5221	0.9881	0.0799	0.0009	0.1589
Pumps	121	175	0.7549	1.5994	0.0792	0.0016	0.1874
Pumps	176	250	0.5251	2.1523	0.0667	0.0023	0.1773
Pumps	251	500	1.0497	3.3717	0.1059	0.0034	0.2724
Pumps	501	750	1.7354	5.7142	0.1774	0.0057	0.4631
Pumps	751	9999	5.3331	16.6820	0.5112	0.0136	1.4610
Rollers	0	15	0.0386	0.0462	0.0023	0.0001	0.0074
Rollers	16	25	0.0554	0.1081	0.0060	0.0002	0.0168

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Rollers	26	50	0.3256	0.2793	0.0307	0.0003	0.1352
Rollers	51	120	0.4217	0.7775	0.0671	0.0007	0.1278
Rollers	121	175	0.6298	1.2693	0.0686	0.0012	0.1560
Rollers	176	250	0.4803	1.7149	0.0643	0.0017	0.1642
Rollers	251	500	0.8418	2.2084	0.0830	0.0021	0.2106
Rough Terrain Forklifts	0	50	0.4323	0.3612	0.0401	0.0004	0.1727
Rough Terrain Forklifts	51	120	0.4488	0.7787	0.0715	0.0007	0.1303
Rough Terrain Forklifts	121	175	0.7317	1.3741	0.0786	0.0014	0.1741
Rough Terrain Forklifts	176	250	0.4543	1.7751	0.0611	0.0019	0.1625
Rough Terrain Forklifts	251	500	0.7488	2.3491	0.0843	0.0025	0.2215
Rubber Tired Dozers	0	175	0.8769	1.8692	0.1076	0.0015	0.2494
Rubber Tired Dozers	176	250	0.8113	2.5599	0.1125	0.0021	0.2892
Rubber Tired Dozers	251	500	1.8650	3.3537	0.1433	0.0026	0.3757
Rubber Tired Dozers	501	750	2.8079	5.1223	0.2171	0.0040	0.5675
Rubber Tired Dozers	751	1000	4.4947	8.7626	0.3157	0.0059	0.8829
Rubber Tired Loaders	0	25	0.0696	0.1329	0.0072	0.0002	0.0207
Rubber Tired Loaders	26	50	0.4129	0.3380	0.0383	0.0004	0.1682
Rubber Tired Loaders	51	120	0.4309	0.7650	0.0697	0.0007	0.1290
Rubber Tired Loaders	121	175	0.6345	1.2230	0.0697	0.0012	0.1560
Rubber Tired Loaders	176	250	0.4433	1.6306	0.0600	0.0017	0.1577
Rubber Tired Loaders	251	500	0.8223	2.3019	0.0867	0.0023	0.2276
Rubber Tired Loaders	501	750	1.6846	4.8338	0.1799	0.0049	0.4704
Rubber Tired Loaders	751	1000	2.4128	7.4174	0.2257	0.0060	0.6515
Sailboat Auxiliary Inboard Engine	0	50	0.0979	0.2218	0.0055	0.0002	0.0652
Scrapers	0	120	0.7249	1.3693	0.1230	0.0011	0.2362
Scrapers	121	175	0.9364	1.9246	0.1099	0.0017	0.2505
Scrapers	176	250	0.7756	2.6128	0.1065	0.0024	0.2747
Scrapers	251	500	1.6509	3.6063	0.1460	0.0032	0.3808
Scrapers	501	750	2.8520	6.3458	0.2545	0.0056	0.6613
Service Truck	0	175	0.2340	0.4602	0.0231	0.0005	0.0529
Signal Boards	0	15	0.0376	0.0449	0.0018	0.0001	0.0072
Signal Boards	16	50	0.3912	0.3739	0.0380	0.0005	0.1580

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Signal Boards	51	120	0.5423	0.9919	0.0823	0.0009	0.1586
Signal Boards	121	175	0.8460	1.7052	0.0877	0.0017	0.2011
Signal Boards	176	250	0.6520	2.6433	0.0843	0.0029	0.2197
Skid Steer Loaders	0	25	0.0736	0.1284	0.0086	0.0002	0.0270
Skid Steer Loaders	26	50	0.2607	0.2502	0.0237	0.0003	0.0890
Skid Steer Loaders	51	120	0.2849	0.4466	0.0387	0.0005	0.0676
Snowblowers	0	175	0.6995	1.4175	0.0691	0.0015	0.1614
Snowblowers	176	250	0.5129	2.0334	0.0639	0.0023	0.1672
Snowblowers	251	500	0.8032	2.7506	0.0883	0.0029	0.2240
Sprayers	0	25	0.0742	0.1179	0.0087	0.0002	0.0293
Sprayers	26	50	0.1775	0.2225	0.0183	0.0003	0.0656
Sprayers	51	120	0.3512	0.6657	0.0454	0.0007	0.0951
Sprayers	121	175	0.4717	0.9818	0.0419	0.0011	0.1033
Sprayers	176	250	0.3706	1.5055	0.0416	0.0017	0.1118
Sprayers	251	500	0.4222	1.5365	0.0436	0.0017	0.1119
Surfacing Equipment	0	50	0.1560	0.1471	0.0149	0.0002	0.0628
Surfacing Equipment	51	120	0.4378	0.8093	0.0653	0.0007	0.1272
Surfacing Equipment	121	175	0.4812	0.9678	0.0493	0.0010	0.1134
Surfacing Equipment	176	250	0.4091	1.4549	0.0524	0.0015	0.1336
Surfacing Equipment	251	500	0.8394	2.1673	0.0783	0.0022	0.1969
Surfacing Equipment	501	750	1.3169	3.4717	0.1240	0.0035	0.3145
Swathers	0	120	0.3329	0.6310	0.0434	0.0006	0.0908
Swathers	121	175	0.5182	1.0785	0.0465	0.0012	0.1143
Sweeper	0	120	0.2000	0.3313	0.0248	0.0004	0.0462
Sweepers/Scrubbers	0	15	0.0728	0.0869	0.0036	0.0002	0.0124
Sweepers/Scrubbers	16	25	0.0807	0.1545	0.0085	0.0002	0.0240
Sweepers/Scrubbers	26	50	0.4175	0.3401	0.0394	0.0004	0.1740
Sweepers/Scrubbers	51	120	0.5443	0.9482	0.0930	0.0009	0.1682
Sweepers/Scrubbers	121	175	0.8119	1.5732	0.0937	0.0016	0.2070
Sweepers/Scrubbers	176	250	0.3813	1.7084	0.0526	0.0018	0.1454
Tillers	0	15	0.0419	0.0552	0.0033	0.0001	0.0078
Tillers	16	250	0.5870	2.3704	0.0682	0.0027	0.1819

Table 1

Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Tillers	251	500	1.1324	3.9279	0.1156	0.0042	0.2959
Tractors/Loaders/Backhoes	0	25	0.0696	0.1354	0.0079	0.0002	0.0224
Tractors/Loaders/Backhoes	26	50	0.3678	0.3162	0.0336	0.0004	0.1390
Tractors/Loaders/Backhoes	51	120	0.3657	0.6061	0.0553	0.0006	0.0990
Tractors/Loaders/Backhoes	121	175	0.5885	1.0375	0.0595	0.0011	0.1302
Tractors/Loaders/Backhoes	176	250	0.4227	1.6630	0.0557	0.0019	0.1498
Tractors/Loaders/Backhoes	251	500	0.9003	2.9174	0.1036	0.0039	0.2748
Tractors/Loaders/Backhoes	501	750	1.3505	4.5134	0.1580	0.0058	0.4167
Transport Refrigeration Units	0	15	0.0497	0.0683	0.0041	0.0001	0.0097
Transport Refrigeration Units	16	25	0.0588	0.1155	0.0064	0.0002	0.0175
Transport Refrigeration Units	26	50	0.2520	0.2473	0.0220	0.0003	0.0747
Trenchers	0	15	0.0516	0.0616	0.0025	0.0001	0.0098
Trenchers	16	25	0.1354	0.2585	0.0141	0.0004	0.0402
Trenchers	26	50	0.4458	0.3663	0.0421	0.0004	0.1927
Trenchers	51	120	0.4896	0.9508	0.0805	0.0008	0.1589
Trenchers	121	175	0.8926	1.8835	0.1027	0.0016	0.2361
Trenchers	176	250	0.8584	2.8103	0.1165	0.0025	0.2920
Trenchers	251	500	1.7724	3.5698	0.1444	0.0031	0.3641
Trenchers	501	750	3.3414	6.8363	0.2742	0.0059	0.6931
Vessels w/Inboard Engines	0	250	0.8849	2.0108	0.0504	0.0012	0.5888
Welders	0	15	0.0452	0.0763	0.0057	0.0001	0.0133
Welders	16	25	0.0698	0.1124	0.0083	0.0001	0.0275
Welders	26	50	0.3168	0.2790	0.0308	0.0003	0.1353
Welders	51	120	0.2785	0.5252	0.0459	0.0005	0.0886
Welders	121	175	0.5563	1.1763	0.0629	0.0011	0.1453
Welders	176	250	0.3281	1.3352	0.0441	0.0013	0.1164
Welders	251	500	0.5425	1.6979	0.0568	0.0016	0.1463

[a] These are composite horsepower-based off-road emission factors for 2009 developed by running CARB's OFFROAD2007 Model (December 15, 2006 version).
Total daily emissions from the model for each type of equipment within each horsepower range were divided by the total daily operating hours for the equipment within each horsepower range to calculate hourly emissions from individual pieces of equipment.

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
2-Wheel Tractors	0	5	0.8901	0.0258	0.0008	0.0001	0.0562
2-Wheel Tractors	6	15	2.7378	0.0544	0.0394	0.0001	0.0720
2-Wheel Tractors	16	25	5.8119	0.1005	0.0787	0.0002	0.1522
A/C Tug Narrow Body	0	175	6.2457	1.9915	0.0138	0.0017	0.2827
A/C Tug Wide Body	0	500	22.2522	3.4505	0.0529	0.0066	0.4741
Aerial Lifts	0	15	3.3030	0.0653	0.0475	0.0002	0.0866
Aerial Lifts	16	25	5.1309	0.0901	0.0694	0.0002	0.1373
Aerial Lifts	26	50	2.8437	0.1406	0.0020	0.0003	0.0822
Aerial Lifts	51	120	2.0902	0.3653	0.0041	0.0005	0.1022
Agricultural Mowers	0	15	2.3028	0.0386	0.0302	0.0001	0.0723
Agricultural Mowers	16	25	5.3406	0.0790	0.0679	0.0002	0.1587
Agricultural Tractors	0	120	5.6945	1.0201	0.0067	0.0008	0.3581
Agricultural Tractors	121	175	4.5818	1.7529	0.0103	0.0013	0.2409
Air Compressors	0	5	0.8302	0.0321	0.0009	0.0001	0.0703
Air Compressors	0	5	0.8282	0.0321	0.0009	0.0001	0.0701
Air Compressors	6	15	2.1712	0.0449	0.0311	0.0001	0.0595
Air Compressors	6	15	2.1705	0.0438	0.0311	0.0001	0.0585
Air Compressors	16	25	5.5968	0.1008	0.0756	0.0002	0.1527
Air Compressors	16	25	5.6384	0.0971	0.0756	0.0002	0.1550
Air Compressors	26	50	4.8176	0.2921	0.0026	0.0004	0.2069
Air Compressors	51	120	4.2956	0.8255	0.0052	0.0006	0.2800
Air Compressors	121	175	4.2492	1.7759	0.0099	0.0012	0.2382
Air Conditioner	0	175	4.7810	1.5927	0.0129	0.0016	0.1898
Air Start Unit	0	175	5.8340	1.9286	0.0155	0.0019	0.2338
All Terrain Vehicles (ATVs) Active	0	15	0.0623	0.0016	0.0001	0.0003	0.0028
All Terrain Vehicles (ATVs) Active	16	25	0.0623	0.0016	0.0001	0.0003	0.0028
All Terrain Vehicles (ATVs) Active	26	50	0.0623	0.0016	0.0001	0.0005	0.0028
All Terrain Vehicles (ATVs) Inactive	0	15	0.0000	0.0000	0.0000	0.0000	0.0000
All Terrain Vehicles (ATVs) Inactive	16	25	0.0000	0.0000	0.0000	0.0000	0.0000
All Terrain Vehicles (ATVs) Inactive	26	50	0.0000	0.0000	0.0000	0.0000	0.0000
Asphalt Pavers	0	15	3.2819	0.0654	0.0471	0.0002	0.0867
Asphalt Pavers	16	25	8.5151	0.1478	0.1152	0.0003	0.2238

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Asphalt Pavers	26	50	4.9099	0.3065	0.0028	0.0004	0.1979
Asphalt Pavers	51	120	4.1058	0.8242	0.0053	0.0007	0.2537
Baggage Tug	0	120	4.1078	0.4211	0.0073	0.0009	0.1043
Balers	0	50	3.4235	0.2571	0.0025	0.0004	0.1287
Balers	51	120	2.7108	0.6745	0.0047	0.0006	0.1567
Belt Loader	0	120	2.4323	0.2697	0.0040	0.0005	0.0723
Bobtail	0	120	4.1078	0.4211	0.0073	0.0009	0.1043
Bore/Drill Rigs	0	15	4.5909	0.0790	0.0626	0.0002	0.1318
Bore/Drill Rigs	16	25	8.6066	0.1301	0.1127	0.0003	0.2372
Bore/Drill Rigs	26	50	4.6594	0.3398	0.0033	0.0005	0.1767
Bore/Drill Rigs	51	120	5.5491	1.3370	0.0092	0.0011	0.3239
Bore/Drill Rigs	121	175	5.1118	2.1055	0.0132	0.0016	0.2607
Cargo Loader	0	120	3.0155	0.3689	0.0046	0.0006	0.1041
Cargo Tractor	0	120	7.4035	0.8079	0.0068	0.0007	0.3361
Cart	0	15	3.3280	0.0546	0.0028	0.0002	0.0748
Catering Truck	0	250	6.8831	2.1072	0.0140	0.0015	0.3173
Cement and Mortar Mixers	0	5	1.1699	0.0288	0.0009	0.0001	0.0628
Cement and Mortar Mixers	6	15	3.2286	0.0407	0.0346	0.0001	0.1243
Cement and Mortar Mixers	16	25	9.9873	0.1125	0.1080	0.0004	0.3505
Chippers/Stump Grinders	0	15	4.8531	0.0992	0.0681	0.0002	0.1324
Chippers/Stump Grinders	0	15	5.6581	0.0661	0.0532	0.0002	0.1453
Chippers/Stump Grinders	16	25	8.4293	0.1501	0.1114	0.0003	0.2288
Chippers/Stump Grinders	16	25	9.4702	0.0982	0.0871	0.0003	0.2252
Combines	0	120	4.5367	0.9660	0.0101	0.0013	0.2353
Combines	121	175	6.3213	1.6909	0.0161	0.0020	0.2164
Combines	176	250	7.4776	1.7059	0.0190	0.0024	0.2079
Commercial Turf Equipment	0	15	3.0663	0.0535	0.0029	0.0001	0.0722
Commercial Turf Equipment	16	25	5.6216	0.0900	0.0050	0.0002	0.1275
Commercial Turf Equipment	26	50	4.2167	0.1785	0.0019	0.0003	0.1251
Commercial Turf Equipment	51	120	1.1730	0.1335	0.0035	0.0004	0.0226
Concrete/Industrial Saws	0	5	1.2082	0.0309	0.0010	0.0001	0.0675
Concrete/Industrial Saws	6	15	3.8738	0.0766	0.0557	0.0002	0.1015

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Concrete/Industrial Saws	16	25	7.7666	0.1338	0.1052	0.0003	0.2025
Concrete/Industrial Saws	26	50	3.8643	0.0874	0.0036	0.0006	0.0575
Concrete/Industrial Saws	51	120	1.8376	0.0995	0.0068	0.0008	0.0412
Cranes	0	50	4.0996	0.2458	0.0023	0.0004	0.1639
Cranes	51	120	3.5526	0.6889	0.0046	0.0006	0.2196
Cranes	121	175	3.3328	1.3023	0.0078	0.0010	0.1738
Crushing/Proc. Equipment	0	15	4.2214	0.0830	0.0607	0.0002	0.1100
Crushing/Proc. Equipment	16	25	7.9658	0.1365	0.1079	0.0003	0.2066
Crushing/Proc. Equipment	26	120	7.3005	1.5893	0.0108	0.0013	0.4387
Deicer	0	120	5.7001	1.3698	0.0117	0.0015	0.2856
Dumpers/Tenders	0	5	0.5597	0.0175	0.0005	0.0001	0.0383
Dumpers/Tenders	6	15	2.5086	0.0325	0.0276	0.0001	0.0966
Dumpers/Tenders	16	25	5.2489	0.0608	0.0582	0.0002	0.1846
Dumpers/Tenders	26	120	2.1989	0.5214	0.0036	0.0004	0.1290
Forklift	0	50	3.4877	0.1071	0.0020	0.0003	0.0539
Forklifts	0	25	4.0731	0.0588	0.0037	0.0002	0.0773
Forklifts	26	50	5.9510	0.1612	0.0016	0.0003	0.0952
Forklifts	51	120	3.0542	0.2539	0.0028	0.0003	0.0904
Forklifts	121	175	3.0426	0.5130	0.0058	0.0007	0.0977
Front Mowers	0	15	3.0139	0.0356	0.0024	0.0001	0.0485
Front Mowers	0	15	3.1900	0.0405	0.0021	0.0001	0.0702
Front Mowers	16	25	4.1833	0.0470	0.0031	0.0002	0.0630
Front Mowers	16	25	4.3508	0.0482	0.0027	0.0002	0.0907
Fuel Truck	0	175	1.5860	0.5574	0.0043	0.0005	0.0662
Generator	0	120	10.7668	1.4965	0.0110	0.0012	0.6124
Generator Sets	0	5	1.5476	0.0226	0.0089	0.0001	0.1234
Generator Sets	0	5	1.6863	0.0220	0.0089	0.0001	0.1357
Generator Sets	6	15	3.7586	0.0554	0.0031	0.0002	0.1192
Generator Sets	6	15	4.0894	0.0516	0.0031	0.0002	0.1536
Generator Sets	16	25	8.1023	0.1067	0.0065	0.0003	0.2386
Generator Sets	16	25	8.5825	0.0972	0.0065	0.0003	0.2933
Generator Sets	26	50	4.0527	0.2885	0.0029	0.0005	0.1462

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Generator Sets	51	120	4.5919	1.0597	0.0075	0.0009	0.2521
Generator Sets	121	175	4.9560	2.0248	0.0131	0.0016	0.2496
Golf Carts	0	15	3.2701	0.0291	0.0022	0.0001	0.1508
Ground Power Unit	0	175	6.3675	0.7549	0.0149	0.0019	0.1074
Hydrant truck	0	175	6.2735	1.8212	0.0113	0.0012	0.2988
Hydro Power Units	0	5	0.9859	0.0294	0.0009	0.0001	0.0642
Hydro Power Units	6	15	2.4770	0.0506	0.0356	0.0001	0.0671
Hydro Power Units	16	25	5.5870	0.0994	0.0756	0.0002	0.1505
Hydro Power Units	26	50	3.5264	0.1128	0.0028	0.0004	0.0643
Hydro Power Units	51	120	1.3138	0.0827	0.0049	0.0006	0.0298
Lav Cart	0	15	3.3279	0.0546	0.0028	0.0002	0.0748
Lav Truck	0	175	2.0968	0.4316	0.0043	0.0005	0.0710
Lawn & Garden Tractors	0	15	3.6420	0.0364	0.0025	0.0002	0.0490
Lawn & Garden Tractors	0	15	3.8199	0.0463	0.0023	0.0002	0.0727
Lawn & Garden Tractors	16	25	5.9743	0.0546	0.0038	0.0002	0.0771
Lawn & Garden Tractors	16	25	6.1933	0.0649	0.0035	0.0002	0.1132
Lawn & Garden Tractors	26	50	2.5549	0.1662	0.0020	0.0003	0.0821
Lawn Mowers	0	5	0.5156	0.0072	0.0043	0.0000	0.0280
Lawn Mowers	0	5	0.8641	0.0092	0.0032	0.0000	0.0374
Leaf Blowers/Vacuums	0	5	0.3470	0.0025	0.0016	0.0000	0.0097
Leaf Blowers/Vacuums	0	5	0.5005	0.0040	0.0014	0.0000	0.0185
Lift	0	120	4.5237	0.8322	0.0066	0.0008	0.2461
Maint. Truck	0	175	3.6300	1.0466	0.0086	0.0011	0.1404
Minibikes	0	5	1.8836	0.0074	0.0079	0.0001	0.2944
Off-Road Motorcycles Active	0	15	0.0607	0.0012	0.0001	0.0002	0.0026
Off-Road Motorcycles Active	16	25	0.0607	0.0012	0.0001	0.0004	0.0026
Off-Road Motorcycles Active	26	50	0.0607	0.0012	0.0001	0.0006	0.0026
Off-Road Motorcycles Inactive	0	15	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road Motorcycles Inactive	16	25	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road Motorcycles Inactive	26	50	0.0000	0.0000	0.0000	0.0000	0.0000
Other Agricultural Equipment	0	5	0.8130	0.0224	0.0007	0.0001	0.0490
Other Agricultural Equipment	6	15	3.3984	0.0528	0.0428	0.0001	0.1113

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Other Agricultural Equipment	16	25	8.6736	0.1194	0.1070	0.0003	0.2657
Other Agricultural Equipment	26	50	3.0369	0.2230	0.0021	0.0003	0.1168
Other Agricultural Equipment	51	120	3.0804	0.7367	0.0049	0.0006	0.1808
Other Agricultural Equipment	121	175	3.8813	1.6447	0.0099	0.0012	0.2056
Other Agricultural Equipment	176	250	7.0206	2.5512	0.0179	0.0022	0.3204
Other Construction Equipment	0	175	3.2713	0.4434	0.0080	0.0010	0.0672
Other General Industrial Equipmen	0	15	2.3861	0.0341	0.0022	0.0001	0.0465
Other General Industrial Equipmen	16	25	5.7025	0.0869	0.0050	0.0002	0.1207
Other General Industrial Equipmen	26	50	4.1768	0.1405	0.0021	0.0003	0.0750
Other General Industrial Equipmen	51	120	3.4219	0.4015	0.0056	0.0007	0.1073
Other General Industrial Equipmen	121	175	5.4328	0.8992	0.0124	0.0016	0.1335
Other GSE	0	50	4.7007	0.2919	0.0033	0.0005	0.1562
Other Lawn & Garden Equipment	0	5	1.0153	0.0107	0.0058	0.0001	0.0367
Other Lawn & Garden Equipment	0	5	1.6129	0.0127	0.0043	0.0001	0.0583
Other Lawn & Garden Equipment	6	15	2.5605	0.0312	0.0017	0.0001	0.0415
Other Lawn & Garden Equipment	6	15	2.8730	0.0322	0.0015	0.0001	0.0545
Other Lawn & Garden Equipment	16	25	5.7752	0.0623	0.0037	0.0002	0.0920
Other Lawn & Garden Equipment	16	25	6.3343	0.0615	0.0032	0.0002	0.1146
Other Lawn & Garden Equipment	26	50	3.4554	0.2458	0.0028	0.0004	0.1173
Other Lawn & Garden Equipment	51	120	4.1677	0.9824	0.0078	0.0010	0.2164
Other Material Handling Equipment	0	50	5.3087	0.3059	0.0029	0.0005	0.1950
Other Material Handling Equipment	51	120	2.9364	0.5574	0.0038	0.0005	0.1715
Passenger Stand	0	175	3.7956	1.2905	0.0098	0.0011	0.1610
Paving Equipment	0	5	0.8352	0.0247	0.0007	0.0001	0.0540
Paving Equipment	6	15	3.3660	0.0622	0.0468	0.0002	0.0952
Paving Equipment	16	25	7.7644	0.1256	0.1030	0.0003	0.2135
Paving Equipment	26	50	4.0193	0.2666	0.0029	0.0005	0.1451
Paving Equipment	51	120	2.9883	0.6630	0.0052	0.0006	0.1697
Plate Compactors	0	5	0.7687	0.0232	0.0007	0.0001	0.0507
Plate Compactors	6	15	2.5103	0.0465	0.0349	0.0001	0.0712
Pressure Washers	0	5	1.8891	0.0363	0.0138	0.0001	0.1437
Pressure Washers	0	5	2.5334	0.0347	0.0138	0.0001	0.2013

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Pressure Washers	6	15	3.6542	0.0539	0.0030	0.0002	0.1159
Pressure Washers	6	15	3.9758	0.0501	0.0030	0.0002	0.1494
Pressure Washers	16	25	9.4156	0.1305	0.0076	0.0004	0.2630
Pressure Washers	16	25	10.1383	0.1148	0.0077	0.0004	0.3385
Pressure Washers	26	50	4.4418	0.3218	0.0033	0.0005	0.1674
Pumps	0	5	0.8457	0.0219	0.0036	0.0001	0.0698
Pumps	0	5	1.1949	0.0193	0.0071	0.0001	0.0983
Pumps	6	15	3.2056	0.0585	0.0437	0.0001	0.0961
Pumps	6	15	3.5131	0.0529	0.0417	0.0001	0.1220
Pumps	16	25	6.9405	0.1174	0.0931	0.0003	0.1875
Pumps	16	25	7.2734	0.1072	0.0918	0.0003	0.2179
Pumps	26	50	4.1906	0.2835	0.0028	0.0004	0.1611
Pumps	51	120	5.4067	1.1991	0.0085	0.0011	0.3218
Pumps	121	175	5.2246	2.0530	0.0131	0.0016	0.2625
Rear Engine Riding Mowers	0	15	1.8878	0.0223	0.0015	0.0001	0.0304
Rear Engine Riding Mowers	0	15	1.9981	0.0254	0.0013	0.0001	0.0440
Rear Engine Riding Mowers	16	25	3.7849	0.0425	0.0028	0.0002	0.0570
Rear Engine Riding Mowers	16	25	3.9364	0.0436	0.0024	0.0002	0.0821
Rollers	0	5	1.2743	0.0295	0.0010	0.0001	0.0643
Rollers	6	15	3.0792	0.0609	0.0443	0.0002	0.0807
Rollers	16	25	6.8998	0.1188	0.0935	0.0003	0.1799
Rollers	26	50	6.2034	0.3350	0.0030	0.0005	0.2538
Rollers	51	120	5.4495	0.9393	0.0062	0.0008	0.3454
Rough Terrain Forklifts	0	50	6.9705	0.4184	0.0039	0.0006	0.2786
Rough Terrain Forklifts	51	120	5.4620	1.0605	0.0071	0.0009	0.3375
Rough Terrain Forklifts	121	175	5.0717	1.9825	0.0118	0.0015	0.2644
Rubber Tired Loaders	0	50	5.4509	0.3157	0.0029	0.0005	0.2220
Rubber Tired Loaders	51	120	4.2814	0.7943	0.0051	0.0006	0.2686
Sailboat Auxiliary Inboard Engine	0	15	1.2724	0.0391	0.0005	0.0001	0.0477
Service Truck	0	250	2.2316	0.7016	0.0048	0.0006	0.1020
Shredders	0	5	1.2198	0.0320	0.0010	0.0001	0.0699
Shredders	0	5	2.3354	0.0193	0.0082	0.0001	0.0831

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Signal Boards	0	5	1.4715	0.0376	0.0012	0.0001	0.0822
Signal Boards	6	15	3.3551	0.0659	0.0483	0.0002	0.0873
Skid Steer Loaders	0	15	4.4908	0.0895	0.0644	0.0002	0.1198
Skid Steer Loaders	16	25	6.4638	0.1123	0.0875	0.0003	0.1712
Skid Steer Loaders	26	50	3.1164	0.1405	0.0025	0.0004	0.0794
Skid Steer Loaders	51	120	2.6073	0.4271	0.0061	0.0008	0.1147
Snowblowers	0	5	0.7478	0.0038	0.0027	0.0000	0.0154
Snowblowers	0	5	0.9824	0.0073	0.0024	0.0000	0.0313
Snowblowers	6	15	1.7382	0.0154	0.0010	0.0001	0.0206
Snowblowers	6	15	1.9533	0.0215	0.0010	0.0001	0.0347
Snowblowers	16	25	3.2800	0.0257	0.0018	0.0001	0.0380
Snowblowers	16	25	3.6076	0.0343	0.0018	0.0001	0.0616
Specialty Vehicles Carts	0	5	1.3852	0.0103	0.0065	0.0001	0.0397
Specialty Vehicles Carts	6	15	2.2404	0.0228	0.0014	0.0001	0.0305
Specialty Vehicles Carts	16	25	6.4546	0.0589	0.0039	0.0003	0.0857
Sprayers	0	5	0.7342	0.0205	0.0006	0.0001	0.0448
Sprayers	6	15	2.3669	0.0311	0.0247	0.0001	0.0889
Sprayers	16	25	5.7274	0.0676	0.0601	0.0002	0.1967
Sprayers	26	50	2.9673	0.2208	0.0022	0.0003	0.1118
Sprayers	51	120	2.6478	0.6522	0.0045	0.0006	0.1535
Sprayers	121	175	3.5623	1.4745	0.0093	0.0012	0.1813
Surfacing Equipment	0	5	0.8340	0.0262	0.0008	0.0001	0.0572
Surfacing Equipment	6	15	2.1681	0.0449	0.0311	0.0001	0.0595
Surfacing Equipment	16	25	5.4656	0.0985	0.0739	0.0002	0.1491
Swathers	0	120	3.6130	0.8791	0.0061	0.0008	0.2103
Swathers	121	175	3.4310	1.4163	0.0089	0.0011	0.1748
Sweeper	0	120	2.4291	0.4501	0.0036	0.0004	0.1315
Sweepers/Scrubbers	0	15	3.1344	0.0429	0.0027	0.0002	0.0584
Sweepers/Scrubbers	16	25	7.4855	0.1090	0.0063	0.0003	0.1532
Sweepers/Scrubbers	26	50	4.9556	0.1647	0.0033	0.0005	0.0828
Sweepers/Scrubbers	51	120	2.8098	0.3521	0.0064	0.0008	0.0790
Sweepers/Scrubbers	121	175	5.5013	0.7619	0.0131	0.0016	0.1027

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Tampers/Rammers	0	15	2.8766	0.0512	0.0392	0.0001	0.0848
Tillers	0	5	0.6983	0.0090	0.0040	0.0001	0.0265
Tillers	0	5	0.9776	0.0102	0.0038	0.0001	0.0458
Tillers	6	15	3.2522	0.0426	0.0024	0.0001	0.1138
Tractors/Loaders/Backhoes	0	120	3.2756	0.4804	0.0040	0.0005	0.1851
Transport Refrigeration Units	0	15	3.3252	0.0497	0.0032	0.0002	0.0681
Trenchers	0	15	3.6481	0.0737	0.0524	0.0002	0.0977
Trenchers	16	25	8.1316	0.1431	0.1100	0.0003	0.2167
Trenchers	26	50	4.6243	0.2793	0.0026	0.0004	0.1846
Trenchers	51	120	4.4079	0.8617	0.0058	0.0007	0.2720
Trimmers/Edgers/Brush Cutters	0	5	0.1372	0.0036	0.0001	0.0000	0.0079
Trimmers/Edgers/Brush Cutters	0	5	0.2323	0.0028	0.0010	0.0000	0.0133
Vessels w/Inboard Engines	0	250	13.7184	0.6443	0.0081	0.0010	0.4897
Vessels w/Inboard Jet Engines	0	500	16.5255	0.7567	0.0096	0.0012	0.5951
Vessels w/Outboard Engines	0	50	4.0598	0.1276	0.0018	0.0002	0.1552
Vessels w/Sterndrive Engines	0	250	10.2088	0.4638	0.0060	0.0007	0.3626
Water Truck	0	175	1.6002	0.5348	0.0040	0.0005	0.0690
Welders	0	15	3.6655	0.0529	0.0415	0.0002	0.1329
Welders	16	25	5.4790	0.0780	0.0668	0.0002	0.1714
Welders	26	50	4.6157	0.3294	0.0030	0.0005	0.1880
Welders	51	120	3.1910	0.7335	0.0047	0.0006	0.1973
Welders	121	175	3.4198	1.5072	0.0088	0.0011	0.1902
Wood Splitters	0	5	1.3449	0.0162	0.0096	0.0001	0.0613
Wood Splitters	0	5	2.3991	0.0181	0.0058	0.0001	0.0739

[a] These are composite horsepower-based off-road emission factors for 2009 developed by running CARB's OFFROAD2007 Model (December 15, 2006 version).
Total daily emissions from the model for each type of equipment within each horsepower range were divided by the total daily operating hours for the equipment within each horsepower range to calculate hourly emissions from individual pieces of equipment.

Table 3
Construction Equipment Exhaust Emission Factors

Equipment Type	Model	Horsepower	Fuel	Key	ARB Off-Road Model Category	CO (lb/hr)[a]	VOC (lb/hr)[a]	NO_X (lb/hr)[a]	SO_X (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	Air Compressor, Ingersoll-Rand0023.5Diesel	Air Compressors	0.089	0.035	0.144	0.000	0.011	0.010
Asphalt Paver, Cat	AP1055B	174	Diesel	Asphalt Paver, Cat 0174.0Diesel	Pavers	0.803	0.214	1.682	0.001	0.094	0.086
Scraper, Cat	651	500	Diesel	Scraper, Cat0500.0Diesel	Scrapers	1.651	0.381	3.606	0.003	0.146	0.134
Scraper, Cat	623	330	Diesel	Scraper, Cat0330.0Diesel	Scrapers	1.651	0.381	3.606	0.003	0.146	0.134
Dozer, Cat	824	354	Diesel	Dozer, Cat0354.0Diesel	Rubber Tired Dozers	1.865	0.376	3.354	0.003	0.143	0.132
Dozer, Cat	834	498	Diesel	Dozer, Cat0498.0Diesel	Rubber Tired Dozers	1.865	0.376	3.354	0.003	0.143	0.132
Dozer, Cat	D-6	150	Diesel	Dozer, Cat0150.0Diesel	Crawler Tractors	0.766	0.204	1.559	0.001	0.089	0.082
Dozer, Cat	D-9	410	Diesel	Dozer, Cat0410.0Diesel	Crawler Tractors	1.296	0.304	2.873	0.003	0.116	0.107
Dozer, Cat	D-10	580	Diesel	Dozer, Cat0580.0Diesel	Crawler Tractors	2.324	0.548	5.248	0.005	0.210	0.193
Blade, Cat	140H	165	Diesel	Blade, Cat0165.0Diesel	Graders	0.743	0.184	1.437	0.001	0.082	0.076
Blade, Cat	14H	210	Diesel	Blade, Cat0210.0Diesel	Graders	0.519	0.186	1.900	0.002	0.070	0.065
Blade, Cat	16H	265	Diesel	Blade, Cat0265.0Diesel	Graders	0.812	0.225	2.249	0.002	0.085	0.079
Backhoe, Cat,	430E	97	Diesel	Backhoe, Cat, 0097.0Diesel	Tractors/Loaders/Backhoes	0.366	0.099	0.606	0.001	0.055	0.051
Backhoe, CAT	416E	74	Diesel	Backhoe, CAT0074.0Diesel	Tractors/Loaders/Backhoes	0.366	0.099	0.606	0.001	0.055	0.051
Cable Puller	N/A	385	Diesel	Cable Puller0385.0Diesel	Other Construction Equipment	0.653	0.181	2.120	0.002	0.072	0.066
Compactor, Cat	826H	410	Diesel	Compactor, Cat 0410.0Diesel	Rollers	0.842	0.211	2.208	0.002	0.083	0.076
Crane, 150-Ton, Manitowoc	555	347	Diesel	Crane, 150-Ton, Manitowoc0347.0Diesel	Cranes	0.716	0.191	1.876	0.002	0.073	0.067
Crane, 20-Ton, Grove	YB777	130	Diesel	Crane, 20-Ton, Grove0130.0Diesel	Cranes	0.490	0.127	0.984	0.001	0.056	0.052
Crane 90 Ton	N/A	275	Diesel	Crane 90 Ton0275.0Diesel	Cranes	0.716	0.191	1.876	0.002	0.073	0.067
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	Crane, 225-Ton, Manitowoc, 0340.0Diesel	Cranes	0.716	0.191	1.876	0.002	0.073	0.067
Crane, 40-Ton, Grove	RT600	173	Diesel	Crane, 40-Ton, Grove0173.0Diesel	Cranes	0.490	0.127	0.984	0.001	0.056	0.052
Crane 50 Ton, Grove	TR600E	173	Diesel	Crane 50 Ton, Grove0173.0Diesel	Cranes	0.490	0.127	0.984	0.001	0.056	0.052
Dozer, CAT	D8	305	Diesel	Dozer, CAT0305.0Diesel	Crawler Tractors	1.296	0.304	2.873	0.003	0.116	0.107
Forklift, Cat	3054E	120	Diesel	Forklift, Cat0120.0Diesel	Forklifts	0.229	0.068	0.383	0.000	0.038	0.035
Loader, Cat,	972G	275	Diesel	Loader, Cat, 0275.0Diesel	Rubber Tired Loaders	0.822	0.228	2.302	0.002	0.087	0.080
Loader, CAT	966R	150	Diesel	Loader, CAT0150.0Diesel	Rubber Tired Loaders	0.635	0.156	1.223	0.001	0.070	0.064
Manlift JLG 1350SJP	1350SJP	87	Diesel	Manlift JLG 1350SJP0087.0Diesel	Aerial Lifts	0.254	0.077	0.482	0.000	0.039	0.036
Motor Grader, Cat	140H	150	Diesel	Motor Grader, Cat 0150.0Diesel	Graders	0.743	0.184	1.437	0.001	0.082	0.076
Pole Digger, International	4700	210	Diesel	Pole Digger, International0210.0Diesel	Bore/Drill Rigs	0.348	0.100	1.309	0.002	0.039	0.036
Sideboom, CAT	572R Series2	240	Diesel	Sideboom, CAT0240.0Diesel	Cranes	0.367	0.131	1.309	0.001	0.050	0.046
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	Truck, Concrete Pump, REED0350.0Diesel	Pumps	1.050	0.272	3.372	0.003	0.106	0.097
Welder, Multiquip	BLW-300SS	19.5	Diesel	Welder, Multiquip0019.5Diesel	Welders	0.070	0.028	0.112	0.000	0.008	0.008
Welder, Multiquip	BLW-300SS	19.5	Gasoline	Welder, Multiquip0019.5Gasoline	Welders	5.479	0.171	0.078	0.000	0.067	0.050
Welder, Multiquip	BLW-400SS	31	Diesel	Welder, Multiquip0031.0Diesel	Welders	0.317	0.135	0.279	0.000	0.031	0.028

[a] From Table 10 for diesel and Table 11 for gasoline for all except scrapers. Scrapers are from Table 21 and are for 2006 model year.

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction of PM10 in Diesel Engine Exhaust = 0.920 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5

PM2.5 Fraction of PM10 in Gasoline Engine Exhaust = 0.756 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Emission factor [pounds per hour] x Number pieces of equipment x Operating time for each piece [hours per day]

Table 4-A
Kern County APCD Jurisdiction 2009 On-Road Motor Vehicle Emission Factors

Vehicle Class	Emission Factors[a]												
	CO (lb/mi)	VOC (lb/mi)	NO_x (lb/mi)	SO_x (lb/mi)	PM10 Exh (lb/mi)	PM10 Tire (lb/mi)	PM10 Brake (lb/mi)	PM10 Tire + Brake (lb/mi)	Diesel PM (lb/mi)	PM2.5 Exh (lb/mi)	PM2.5 Tire (lb/mi)	PM2.5 Brake (lb/mi)	PM2.5 Tire + Brake (lb/mi)
LDA-NCAT	2.09E-01	2.78E-02	1.22E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LDA-CAT	8.01E-03	6.37E-04	7.94E-04	1.04E-05	2.09E-05	2.09E-05	3.13E-05	5.22E-05	0.00E+00	1.94E-05	5.22E-06	1.34E-05	1.87E-05
LDA-DSL	0.00E+00	0.00E+00	4.00E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LDT1-NCAT	2.05E-01	2.36E-02	1.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LDT1-CAT	1.72E-02	1.26E-03	1.67E-03	0.00E+00	2.79E-05	2.79E-05	2.79E-05	5.58E-05	0.00E+00	2.59E-05	6.97E-06	1.20E-05	1.89E-05
LDT1-DSL	1.23E-03	0.00E+00	3.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LDT2-NCAT	2.09E-01	2.44E-02	1.11E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LDT2-CAT	1.17E-02	8.68E-04	1.71E-03	0.00E+00	6.35E-05	2.12E-05	2.12E-05	4.23E-05	0.00E+00	5.89E-05	5.29E-06	9.08E-06	1.44E-05
LDT2-DSL	0.00E+00	0.00E+00	5.00E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MDV-NCAT	3.25E-01	2.00E-02	1.50E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MDV-CAT	1.18E-02	8.48E-04	1.92E-03	0.00E+00	4.46E-05	0.00E+00	4.46E-05	4.46E-05	0.00E+00	4.14E-05	0.00E+00	1.92E-05	1.92E-05
MDV-DSL	0.00E+00	0.00E+00	6.67E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LHDT1-NCAT	2.80E-01	4.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LHDT1-CAT	2.10E-02	2.42E-03	3.84E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LHDT1-DSL	2.80E-03	4.00E-04	1.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LHDT2-CAT	3.62E-02	3.85E-03	5.38E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LHDT2-DSL	3.16E-03	5.26E-04	1.26E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MHDT-NCAT	6.40E-01	1.00E-01	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MHDT-CAT	1.04E-01	1.00E-02	1.80E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MHDT-DSL	8.28E-03	1.03E-03	2.28E-02	0.00E+00	1.03E-03	0.00E+00	0.00E+00	0.00E+00	1.03E-03	9.52E-04	0.00E+00	0.00E+00	0.00E+00
HHDT-CAT	1.73E-01	1.17E-02	3.67E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
HHDT-DSL	1.21E-02	2.95E-03	3.89E-02	4.16E-05	1.54E-03	8.32E-05	6.24E-05	1.46E-04	1.54E-03	1.42E-03	2.08E-05	2.68E-05	4.75E-05
OBUS-CAT	6.50E-02	5.00E-03	1.50E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
OBUS-DSL	6.67E-03	0.00E+00	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SBUS-CAT	4.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SBUS-DSL	1.40E-02	2.00E-03	3.00E-02	0.00E+00	2.00E-03	0.00E+00	0.00E+00	0.00E+00	2.00E-03	1.84E-03	0.00E+00	0.00E+00	0.00E+00
UB-CAT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
UB-DSL	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MH-NCAT	3.00E-01	1.00E-02	1.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MH-CAT	3.03E-02	1.29E-03	4.52E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MH-DSL	0.00E+00	0.00E+00	2.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MCY-NCAT	1.67E-01	1.21E-02	3.40E-03	0.00E+00	2.13E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-04	0.00E+00	0.00E+00	0.00E+00
MCY-CAT	4.63E-02	7.08E-03	2.92E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

[a] Emission factors, except PM2.5, calculated by dividing total emissions [lb/day] from BURDEN output of EMFAC2007, version 2.3, by total VMT [mi/day] from BURDEN output. PM10 emission factors by mass fractions in table below.

Table 4-B
PM2.5 Mass Fractions of PM10

PM10 Category	Tech.	PM2.5 Fraction[a]
Exhaust	CAT	0.928
Exhaust	NCAT	0.756
Exhaust	DSL	0.920
Tire Wear	N/A	0.250
Brake Wear	N/A	0.429

[a] From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Table 5-A
2009 Motor Vehicle Emission Factors

Vehicle Type	Vehicle Class	Emission Factors								
		CO (lb/mi)	VOC (lb/mi)	NO_x (lb/mi)	SO_x (lb/mi)	Exh. PM10 (lb/mi)	Fug. PM10 (lb/mi)	Diesel PM (lb/mi)	Exh. PM2.5 (lb/mi)	Fug. PM2.5 (lb/mi)
Water Trucks, Freightliner 4000 gallon	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00015	0.00154	0.00142	0.00005
Water Pull (8000 gallon) CAT	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00015	0.00154	0.00142	0.00005
On-Site Welding Truck	MHDT-CAT	0.10400	0.01000	0.01800	0.00000	0.00000	0.73840	0.00000	0.00000	0.15654
On-Site Fuel/lLube Truck International	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site Flatbed Truck, Chevrolet	MHDT-CAT	0.10400	0.01000	0.01800	0.00000	0.00000	0.73840	0.00000	0.00000	0.15654
On-Site Dump Truck, Volvo	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site 3/4 Ton Pick-Up, Ford	LDT2-CAT	0.01175	0.00087	0.00171	0.00000	0.00006	0.73844	0.00000	0.00006	0.15656
On-Site Water Truck	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site Bus, MC	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site Cement Trucks, MACK	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site Low Boy Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
Off-Site Flat Bed Trucks	MHDT-CAT	0.10400	0.01000	0.01800	0.00000	0.00000	0.00083	0.00000	0.00000	0.00014
Off-Site Asphalt Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Cement Trucks, MACK	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Construction Worker Commute	LDT1-CAT	0.01721	0.00126	0.00167	0.00000	0.00003	0.00088	0.00000	0.00003	0.00016
Off-Site Dump Truck, Volvo	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Low Boy Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Pickup Trucks	LDT1-CAT	0.01721	0.00126	0.00167	0.00000	0.00003	0.00088	0.00000	0.00003	0.00016
Off-Site Pipe Hauling Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Water Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Bus, MC	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Welding Truck	MHDT-CAT	0.10400	0.01000	0.01800	0.00000	0.00000	0.00083	0.00000	0.00000	0.00014
Off-Site Fuel/lLube Truck International	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019

Note: The emission factors, except fugitive emissions from entrained road dust, were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model and dividing calculated daily emissions by daily vehicle-miles-traveled.
Welding trucks, fuel/lube trucks and flatbed trucks are assumed to be Medium-Duty Catalyst Equipped Vehicles.
Pickup trucks and construction worker commuting vehicles are assumed to be Light-Duty Trucks 1.
All other vehicles are assumed to be heavy heavy-duty diesel vehicles.
All the emission factors account for the emissions from start, running and idling exhaust. In addition, the VOC emission factors take into account diurnal, hot soak, running and resting emissions, and fugitive PM10 and PM2.5 emission factors take into account tire and brake wear and entrained paved or unpaved road dust, except for water trucks. Entrained unpaved road dust emissions. from water trucks are assumed to be zero, because water trucks will be equipped with front spray bars, which will eliminate entrained dust emissions.

Emissions [pounds/day] = Emission factor [pounds/mile] x Vehicle miles traveled [miles/day]

Table 5-B
Motor Vehicle Entrained Paved Road PM10 Emission Factors

Vehicle Type	On-Road Average Vehicle Weight (tons)[a]	Road Type	Silt Loading (g/m2)[b]	PM10 Emission Factor (lb/mi)[c]	PM2.5 Emission Factor (lb/mi)[d]
Off-Site Flat Bed Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Asphalt Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Cement Trucks, MACK	2.4	Collector	0.035	0.0008	0.0001
Off-Site Construction Worker Commute	2.4	Collector	0.035	0.0008	0.0001
Off-Site Dump Truck, Volvo	2.4	Collector	0.035	0.0008	0.0001
Off-Site Low Boy Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Pickup Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Pipe Hauling Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Water Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Bus, MC	2.4	Collector	0.035	0.0008	0.0001
Off-Site Welding Truck	2.4	Collector	0.035	0.0008	0.0001
Off-Site Fuel/lLube Truck International	2.4	Collector	0.035	0.0008	0.0001

[a] Average on-road vehicle weight in Kern County from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

[b] From ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

[c] Emission factor [g/mi] = 7.26 (Silt Loading/2)$^{0.65}$ (Weight/3)$^{1.5}$,
from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

[d] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction of PM10 in Paved Road Dust = 0.169 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds/day] = Emission factor [pounds/mile] x Vehicle miles traveled [miles/day]

Table 6
Fugitive Dust PM10 Emission Factors

Soil Dropping During Excavation

Emission Factor [lb/cu. yd] = 0.0011 x (mean wind speed [mi/hr] / 5)$^{1.3}$ / (moisture [%] / 2)$^{1.4}$ x (number drops per ton) x (density [ton/cu. yd])
Reference: AP-42, Equation (1), Section 13.2.4, January 1995

Parameter	Value	Basis
Mean Wind Speed	12	SCAQMD 1993 CEQA Air Quality Handbook, Default
Moisture	15	"Open Fugitive Dust PM10 Control Strategies Study," Midwest Research Institute, October 12, 1990, moist soil.
Number Drops	4	Assumption
Soil Density	1.215	Table 2.46, Handbook of Solid Waste Management

PM10 Emission Factor (Uncontrolled)	9.94E-04	lb/cu. yd
Reduction from Watering Twice/Day	0%	
Controlled PM10 Emission Factor	9.94E-04	lb/cu. yd
Controlled PM2.5 Emission Factor[a]	2.07E-04	lb/cu. yd

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per cubic yard] x Volume soil handled [cubic yards per day]

Table 6
Fugitive Dust PM10 Emission Factors

Storage Pile Wind Erosion

Emission Factor [lb/day-acre] = 0.85 x (silt content [%] / 1.5) x (365 / 235) x (percentage of time unobstructed wind exceeds 12 mph / 15)
Reference: Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, EPA, September 1992

Parameter	Value	Basis
Silt Content	7.5	SCAQMD 1993 CEQA Air Quality Handbook, Overburden
Pct. time wind > 12 mph	13.3	"Emissions Inventory Guidance, Mineral Handling and Processing Industries," MDAQMD, April 10, 2000, p. 17.

PM10 Emission Factor (Uncontrolled)	5.9	lb/day-acre
Reduction from Watering Twice/Day	50%	
Controlled PM10 Emission Factor	2.9	lb/day-acre
Controlled PM2.5 Emission Factor[a]	0.6	lb/day-acre

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per acre-day] x Storage pile surface area [acres]

Table 6
Fugitive Dust PM10 Emission Factors

Bulldozing, Scraping and Grading

Emission Factor [lb/hr] = 0.75 x (silt content [%])$^{1.5}$ / (moisture)$^{1.4}$
Reference: AP-42, Table 11.9-1, July 1998

Parameter	Value	Basis
Silt Content	7.5	SCAQMD 1993 CEQA Air Quality Handbook, Overburden
Moisture	15	SCAQMD 1993 CEQA Air Quality Handbook, Moist Soil

PM10 Emission Factor (Uncontrolled)	0.348	lb/hr
Reduction from Watering Twice/Day	0%	
Controlled PM10 Emission Factor	0.348	lb/hr
Controlled PM2.5 Emission Factor[a]	0.072	lb/hr

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per hour] x Bulldozing or grading time [hours/day]

Table 6
Fugitive Dust PM10 Emission Factors

Vehicles on Unpaved Surfaces

Emission Factor [lb/mi] = 1.5 x (silt content [%] / 12)$^{0.9}$ x (vehicle weight [tons] / 3)$^{0.45}$
Reference: AP-42, Section 13.2.2, December 2003 for industrial unpaved roads

Parameter	Value	Basis
Silt Content	7.5	SCAQMD 1993 CEQA Air Quality Handbook, Overburden
Vehicle Weight	20	Average of 30 tons loaded and 10 tons empty weights

PM10 Emission Factor (Uncontrolled)	2.308	lb/mi
Reduction from Watering Twice/Day	68%	from SCAQMD 1993 CEQA Air Quality Handbook, Table 11-4
Controlled PM10 Emission Factor	0.738	lb/mi
Controlled PM2.5 Emission Factor[a]	0.157	lb/mi

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Unpaved Road Dust = 0.212 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per mile] x Miles traveled [miles/day]

Table 7-A
Solar Facility Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Day	Monthly Number												
					Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment																	
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	4.5	0	0	0	0	4	4	4	5	6	8	6	6	6
Asphalt Paver, Cat	AP1055B	174	Diesel	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	651	500	Diesel	10	0	12	12	11	11	11	11	8	8	0	0	0	0
Scraper, Cat	623	330	Diesel	10	0	0	3	3	3	3	3	3	3	3	0	0	0
Dozer, Cat	824	354	Diesel	10	0	0	2	1	1	1	1	1	0	0	0	0	0
Dozer, Cat	834	498	Diesel	10	0	0	0	2	2	2	2	2	1	0	0	0	0
Dozer, Cat	D-6	150	Diesel	10	0	0	0		2	3	3	3	3	2	0	0	0
Dozer, Cat	D-9	410	Diesel	10	0	3	3	3	3	3	3	3	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	10	0	1	2	2	2	2	1	1	0	0	0	0	0
Blade, Cat	140H	165	Diesel	10	0	0	0	0	0	0	1	1	1	1	0	0	0
Blade, Cat	14H	210	Diesel	10	0	0	0	2	3	3	3	3	3	3	0	0	0
Blade, Cat	16H	265	Diesel	10	0	0			1	1	2	2	1	1	0	0	0
Backhoe, Cat,	430E	97	Diesel	5	0	0	2	2	2	4	4	4	4	2	2	2	1
Compactor, Cat	826H	410	Diesel	5	0	0	1	1	1	2	2	2	2	1	1	1	0
Crane, 150-Ton, Manitowoc	555	347	Diesel	4	0	0	0	0	0	1	2	2	2	2	2	1	1
Crane, 20-Ton, Grove	YB777	130	Diesel	5	0	0	0	1	1	1	1	1	2	6	4	4	4
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	5	0	0	0	0	1	1	2	2	2	4	4	4	4
Loader, Cat,	972G	275	Diesel	5	0	0	0	1	1	1	2	3	3	3	3	3	3
Motor Grader, Cat	140H	150	Diesel														
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	4	0	0	2	3	3	2	2	2	2	2	1	1	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	6	1	1	1	2	3	6	7	9	9	13	9	9	8
Welder, Multiquip	BLW-300SS	19.5	Gasoline	6.5	0	5	5	5	5	7	7	7	7	8	8	9	9
Motor Vehicles																	
On-site Vehicles																	
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	10	0	1	2	2	2	2	2	2	2	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	10	0	4	8	8	8	8	8	8	8	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	5	0	0	0	2	2	2	2	2	4	6	6	6	6
On-Site Fuel/ILube Truck International	4400 SA	N/A	Diesel	5	1	3	3	3	3	3	3	1	1	2	2	2	2
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	5	1	1	1	2	2	2	2	3	3	7	5	5	5
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	5	0	1	1	1	1	2	2	2	2	4	4	4	4
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	4	2	2	2	2	2	2	2	2	2	7	7	7	7
Off-Site Vehicles																	
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	20	4	4	4	4	4	9	9	15	15	20	20	20	15
Off-Site Asphalt Trucks	N/A	N/A	Diesel	20	0	0	0	0	0	0	0	0	0	0	0	0	0
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	0	0	5	5	5	5	6	6	6	4	1	1	1
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	60	111	121	156	199	240	213	173	185	461	771	744	782	739
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	40	0	2	2	2	2	2	2	2	2	2	2	2	2
Off-Site Low Boy Trucks	N/A	N/A	Diesel	15	0	5	0	0	5	5	5	5	5	3	3	3	3
Off-Site Pickup Trucks	F-250	N/A	Gasoline	20	5	5	5	5	5	5	5	5	7	12	14	14	14
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	120	0	0	0	4	4	4	4	4	4	8	8	8	8
Off-Site Water Trucks	FL80	N/A	Diesel	5	1	1	1	2	2	2	2	2	2	2	1	1	1
Off-Site Fuel/ILube Truck International	4400 SA	N/A	Diesel	20	1	1	1	2	2	2	2	2	2	3	3	3	3

Table 7-A (continued)
Solar Facility Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Day	Monthly Number											
					Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment																
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	4.5	6	6	6	5	5	4	4	6	4	4	4	2
Asphalt Paver, Cat	AP1055B	174	Diesel	6	0	0	0	0	0	0	0	0	0	0	1	1
Scraper, Cat	651	500	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	623	330	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	824	354	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	834	498	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-6	150	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-9	410	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	140H	165	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	14H	210	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	16H	265	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe, Cat,	430E	97	Diesel	5	1	1	1	1	1	1	1	1	1	0	0	0
Compactor, Cat	826H	410	Diesel	5	0	0	0	0	0	0	0	1	1	1	1	1
Crane, 150-Ton, Manitowoc	555	347	Diesel	4	1	1	0	0	0	0	0	0	0	0	0	0
Crane, 20-Ton, Grove	YB777	130	Diesel	5	4	4	4	4	4	3	3	3	2	2	2	1
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	4	1	1	1	1	1	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	5	4	4	4	4	4	3	3	3	2	2	2	2
Loader, Cat,	972G	275	Diesel	5	2	1	1	0	0	0	0	0	0	0	0	0
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	4	0	0	0	0	0	0	0	0	0	0	0	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	6	8	7	7	6	6	5	5	5	5	5	5	5
Welder, Multiquip	BLW-300SS	19.5	Gasoline	6.5	9	9	9	9	7	7	7	6	6	6	4	3
Motor Vehicles																
On-site Vehicles																
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	5	6	6	6	6	3	6	6	4	2	2	2	1
On-Site Fuel/ILube Truck International	4400 SA	N/A	Diesel	5	2	2	2	2	2	2	2	1	1	1	1	1
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	5	5	5	5	3	3	3	3	3	3	3	3	3
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	5	4	4	4	4	3	2	2	1	1	1	1	1
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	4	7	7	7	7	7	7	7	7	2	2	2	2
Off-Site Vehicles																
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	20	15	10	10	10	5	5	1	1	1	1	1	1
Off-Site Asphalt Trucks	N/A	N/A	Diesel	20	0	0	0	0	0	0	0	0	0	0	2	2
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	1	1	0	0	0	0	0	0	0	0	0	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	60	730	836	731	713	667	532	559	503	338	235	226	68
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	40	2	2	2	2	2	2	2	0	0	0	0	0
Off-Site Low Boy Trucks	N/A	N/A	Diesel	15	3	1	1	0	0	0	0	0	0	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	20	14	14	10	7	5	3	2	0	0	0	0	0
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	120	4	4	2	2	0	0	0	0	0	0	0	0
Off-Site Water Trucks	FL80	N/A	Diesel	5	1	1	1	1	0	0	0	0	0	0	0	0
Off-Site Fuel/ILube Truck International	4400 SA	N/A	Diesel	20	2	2	1	1	0	0	0	0	0	0	0	0

Table 7-B
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Monthly Operating Hours or Miles[a]												
				Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment																
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	0	0	0	0	396	396	396	495	594	792	594	594	594
Asphalt Paver, Cat	AP1055B	174	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	651	500	Diesel	0	2,640	2,640	2,420	2,420	2,420	2,420	1,760	1,760	0	0	0	0
Scraper, Cat	623	330	Diesel	0	0	660	660	660	660	660	660	660	660	0	0	0
Dozer, Cat	824	354	Diesel	0	0	440	220	220	220	220	220	0	0	0	0	0
Dozer, Cat	834	498	Diesel	0	0	0	440	440	440	440	440	220	0	0	0	0
Dozer, Cat	D-6	150	Diesel	0	0	0	0	440	660	660	660	660	440	0	0	0
Dozer, Cat	D-9	410	Diesel	0	660	660	660	660	660	660	660	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	0	220	440	440	440	440	220	220	0	0	0	0	0
Blade, Cat	140H	165	Diesel	0	0	0	0	0	0	220	220	220	220	0	0	0
Blade, Cat	14H	210	Diesel	0	0	0	440	660	660	660	660	660	660	0	0	0
Blade, Cat	16H	265	Diesel	0	0	0	0	220	220	440	440	220	220	0	0	0
Backhoe, Cat,	430E	97	Diesel	0	0	220	220	220	440	440	440	440	220	220	220	110
Compactor, Cat	826H	410	Diesel	0	0	110	110	110	220	220	220	220	110	110	110	0
Crane, 150-Ton, Manitowoc	555	347	Diesel	0	0	0	0	0	88	176	176	176	176	176	88	88
Crane, 20-Ton, Grove	YB777	130	Diesel	0	0	0	110	110	110	110	110	220	660	440	440	440
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	0	0	0	0	110	110	220	220	220	440	440	440	440
Loader, Cat,	972G	275	Diesel	0	0	0	110	110	110	220	330	330	330	330	330	330
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	0	0	176	264	264	176	176	176	176	176	88	88	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	132	132	132	264	396	792	924	1,188	1,188	1,716	1,188	1,188	1,056
Welder, Multiquip	BLW-300SS	19.5	Gasoline	0	715	715	715	715	1,001	1,001	1,001	1,001	1,144	1,144	1,287	1,287
Motor Vehicles																
On-site Vehicles																
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	0	220	440	440	440	440	440	440	440	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	0	880	1,760	1,760	1,760	1,760	1,760	1,760	1,760	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	0	0	0	220	220	220	220	220	440	660	660	660	660
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	110	330	330	330	330	330	330	110	110	220	220	220	220
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	110	110	110	220	220	220	220	330	330	770	550	550	550
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	0	110	110	110	110	220	220	220	220	440	440	440	440
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	176	176	176	176	176	176	176	176	176	616	616	616	616
Off-Site Vehicles																
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	1,760	1,760	1,760	1,760	1,760	3,960	3,960	6,600	6,600	8,800	8,800	8,800	6,600
Off-Site Asphalt Trucks	N/A	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	0	0	2,200	2,200	2,200	2,200	2,640	2,640	2,640	1,760	440	440	440
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	146,520	159,720	205,920	262,680	316,800	281,160	228,360	244,200	608,520	1,017,720	982,080	1,032,240	975,480
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	0	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760
Off-Site Low Boy Trucks	N/A	N/A	Diesel	0	1,650	0	0	1,650	1,650	1,650	1,650	1,650	990	990	990	990
Off-Site Pickup Trucks	F-250	N/A	Gasoline	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	3,080	5,280	6,160	6,160	6,160
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	0	0	0	10,560	10,560	10,560	10,560	10,560	10,560	21,120	21,120	21,120	21,120
Off-Site Water Trucks	FL80	N/A	Diesel	110	110	110	220	220	220	220	220	220	220	110	110	110
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	440	440	440	880	880	880	880	880	880	1,320	1,320	1,320	1,320

Table 7-B (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Monthly Operating Hours or Miles[a]											
				Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment															
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	594	594	594	495	495	396	396	594	396	396	396	198
Asphalt Paver, Cat	AP1055B	174	Diesel	0	0	0	0	0	0	0	0	0	0	132	132
Scraper, Cat	651	500	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	623	330	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	824	354	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	834	498	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-6	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-9	410	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	140H	165	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	14H	210	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	16H	265	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe, Cat,	430E	97	Diesel	110	110	110	110	110	110	110	110	110	0	0	0
Compactor, Cat	826H	410	Diesel	0	0	0	0	0	0	0	110	110	110	110	110
Crane, 150-Ton, Manitowoc	555	347	Diesel	88	88	0	0	0	0	0	0	0	0	0	0
Crane, 20-Ton, Grove	YB777	130	Diesel	440	440	440	440	440	330	330	330	220	220	220	110
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	88	88	88	88	88	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	440	440	440	440	440	330	330	330	220	220	220	220
Loader, Cat,	972G	275	Diesel	220	110	110	0	0	0	0	0	0	0	0	0
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	1,056	924	924	792	792	660	660	660	660	660	660	660
Welder, Multiquip	BLW-300SS	19.5	Gasoline	1,287	1,287	1,287	1,287	1,001	1,001	1,001	858	858	858	572	429
Motor Vehicles															
On-site Vehicles															
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	660	660	660	660	330	660	660	440	220	220	220	110
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	220	220	220	220	220	220	220	110	110	110	110	110
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	550	550	550	330	330	330	330	330	330	330	330	330
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	440	440	440	440	330	220	220	110	110	110	110	110
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	616	616	616	616	616	616	616	616	176	176	176	176
Off-Site Vehicles															
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	6,600	4,400	4,400	4,400	2,200	2,200	440	440	440	440	440	440
Off-Site Asphalt Trucks	N/A	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	880	880
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	440	440	0	0	0	0	0	0	0	0	0	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	963,600	1,103,520	964,920	941,160	880,440	702,240	737,880	663,960	446,160	310,200	298,320	89,760
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	1,760	1,760	1,760	1,760	1,760	1,760	1,760	0	0	0	0	0
Off-Site Low Boy Trucks	N/A	N/A	Diesel	990	330	330	0	0	0	0	0	0	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	6,160	6,160	4,400	3,080	2,200	1,320	880	0	0	0	0	0
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	10,560	10,560	5,280	5,280	0	0	0	0	0	0	0	0
Off-Site Water Trucks	FL80	N/A	Diesel	110	110	110	110	0	0	0	0	0	0	0	0
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	880	880	440	440	0	0	0	0	0	0	0	0

a Based on 22 working days per month

Table 7-C
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0893	0.0	0.0	0.0	0.0	35.4	35.4	35.4	44.2	53.0	70.7	53.0	53.0	53.0
Asphalt Paver, Cat	0.8031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	4,358.4	4,358.4	3,995.2	3,995.2	3,995.2	3,995.2	2,905.6	2,905.6	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	0.0	1,089.6	1,089.6	1,089.6	1,089.6	1,089.6	1,089.6	1,089.6	1,089.6	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	820.6	410.3	410.3	410.3	410.3	410.3	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	820.6	820.6	820.6	820.6	820.6	410.3	0.0	0.0	0.0	0.0
Dozer, Cat	0.7655	0.0	0.0	0.0	0.0	336.8	505.3	505.3	505.3	505.3	336.8	0.0	0.0	0.0
Dozer, Cat	1.2964	0.0	855.6	855.6	855.6	855.6	855.6	855.6	855.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.3239	0.0	511.3	1,022.5	1,022.5	1,022.5	1,022.5	511.3	511.3	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	163.6	163.6	163.6	163.6	0.0	0.0	0.0
Blade, Cat	0.5194	0.0	0.0	0.0	228.5	342.8	342.8	342.8	342.8	342.8	342.8	0.0	0.0	0.0
Blade, Cat	0.8122	0.0	0.0	0.0	0.0	178.7	178.7	357.4	357.4	178.7	178.7	0.0	0.0	0.0
Backhoe, Cat,	0.3657	0.0	0.0	80.4	80.4	80.4	160.9	160.9	160.9	160.9	80.4	80.4	80.4	40.2
Compactor, Cat	0.8418	0.0	0.0	92.6	92.6	92.6	185.2	185.2	185.2	185.2	92.6	92.6	92.6	0.0
Crane, 150-Ton, Manitowoc	0.7164	0.0	0.0	0.0	0.0	0.0	63.0	126.1	126.1	126.1	126.1	126.1	63.0	63.0
Crane, 20-Ton, Grove	0.4901	0.0	0.0	0.0	53.9	53.9	53.9	53.9	53.9	107.8	323.4	215.6	215.6	215.6
Crane, 225-Ton, Manitowoc,	0.7164	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.4901	0.0	0.0	0.0	0.0	53.9	53.9	107.8	107.8	107.8	215.6	215.6	215.6	215.6
Loader, Cat,	0.8223	0.0	0.0	0.0	90.5	90.5	90.5	180.9	271.4	271.4	271.4	271.4	271.4	271.4
Motor Grader, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	1.0497	0.0	0.0	184.8	277.1	277.1	184.8	184.8	184.8	184.8	184.8	92.4	92.4	0.0
Welder, Multiquip	0.0698	9.2	9.2	9.2	18.4	27.6	55.2	64.5	82.9	82.9	119.7	82.9	82.9	73.7
Welder, Multiquip	5.4790	0.0	3,917.5	3,917.5	3,917.5	3,917.5	5,484.5	5,484.5	5,484.5	5,484.5	6,268.0	6,268.0	7,051.5	7,051.5
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0121	0.0	2.7	5.3	5.3	5.3	5.3	5.3	5.3	5.3	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0121	0.0	10.7	21.4	21.4	21.4	21.4	21.4	21.4	21.4	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	0.0	0.0	0.0	22.9	22.9	22.9	22.9	22.9	45.8	68.6	68.6	68.6	68.6
On-Site Fuel/lLube Truck International	0.0121	1.3	4.0	4.0	4.0	4.0	4.0	4.0	1.3	1.3	2.7	2.7	2.7	2.7
On-Site Flatbed Truck, Chevrolet	0.1040	11.4	11.4	11.4	22.9	22.9	22.9	22.9	34.3	34.3	80.1	57.2	57.2	57.2
On-Site Dump Truck, Volvo	0.0121	0.0	1.3	1.3	1.3	1.3	2.7	2.7	2.7	2.7	5.3	5.3	5.3	5.3
On-Site 3/4 Ton Pick-Up, Ford	0.0117	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	7.2	7.2	7.2	7.2
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.1040	183.0	183.0	183.0	183.0	183.0	411.8	411.8	686.4	686.4	915.2	915.2	915.2	686.4
Off-Site Asphalt Trucks	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0121	0.0	0.0	26.7	26.7	26.7	26.7	32.1	32.1	32.1	21.4	5.3	5.3	5.3
Off-Site Construction Worker Commute	0.0172	2,521.7	2,748.9	3,544.0	4,520.9	5,452.3	4,838.9	3,930.2	4,202.8	10,473.0	17,515.6	16,902.2	17,765.5	16,788.6
Off-Site Dump Truck, Volvo	0.0121	0.0	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4
Off-Site Low Boy Trucks	0.0121	0.0	20.0	0.0	0.0	20.0	20.0	20.0	20.0	20.0	12.0	12.0	12.0	12.0
Off-Site Pickup Trucks	0.0172	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	53.0	90.9	106.0	106.0	106.0
Off-Site Pipe Hauling Trucks	0.0121	0.0	0.0	0.0	128.2	128.2	128.2	128.2	128.2	128.2	256.4	256.4	256.4	256.4
Off-Site Water Trucks	0.0121	1.3	1.3	1.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.3	1.3	1.3
Off-Site Fuel/lLube Truck International	0.0121	5.3	5.3	5.3	10.7	10.7	10.7	10.7	10.7	10.7	16.0	16.0	16.0	16.0
Construction Equipment Total		**9.2**	**9,651.9**	**12,431.2**	**12,952.8**	**13,681.0**	**15,587.8**	**15,635.4**	**14,663.5**	**12,360.1**	**9,864.2**	**7,498.0**	**8,218.5**	**7,984.1**
On-Site Motor Vehicle Total		**14.8**	**32.2**	**45.6**	**79.9**	**79.9**	**81.2**	**81.2**	**90.0**	**112.9**	**164.0**	**141.1**	**141.1**	**141.1**
Off-Site Motor Vehicle Total		**2,749.3**	**3,017.9**	**3,819.7**	**4,931.4**	**5,882.9**	**5,498.3**	**4,594.9**	**5,142.1**	**11,427.4**	**18,851.5**	**18,235.9**	**19,099.2**	**17,893.5**

Table 7-C (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0893	53.0	53.0	53.0	44.2	44.2	35.4	35.4	53.0	35.4	35.4	35.4	17.7
Asphalt Paver, Cat	0.8031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	106.0	106.0
Scraper, Cat	1.6509	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.7655	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.2964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.3239	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.5194	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.8122	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.3657	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	0.0	0.0	0.0
Compactor, Cat	0.8418	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.6	92.6	92.6	92.6	92.6
Crane, 150-Ton, Manitowoc	0.7164	63.0	63.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.4901	215.6	215.6	215.6	215.6	215.6	161.7	161.7	161.7	107.8	107.8	107.8	53.9
Crane, 225-Ton, Manitowoc,	0.7164	63.0	63.0	63.0	63.0	63.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.4901	215.6	215.6	215.6	215.6	215.6	161.7	161.7	161.7	107.8	107.8	107.8	107.8
Loader, Cat,	0.8223	180.9	90.5	90.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	1.0497	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0698	73.7	64.5	64.5	55.2	55.2	46.0	46.0	46.0	46.0	46.0	46.0	46.0
Welder, Multiquip	5.4790	7,051.5	7,051.5	7,051.5	7,051.5	5,484.5	5,484.5	5,484.5	4,701.0	4,701.0	4,701.0	3,134.0	2,350.5
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	68.6	68.6	68.6	68.6	34.3	68.6	68.6	45.8	22.9	22.9	22.9	11.4
On-Site Fuel/lLube Truck International	0.0121	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.3	1.3	1.3	1.3	1.3
On-Site Flatbed Truck, Chevrolet	0.1040	57.2	57.2	57.2	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3
On-Site Dump Truck, Volvo	0.0121	5.3	5.3	5.3	5.3	4.0	2.7	2.7	1.3	1.3	1.3	1.3	1.3
On-Site 3/4 Ton Pick-Up, Ford	0.0117	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	2.1	2.1	2.1	2.1
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.1040	686.4	457.6	457.6	457.6	228.8	228.8	45.8	45.8	45.8	45.8	45.8	45.8
Off-Site Asphalt Trucks	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	10.7
Off-Site Cement Trucks, MACK	0.0121	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0172	16,584.1	18,992.2	16,606.9	16,197.9	15,152.9	12,086.0	12,699.4	11,427.1	7,678.7	5,338.7	5,134.3	1,544.8
Off-Site Dump Truck, Volvo	0.0121	21.4	21.4	21.4	21.4	21.4	21.4	21.4	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0121	12.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0172	106.0	106.0	75.7	53.0	37.9	22.7	15.1	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0121	128.2	128.2	64.1	64.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0121	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0121	10.7	10.7	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**7,956.6**	**7,857.0**	**7,793.9**	**7,685.4**	**6,118.4**	**5,929.5**	**5,929.5**	**5,256.3**	**5,130.8**	**5,090.6**	**3,629.6**	**2,774.5**
On-Site Motor Vehicle Total		**141.1**	**141.1**	**141.1**	**118.2**	**82.6**	**115.5**	**115.5**	**90.0**	**61.9**	**61.9**	**61.9**	**50.5**
Off-Site Motor Vehicle Total		**17,555.5**	**19,726.8**	**17,236.3**	**16,800.7**	**15,440.9**	**12,358.9**	**12,781.6**	**11,472.9**	**7,724.4**	**5,384.5**	**5,190.7**	**1,601.3**

Note: Totals may not match sum of individual values because of rounding.

Table 7-D
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0352	0.0	0.0	0.0	0.0	14.0	14.0	14.0	17.4	20.9	27.9	20.9	20.9	20.9
Asphalt Paver, Cat	0.2144	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	1,005.4	1,005.4	921.6	921.6	921.6	921.6	670.2	670.2	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	0.0	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	165.3	82.7	82.7	82.7	82.7	82.7	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	165.3	165.3	165.3	165.3	165.3	82.7	0.0	0.0	0.0	0.0
Dozer, Cat	0.2036	0.0	0.0	0.0	0.0	89.6	134.4	134.4	134.4	134.4	89.6	0.0	0.0	0.0
Dozer, Cat	0.3039	0.0	200.6	200.6	200.6	200.6	200.6	200.6	200.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.5475	0.0	120.5	240.9	240.9	240.9	240.9	120.5	120.5	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	40.5	40.5	40.5	40.5	0.0	0.0	0.0
Blade, Cat	0.1856	0.0	0.0	0.0	81.7	122.5	122.5	122.5	122.5	122.5	122.5	0.0	0.0	0.0
Blade, Cat	0.2248	0.0	0.0	0.0	0.0	49.4	49.4	98.9	98.9	49.4	49.4	0.0	0.0	0.0
Backhoe, Cat,	0.0990	0.0	0.0	21.8	21.8	21.8	43.6	43.6	43.6	43.6	21.8	21.8	21.8	10.9
Compactor, Cat	0.2106	0.0	0.0	23.2	23.2	23.2	46.3	46.3	46.3	46.3	23.2	23.2	23.2	0.0
Crane, 150-Ton, Manitowoc	0.1912	0.0	0.0	0.0	0.0	0.0	16.8	33.7	33.7	33.7	33.7	33.7	16.8	16.8
Crane, 20-Ton, Grove	0.1274	0.0	0.0	0.0	14.0	14.0	14.0	14.0	14.0	28.0	84.1	56.0	56.0	56.0
Crane, 225-Ton, Manitowoc,	0.1912	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.1274	0.0	0.0	0.0	0.0	14.0	14.0	28.0	28.0	28.0	56.0	56.0	56.0	56.0
Loader, Cat,	0.2276	0.0	0.0	0.0	25.0	25.0	25.0	50.1	75.1	75.1	75.1	75.1	75.1	75.1
Motor Grader, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.2724	0.0	0.0	47.9	71.9	71.9	47.9	47.9	47.9	47.9	47.9	24.0	24.0	0.0
Welder, Multiquip	0.0275	3.6	3.6	3.6	7.3	10.9	21.8	25.4	32.7	32.7	47.2	32.7	32.7	29.1
Welder, Multiquip	0.1714	0.0	122.5	122.5	122.5	122.5	171.6	171.6	171.6	171.6	196.1	196.1	220.6	220.6
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0030	0.0	0.6	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0030	0.0	2.6	5.2	5.2	5.2	5.2	5.2	5.2	5.2	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	0.0	0.0	0.0	2.2	2.2	2.2	2.2	2.2	4.4	6.6	6.6	6.6	6.6
On-Site Fuel/lLube Truck International	0.0030	0.3	1.0	1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.6	0.6	0.6	0.6
On-Site Flatbed Truck, Chevrolet	0.0100	1.1	1.1	1.1	2.2	2.2	2.2	2.2	3.3	3.3	7.7	5.5	5.5	5.5
On-Site Dump Truck, Volvo	0.0030	0.0	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0100	17.6	17.6	17.6	17.6	17.6	39.6	39.6	66.0	66.0	88.0	88.0	88.0	66.0
Off-Site Asphalt Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0030	0.0	0.0	6.5	6.5	6.5	6.5	7.8	7.8	7.8	5.2	1.3	1.3	1.3
Off-Site Construction Worker Commute	0.0013	183.9	200.5	258.5	329.7	397.7	352.9	286.6	306.5	763.8	1,277.5	1,232.7	1,295.7	1,224.5
Off-Site Dump Truck, Volvo	0.0030	0.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Off-Site Low Boy Trucks	0.0030	0.0	4.9	0.0	0.0	4.9	4.9	4.9	4.9	4.9	2.9	2.9	2.9	2.9
Off-Site Pickup Trucks	0.0013	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.9	6.6	7.7	7.7	7.7
Off-Site Pipe Hauling Trucks	0.0030	0.0	0.0	0.0	31.2	31.2	31.2	31.2	31.2	31.2	62.4	62.4	62.4	62.4
Off-Site Water Trucks	0.0030	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3
Off-Site Fuel/lLube Truck International	0.0030	1.3	1.3	1.3	2.6	2.6	2.6	2.6	2.6	2.6	3.9	3.9	3.9	3.9
Construction Equipment Total		**3.6**	**1,452.6**	**2,082.6**	**2,229.8**	**2,441.2**	**2,583.8**	**2,612.8**	**2,397.2**	**1,878.9**	**1,166.3**	**539.5**	**547.1**	**485.5**
On-Site Motor Vehicle Total		**1.6**	**5.8**	**9.0**	**12.3**	**12.3**	**12.7**	**12.7**	**13.1**	**15.3**	**16.8**	**14.6**	**14.6**	**14.6**
Off-Site Motor Vehicle Total		**205.9**	**232.5**	**292.2**	**396.2**	**469.0**	**446.3**	**381.3**	**427.6**	**886.0**	**1,452.3**	**1,404.5**	**1,467.4**	**1,374.2**

Table 7-D (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0352	20.9	20.9	20.9	17.4	17.4	14.0	14.0	20.9	14.0	14.0	14.0	7.0
Asphalt Paver, Cat	0.2144	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.3	28.3
Scraper, Cat	0.3808	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2036	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3039	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.5475	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1856	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.2248	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0990	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	0.0	0.0	0.0
Compactor, Cat	0.2106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2	23.2	23.2	23.2	23.2
Crane, 150-Ton, Manitowoc	0.1912	16.8	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.1274	56.0	56.0	56.0	56.0	56.0	42.0	42.0	42.0	28.0	28.0	28.0	14.0
Crane, 225-Ton, Manitowoc,	0.1912	16.8	16.8	16.8	16.8	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.1274	56.0	56.0	56.0	56.0	56.0	42.0	42.0	42.0	28.0	28.0	28.0	28.0
Loader, Cat,	0.2276	50.1	25.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.2724	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0275	29.1	25.4	25.4	21.8	21.8	18.2	18.2	18.2	18.2	18.2	18.2	18.2
Welder, Multiquip	0.1714	220.6	220.6	220.6	220.6	171.6	171.6	171.6	147.1	147.1	147.1	98.0	73.5
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	6.6	6.6	6.6	6.6	3.3	6.6	6.6	4.4	2.2	2.2	2.2	1.1
On-Site Fuel/lLube Truck International	0.0030	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.3
On-Site Flatbed Truck, Chevrolet	0.0100	5.5	5.5	5.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
On-Site Dump Truck, Volvo	0.0030	1.3	1.3	1.3	1.3	1.0	0.6	0.6	0.3	0.3	0.3	0.3	0.3
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.2	0.2
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0100	66.0	44.0	44.0	44.0	22.0	22.0	4.4	4.4	4.4	4.4	4.4	4.4
Off-Site Asphalt Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6
Off-Site Cement Trucks, MACK	0.0030	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0013	1,209.5	1,385.2	1,211.2	1,181.4	1,105.2	881.5	926.2	833.4	560.0	389.4	374.5	112.7
Off-Site Dump Truck, Volvo	0.0030	5.2	5.2	5.2	5.2	5.2	5.2	5.2	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0030	2.9	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0013	7.7	7.7	5.5	3.9	2.8	1.7	1.1	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0030	31.2	31.2	15.6	15.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0030	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0030	2.6	2.6	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**477.3**	**448.6**	**431.8**	**399.6**	**350.6**	**298.6**	**298.6**	**304.3**	**269.3**	**258.4**	**237.7**	**192.2**
On-Site Motor Vehicle Total		**14.6**	**14.6**	**14.6**	**12.4**	**8.8**	**11.7**	**11.7**	**8.9**	**6.3**	**6.3**	**6.3**	**5.2**
Off-Site Motor Vehicle Total		**1,326.8**	**1,478.5**	**1,284.1**	**1,251.6**	**1,135.1**	**910.3**	**936.9**	**837.8**	**564.4**	**393.8**	**381.5**	**119.7**

Note: Totals may not match sum of individual values because of rounding.

Table 7-E
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.1439	0.0	0.0	0.0	0.0	57.0	57.0	57.0	71.2	85.5	114.0	85.5	85.5	85.5
Asphalt Paver, Cat	1.6818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	9,520.7	9,520.7	8,727.3	8,727.3	8,727.3	8,727.3	6,347.2	6,347.2	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	0.0	2,380.2	2,380.2	2,380.2	2,380.2	2,380.2	2,380.2	2,380.2	2,380.2	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	1,475.6	737.8	737.8	737.8	737.8	737.8	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	1,475.6	1,475.6	1,475.6	1,475.6	1,475.6	737.8	0.0	0.0	0.0	0.0
Dozer, Cat	1.5591	0.0	0.0	0.0	0.0	686.0	1,029.0	1,029.0	1,029.0	1,029.0	686.0	0.0	0.0	0.0
Dozer, Cat	2.8731	0.0	1,896.2	1,896.2	1,896.2	1,896.2	1,896.2	1,896.2	1,896.2	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	5.2476	0.0	1,154.5	2,308.9	2,308.9	2,308.9	2,308.9	1,154.5	1,154.5	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	316.0	316.0	316.0	316.0	0.0	0.0	0.0
Blade, Cat	1.8997	0.0	0.0	0.0	835.9	1,253.8	1,253.8	1,253.8	1,253.8	1,253.8	1,253.8	0.0	0.0	0.0
Blade, Cat	2.2486	0.0	0.0	0.0	0.0	494.7	494.7	989.4	989.4	494.7	494.7	0.0	0.0	0.0
Backhoe, Cat,	0.6061	0.0	0.0	133.3	133.3	133.3	266.7	266.7	266.7	266.7	133.3	133.3	133.3	66.7
Compactor, Cat	2.2084	0.0	0.0	242.9	242.9	242.9	485.8	485.8	485.8	485.8	242.9	242.9	242.9	0.0
Crane, 150-Ton, Manitowoc	1.8761	0.0	0.0	0.0	0.0	0.0	165.1	330.2	330.2	330.2	330.2	330.2	165.1	165.1
Crane, 20-Ton, Grove	0.9835	0.0	0.0	0.0	108.2	108.2	108.2	108.2	108.2	216.4	649.1	432.7	432.7	432.7
Crane, 225-Ton, Manitowoc,	1.8761	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.9835	0.0	0.0	0.0	0.0	108.2	108.2	216.4	216.4	216.4	432.7	432.7	432.7	432.7
Loader, Cat,	2.3019	0.0	0.0	0.0	253.2	253.2	253.2	506.4	759.6	759.6	759.6	759.6	759.6	759.6
Motor Grader, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	3.3717	0.0	0.0	593.4	890.1	890.1	593.4	593.4	593.4	593.4	593.4	296.7	296.7	0.0
Welder, Multiquip	0.1124	14.8	14.8	14.8	29.7	44.5	89.1	103.9	133.6	133.6	192.9	133.6	133.6	118.7
Welder, Multiquip	0.0780	0.0	55.8	55.8	55.8	55.8	78.1	78.1	78.1	78.1	89.2	89.2	100.4	100.4
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0389	0.0	8.6	17.1	17.1	17.1	17.1	17.1	17.1	17.1	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0389	0.0	34.2	68.5	68.5	68.5	68.5	68.5	68.5	68.5	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	0.0	0.0	0.0	4.0	4.0	4.0	4.0	4.0	7.9	11.9	11.9	11.9	11.9
On-Site Fuel/ILube Truck International	0.0389	4.3	12.8	12.8	12.8	12.8	12.8	12.8	4.3	4.3	8.6	8.6	8.6	8.6
On-Site Flatbed Truck, Chevrolet	0.0180	2.0	2.0	2.0	4.0	4.0	4.0	4.0	5.9	5.9	13.9	9.9	9.9	9.9
On-Site Dump Truck, Volvo	0.0389	0.0	4.3	4.3	4.3	4.3	8.6	8.6	8.6	8.6	17.1	17.1	17.1	17.1
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.1	1.1	1.1	1.1
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0180	31.7	31.7	31.7	31.7	31.7	71.3	71.3	118.8	118.8	158.4	158.4	158.4	118.8
Off-Site Asphalt Trucks	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0389	0.0	0.0	85.6	85.6	85.6	85.6	102.7	102.7	102.7	68.5	17.1	17.1	17.1
Off-Site Construction Worker Commute	0.0017	245.2	267.3	344.6	439.6	530.2	470.6	382.2	408.7	1,018.4	1,703.3	1,643.6	1,727.6	1,632.6
Off-Site Dump Truck, Volvo	0.0389	0.0	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5
Off-Site Low Boy Trucks	0.0389	0.0	64.2	0.0	0.0	64.2	64.2	64.2	64.2	64.2	38.5	38.5	38.5	38.5
Off-Site Pickup Trucks	0.0017	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	5.2	8.8	10.3	10.3	10.3
Off-Site Pipe Hauling Trucks	0.0389	0.0	0.0	0.0	410.8	410.8	410.8	410.8	410.8	410.8	821.5	821.5	821.5	821.5
Off-Site Water Trucks	0.0389	4.3	4.3	4.3	8.6	8.6	8.6	8.6	8.6	8.6	8.6	4.3	4.3	4.3
Off-Site Fuel/ILube Truck International	0.0389	17.1	17.1	17.1	34.2	34.2	34.2	34.2	34.2	34.2	51.3	51.3	51.3	51.3
Construction Equipment Total		**14.8**	**12,642.0**	**18,622.0**	**20,075.2**	**21,853.9**	**22,508.4**	**22,706.0**	**20,623.0**	**15,724.4**	**8,668.3**	**2,936.6**	**2,782.7**	**2,161.5**
On-Site Motor Vehicle Total		**6.6**	**62.2**	**105.0**	**110.9**	**110.9**	**115.2**	**115.2**	**108.6**	**112.6**	**52.5**	**48.5**	**48.5**	**48.5**
Off-Site Motor Vehicle Total		**302.0**	**456.7**	**555.4**	**1,082.6**	**1,237.3**	**1,217.3**	**1,146.0**	**1,220.1**	**1,831.3**	**2,927.4**	**2,813.6**	**2,897.5**	**2,762.9**

Table 7-E (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.1439	85.5	85.5	85.5	71.2	71.2	57.0	57.0	85.5	57.0	57.0	57.0	28.5
Asphalt Paver, Cat	1.6818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	222.0	222.0
Scraper, Cat	3.6063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.5591	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.8731	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	5.2476	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.8997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	2.2486	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.6061	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	0.0	0.0	0.0
Compactor, Cat	2.2084	0.0	0.0	0.0	0.0	0.0	0.0	0.0	242.9	242.9	242.9	242.9	242.9
Crane, 150-Ton, Manitowoc	1.8761	165.1	165.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.9835	432.7	432.7	432.7	432.7	432.7	324.6	324.6	324.6	216.4	216.4	216.4	108.2
Crane, 225-Ton, Manitowoc,	1.8761	165.1	165.1	165.1	165.1	165.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.9835	432.7	432.7	432.7	432.7	432.7	324.6	324.6	324.6	216.4	216.4	216.4	216.4
Loader, Cat,	2.3019	506.4	253.2	253.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	3.3717	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.1124	118.7	103.9	103.9	89.1	89.1	74.2	74.2	74.2	74.2	74.2	74.2	74.2
Welder, Multiquip	0.0780	100.4	100.4	100.4	100.4	78.1	78.1	78.1	66.9	66.9	66.9	44.6	33.5
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	11.9	11.9	11.9	11.9	5.9	11.9	11.9	7.9	4.0	4.0	4.0	2.0
On-Site Fuel/lLube Truck International	0.0389	8.6	8.6	8.6	8.6	8.6	8.6	8.6	4.3	4.3	4.3	4.3	4.3
On-Site Flatbed Truck, Chevrolet	0.0180	9.9	9.9	9.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
On-Site Dump Truck, Volvo	0.0389	17.1	17.1	17.1	17.1	12.8	8.6	8.6	4.3	4.3	4.3	4.3	4.3
On-Site 3/4 Ton Pick-Up, Ford	0.0017	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.3	0.3	0.3	0.3
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0180	118.8	79.2	79.2	79.2	39.6	39.6	7.9	7.9	7.9	7.9	7.9	7.9
Off-Site Asphalt Trucks	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.2	34.2
Off-Site Cement Trucks, MACK	0.0389	17.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0017	1,612.7	1,846.9	1,614.9	1,575.2	1,473.5	1,175.3	1,234.9	1,111.2	746.7	519.2	499.3	150.2
Off-Site Dump Truck, Volvo	0.0389	68.5	68.5	68.5	68.5	68.5	68.5	68.5	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0389	38.5	12.8	12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0017	10.3	10.3	7.4	5.2	3.7	2.2	1.5	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0389	410.8	410.8	205.4	205.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0389	4.3	4.3	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0389	34.2	34.2	17.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**2,073.4**	**1,805.3**	**1,640.2**	**1,357.9**	**1,335.6**	**925.1**	**925.1**	**1,185.3**	**940.5**	**873.8**	**1,073.5**	**925.6**
On-Site Motor Vehicle Total		**48.5**	**48.5**	**48.5**	**44.5**	**34.3**	**36.0**	**36.0**	**23.5**	**18.8**	**18.8**	**18.8**	**16.8**
Off-Site Motor Vehicle Total		**2,315.2**	**2,484.1**	**2,009.6**	**1,954.8**	**1,585.3**	**1,285.6**	**1,312.8**	**1,119.2**	**754.6**	**527.1**	**541.4**	**192.4**

Note: Totals may not match sum of individual values because of rounding.

Table 7-F
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0002	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Asphalt Paver, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	8.3	8.3	7.6	7.6	7.6	7.6	5.5	5.5	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	1.1	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	0.6	0.0	0.0	0.0	0.0
Dozer, Cat	0.0014	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.9	0.9	0.6	0.0	0.0	0.0
Dozer, Cat	0.0025	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0047	0.0	1.0	2.1	2.1	2.1	2.1	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0
Blade, Cat	0.0019	0.0	0.0	0.0	0.9	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0
Blade, Cat	0.0023	0.0	0.0	0.0	0.0	0.5	0.5	1.0	1.0	0.5	0.5	0.0	0.0	0.0
Backhoe, Cat,	0.0006	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1
Compactor, Cat	0.0021	0.0	0.0	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.2	0.2	0.2	0.0
Crane, 150-Ton, Manitowoc	0.0018	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2
Crane, 20-Ton, Grove	0.0009	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.6	0.4	0.4	0.4
Crane, 225-Ton, Manitowoc,	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.4	0.4	0.4	0.4
Loader, Cat,	0.0023	0.0	0.0	0.0	0.3	0.3	0.3	0.5	0.8	0.8	0.8	0.8	0.8	0.8
Motor Grader, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0034	0.0	0.0	0.6	0.9	0.9	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.0
Welder, Multiquip	0.0001	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Welder, Multiquip	0.0002	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0000	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Dump Truck, Volvo	0.0000	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0000	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0000	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.9	0.9	0.9
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Construction Equipment Total		**0.0**	**11.2**	**16.4**	**17.8**	**19.5**	**20.2**	**20.5**	**18.7**	**14.5**	**8.4**	**3.1**	**2.9**	**2.3**
On-Site Motor Vehicle Total		**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.2**	**0.2**	**0.6**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**1.1**	**1.1**	**1.1**	**1.1**

Table 7-F (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0002	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Asphalt Paver, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0006	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Compactor, Cat	0.0021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Crane, 150-Ton, Manitowoc	0.0018	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0009	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1
Crane, 225-Ton, Manitowoc,	0.0018	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0009	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Loader, Cat,	0.0023	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0001	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Welder, Multiquip	0.0002	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Dump Truck, Volvo	0.0000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0000	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**2.2**	**1.9**	**1.8**	**1.5**	**1.4**	**1.0**	**1.0**	**1.3**	**1.0**	**1.0**	**1.1**	**0.9**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.6**	**0.6**	**0.3**	**0.3**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-G
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0106	0.0	0.0	0.0	0.0	4.2	4.2	4.2	5.2	6.3	8.4	6.3	6.3	6.3
Asphalt Paver, Cat	0.0938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	385.5	385.5	353.4	353.4	353.4	353.4	257.0	257.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	0.0	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	63.0	31.5	31.5	31.5	31.5	31.5	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	63.0	63.0	63.0	63.0	63.0	31.5	0.0	0.0	0.0	0.0
Dozer, Cat	0.0894	0.0	0.0	0.0	0.0	39.3	59.0	59.0	59.0	59.0	39.3	0.0	0.0	0.0
Dozer, Cat	0.1160	0.0	76.6	76.6	76.6	76.6	76.6	76.6	76.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2098	0.0	46.2	92.3	92.3	92.3	92.3	46.2	46.2	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	18.1	18.1	18.1	18.1	0.0	0.0	0.0
Blade, Cat	0.0705	0.0	0.0	0.0	31.0	46.5	46.5	46.5	46.5	46.5	46.5	0.0	0.0	0.0
Blade, Cat	0.0853	0.0	0.0	0.0	0.0	18.8	18.8	37.6	37.6	18.8	18.8	0.0	0.0	0.0
Backhoe, Cat,	0.0553	0.0	0.0	12.2	12.2	12.2	24.3	24.3	24.3	24.3	12.2	12.2	12.2	6.1
Compactor, Cat	0.0830	0.0	0.0	9.1	9.1	9.1	18.3	18.3	18.3	18.3	9.1	9.1	9.1	0.0
Crane, 150-Ton, Manitowoc	0.0727	0.0	0.0	0.0	0.0	0.0	6.4	12.8	12.8	12.8	12.8	12.8	6.4	6.4
Crane, 20-Ton, Grove	0.0562	0.0	0.0	0.0	6.2	6.2	6.2	6.2	6.2	12.4	37.1	24.7	24.7	24.7
Crane, 225-Ton, Manitowoc,	0.0727	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0562	0.0	0.0	0.0	0.0	6.2	6.2	12.4	12.4	12.4	24.7	24.7	24.7	24.7
Loader, Cat,	0.0867	0.0	0.0	0.0	9.5	9.5	9.5	19.1	28.6	28.6	28.6	28.6	28.6	28.6
Motor Grader, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.1059	0.0	0.0	18.6	28.0	28.0	18.6	18.6	18.6	18.6	18.6	9.3	9.3	0.0
Welder, Multiquip	0.0083	1.1	1.1	1.1	2.2	3.3	6.6	7.7	9.8	9.8	14.2	9.8	9.8	8.7
Welder, Multiquip	0.0668	0.0	47.7	47.7	47.7	47.7	66.8	66.8	66.8	66.8	76.4	76.4	85.9	85.9
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0015	0.0	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0015	0.0	1.4	2.7	2.7	2.7	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0015	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.3	0.3	0.3	0.3
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0015	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.7	0.7	0.7	0.7
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0015	0.0	0.0	3.4	3.4	3.4	3.4	4.1	4.1	4.1	2.7	0.7	0.7	0.7
Off-Site Construction Worker Commute	0.0000	4.1	4.5	5.7	7.3	8.8	7.8	6.4	6.8	17.0	28.4	27.4	28.8	27.2
Off-Site Dump Truck, Volvo	0.0015	0.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Off-Site Low Boy Trucks	0.0015	0.0	2.5	0.0	0.0	2.5	2.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5
Off-Site Pickup Trucks	0.0000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Off-Site Pipe Hauling Trucks	0.0015	0.0	0.0	0.0	16.2	16.2	16.2	16.2	16.2	16.2	32.5	32.5	32.5	32.5
Off-Site Water Trucks	0.0015	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Off-Site Fuel/lLube Truck International	0.0015	0.7	0.7	0.7	1.4	1.4	1.4	1.4	1.4	1.4	2.0	2.0	2.0	2.0
Construction Equipment Total		**1.1**	**557.1**	**802.6**	**859.2**	**944.3**	**1,004.7**	**1,018.6**	**934.9**	**737.6**	**461.3**	**214.0**	**217.2**	**191.5**
On-Site Motor Vehicle Total		**0.2**	**2.4**	**4.1**	**4.1**	**4.1**	**4.2**	**4.2**	**3.9**	**3.9**	**1.1**	**1.1**	**1.1**	**1.1**
Off-Site Motor Vehicle Total		**5.0**	**10.6**	**12.7**	**31.4**	**35.5**	**34.5**	**33.7**	**34.1**	**44.3**	**70.3**	**67.2**	**68.6**	**67.0**

Table 7-G (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0106	6.3	6.3	6.3	5.2	5.2	4.2	4.2	6.3	4.2	4.2	4.2	2.1
Asphalt Paver, Cat	0.0938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	12.4
Scraper, Cat	0.1460	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0894	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2098	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0705	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0853	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0553	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0	0.0	0.0
Compactor, Cat	0.0830	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	9.1	9.1	9.1	9.1
Crane, 150-Ton, Manitowoc	0.0727	6.4	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0562	24.7	24.7	24.7	24.7	24.7	18.6	18.6	18.6	12.4	12.4	12.4	6.2
Crane, 225-Ton, Manitowoc,	0.0727	6.4	6.4	6.4	6.4	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0562	24.7	24.7	24.7	24.7	24.7	18.6	18.6	18.6	12.4	12.4	12.4	12.4
Loader, Cat,	0.0867	19.1	9.5	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.1059	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0083	8.7	7.7	7.7	6.6	6.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Welder, Multiquip	0.0668	85.9	85.9	85.9	85.9	66.8	66.8	66.8	57.3	57.3	57.3	38.2	28.6
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0015	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0015	0.7	0.7	0.7	0.7	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
Off-Site Cement Trucks, MACK	0.0015	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	26.9	30.8	26.9	26.3	24.6	19.6	20.6	18.5	12.4	8.7	8.3	2.5
Off-Site Dump Truck, Volvo	0.0015	2.7	2.7	2.7	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0015	1.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0015	16.2	16.2	8.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0015	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0015	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**188.4**	**177.8**	**171.4**	**159.7**	**140.6**	**119.7**	**119.7**	**121.4**	**106.9**	**100.8**	**94.1**	**76.3**
On-Site Motor Vehicle Total		**1.1**	**1.1**	**1.1**	**1.1**	**0.9**	**0.7**	**0.7**	**0.4**	**0.3**	**0.3**	**0.3**	**0.3**
Off-Site Motor Vehicle Total		**49.7**	**52.6**	**39.2**	**38.0**	**27.3**	**22.3**	**23.3**	**18.5**	**12.4**	**8.7**	**9.7**	**3.9**

Note: Totals may not match sum of individual values because of rounding.

Table 7-H
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0098	0.0	0.0	0.0	0.0	3.9	3.9	3.9	4.8	5.8	7.7	5.8	5.8	5.8
Asphalt Paver, Cat	0.0863	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	354.7	354.7	325.1	325.1	325.1	325.1	236.5	236.5	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	0.0	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	58.0	29.0	29.0	29.0	29.0	29.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	58.0	58.0	58.0	58.0	58.0	29.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0823	0.0	0.0	0.0	0.0	36.2	54.3	54.3	54.3	54.3	36.2	0.0	0.0	0.0
Dozer, Cat	0.1067	0.0	70.4	70.4	70.4	70.4	70.4	70.4	70.4	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1930	0.0	42.5	84.9	84.9	84.9	84.9	42.5	42.5	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	16.6	16.6	16.6	16.6	0.0	0.0	0.0
Blade, Cat	0.0648	0.0	0.0	0.0	28.5	42.8	42.8	42.8	42.8	42.8	42.8	0.0	0.0	0.0
Blade, Cat	0.0785	0.0	0.0	0.0	0.0	17.3	17.3	34.5	34.5	17.3	17.3	0.0	0.0	0.0
Backhoe, Cat,	0.0509	0.0	0.0	11.2	11.2	11.2	22.4	22.4	22.4	22.4	11.2	11.2	11.2	5.6
Compactor, Cat	0.0764	0.0	0.0	8.4	8.4	8.4	16.8	16.8	16.8	16.8	8.4	8.4	8.4	0.0
Crane, 150-Ton, Manitowoc	0.0669	0.0	0.0	0.0	0.0	0.0	5.9	11.8	11.8	11.8	11.8	11.8	5.9	5.9
Crane, 20-Ton, Grove	0.0517	0.0	0.0	0.0	5.7	5.7	5.7	5.7	5.7	11.4	34.2	22.8	22.8	22.8
Crane, 225-Ton, Manitowoc,	0.0669	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0517	0.0	0.0	0.0	0.0	5.7	5.7	11.4	11.4	11.4	22.8	22.8	22.8	22.8
Loader, Cat,	0.0798	0.0	0.0	0.0	8.8	8.8	8.8	17.6	26.3	26.3	26.3	26.3	26.3	26.3
Motor Grader, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0974	0.0	0.0	17.2	25.7	25.7	17.2	17.2	17.2	17.2	17.2	8.6	8.6	0.0
Welder, Multiquip	0.0076	1.0	1.0	1.0	2.0	3.0	6.0	7.0	9.1	9.1	13.1	9.1	9.1	8.0
Welder, Multiquip	0.0505	0.0	36.1	36.1	36.1	36.1	50.5	50.5	50.5	50.5	57.7	57.7	65.0	65.0
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0014	0.0	0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0014	0.0	1.2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0014	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.3	0.3	0.3	0.3
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0014	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0014	0.0	0.0	3.1	3.1	3.1	3.1	3.7	3.7	3.7	2.5	0.6	0.6	0.6
Off-Site Construction Worker Commute	0.0000	3.8	4.1	5.3	6.8	8.2	7.3	5.9	6.3	15.8	26.3	25.4	26.7	25.3
Off-Site Dump Truck, Volvo	0.0014	0.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Off-Site Low Boy Trucks	0.0014	0.0	2.3	0.0	0.0	2.3	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4
Off-Site Pickup Trucks	0.0000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Off-Site Pipe Hauling Trucks	0.0014	0.0	0.0	0.0	14.9	14.9	14.9	14.9	14.9	14.9	29.9	29.9	29.9	29.9
Off-Site Water Trucks	0.0014	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Off-Site Fuel/lLube Truck International	0.0014	0.6	0.6	0.6	1.2	1.2	1.2	1.2	1.2	1.2	1.9	1.9	1.9	1.9
Construction Equipment Total		**1.0**	**504.7**	**730.6**	**782.6**	**860.9**	**913.3**	**926.1**	**849.2**	**667.7**	**411.8**	**184.4**	**185.7**	**162.1**
On-Site Motor Vehicle Total		**0.2**	**2.2**	**3.7**	**3.7**	**3.7**	**3.9**	**3.9**	**3.6**	**3.6**	**1.0**	**1.0**	**1.0**	**1.0**
Off-Site Motor Vehicle Total		**4.6**	**9.8**	**11.8**	**29.0**	**32.7**	**31.8**	**31.0**	**31.4**	**40.9**	**64.9**	**62.0**	**63.3**	**61.8**

Table 7-H (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0098	5.8	5.8	5.8	4.8	4.8	3.9	3.9	5.8	3.9	3.9	3.9	1.9
Asphalt Paver, Cat	0.0863	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	11.4
Scraper, Cat	0.1344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0823	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1067	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1930	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0648	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0785	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0509	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	0.0	0.0	0.0
Compactor, Cat	0.0764	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	8.4	8.4	8.4	8.4
Crane, 150-Ton, Manitowoc	0.0669	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0517	22.8	22.8	22.8	22.8	22.8	17.1	17.1	17.1	11.4	11.4	11.4	5.7
Crane, 225-Ton, Manitowoc,	0.0669	5.9	5.9	5.9	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0517	22.8	22.8	22.8	22.8	22.8	17.1	17.1	17.1	11.4	11.4	11.4	11.4
Loader, Cat,	0.0798	17.6	8.8	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0076	8.0	7.0	7.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Welder, Multiquip	0.0505	65.0	65.0	65.0	65.0	50.5	50.5	50.5	43.3	43.3	43.3	28.9	21.7
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0014	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0014	0.6	0.6	0.6	0.6	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
Off-Site Cement Trucks, MACK	0.0014	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	24.9	28.6	25.0	24.4	22.8	18.2	19.1	17.2	11.5	8.0	7.7	2.3
Off-Site Dump Truck, Volvo	0.0014	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0014	1.4	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0014	14.9	14.9	7.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0014	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0014	1.2	1.2	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**159.2**	**149.5**	**143.6**	**132.8**	**118.4**	**99.2**	**99.2**	**102.3**	**89.0**	**83.4**	**80.3**	**65.5**
On-Site Motor Vehicle Total		**1.0**	**1.0**	**1.0**	**1.0**	**0.8**	**0.7**	**0.7**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**
Off-Site Motor Vehicle Total		**46.0**	**48.7**	**36.3**	**35.2**	**25.3**	**20.7**	**21.6**	**17.2**	**11.5**	**8.0**	**9.0**	**3.6**

Note: Totals may not match sum of individual values because of rounding.

Table 7-I
Solar Facility Construction Monthly Motor Vehicle Fugitive PM10 Emissions

Vehicle Type	Emission Factor (lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0001	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0001	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	0.0	0.0	0.0	162.4	162.4	162.4	162.4	162.4	324.9	487.3	487.3	487.3	487.3
On-Site Fuel/lLube Truck International	0.7385	81.2	243.7	243.7	243.7	243.7	243.7	243.7	81.2	81.2	162.5	162.5	162.5	162.5
On-Site Flatbed Truck, Chevrolet	0.7384	81.2	81.2	81.2	162.4	162.4	162.4	162.4	243.7	243.7	568.6	406.1	406.1	406.1
On-Site Dump Truck, Volvo	0.7385	0.0	81.2	81.2	81.2	81.2	162.5	162.5	162.5	162.5	325.0	325.0	325.0	325.0
On-Site 3/4 Ton Pick-Up, Ford	0.7384	130.0	130.0	130.0	130.0	130.0	130.0	130.0	130.0	130.0	454.9	454.9	454.9	454.9
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0008	1.5	1.5	1.5	1.5	1.5	3.3	3.3	5.5	5.5	7.3	7.3	7.3	5.5
Off-Site Asphalt Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0010	0.0	0.0	2.1	2.1	2.1	2.1	2.6	2.6	2.6	1.7	0.4	0.4	0.4
Off-Site Construction Worker Commute	0.0009	129.2	140.8	181.5	231.6	279.3	247.9	201.3	215.3	536.5	897.2	865.8	910.0	860.0
Off-Site Dump Truck, Volvo	0.0010	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Off-Site Low Boy Trucks	0.0010	0.0	1.6	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.0	1.0	1.0	1.0
Off-Site Pickup Trucks	0.0009	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.7	4.7	5.4	5.4	5.4
Off-Site Pipe Hauling Trucks	0.0010	0.0	0.0	0.0	10.3	10.3	10.3	10.3	10.3	10.3	20.5	20.5	20.5	20.5
Off-Site Water Trucks	0.0010	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
Off-Site Fuel/lLube Truck International	0.0010	0.4	0.4	0.4	0.9	0.9	0.9	0.9	0.9	0.9	1.3	1.3	1.3	1.3
On-Site Motor Vehicle Total		**292.4**	**536.3**	**536.5**	**780.1**	**780.1**	**861.4**	**861.4**	**780.1**	**942.6**	**1,998.2**	**1,835.8**	**1,835.8**	**1,835.8**
Off-Site Motor Vehicle Total		**133.1**	**148.0**	**189.3**	**250.1**	**299.5**	**269.9**	**223.7**	**239.9**	**561.8**	**935.5**	**903.5**	**947.7**	**895.9**

Note: Totals may not match sum of individual values because of rounding.

Table 7-I (continued)
Solar Facility Construction Monthly Motor Vehicle Fugitive PM10 Emissions

Vehicle Type	Emission Factor (lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	487.3	487.3	487.3	487.3	243.7	487.3	487.3	324.9	162.4	162.4	162.4	81.2
On-Site Fuel/lLube Truck International	0.7385	162.5	162.5	162.5	162.5	162.5	162.5	162.5	81.2	81.2	81.2	81.2	81.2
On-Site Flatbed Truck, Chevrolet	0.7384	406.1	406.1	406.1	243.7	243.7	243.7	243.7	243.7	243.7	243.7	243.7	243.7
On-Site Dump Truck, Volvo	0.7385	325.0	325.0	325.0	325.0	243.7	162.5	162.5	81.2	81.2	81.2	81.2	81.2
On-Site 3/4 Ton Pick-Up, Ford	0.7384	454.9	454.9	454.9	454.9	454.9	454.9	454.9	454.9	130.0	130.0	130.0	130.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0008	5.5	3.6	3.6	3.6	1.8	1.8	0.4	0.4	0.4	0.4	0.4	0.4
Off-Site Asphalt Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
Off-Site Cement Trucks, MACK	0.0010	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0009	849.5	972.8	850.7	829.7	776.2	619.1	650.5	585.3	393.3	273.5	263.0	79.1
Off-Site Dump Truck, Volvo	0.0010	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0010	1.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	5.4	5.4	3.9	2.7	1.9	1.2	0.8	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0010	10.3	10.3	5.1	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0010	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0010	0.9	0.9	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**1,835.8**	**1,835.8**	**1,835.8**	**1,673.3**	**1,348.4**	**1,510.9**	**1,510.9**	**1,185.9**	**698.6**	**698.6**	**698.6**	**617.3**
Off-Site Motor Vehicle Total		**874.7**	**995.6**	**865.9**	**843.4**	**781.6**	**623.8**	**653.4**	**585.7**	**393.7**	**273.8**	**264.2**	**80.3**

Note: Totals may not match sum of individual values because of rounding.

On-site vehicle travel is on unpaved surfaces and offsite travel is on paved roads.

Table 7-J
Solar Facility Construction Monthly Motor Vehicle Fugitive PM2.5 Emissions

Vehicle Type	Emission Factor (lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	0.0	0.0	0.0	34.4	34.4	34.4	34.4	34.4	68.9	103.3	103.3	103.3	103.3
On-Site Fuel/lLube Truck International	0.1566	17.2	51.7	51.7	51.7	51.7	51.7	51.7	17.2	17.2	34.4	34.4	34.4	34.4
On-Site Flatbed Truck, Chevrolet	0.1565	17.2	17.2	17.2	34.4	34.4	34.4	34.4	51.7	51.7	120.5	86.1	86.1	86.1
On-Site Dump Truck, Volvo	0.1566	0.0	17.2	17.2	17.2	17.2	34.4	34.4	34.4	34.4	68.9	68.9	68.9	68.9
On-Site 3/4 Ton Pick-Up, Ford	0.1566	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	96.4	96.4	96.4	96.4
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0001	0.2	0.2	0.2	0.2	0.2	0.6	0.6	0.9	0.9	1.2	1.2	1.2	0.9
Off-Site Asphalt Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0002	0.0	0.0	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.3	0.1	0.1	0.1
Off-Site Construction Worker Commute	0.0002	23.2	25.3	32.6	41.6	50.2	44.6	36.2	38.7	96.5	161.3	155.7	163.6	154.6
Off-Site Dump Truck, Volvo	0.0002	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Off-Site Low Boy Trucks	0.0002	0.0	0.3	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Off-Site Pickup Trucks	0.0002	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.8	1.0	1.0	1.0
Off-Site Pipe Hauling Trucks	0.0002	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0002	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
On-Site Motor Vehicle Total		**62.0**	**113.7**	**113.8**	**165.4**	**165.4**	**182.7**	**182.7**	**165.4**	**199.9**	**423.6**	**389.2**	**389.2**	**389.2**
Off-Site Motor Vehicle Total		**23.9**	**26.7**	**34.1**	**45.2**	**54.0**	**48.7**	**40.4**	**43.3**	**101.2**	**168.5**	**162.7**	**170.6**	**161.3**

Table 7-J (continued)
Solar Facility Construction Monthly Motor Vehicle Fugitive PM2.5 Emissions

Vehicle Type	Emission Factor (lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	103.3	103.3	51.7	103.3	103.3	68.9	34.4	34.4	34.4	17.2	0.0	0.0
On-Site Fuel/lLube Truck International	0.1566	34.4	34.4	34.4	34.4	34.4	17.2	17.2	17.2	17.2	17.2	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1565	86.1	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	0.0	0.0
On-Site Dump Truck, Volvo	0.1566	68.9	68.9	51.7	34.4	34.4	17.2	17.2	17.2	17.2	17.2	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.1566	96.4	96.4	96.4	96.4	96.4	96.4	27.6	27.6	27.6	27.6	0.0	0.0
Off-Site Vehicles		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Flat Bed Trucks	0.0001	0.6	0.6	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Off-Site Asphalt Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0
Off-Site Cement Trucks, MACK	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0002	152.9	149.2	139.5	111.3	117.0	105.2	70.7	49.2	47.3	14.2	0.0	0.0
Off-Site Dump Truck, Volvo	0.0002	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0002	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.7	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0002	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0002	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**389.2**	**354.8**	**285.9**	**320.3**	**320.3**	**251.4**	**148.1**	**148.1**	**148.1**	**130.9**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**155.7**	**151.7**	**140.5**	**112.2**	**117.5**	**105.3**	**70.8**	**49.2**	**47.5**	**14.5**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

On-site vehicle travel is on unpaved surfaces and offsite travel is on paved roads.

Table 7-K
Solar Facility Construction Monthly Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Month												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation[a]	Cu. Yd.	0	622,857	622,857	570,952	570,952	570,952	570,952	415,238	415,238	0	0	0	0
Storage Pile Wind Erosion[b]	Acres-Days	0	70	70	70	70	0	0	0	0	0	0	0	0
Bulldozing,Scraping and Grading	Hours	0	3,520	4,840	5,280	6,160	6,380	6,600	5,940	4,400	2,200	0	0	0

Table 7-K (continued)
Solar Facility Construction Monthly Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Month											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavationa	Cu. Yd.	0	0	0	0	0	0	0	0	0	0	0	0
Storage Pile Wind Erosionb	Acres-Days	0	0	0	0	0	0	0	0	0	0	0	0
Bulldozing,Scraping and Grading	Hours	0	0	0	0	0	0	0	0	0	0	0	0

[a] Total cut is 4,360,000 Cu. Yd., which was apportioned by number of Cat 651 scrapers used during each month.

[b] Based on stockpiling three percent of total cut at any one time during excavation in a pile 300 ft. x 300 ft. x 10 ft. tall. Also based on 30 days per month

Table 7-L
Solar Facility Construction Monthly Fugitive PM10 Emissions

Activity	Emission Factor	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation	9.94E-04	0.0	618.9	618.9	567.3	567.3	567.3	567.3	412.6	412.6	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	205.4	205.4	205.4	205.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	1,223.7	1,682.6	1,835.5	2,141.4	2,217.9	2,294.4	2,065.0	1,529.6	764.8	0.0	0.0	0.0
Total		**0.0**	**2,048.0**	**2,506.9**	**2,608.3**	**2,914.2**	**2,785.2**	**2,861.7**	**2,477.5**	**1,942.2**	**764.8**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-L (continued)
Solar Facility Construction Monthly Fugitive PM10 Emissions

Activity	Units	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavation	9.94E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-M
Solar Facility Construction Monthly Fugitive PM2.5 Emissions

Activity	Emission Factor	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation	2.07E-04	0.0	128.7	128.7	118.0	118.0	118.0	118.0	85.8	85.8	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	42.7	42.7	42.7	42.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	551.0	757.7	826.5	964.3	998.7	1,033.2	929.9	688.8	344.4	0.0	0.0	0.0
Total		**0.0**	**722.5**	**929.1**	**987.3**	**1,125.0**	**1,116.7**	**1,151.2**	**1,015.7**	**774.6**	**344.4**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-M (continued)
Solar Facility Construction Monthly Fugitive PM2.5 Emissions

Activity	Units	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavation	2.07E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-N
Solar Facility Construction Monthly Asphaltic Paving VOC Emissions

Item	Quantity per Month												
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Area Paved (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0
Emission Factor (lb/acre)[a]	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
Emissions (lb/month)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Totals may not match sum of individual values because of rounding.

Table 7-N (continued)
Solar Facility Construction Monthly Asphaltic Paving VOC Emissions

Activity	Quantity per Month											
	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Area Paved (acres)	0	0	0	0	0	0	0	0	0	0	3	3
Emission Factor (lb/acre)a	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
Emissions (lb/month)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	8.1

Note: Totals may not match sum of individual values because of rounding.
[a] Source: URBEMIS2002 for Windows Users' Guide, Version 8.7, April 2005

Table 8-A
Solar Facility Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Hour	Monthly Number												
					Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment																	
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	1	0	0	0	0	4	4	4	5	6	8	6	6	6
Asphalt Paver, Cat	AP1055B	174	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	651	500	Diesel	1	0	12	12	11	11	11	11	8	8	0	0	0	0
Scraper, Cat	623	330	Diesel	1	0	0	3	3	3	3	3	3	3	3	0	0	0
Dozer, Cat	824	354	Diesel	1	0	0	2	1	1	1	1	1	0	0	0	0	0
Dozer, Cat	834	498	Diesel	1	0	0	0	2	2	2	2	2	1	0	0	0	0
Dozer, Cat	D-6	150	Diesel	1	0	0	0	0	2	3	3	3	3	2	0	0	0
Dozer, Cat	D-9	410	Diesel	1	0	3	3	3	3	3	3	3	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	1	0	1	2	2	2	2	1	1	0	0	0	0	0
Blade, Cat	140H	165	Diesel	1	0	0	0	0	0	0	1	1	1	1	0	0	0
Blade, Cat	14H	210	Diesel	1	0	0	0	2	3	3	3	3	3	3	0	0	0
Blade, Cat	16H	265	Diesel	1	0	0	0	0	1	1	2	2	1	1	0	0	0
Backhoe, Cat,	430E	97	Diesel	1	0	0	2	2	2	4	4	4	4	2	2	2	1
Compactor, Cat	826H	410	Diesel	1	0	0	1	1	1	2	2	2	2	1	1	1	0
Crane, 150-Ton, Manitowoc	555	347	Diesel	1	0	0	0	0	0	1	2	2	2	2	2	1	1
Crane, 20-Ton, Grove	YB777	130	Diesel	1	0	0	0	1	1	1	1	1	2	6	4	4	4
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	1	0	0	0	0	1	1	2	2	2	4	4	4	4
Loader, Cat,	972G	275	Diesel	1	0	0	0	1	1	1	2	3	3	3	3	3	3
Motor Grader, Cat	140H	150	Diesel	1													
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	1	0	0	2	3	3	2	2	2	2	2	1	1	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	1	1	1	1	2	3	6	7	9	9	13	9	9	8
Welder, Multiquip	BLW-300SS	19.5	Gasoline	1	0	5	5	5	5	7	7	7	7	8	8	9	9
Motor Vehicles																	
On-site Vehicles																	
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	5	0	1	2	2	2	2	2	2	2	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	5	0	4	8	8	8	8	8	8	8	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	2	0	0	0	2	2	2	2	2	4	6	6	6	6
On-Site Fuel/ILube Truck International	4400 SA	N/A	Diesel	2	1	3	3	3	3	3	3	1	1	2	2	2	2
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	2	1	1	1	2	2	2	2	3	3	7	5	5	5
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	2	0	1	1	1	1	2	2	2	2	4	4	4	4
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	2	2	2	2	2	2	2	2	2	2	7	7	7	7
Off-Site Vehicles																	
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	20	4	4	4	4	4	9	9	15	15	20	20	20	15
Off-Site Asphalt Trucks	N/A	N/A	Diesel	20	0	0	0	0	0	0	0	0	0	0	0	0	0
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	0	0	5	5	5	5	6	6	6	4	1	1	1
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	35	111	121	156	199	240	213	173	185	461	771	744	782	739
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	35	0	2	2	2	2	2	2	2	2	2	2	2	2
Off-Site Low Boy Trucks	N/A	N/A	Diesel	15	0	5	0	0	5	5	5	5	5	3	3	3	3
Off-Site Pickup Trucks	F-250	N/A	Gasoline	20	5	5	5	5	5	5	5	5	7	12	14	14	14
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	35	0	0	0	4	4	4	4	4	4	8	8	8	8
Off-Site Water Trucks	FL80	N/A	Diesel	5	1	1	1	2	2	2	2	2	2	2	1	1	1
Off-Site Fuel/ILube Truck International	4400 SA	N/A	Diesel	20	1	1	1	2	2	2	2	2	2	3	3	3	3

Table 8-A (continued)
Solar Facility Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Hour	Monthly Number											
					Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment																
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	1	6	6	6	5	5	4	4	6	4	4	4	2
Asphalt Paver, Cat	AP1055B	174	Diesel	1	0	0	0	0	0	0	0	0	0	0	1	1
Scraper, Cat	651	500	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	623	330	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	824	354	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	834	498	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-6	150	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-9	410	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	140H	165	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	14H	210	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	16H	265	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe, Cat,	430E	97	Diesel	1	1	1	1	1	1	1	1	1	1	0	0	0
Compactor, Cat	826H	410	Diesel	1	0	0	0	0	0	0	0	1	1	1	1	1
Crane, 150-Ton, Manitowoc	555	347	Diesel	1	1	1	0	0	0	0	0	0	0	0	0	0
Crane, 20-Ton, Grove	YB777	130	Diesel	1	4	4	4	4	4	3	3	3	2	2	2	1
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	1	1	1	1	1	1	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	1	4	4	4	4	4	3	3	3	2	2	2	2
Loader, Cat,	972G	275	Diesel	1	2	1	1	0	0	0	0	0	0	0	0	0
Motor Grader, Cat	140H	150	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	1	8	7	7	6	6	5	5	5	5	5	5	5
Welder, Multiquip	BLW-300SS	19.5	Gasoline	1	9	9	9	9	7	7	7	6	6	6	4	3
Motor Vehicles																
On-site Vehicles																
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	5	0	0	0	0	0	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	5	0	0	0	0	0	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	2	6	6	6	6	3	6	6	4	2	2	2	1
On-Site Fuel/ILube Truck International	4400 SA	N/A	Diesel	2	2	2	2	2	2	2	2	1	1	1	1	1
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	2	5	5	5	3	3	3	3	3	3	3	3	3
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	2	4	4	4	4	3	2	2	1	1	1	1	1
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	2	7	7	7	7	7	7	7	7	2	2	2	2
Off-Site Vehicles																
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	20	15	10	10	10	5	5	1	1	1	1	1	1
Off-Site Asphalt Trucks	N/A	N/A	Diesel	20	0	0	0	0	0	0	0	0	0	0	2	2
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	1	1	0	0	0	0	0	0	0	0	0	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	35	730	836	731	713	667	532	559	503	338	235	226	68
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	35	2	2	2	2	2	2	2	0	0	0	0	0
Off-Site Low Boy Trucks	N/A	N/A	Diesel	15	3	1	1	0	0	0	0	0	0	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	20	14	14	10	7	5	3	2	0	0	0	0	0
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	35	4	4	2	2	0	0	0	0	0	0	0	0
Off-Site Water Trucks	FL80	N/A	Diesel	5	1	1	1	1	0	0	0	0	0	0	0	0
Off-Site Fuel/ILube Truck International	4400 SA	N/A	Diesel	20	2	2	1	1	0	0	0	0	0	0	0	0

Table 8-B
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hourly Operating Hours or Miles[a]												
				Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment																
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	0	0	0	0	4	4	4	5	6	8	6	6	6
Asphalt Paver, Cat	AP1055B	174	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	651	500	Diesel	0	12	12	11	11	11	11	8	8	0	0	0	0
Scraper, Cat	623	330	Diesel	0	0	3	3	3	3	3	3	3	3	0	0	0
Dozer, Cat	824	354	Diesel	0	0	2	1	1	1	1	1	0	0	0	0	0
Dozer, Cat	834	498	Diesel	0	0	0	2	2	2	2	2	1	0	0	0	0
Dozer, Cat	D-6	150	Diesel	0	0	0	0	2	3	3	3	3	2	0	0	0
Dozer, Cat	D-9	410	Diesel	0	3	3	3	3	3	3	3	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	0	1	2	2	2	2	1	1	0	0	0	0	0
Blade, Cat	140H	165	Diesel	0	0	0	0	0	0	1	1	1	1	0	0	0
Blade, Cat	14H	210	Diesel	0	0	0	2	3	3	3	3	3	3	0	0	0
Blade, Cat	16H	265	Diesel	0	0	0	0	1	1	2	2	1	1	0	0	0
Backhoe, Cat,	430E	97	Diesel	0	0	2	2	2	4	4	4	4	2	2	2	1
Compactor, Cat	826H	410	Diesel	0	0	1	1	1	2	2	2	2	1	1	1	0
Crane, 150-Ton, Manitowoc	555	347	Diesel	0	0	0	0	0	1	2	2	2	2	2	1	1
Crane, 20-Ton, Grove	YB777	130	Diesel	0	0	0	1	1	1	1	1	2	6	4	4	4
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	0	0	0	0	1	1	2	2	2	4	4	4	4
Loader, Cat,	972G	275	Diesel	0	0	0	1	1	1	2	3	3	3	3	3	3
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	0	0	2	3	3	2	2	2	2	2	1	1	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	1	1	1	2	3	6	7	9	9	13	9	9	8
Welder, Multiquip	BLW-300SS	19.5	Gasoline	0	5	5	5	5	7	7	7	7	8	8	9	9
Motor Vehicles																
On-site Vehicles																
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	0	5	10	10	10	10	10	10	10	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	0	20	40	40	40	40	40	40	40	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	0	0	0	4	4	4	4	4	8	12	12	12	12
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	2	6	6	6	6	6	6	2	2	4	4	4	4
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	2	2	2	4	4	4	4	6	6	14	10	10	10
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	0	2	2	2	2	4	4	4	4	8	8	8	8
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	4	4	4	4	4	4	4	4	4	14	14	14	14
Off-Site Vehicles																
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	80	80	80	80	80	180	180	300	300	400	400	400	300
Off-Site Asphalt Trucks	N/A	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	0	0	100	100	100	100	120	120	120	80	20	20	20
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	3,885	4,235	5,460	6,965	8,400	7,455	6,055	6,475	16,135	26,985	26,040	27,370	25,865
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	0	70	70	70	70	70	70	70	70	70	70	70	70
Off-Site Low Boy Trucks	N/A	N/A	Diesel	0	75	0	0	75	75	75	75	75	45	45	45	45
Off-Site Pickup Trucks	F-250	N/A	Gasoline	100	100	100	100	100	100	100	100	140	240	280	280	280
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	0	0	0	140	140	140	140	140	140	280	280	280	280
Off-Site Water Trucks	FL80	N/A	Diesel	5	5	5	10	10	10	10	10	10	10	5	5	5
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	20	20	20	40	40	40	40	40	40	60	60	60	60

Table 8-B (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hourly Operating Hours or Miles[a]											
				Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment															
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	6	6	6	5	5	4	4	6	4	4	4	2
Asphalt Paver, Cat	AP1055B	174	Diesel	0	0	0	0	0	0	0	0	0	0	1	1
Scraper, Cat	651	500	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	623	330	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	824	354	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	834	498	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-6	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-9	410	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	140H	165	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	14H	210	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	16H	265	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe, Cat,	430E	97	Diesel	1	1	1	1	1	1	1	1	1	0	0	0
Compactor, Cat	826H	410	Diesel	0	0	0	0	0	0	0	1	1	1	1	1
Crane, 150-Ton, Manitowoc	555	347	Diesel	1	1	0	0	0	0	0	0	0	0	0	0
Crane, 20-Ton, Grove	YB777	130	Diesel	4	4	4	4	4	3	3	3	2	2	2	1
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	1	1	1	1	1	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	4	4	4	4	4	3	3	3	2	2	2	2
Loader, Cat,	972G	275	Diesel	2	1	1	0	0	0	0	0	0	0	0	0
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	8	7	7	6	6	5	5	5	5	5	5	5
Welder, Multiquip	BLW-300SS	19.5	Gasoline	9	9	9	9	7	7	7	6	6	6	4	3
Motor Vehicles															
On-site Vehicles															
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	12	12	12	12	6	12	12	8	4	4	4	2
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	4	4	4	4	4	4	4	2	2	2	2	2
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	10	10	10	6	6	6	6	6	6	6	6	6
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	8	8	8	8	6	4	4	2	2	2	2	2
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	14	14	14	14	14	14	14	14	4	4	4	4
Off-Site Vehicles															
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	300	200	200	200	100	100	20	20	20	20	20	20
Off-Site Asphalt Trucks	N/A	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	40	40
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	20	0	0	0	0	0	0	0	0	0	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	25,550	29,260	25,585	24,955	23,345	18,620	19,565	17,605	11,830	8,225	7,910	2,380
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	70	70	70	70	70	70	70	0	0	0	0	0
Off-Site Low Boy Trucks	N/A	N/A	Diesel	45	15	15	0	0	0	0	0	0	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	280	280	200	140	100	60	40	0	0	0	0	0
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	140	140	70	70	0	0	0	0	0	0	0	0
Off-Site Water Trucks	FL80	N/A	Diesel	5	5	5	5	0	0	0	0	0	0	0	0
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	40	40	20	20	0	0	0	0	0	0	0	0

a Based on 22 working days per month

Table 8-C
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0893	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.5	0.7	0.5	0.5	0.5
Asphalt Paver, Cat	0.8031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	19.8	19.8	18.2	18.2	18.2	18.2	13.2	13.2	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	0.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	3.7	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	3.7	3.7	3.7	3.7	3.7	1.9	0.0	0.0	0.0	0.0
Dozer, Cat	0.7655	0.0	0.0	0.0	0.0	1.5	2.3	2.3	2.3	2.3	1.5	0.0	0.0	0.0
Dozer, Cat	1.2964	0.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.3239	0.0	2.3	4.6	4.6	4.6	4.6	2.3	2.3	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.0	0.0	0.0
Blade, Cat	0.5194	0.0	0.0	0.0	1.0	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0	0.0
Blade, Cat	0.8122	0.0	0.0	0.0	0.0	0.8	0.8	1.6	1.6	0.8	0.8	0.0	0.0	0.0
Backhoe, Cat,	0.3657	0.0	0.0	0.7	0.7	0.7	1.5	1.5	1.5	1.5	0.7	0.7	0.7	0.4
Compactor, Cat	0.8418	0.0	0.0	0.8	0.8	0.8	1.7	1.7	1.7	1.7	0.8	0.8	0.8	0.0
Crane, 150-Ton, Manitowoc	0.7164	0.0	0.0	0.0	0.0	0.0	0.7	1.4	1.4	1.4	1.4	1.4	0.7	0.7
Crane, 20-Ton, Grove	0.4901	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	1.0	2.9	2.0	2.0	2.0
Crane, 225-Ton, Manitowoc,	0.7164	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.4901	0.0	0.0	0.0	0.0	0.5	0.5	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Loader, Cat,	0.8223	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.5	2.5	2.5	2.5	2.5	2.5
Motor Grader, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	1.0497	0.0	0.0	2.1	3.1	3.1	2.1	2.1	2.1	2.1	2.1	1.0	1.0	0.0
Welder, Multiquip	0.0698	0.1	0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.6	0.9	0.6	0.6	0.6
Welder, Multiquip	5.4790	0.0	27.4	27.4	27.4	27.4	38.4	38.4	38.4	38.4	43.8	43.8	49.3	49.3
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0121	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0121	0.0	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.8	1.2	1.2	1.2	1.2
On-Site Fuel/lLube Truck International	0.0121	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1040	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.6	0.6	1.5	1.0	1.0	1.0
On-Site Dump Truck, Volvo	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
On-Site 3/4 Ton Pick-Up, Ford	0.0117	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.1040	8.3	8.3	8.3	8.3	8.3	18.7	18.7	31.2	31.2	41.6	41.6	41.6	31.2
Off-Site Asphalt Trucks	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0121	0.0	0.0	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.0	0.2	0.2	0.2
Off-Site Construction Worker Commute	0.0172	66.9	72.9	94.0	119.9	144.6	128.3	104.2	111.4	277.7	464.4	448.2	471.1	445.2
Off-Site Dump Truck, Volvo	0.0121	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Off-Site Low Boy Trucks	0.0121	0.0	0.9	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
Off-Site Pickup Trucks	0.0172	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.4	4.1	4.8	4.8	4.8
Off-Site Pipe Hauling Trucks	0.0121	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	3.4	3.4	3.4	3.4
Off-Site Water Trucks	0.0121	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Fuel/lLube Truck International	0.0121	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7
Construction Equipment Total		**0.1**	**53.5**	**68.2**	**71.9**	**75.6**	**88.8**	**90.1**	**86.2**	**76.1**	**67.5**	**55.4**	**60.2**	**57.9**
On-Site Motor Vehicle Total		**0.3**	**0.7**	**1.0**	**1.6**	**1.6**	**1.6**	**1.6**	**1.8**	**2.2**	**3.0**	**2.6**	**2.6**	**2.6**
Off-Site Motor Vehicle Total		**77.2**	**85.0**	**106.4**	**134.3**	**159.9**	**154.0**	**130.2**	**149.9**	**316.8**	**516.8**	**500.4**	**523.3**	**487.0**

Table 8-C (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0893	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.2
Asphalt Paver, Cat	0.8031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
Scraper, Cat	1.6509	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.7655	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.2964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.3239	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.5194	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.8122	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.3657	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
Compactor, Cat	0.8418	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
Crane, 150-Ton, Manitowoc	0.7164	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.4901	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.0	1.0	1.0	0.5
Crane, 225-Ton, Manitowoc,	0.7164	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.4901	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Loader, Cat,	0.8223	1.6	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	1.0497	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0698	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Welder, Multiquip	5.4790	49.3	49.3	49.3	49.3	38.4	38.4	38.4	32.9	32.9	32.9	21.9	16.4
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	1.2	1.2	1.2	1.2	0.6	1.2	1.2	0.8	0.4	0.4	0.4	0.2
On-Site Fuel/lLube Truck International	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1040	1.0	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
On-Site Dump Truck, Volvo	0.0121	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0117	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.1040	31.2	20.8	20.8	20.8	10.4	10.4	2.1	2.1	2.1	2.1	2.1	2.1
Off-Site Asphalt Trucks	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
Off-Site Cement Trucks, MACK	0.0121	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0172	439.7	503.6	440.3	429.5	401.8	320.5	336.7	303.0	203.6	141.6	136.1	41.0
Off-Site Dump Truck, Volvo	0.0121	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0121	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0172	4.8	4.8	3.4	2.4	1.7	1.0	0.7	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0121	1.7	1.7	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0121	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0121	0.5	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**57.8**	**56.9**	**56.2**	**55.2**	**44.2**	**42.4**	**42.4**	**37.9**	**36.7**	**36.4**	**26.2**	**20.1**
On-Site Motor Vehicle Total		**2.6**	**2.6**	**2.6**	**2.2**	**1.5**	**2.1**	**2.1**	**1.7**	**1.1**	**1.1**	**1.1**	**0.9**
Off-Site Motor Vehicle Total		**479.6**	**532.7**	**466.8**	**454.7**	**414.8**	**332.7**	**340.3**	**305.1**	**205.7**	**143.6**	**138.7**	**43.5**

Note: Totals may not match sum of individual values because of rounding.

Table 8-D
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0352	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2
Asphalt Paver, Cat	0.2144	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	4.6	4.6	4.2	4.2	4.2	4.2	3.0	3.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.8	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.4	0.0	0.0	0.0	0.0
Dozer, Cat	0.2036	0.0	0.0	0.0	0.0	0.4	0.6	0.6	0.6	0.6	0.4	0.0	0.0	0.0
Dozer, Cat	0.3039	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.5475	0.0	0.5	1.1	1.1	1.1	1.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Blade, Cat	0.1856	0.0	0.0	0.0	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0
Blade, Cat	0.2248	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.4	0.2	0.2	0.0	0.0	0.0
Backhoe, Cat,	0.0990	0.0	0.0	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.1
Compactor, Cat	0.2106	0.0	0.0	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.0
Crane, 150-Ton, Manitowoc	0.1912	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.4	0.4	0.4	0.2	0.2
Crane, 20-Ton, Grove	0.1274	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.8	0.5	0.5	0.5
Crane, 225-Ton, Manitowoc,	0.1912	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.1274	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.3	0.5	0.5	0.5	0.5
Loader, Cat,	0.2276	0.0	0.0	0.0	0.2	0.2	0.2	0.5	0.7	0.7	0.7	0.7	0.7	0.7
Motor Grader, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.2724	0.0	0.0	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.0
Welder, Multiquip	0.0275	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2
Welder, Multiquip	0.1714	0.0	0.9	0.9	0.9	0.9	1.2	1.2	1.2	1.2	1.4	1.4	1.5	1.5
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0030	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
On-Site Fuel/lLube Truck International	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
On-Site Dump Truck, Volvo	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0100	0.8	0.8	0.8	0.8	0.8	1.8	1.8	3.0	3.0	4.0	4.0	4.0	3.0
Off-Site Asphalt Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0030	0.0	0.0	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.2	0.1	0.1	0.1
Off-Site Construction Worker Commute	0.0013	4.9	5.3	6.9	8.7	10.5	9.4	7.6	8.1	20.3	33.9	32.7	34.4	32.5
Off-Site Dump Truck, Volvo	0.0030	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Off-Site Low Boy Trucks	0.0030	0.0	0.2	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Off-Site Pickup Trucks	0.0013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.4
Off-Site Pipe Hauling Trucks	0.0030	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.8	0.8	0.8
Off-Site Water Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0030	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Construction Equipment Total		**0.0**	**6.9**	**10.3**	**11.3**	**12.4**	**13.4**	**13.8**	**13.0**	**10.7**	**7.8**	**4.6**	**4.6**	**4.0**
On-Site Motor Vehicle Total		**0.0**	**0.1**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**
Off-Site Motor Vehicle Total		**5.9**	**6.7**	**8.4**	**10.7**	**12.8**	**12.6**	**10.9**	**12.6**	**24.8**	**39.8**	**38.5**	**40.1**	**37.2**

Table 8-D (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0352	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Asphalt Paver, Cat	0.2144	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Scraper, Cat	0.3808	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2036	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3039	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.5475	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1856	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.2248	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0990	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Compactor, Cat	0.2106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Crane, 150-Ton, Manitowoc	0.1912	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.1274	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.1
Crane, 225-Ton, Manitowoc,	0.1912	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.1274	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3
Loader, Cat,	0.2276	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.2724	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0275	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Welder, Multiquip	0.1714	1.5	1.5	1.5	1.5	1.2	1.2	1.2	1.0	1.0	1.0	0.7	0.5
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
On-Site Dump Truck, Volvo	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0100	3.0	2.0	2.0	2.0	1.0	1.0	0.2	0.2	0.2	0.2	0.2	0.2
Off-Site Asphalt Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Off-Site Cement Trucks, MACK	0.0030	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0013	32.1	36.7	32.1	31.3	29.3	23.4	24.6	22.1	14.8	10.3	9.9	3.0
Off-Site Dump Truck, Volvo	0.0030	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0030	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0013	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0030	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0030	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**3.9**	**3.7**	**3.5**	**3.2**	**2.9**	**2.3**	**2.3**	**2.5**	**2.1**	**2.0**	**1.9**	**1.5**
On-Site Motor Vehicle Total		**0.3**	**0.3**	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
Off-Site Motor Vehicle Total		**36.4**	**39.9**	**34.9**	**34.0**	**30.6**	**24.7**	**25.0**	**22.3**	**15.0**	**10.5**	**10.2**	**3.3**

Note: Totals may not match sum of individual values because of rounding.

Table 8-E
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.1439	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.7	0.9	1.2	0.9	0.9	0.9
Asphalt Paver, Cat	1.6818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	43.3	43.3	39.7	39.7	39.7	39.7	28.9	28.9	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	0.0	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	6.7	3.4	3.4	3.4	3.4	3.4	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	6.7	6.7	6.7	6.7	6.7	3.4	0.0	0.0	0.0	0.0
Dozer, Cat	1.5591	0.0	0.0	0.0	0.0	3.1	4.7	4.7	4.7	4.7	3.1	0.0	0.0	0.0
Dozer, Cat	2.8731	0.0	8.6	8.6	8.6	8.6	8.6	8.6	8.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	5.2476	0.0	5.2	10.5	10.5	10.5	10.5	5.2	5.2	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	0.0	0.0	0.0
Blade, Cat	1.8997	0.0	0.0	0.0	3.8	5.7	5.7	5.7	5.7	5.7	5.7	0.0	0.0	0.0
Blade, Cat	2.2486	0.0	0.0	0.0	0.0	2.2	2.2	4.5	4.5	2.2	2.2	0.0	0.0	0.0
Backhoe, Cat,	0.6061	0.0	0.0	1.2	1.2	1.2	2.4	2.4	2.4	2.4	1.2	1.2	1.2	0.6
Compactor, Cat	2.2084	0.0	0.0	2.2	2.2	2.2	4.4	4.4	4.4	4.4	2.2	2.2	2.2	0.0
Crane, 150-Ton, Manitowoc	1.8761	0.0	0.0	0.0	0.0	0.0	1.9	3.8	3.8	3.8	3.8	3.8	1.9	1.9
Crane, 20-Ton, Grove	0.9835	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	5.9	3.9	3.9	3.9
Crane, 225-Ton, Manitowoc,	1.8761	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.9835	0.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.9	3.9	3.9	3.9
Loader, Cat,	2.3019	0.0	0.0	0.0	2.3	2.3	2.3	4.6	6.9	6.9	6.9	6.9	6.9	6.9
Motor Grader, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	3.3717	0.0	0.0	6.7	10.1	10.1	6.7	6.7	6.7	6.7	6.7	3.4	3.4	0.0
Welder, Multiquip	0.1124	0.1	0.1	0.1	0.2	0.3	0.7	0.8	1.0	1.0	1.5	1.0	1.0	0.9
Welder, Multiquip	0.0780	0.0	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.7
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0389	0.0	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0389	0.0	0.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
On-Site Fuel/lLube Truck International	0.0389	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2
On-Site Flatbed Truck, Chevrolet	0.0180	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2
On-Site Dump Truck, Volvo	0.0389	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0180	1.4	1.4	1.4	1.4	1.4	3.2	3.2	5.4	5.4	7.2	7.2	7.2	5.4
Off-Site Asphalt Trucks	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0389	0.0	0.0	3.9	3.9	3.9	3.9	4.7	4.7	4.7	3.1	0.8	0.8	0.8
Off-Site Construction Worker Commute	0.0017	6.5	7.1	9.1	11.7	14.1	12.5	10.1	10.8	27.0	45.2	43.6	45.8	43.3
Off-Site Dump Truck, Volvo	0.0389	0.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Off-Site Low Boy Trucks	0.0389	0.0	2.9	0.0	0.0	2.9	2.9	2.9	2.9	2.9	1.8	1.8	1.8	1.8
Off-Site Pickup Trucks	0.0017	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.5	0.5
Off-Site Pipe Hauling Trucks	0.0389	0.0	0.0	0.0	5.4	5.4	5.4	5.4	5.4	5.4	10.9	10.9	10.9	10.9
Off-Site Water Trucks	0.0389	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.2	0.2
Off-Site Fuel/lLube Truck International	0.0389	0.8	0.8	0.8	1.6	1.6	1.6	1.6	1.6	1.6	2.3	2.3	2.3	2.3
Construction Equipment Total		**0.1**	**57.6**	**90.6**	**100.9**	**109.8**	**113.8**	**117.5**	**109.4**	**87.7**	**57.2**	**27.8**	**26.0**	**19.7**
On-Site Motor Vehicle Total		**0.1**	**1.3**	**2.3**	**2.4**	**2.4**	**2.5**	**2.5**	**2.4**	**2.4**	**1.0**	**0.9**	**0.9**	**0.9**
Off-Site Motor Vehicle Total		**9.1**	**15.3**	**18.3**	**27.3**	**32.6**	**32.8**	**31.2**	**34.1**	**50.3**	**74.0**	**69.9**	**72.1**	**67.8**

Table 8-E (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.1439	0.9	0.9	0.9	0.7	0.7	0.6	0.6	0.9	0.6	0.6	0.6	0.3
Asphalt Paver, Cat	1.6818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7
Scraper, Cat	3.6063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.5591	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.8731	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	5.2476	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.8997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	2.2486	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.6061	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0
Compactor, Cat	2.2084	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	2.2	2.2	2.2
Crane, 150-Ton, Manitowoc	1.8761	1.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.9835	3.9	3.9	3.9	3.9	3.9	3.0	3.0	3.0	2.0	2.0	2.0	1.0
Crane, 225-Ton, Manitowoc,	1.8761	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.9835	3.9	3.9	3.9	3.9	3.9	3.0	3.0	3.0	2.0	2.0	2.0	2.0
Loader, Cat,	2.3019	4.6	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	3.3717	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.1124	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Welder, Multiquip	0.0780	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.2
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0
On-Site Fuel/lLube Truck International	0.0389	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
On-Site Flatbed Truck, Chevrolet	0.0180	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
On-Site Dump Truck, Volvo	0.0389	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0180	5.4	3.6	3.6	3.6	1.8	1.8	0.4	0.4	0.4	0.4	0.4	0.4
Off-Site Asphalt Trucks	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6
Off-Site Cement Trucks, MACK	0.0389	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0017	42.8	49.0	42.8	41.8	39.1	31.2	32.7	29.5	19.8	13.8	13.2	4.0
Off-Site Dump Truck, Volvo	0.0389	2.7	2.7	2.7	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0389	1.8	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0017	0.5	0.5	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0389	5.4	5.4	2.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0389	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0389	1.6	1.6	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**19.3**	**16.9**	**15.0**	**12.4**	**12.3**	**8.2**	**8.2**	**10.6**	**8.4**	**7.7**	**9.3**	**7.9**
On-Site Motor Vehicle Total		**0.9**	**0.9**	**0.9**	**0.8**	**0.6**	**0.7**	**0.7**	**0.4**	**0.3**	**0.3**	**0.3**	**0.3**
Off-Site Motor Vehicle Total		**61.1**	**64.3**	**53.8**	**52.0**	**43.8**	**35.8**	**35.9**	**29.8**	**20.2**	**14.1**	**15.2**	**5.9**

Note: Totals may not match sum of individual values because of rounding.

Table 8-F
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asphalt Paver, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Compactor, Cat	0.0021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 150-Ton, Manitowoc	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 225-Ton, Manitowoc,	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loader, Cat,	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table 8-F (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asphalt Paver, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Compactor, Cat	0.0021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 150-Ton, Manitowoc	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 225-Ton, Manitowoc,	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loader, Cat,	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-G
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Asphalt Paver, Cat	0.0938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	1.8	1.8	1.6	1.6	1.6	1.6	1.2	1.2	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0
Dozer, Cat	0.0894	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0
Dozer, Cat	0.1160	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2098	0.0	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Blade, Cat	0.0705	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Blade, Cat	0.0853	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0
Backhoe, Cat,	0.0553	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Compactor, Cat	0.0830	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0
Crane, 150-Ton, Manitowoc	0.0727	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Crane, 20-Ton, Grove	0.0562	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2
Crane, 225-Ton, Manitowoc,	0.0727	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0562	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Loader, Cat,	0.0867	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Motor Grader, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.1059	0.0	0.0	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
Welder, Multiquip	0.0083	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Welder, Multiquip	0.0668	0.0	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0015	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0015	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.8	0.7	0.8	0.7
Off-Site Dump Truck, Volvo	0.0015	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0015	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0015	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4
Off-Site Water Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0015	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Construction Equipment Total		**0.0**	**2.7**	**4.0**	**4.4**	**4.8**	**5.2**	**5.4**	**5.1**	**4.2**	**3.1**	**1.8**	**1.8**	**1.6**
On-Site Motor Vehicle Total		**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.1**	**0.4**	**0.5**	**0.8**	**0.9**	**0.9**	**0.9**	**0.9**	**1.2**	**1.6**	**1.5**	**1.5**	**1.5**

Table 8-G (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0106	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Asphalt Paver, Cat	0.0938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Scraper, Cat	0.1460	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0894	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2098	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0705	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0853	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0553	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Compactor, Cat	0.0830	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Crane, 150-Ton, Manitowoc	0.0727	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0562	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Crane, 225-Ton, Manitowoc,	0.0727	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0562	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Loader, Cat,	0.0867	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.1059	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0083	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0668	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.2
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Off-Site Cement Trucks, MACK	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.7	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.2	0.2	0.1
Off-Site Dump Truck, Volvo	0.0015	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0015	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0015	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0015	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**1.6**	**1.5**	**1.4**	**1.3**	**1.1**	**0.9**	**0.9**	**1.0**	**0.8**	**0.8**	**0.8**	**0.6**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.2**	**1.3**	**1.0**	**1.0**	**0.8**	**0.6**	**0.7**	**0.5**	**0.3**	**0.2**	**0.3**	**0.1**

Note: Totals may not match sum of individual values because of rounding.

Table 8-H
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0098	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Asphalt Paver, Cat	0.0863	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	1.6	1.6	1.5	1.5	1.5	1.5	1.1	1.1	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0
Dozer, Cat	0.0823	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Dozer, Cat	0.1067	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1930	0.0	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Blade, Cat	0.0648	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Blade, Cat	0.0785	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0
Backhoe, Cat,	0.0509	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Compactor, Cat	0.0764	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0
Crane, 150-Ton, Manitowoc	0.0669	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Crane, 20-Ton, Grove	0.0517	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2
Crane, 225-Ton, Manitowoc,	0.0669	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0517	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Loader, Cat,	0.0798	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Motor Grader, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0974	0.0	0.0	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
Welder, Multiquip	0.0076	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Welder, Multiquip	0.0505	0.0	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0014	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0014	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.7	0.7	0.7	0.7
Off-Site Dump Truck, Volvo	0.0014	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0014	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0014	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4
Off-Site Water Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0014	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Construction Equipment Total		**0.0**	**2.4**	**3.6**	**4.0**	**4.4**	**4.7**	**4.9**	**4.6**	**3.8**	**2.8**	**1.6**	**1.6**	**1.3**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.1**	**0.4**	**0.4**	**0.7**	**0.8**	**0.8**	**0.8**	**0.8**	**1.1**	**1.5**	**1.4**	**1.4**	**1.4**

Table 8-H (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0098	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Asphalt Paver, Cat	0.0863	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Scraper, Cat	0.1344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0823	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1067	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1930	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0648	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0785	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0509	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Compactor, Cat	0.0764	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Crane, 150-Ton, Manitowoc	0.0669	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0517	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Crane, 225-Ton, Manitowoc,	0.0669	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0517	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Loader, Cat,	0.0798	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0076	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0505	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Off-Site Cement Trucks, MACK	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.7	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.3	0.2	0.2	0.1
Off-Site Dump Truck, Volvo	0.0014	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0014	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0014	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0014	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**1.3**	**1.2**	**1.2**	**1.1**	**1.0**	**0.8**	**0.8**	**0.8**	**0.7**	**0.7**	**0.6**	**0.5**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.1**	**1.2**	**0.9**	**0.9**	**0.7**	**0.6**	**0.6**	**0.5**	**0.3**	**0.2**	**0.3**	**0.1**

Note: Totals may not match sum of individual values because of rounding.

Table 8-I
Solar Facility Construction Hourly Motor Vehicle Fugitive PM10 Emissions

Vehicle Type	Emission Factor (lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	0.0	0.0	0.0	3.0	3.0	3.0	3.0	3.0	5.9	8.9	8.9	8.9	8.9
On-Site Fuel/lLube Truck International	0.7385	1.5	4.4	4.4	4.4	4.4	4.4	4.4	1.5	1.5	3.0	3.0	3.0	3.0
On-Site Flatbed Truck, Chevrolet	0.7384	1.5	1.5	1.5	3.0	3.0	3.0	3.0	4.4	4.4	10.3	7.4	7.4	7.4
On-Site Dump Truck, Volvo	0.7385	0.0	1.5	1.5	1.5	1.5	3.0	3.0	3.0	3.0	5.9	5.9	5.9	5.9
On-Site 3/4 Ton Pick-Up, Ford	0.7384	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	10.3	10.3	10.3	10.3
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0008	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2
Off-Site Asphalt Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0010	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0009	3.4	3.7	4.8	6.1	7.4	6.6	5.3	5.7	14.2	23.8	23.0	24.1	22.8
Off-Site Dump Truck, Volvo	0.0010	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0010	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Off-Site Pipe Hauling Trucks	0.0010	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3
Off-Site Water Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
On-Site Motor Vehicle Total		**5.9**	**10.3**	**10.3**	**14.8**	**14.8**	**16.3**	**16.3**	**14.8**	**17.7**	**38.4**	**35.4**	**35.4**	**35.4**
Off-Site Motor Vehicle Total		**3.6**	**4.1**	**5.2**	**6.6**	**8.0**	**7.2**	**6.0**	**6.5**	**15.0**	**24.9**	**24.0**	**25.2**	**23.8**

Note: Totals may not match sum of individual values because of rounding.

Table 8-I (continued)
Solar Facility Construction Hourly Motor Vehicle Fugitive PM10 Emissions

Vehicle Type	Emission Factor (lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	8.9	8.9	8.9	8.9	4.4	8.9	8.9	5.9	3.0	3.0	3.0	1.5
On-Site Fuel/lLube Truck International	0.7385	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.5	1.5	1.5	1.5	1.5
On-Site Flatbed Truck, Chevrolet	0.7384	7.4	7.4	7.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
On-Site Dump Truck, Volvo	0.7385	5.9	5.9	5.9	5.9	4.4	3.0	3.0	1.5	1.5	1.5	1.5	1.5
On-Site 3/4 Ton Pick-Up, Ford	0.7384	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	3.0	3.0	3.0	3.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0008	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0009	22.5	25.8	22.6	22.0	20.6	16.4	17.2	15.5	10.4	7.3	7.0	2.1
Off-Site Dump Truck, Volvo	0.0010	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0010	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**35.4**	**35.4**	**35.4**	**32.5**	**26.6**	**29.5**	**29.5**	**23.6**	**13.3**	**13.3**	**13.3**	**11.8**
Off-Site Motor Vehicle Total		**23.3**	**26.5**	**23.1**	**22.4**	**20.8**	**16.6**	**17.4**	**15.5**	**10.4**	**7.3**	**7.0**	**2.2**

Note: Totals may not match sum of individual values because of rounding.

Table 8-J
Solar Facility Construction Hourly Motor Vehicle Fugitive PM2.5 Emissions

Vehicle Type	Emission Factor (lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.3	1.9	1.9	1.9	1.9
On-Site Fuel/lLube Truck International	0.1566	0.3	0.9	0.9	0.9	0.9	0.9	0.9	0.3	0.3	0.6	0.6	0.6	0.6
On-Site Flatbed Truck, Chevrolet	0.1565	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.9	0.9	2.2	1.6	1.6	1.6
On-Site Dump Truck, Volvo	0.1566	0.0	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3
On-Site 3/4 Ton Pick-Up, Ford	0.1566	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.2	2.2	2.2	2.2
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Off-Site Asphalt Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0002	0.6	0.7	0.9	1.1	1.3	1.2	1.0	1.0	2.6	4.3	4.1	4.3	4.1
Off-Site Dump Truck, Volvo	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**1.3**	**2.2**	**2.2**	**3.1**	**3.1**	**3.4**	**3.4**	**3.1**	**3.8**	**8.1**	**7.5**	**7.5**	**7.5**
Off-Site Motor Vehicle Total		**0.6**	**0.7**	**0.9**	**1.2**	**1.4**	**1.3**	**1.1**	**1.2**	**2.7**	**4.5**	**4.3**	**4.5**	**4.3**

Table 8-J (continued)
Solar Facility Construction Hourly Motor Vehicle Fugitive PM2.5 Emissions

Vehicle Type	Emission Factor (lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	1.9	1.9	0.9	1.9	1.9	1.3	0.6	0.6	0.6	0.3	0.0	0.0
On-Site Fuel/lLube Truck International	0.1566	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.3	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1565	1.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0
On-Site Dump Truck, Volvo	0.1566	1.3	1.3	0.9	0.6	0.6	0.3	0.3	0.3	0.3	0.3	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.1566	2.2	2.2	2.2	2.2	2.2	2.2	0.6	0.6	0.6	0.6	0.0	0.0
Off-Site Vehicles		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Flat Bed Trucks	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0002	4.1	4.0	3.7	3.0	3.1	2.8	1.9	1.3	1.3	0.4	0.0	0.0
Off-Site Dump Truck, Volvo	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**7.5**	**6.9**	**5.6**	**6.3**	**6.3**	**5.0**	**2.8**	**2.8**	**2.8**	**2.5**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**4.1**	**4.0**	**3.7**	**3.0**	**3.1**	**2.8**	**1.9**	**1.3**	**1.3**	**0.4**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-K
Solar Facility Construction Hourly Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Hour												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation[a]	Cu. Yd.	0	2,831	2,831	2,595	2,595	2,595	2,595	1,887	1,887	0	0	0	0
Storage Pile Wind Erosion[b]	Acres-Hours	0.00	0.10	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozing,Scraping and Grading	Hours	0	16	22	24	28	29	30	27	20	10	0	0	0

Table 8-K (continued)
Solar Facility Construction Hourly Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Month											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavationa	Cu. Yd.	0	0	0	0	0	0	0	0	0	0	0	0
Storage Pile Wind Erosionb	Acres-Hours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozing,Scraping and Grading	Hours	0	0	0	0	0	0	0	0	0	0	0	0

[a] Hourly quantity = monthly quantity divided by 220 working hours per month (22 days x 10 hr/day)

[a] Hourly quantity = monthly quantity divided by 720 hours per month (30 days x 24 hr/day)

Table 8-L
Solar Facility Construction Hourly Fugitive PM10 Emissions

Activity	Emission Factor	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation	9.94E-04	0.0	2.8	2.8	2.6	2.6	2.6	2.6	1.9	1.9	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	5.6	7.6	8.3	9.7	10.1	10.4	9.4	7.0	3.5	0.0	0.0	0.0
Total		**0.0**	**8.7**	**10.7**	**11.2**	**12.6**	**12.7**	**13.0**	**11.3**	**8.8**	**3.5**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-L (continued)
Solar Facility Construction Hourly Fugitive PM10 Emissions

Activity	Units	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavation	9.94E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-M
Solar Facility Construction Hourly Fugitive PM2.5 Emissions

Activity	Emission Factor	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation	2.07E-04	0.0	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	2.5	3.4	3.8	4.4	4.5	4.7	4.2	3.1	1.6	0.0	0.0	0.0
Total		**0.0**	**3.1**	**4.1**	**4.4**	**5.0**	**5.1**	**5.2**	**4.6**	**3.5**	**1.6**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-M (continued)
Solar Facility Construction Hourly Fugitive PM2.5 Emissions

Activity	Units	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavation	2.07E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-N
Solar Facility Construction Hourly Asphaltic Paving VOC Emissions

Item	Quantity per Hour												
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Area Paved (acres)[a]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Emission Factor (lb/acre)[b]	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
Emissions (lb/month)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Totals may not match sum of individual values because of rounding.

Table 8-N (continued)
Solar Facility Construction Hourly Asphaltic Paving VOC Emissions

Activity	Quantity per Hour											
	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Area Paved (acres)a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.014
Emission Factor (lb/acre)b	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
Emissions (lb/month)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Totals may not match sum of individual values because of rounding.

[a] Hourly quantity = monthly quantity divided by 220 working hours per month (22 days x 10 hr/day)

[b] Source: URBEMIS2002 for Windows Users' Guide, Version 8.7, April 2005

Table 9-A
Solar Facility Construction CO Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	66.3	70.3	69.4	67.1	64.5	61.6	56.8	52.0	47.6	44.0	41.7	40.5	38.2
Motor Vehicles	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.6
On-Site Total	**66.8**	**70.9**	**70.1**	**67.8**	**65.3**	**62.3**	**57.6**	**52.7**	**48.4**	**44.8**	**42.4**	**41.2**	**38.8**
Off-Site Motor Vehicles	**51.6**	**59.2**	**66.5**	**74.4**	**80.6**	**86.0**	**91.0**	**94.9**	**98.7**	**98.7**	**93.2**	**86.7**	**79.8**
12-Month Total	**118.4**	**130.1**	**136.5**	**142.2**	**145.9**	**148.3**	**148.6**	**147.6**	**147.1**	**143.5**	**135.6**	**127.9**	**118.6**
Maximum On-Site 12-Month Total (ton/year)	**70.9**												
Maximum 12-Month Total (ton/year)	**148.6**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	9.2	9,651.9	12,431.2	12,952.8	13,681.0	15,587.8	15,635.4	14,663.5	12,360.1	9,864.2	7,498.0	8,218.5	7,984.1
Motor Vehicles	14.8	32.2	45.6	79.9	79.9	81.2	81.2	90.0	112.9	164.0	141.1	141.1	141.1
On-Site Total	**24.1**	**9,684.2**	**12,476.7**	**13,032.6**	**13,760.9**	**15,669.0**	**15,716.6**	**14,753.5**	**12,472.9**	**10,028.1**	**7,639.1**	**8,359.5**	**8,125.1**
Off-Site Motor Vehicles	**2,749.3**	**3,017.9**	**3,819.7**	**4,931.4**	**5,882.9**	**5,498.3**	**4,594.9**	**5,142.1**	**11,427.4**	**18,851.5**	**18,235.9**	**19,099.2**	**17,893.5**
Monthly Total	**2,773.3**	**12,702.0**	**16,296.4**	**17,964.1**	**19,643.8**	**21,167.3**	**20,311.5**	**19,895.6**	**23,900.4**	**28,879.7**	**25,875.0**	**27,458.8**	**26,018.7**
Maximum On-Site Monthly Total (lb/month)	**15,716.6**												
Maximum Monthly Total (lb/month)	**28,879.7**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.4	438.7	565.1	588.8	621.9	708.5	710.7	666.5	561.8	448.4	340.8	373.6	362.9
Motor Vehicles	0.7	1.5	2.1	3.6	3.6	3.7	3.7	4.1	5.1	7.5	6.4	6.4	6.4
On-Site Total	**1.1**	**440.2**	**567.1**	**592.4**	**625.5**	**712.2**	**714.4**	**670.6**	**567.0**	**455.8**	**347.2**	**380.0**	**369.3**
Off-Site Motor Vehicles	**125.0**	**137.2**	**173.6**	**224.2**	**267.4**	**249.9**	**208.9**	**233.7**	**519.4**	**856.9**	**828.9**	**868.1**	**813.3**
Daily Total	**126.1**	**577.4**	**740.7**	**816.5**	**892.9**	**962.1**	**923.3**	**904.3**	**1,086.4**	**1,312.7**	**1,176.1**	**1,248.1**	**1,182.7**
Maximum On-Site Daily Total (lb/day)	**714.4**												
Maximum Off-Site Daily Total (lb/day)	**896.7**												
Maximum Daily Total (lb/day)	**1,312.7**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.1	53.5	68.2	71.9	75.6	88.8	90.1	86.2	76.1	67.5	55.4	60.2	57.9
Motor Vehicles	0.3	0.7	1.0	1.6	1.6	1.6	1.6	1.8	2.2	3.0	2.6	2.6	2.6
On-Site Total	**0.3**	**54.1**	**69.1**	**73.4**	**77.2**	**90.4**	**91.7**	**88.0**	**78.2**	**70.5**	**58.0**	**62.8**	**60.5**
Off-Site Motor Vehicles	**77.2**	**85.0**	**106.4**	**134.3**	**159.9**	**154.0**	**130.2**	**149.9**	**316.8**	**516.8**	**500.4**	**523.3**	**487.0**
Hourly Total	**77.6**	**139.1**	**175.5**	**207.7**	**237.1**	**244.4**	**221.9**	**237.9**	**395.1**	**587.3**	**558.4**	**586.1**	**547.5**
Maximum On-Site Hourly Total (lb/hour)	**91.7**												
Maximum Hourly Total (lb/hour)	**592.2**												

Table 9-A (continued)
Solar Facility Construction CO Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	35.6	31.6	27.7	23.8	19.9	16.9	13.9	10.9	8.3	5.7	3.2	1.4
Motor Vehicles	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.0
On-Site Total	**32.1**	**28.1**	**24.2**	**20.2**	**17.1**	**14.1**	**11.1**	**8.4**	**5.8**	**3.3**	**1.4**	**0.0**
Off-Site Motor Vehicles	**62.9**	**53.0**	**44.4**	**36.0**	**28.3**	**22.1**	**15.7**	**10.0**	**6.1**	**3.4**	**0.8**	**0.0**
12-Month Total	**95.0**	**81.1**	**68.5**	**56.2**	**45.4**	**36.2**	**26.8**	**18.4**	**11.9**	**6.7**	**2.2**	**0.0**
Monthly Emissions (lb/month)												
On-Site												
Equipment	7,956.6	7,857.0	7,793.9	7,685.4	6,118.4	5,929.5	5,929.5	5,256.3	5,130.8	5,090.6	3,629.6	2,774.5
Motor Vehicles	141.1	141.1	141.1	118.2	82.6	115.5	115.5	90.0	61.9	61.9	61.9	50.5
On-Site Total	**8,097.7**	**7,998.1**	**7,935.0**	**7,803.6**	**6,201.0**	**6,045.1**	**6,045.1**	**5,346.3**	**5,192.8**	**5,152.5**	**3,691.5**	**2,825.0**
Off-Site Motor Vehicles	**17,555.5**	**19,726.8**	**17,236.3**	**16,800.7**	**15,440.9**	**12,358.9**	**12,781.6**	**11,472.9**	**7,724.4**	**5,384.5**	**5,190.7**	**1,601.3**
Monthly Total	**25,653.2**	**27,724.9**	**25,171.4**	**24,604.3**	**21,641.9**	**18,403.9**	**18,826.7**	**16,819.2**	**12,917.2**	**10,537.0**	**8,882.3**	**4,426.3**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	361.7	357.1	354.3	349.3	278.1	269.5	269.5	238.9	233.2	231.4	165.0	126.1
Motor Vehicles	6.4	6.4	6.4	5.4	3.8	5.3	5.3	4.1	2.8	2.8	2.8	2.3
On-Site Total	**368.1**	**363.5**	**360.7**	**354.7**	**281.9**	**274.8**	**274.8**	**243.0**	**236.0**	**234.2**	**167.8**	**128.4**
Off-Site Motor Vehicles	**798.0**	**896.7**	**783.5**	**763.7**	**701.9**	**561.8**	**581.0**	**521.5**	**351.1**	**244.7**	**235.9**	**72.8**
Daily Total	**1,166.1**	**1,260.2**	**1,144.2**	**1,118.4**	**983.7**	**836.5**	**855.8**	**764.5**	**587.1**	**479.0**	**403.7**	**201.2**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	57.8	56.9	56.2	55.2	44.2	42.4	42.4	37.9	36.7	36.4	26.2	20.1
Motor Vehicles	2.6	2.6	2.6	2.2	1.5	2.1	2.1	1.7	1.1	1.1	1.1	0.9
On-Site Total	**60.4**	**59.5**	**58.8**	**57.4**	**45.8**	**44.5**	**44.5**	**39.6**	**37.9**	**37.5**	**27.4**	**21.0**
Off-Site Motor Vehicles	**479.6**	**532.7**	**466.8**	**454.7**	**414.8**	**332.7**	**340.3**	**305.1**	**205.7**	**143.6**	**138.7**	**43.5**
Hourly Total	**540.0**	**592.2**	**525.5**	**512.1**	**460.5**	**377.2**	**384.8**	**344.6**	**243.6**	**181.2**	**166.1**	**64.5**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-B
Solar Facility Construction Maximum On-Site CO Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	90.1	710.7	70.3
Motor Vehicles[a]	1.6	3.7	0.6
Maximum On-Site Total	**91.7**	**714.4**	**70.9**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-C
Solar Facility Construction VOC Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	10.0	10.2	9.7	8.9	8.0	7.0	5.9	4.7	3.7	2.9	2.4	2.3	2.1
Motor Vehicles	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**10.0**	**10.3**	**9.8**	**9.0**	**8.1**	**7.1**	**6.0**	**4.8**	**3.7**	**3.0**	**2.5**	**2.4**	**2.2**
Off-Site Motor Vehicles	**4.0**	**4.6**	**5.2**	**5.8**	**6.2**	**6.6**	**6.9**	**7.2**	**7.5**	**7.4**	**7.0**	**6.5**	**5.9**
12-Month Total	**14.1**	**14.9**	**15.0**	**14.7**	**14.3**	**13.7**	**12.9**	**12.0**	**11.2**	**10.4**	**9.5**	**8.8**	**8.1**
Maximum On-Site 12-Month Total (ton/year)	**10.3**												
Maximum 12-Month Total (ton/year)	**15.0**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	3.6	1,452.6	2,082.6	2,229.8	2,441.2	2,583.8	2,612.8	2,397.2	1,878.9	1,166.3	539.5	547.1	485.5
Motor Vehicles	1.6	5.8	9.0	12.3	12.3	12.7	12.7	13.1	15.3	16.8	14.6	14.6	14.6
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**5.2**	**1,458.4**	**2,091.6**	**2,242.1**	**2,453.6**	**2,596.4**	**2,625.4**	**2,410.3**	**1,894.2**	**1,183.1**	**554.0**	**561.7**	**500.1**
Off-Site Motor Vehicles	**205.9**	**232.5**	**292.2**	**396.2**	**469.0**	**446.3**	**381.3**	**427.6**	**886.0**	**1,452.3**	**1,404.5**	**1,467.4**	**1,374.2**
Monthly Total	**211.1**	**1,690.9**	**2,383.8**	**2,638.3**	**2,922.6**	**3,042.7**	**3,006.7**	**2,837.9**	**2,780.2**	**2,635.4**	**1,958.5**	**2,029.1**	**1,874.2**
Maximum On-Site Monthly Total (lb/month)	**2,625.4**												
Maximum Monthly Total (lb/month)	**3,042.7**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.2	66.0	94.7	101.4	111.0	117.4	118.8	109.0	85.4	53.0	24.5	24.9	22.1
Motor Vehicles	0.1	0.3	0.4	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.7	0.7	0.7
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.2**	**66.3**	**95.1**	**101.9**	**111.5**	**118.0**	**119.3**	**109.6**	**86.1**	**53.8**	**25.2**	**25.5**	**22.7**
Off-Site Motor Vehicles	**9.4**	**10.6**	**13.3**	**18.0**	**21.3**	**20.3**	**17.3**	**19.4**	**40.3**	**66.0**	**63.8**	**66.7**	**62.5**
Daily Total	**9.6**	**76.9**	**108.4**	**119.9**	**132.8**	**138.3**	**136.7**	**129.0**	**126.4**	**119.8**	**89.0**	**92.2**	**85.2**
Maximum On-Site Daily Total (lb/day)	**119.3**												
Maximum Off-Site Daily Total (lb/day)	**67.2**												
Maximum Daily Total (lb/day)	**138.3**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.0	6.9	10.3	11.3	12.4	13.4	13.8	13.0	10.7	7.8	4.6	4.6	4.0
Motor Vehicles	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.1**	**7.0**	**10.5**	**11.6**	**12.7**	**13.7**	**14.1**	**13.3**	**11.0**	**8.1**	**4.9**	**4.8**	**4.2**
Off-Site Motor Vehicles	**5.9**	**6.7**	**8.4**	**10.7**	**12.8**	**12.6**	**10.9**	**12.6**	**24.8**	**39.8**	**38.5**	**40.1**	**37.2**
Hourly Total	**5.9**	**13.8**	**18.9**	**22.3**	**25.5**	**26.2**	**25.0**	**25.9**	**35.8**	**47.9**	**43.3**	**45.0**	**41.5**
Maximum On-Site Hourly Total (lb/hour)	**14.1**												
Maximum Hourly Total (lb/hour)	**47.9**												

Table 9-C (continued)
Solar Facility Construction VOC Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	2.0	1.7	1.5	1.3	1.1	0.9	0.8	0.6	0.5	0.3	0.2	0.1
Motor Vehicles	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**2.1**	**1.8**	**1.6**	**1.4**	**1.1**	**1.0**	**0.8**	**0.7**	**0.5**	**0.4**	**0.2**	**0.1**
Off-Site Motor Vehicles	**5.3**	**4.6**	**3.9**	**3.3**	**2.6**	**2.1**	**1.6**	**1.1**	**0.7**	**0.4**	**0.3**	**0.1**
12-Month Total	**7.4**	**6.5**	**5.5**	**4.6**	**3.8**	**3.0**	**2.4**	**1.8**	**1.2**	**0.8**	**0.5**	**0.2**
Monthly Emissions (lb/month)												
On-Site												
Equipment	477.3	448.6	431.8	399.6	350.6	298.6	298.6	304.3	269.3	258.4	237.7	192.2
Motor Vehicles	14.6	14.6	14.6	12.4	8.8	11.7	11.7	8.9	6.3	6.3	6.3	5.2
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	8.1
On-Site Total	**491.9**	**463.2**	**446.4**	**412.0**	**359.4**	**310.4**	**310.4**	**313.2**	**275.6**	**264.7**	**252.1**	**205.5**
Off-Site Motor Vehicles	**1,326.8**	**1,478.5**	**1,284.1**	**1,251.6**	**1,135.1**	**910.3**	**936.9**	**837.8**	**564.4**	**393.8**	**381.5**	**119.7**
Monthly Total	**1,818.6**	**1,941.7**	**1,730.5**	**1,663.7**	**1,494.5**	**1,220.7**	**1,247.3**	**1,151.0**	**840.0**	**658.5**	**633.6**	**325.2**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	21.7	20.4	19.6	18.2	15.9	13.6	13.6	13.8	12.2	11.7	10.8	8.7
Motor Vehicles	0.7	0.7	0.7	0.6	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.2
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
On-Site Total	**22.4**	**21.1**	**20.3**	**18.7**	**16.3**	**14.1**	**14.1**	**14.2**	**12.5**	**12.0**	**11.5**	**9.3**
Off-Site Motor Vehicles	**60.3**	**67.2**	**58.4**	**56.9**	**51.6**	**41.4**	**42.6**	**38.1**	**25.7**	**17.9**	**17.3**	**5.4**
Daily Total	**82.7**	**88.3**	**78.7**	**75.6**	**67.9**	**55.5**	**56.7**	**52.3**	**38.2**	**29.9**	**28.8**	**14.8**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	3.9	3.7	3.5	3.2	2.9	2.3	2.3	2.5	2.1	2.0	1.9	1.5
Motor Vehicles	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**4.2**	**3.9**	**3.8**	**3.4**	**3.0**	**2.6**	**2.6**	**2.6**	**2.2**	**2.1**	**2.1**	**1.7**
Off-Site Motor Vehicles	**36.4**	**39.9**	**34.9**	**34.0**	**30.6**	**24.7**	**25.0**	**22.3**	**15.0**	**10.5**	**10.2**	**3.3**
Hourly Total	**40.6**	**43.9**	**38.6**	**37.4**	**33.6**	**27.2**	**27.6**	**24.9**	**17.3**	**12.7**	**12.3**	**5.0**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-D
Solar Facility Construction Maximum On-Site VOC Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	13.8	118.8	10.2
Motor Vehicles[a]	0.3	0.6	0.1
Maximum On-Site Total	**14.1**	**119.3**	**10.3**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-E
Solar Facility Construction NOx Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	84.6	85.7	80.4	72.0	62.7	52.5	41.9	31.0	21.2	13.9	10.0	9.0	8.1
Motor Vehicles	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2
On-Site Total	**85.1**	**86.2**	**80.9**	**72.4**	**63.2**	**52.9**	**42.3**	**31.4**	**21.5**	**14.2**	**10.3**	**9.2**	**8.4**
Off-Site Motor Vehicles	**8.8**	**10.1**	**11.0**	**12.0**	**12.4**	**12.8**	**13.0**	**13.0**	**13.1**	**12.7**	**11.6**	**10.5**	**9.3**
12-Month Total	**93.9**	**96.2**	**91.9**	**84.4**	**75.6**	**65.7**	**55.3**	**44.4**	**34.6**	**26.9**	**21.9**	**19.7**	**17.7**
Maximum On-Site 12-Month Total (ton/year)	**86.2**												
Maximum 12-Month Total (ton/year)	**96.2**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	14.8	12,642.0	18,622.0	20,075.2	21,853.9	22,508.4	22,706.0	20,623.0	15,724.4	8,668.3	2,936.6	2,782.7	2,161.5
Motor Vehicles	6.6	62.2	105.0	110.9	110.9	115.2	115.2	108.6	112.6	52.5	48.5	48.5	48.5
On-Site Total	**21.4**	**12,704.2**	**18,727.0**	**20,186.1**	**21,964.8**	**22,623.6**	**22,821.2**	**20,731.6**	**15,837.0**	**8,720.8**	**2,985.1**	**2,831.2**	**2,210.0**
Off-Site Motor Vehicles	**302.0**	**456.7**	**555.4**	**1,082.6**	**1,237.3**	**1,217.3**	**1,146.0**	**1,220.1**	**1,831.3**	**2,927.4**	**2,813.6**	**2,897.5**	**2,762.9**
Monthly Total	**323.4**	**13,160.9**	**19,282.4**	**21,268.7**	**23,202.2**	**23,840.9**	**23,967.2**	**21,951.7**	**17,668.3**	**11,648.2**	**5,798.7**	**5,728.7**	**4,973.0**
Maximum On-Site Monthly Total (lb/month)	**22,821.2**												
Maximum Monthly Total (lb/month)	**23,967.2**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.7	574.6	846.5	912.5	993.4	1,023.1	1,032.1	937.4	714.7	394.0	133.5	126.5	98.3
Motor Vehicles	0.3	2.8	4.8	5.0	5.0	5.2	5.2	4.9	5.1	2.4	2.2	2.2	2.2
On-Site Total	**1.0**	**577.5**	**851.2**	**917.6**	**998.4**	**1,028.3**	**1,037.3**	**942.3**	**719.9**	**396.4**	**135.7**	**128.7**	**100.5**
Off-Site Motor Vehicles	**13.7**	**20.8**	**25.2**	**49.2**	**56.2**	**55.3**	**52.1**	**55.5**	**83.2**	**133.1**	**127.9**	**131.7**	**125.6**
Daily Total	**14.7**	**598.2**	**876.5**	**966.8**	**1,054.6**	**1,083.7**	**1,089.4**	**997.8**	**803.1**	**529.5**	**263.6**	**260.4**	**226.0**
Maximum On-Site Daily Total (lb/day)	**1,037.3**												
Maximum Off-Site Daily Total (lb/day)	**133.1**												
Maximum Daily Total (lb/day)	**1,089.4**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.1	57.6	90.6	100.9	109.8	113.8	117.5	109.4	87.7	57.2	27.8	26.0	19.7
Motor Vehicles	0.1	1.3	2.3	2.4	2.4	2.5	2.5	2.4	2.4	1.0	0.9	0.9	0.9
On-Site Total	**0.2**	**59.0**	**92.9**	**103.3**	**112.2**	**116.3**	**120.0**	**111.7**	**90.1**	**58.2**	**28.7**	**26.9**	**20.6**
Off-Site Motor Vehicles	**9.1**	**15.3**	**18.3**	**27.3**	**32.6**	**32.8**	**31.2**	**34.1**	**50.3**	**74.0**	**69.9**	**72.1**	**67.8**
Hourly Total	**9.3**	**74.3**	**111.2**	**130.6**	**144.8**	**149.1**	**151.3**	**145.8**	**140.5**	**132.1**	**98.6**	**99.1**	**88.4**
Maximum On-Site Hourly Total (lb/hour)	**120.0**												
Maximum Hourly Total (lb/hour)	**151.3**												

Table 9-E (continued)
Solar Facility Construction NOx Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	7.5	6.5	5.6	4.8	4.1	3.4	3.0	2.5	1.9	1.4	1.0	0.5
Motor Vehicles	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
On-Site Total	**7.7**	**6.7**	**5.7**	**4.9**	**4.2**	**3.5**	**3.0**	**2.5**	**1.9**	**1.5**	**1.0**	**0.5**
Off-Site Motor Vehicles	**8.0**	**6.9**	**5.6**	**4.6**	**3.7**	**2.9**	**2.2**	**1.6**	**1.0**	**0.6**	**0.4**	**0.1**
12-Month Total	**15.8**	**13.5**	**11.4**	**9.5**	**7.9**	**6.4**	**5.3**	**4.1**	**3.0**	**2.1**	**1.4**	**0.6**
Monthly Emissions (lb/month)												
On-Site												
Equipment	2,073.4	1,805.3	1,640.2	1,357.9	1,335.6	925.1	925.1	1,185.3	940.5	873.8	1,073.5	925.6
Motor Vehicles	48.5	48.5	48.5	44.5	34.3	36.0	36.0	23.5	18.8	18.8	18.8	16.8
On-Site Total	**2,121.9**	**1,853.8**	**1,688.8**	**1,402.5**	**1,370.0**	**961.1**	**961.1**	**1,208.8**	**959.2**	**892.6**	**1,092.2**	**942.4**
Off-Site Motor Vehicles	**2,315.2**	**2,484.1**	**2,009.6**	**1,954.8**	**1,585.3**	**1,285.6**	**1,312.8**	**1,119.2**	**754.6**	**527.1**	**541.4**	**192.4**
Monthly Total	**4,437.1**	**4,337.9**	**3,698.3**	**3,357.2**	**2,955.2**	**2,246.6**	**2,273.9**	**2,328.0**	**1,713.9**	**1,419.6**	**1,633.7**	**1,134.8**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	94.2	82.1	74.6	61.7	60.7	42.0	42.0	53.9	42.7	39.7	48.8	42.1
Motor Vehicles	2.2	2.2	2.2	2.0	1.6	1.6	1.6	1.1	0.9	0.9	0.9	0.8
On-Site Total	**96.5**	**84.3**	**76.8**	**63.7**	**62.3**	**43.7**	**43.7**	**54.9**	**43.6**	**40.6**	**49.6**	**42.8**
Off-Site Motor Vehicles	**105.2**	**112.9**	**91.3**	**88.9**	**72.1**	**58.4**	**59.7**	**50.9**	**34.3**	**24.0**	**24.6**	**8.7**
Daily Total	**201.7**	**197.2**	**168.1**	**152.6**	**134.3**	**102.1**	**103.4**	**105.8**	**77.9**	**64.5**	**74.3**	**51.6**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	19.3	16.9	15.0	12.4	12.3	8.2	8.2	10.6	8.4	7.7	9.3	7.9
Motor Vehicles	0.9	0.9	0.9	0.8	0.6	0.7	0.7	0.4	0.3	0.3	0.3	0.3
On-Site Total	**20.2**	**17.8**	**15.9**	**13.3**	**12.9**	**8.9**	**8.9**	**11.0**	**8.7**	**8.1**	**9.6**	**8.2**
Off-Site Motor Vehicles	**61.1**	**64.3**	**53.8**	**52.0**	**43.8**	**35.8**	**35.9**	**29.8**	**20.2**	**14.1**	**15.2**	**5.9**
Hourly Total	**81.3**	**82.1**	**69.6**	**65.3**	**56.7**	**44.6**	**44.7**	**40.9**	**28.9**	**22.2**	**24.8**	**14.1**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-F
Solar Facility Construction Maximum On-Site NOx Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	117.5	1032.1	85.7
Motor Vehicles[a]	2.5	5.2	0.5
Maximum On-Site Total	**120.0**	**1037.3**	**86.2**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-G
Solar Facility Construction SOx Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
12-Month Total	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Maximum On-Site 12-Month Total (ton/year)	**0.1**												
Maximum 12-Month Total (ton/year)	**0.1**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	0.0	11.2	16.4	17.8	19.5	20.2	20.5	18.7	14.5	8.4	3.1	2.9	2.3
Motor Vehicles	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**11.3**	**16.5**	**17.9**	**19.6**	**20.3**	**20.6**	**18.8**	**14.6**	**8.5**	**3.1**	**3.0**	**2.3**
Off-Site Motor Vehicles	**0.0**	**0.2**	**0.2**	**0.6**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**1.1**	**1.1**	**1.1**	**1.1**
Monthly Total	**0.0**	**11.4**	**16.7**	**18.6**	**20.3**	**21.0**	**21.3**	**19.5**	**15.3**	**9.6**	**4.2**	**4.0**	**3.4**
Maximum On-Site Monthly Total (lb/month)	**20.6**												
Maximum Monthly Total (lb/month)	**21.3**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.0	0.5	0.7	0.8	0.9	0.9	0.9	0.9	0.7	0.4	0.1	0.1	0.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**0.5**	**0.8**	**0.8**	**0.9**	**0.9**	**0.9**	**0.9**	**0.7**	**0.4**	**0.1**	**0.1**	**0.1**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**
Daily Total	**0.0**	**0.5**	**0.8**	**0.8**	**0.9**	**1.0**	**1.0**	**0.9**	**0.7**	**0.4**	**0.2**	**0.2**	**0.2**
Maximum On-Site Daily Total (lb/day)	**0.9**												
Maximum Off-Site Daily Total (lb/day)	**0.1**												
Maximum Daily Total (lb/day)	**1.0**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Hourly Total	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**
Maximum On-Site Hourly Total (lb/hour)	**0.1**												
Maximum Hourly Total (lb/hour)	**0.1**												

Table 9-G (continued)
Solar Facility Construction SOx Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
12-Month Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Monthly Emissions (lb/month)												
On-Site												
Equipment	2.2	1.9	1.8	1.5	1.4	1.0	1.0	1.3	1.0	1.0	1.1	0.9
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**2.2**	**2.0**	**1.8**	**1.5**	**1.5**	**1.1**	**1.1**	**1.3**	**1.1**	**1.0**	**1.1**	**1.0**
Off-Site Motor Vehicles	**0.6**	**0.6**	**0.3**	**0.3**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Monthly Total	**2.9**	**2.5**	**2.1**	**1.8**	**1.5**	**1.1**	**1.1**	**1.3**	**1.1**	**1.0**	**1.2**	**1.0**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Daily Total	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Hourly Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-H
Solar Facility Construction Maximum On-Site SOx Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	0.1	0.9	0.1
Motor Vehicles[a]	0.0	0.0	0.0
Maximum On-Site Total	**0.1**	**0.9**	**0.1**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-I
Solar Facility Construction PM10 Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	3.9	4.0	3.8	3.5	3.1	2.7	2.3	1.9	1.4	1.1	1.0	0.9	0.8
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	16.5	17.2	16.9	16.3	15.5	14.5	13.3	12.2	11.4	10.5	9.5	8.9	8.3
On-Site Total	**20.4**	**21.2**	**20.7**	**19.8**	**18.6**	**17.2**	**15.6**	**14.1**	**12.8**	**11.7**	**10.4**	**9.8**	**9.2**
Off-Site Motor Vehicle Exhaust and Fugitive	**2.8**	**3.2**	**3.6**	**4.0**	**4.3**	**4.6**	**4.8**	**5.0**	**5.2**	**5.2**	**4.9**	**4.6**	**4.2**
12-Month Total	**23.1**	**24.4**	**24.2**	**23.8**	**22.9**	**21.8**	**20.5**	**19.1**	**18.0**	**16.9**	**15.4**	**14.4**	**13.4**
Maximum On-Site 12-Month Total (ton/year)	**21.2**												
Maximum 12-Month Total (ton/year)	**24.4**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	1.1	557.1	802.6	859.2	944.3	1,004.7	1,018.6	934.9	737.6	461.3	214.0	217.2	191.5
Motor Vehicle Exhaust	0.2	2.4	4.1	4.1	4.1	4.2	4.2	3.9	3.9	1.1	1.1	1.1	1.1
Fugitive	292.4	2,584.3	3,043.3	3,388.4	3,694.3	3,646.6	3,723.1	3,257.7	2,884.8	2,763.0	1,835.8	1,835.8	1,835.8
On-Site Total	**293.7**	**3,143.8**	**3,850.0**	**4,251.6**	**4,642.7**	**4,655.5**	**4,745.9**	**4,196.5**	**3,626.3**	**3,225.3**	**2,050.9**	**2,054.0**	**2,028.4**
Off-Site Motor Vehicle Exhaust and Fugitive	**138.1**	**158.7**	**202.1**	**281.6**	**334.9**	**304.3**	**257.4**	**274.0**	**606.1**	**1,005.9**	**970.7**	**1,016.3**	**962.8**
Monthly Total	**431.8**	**3,302.4**	**4,052.1**	**4,533.2**	**4,977.6**	**4,959.8**	**5,003.3**	**4,470.5**	**4,232.4**	**4,231.2**	**3,021.5**	**3,070.3**	**2,991.2**
Maximum On-Site Monthly Total (lb/month)	**4,745.9**												
Maximum Monthly Total (lb/month)	**5,003.3**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.0	25.3	36.5	39.1	42.9	45.7	46.3	42.5	33.5	21.0	9.7	9.9	8.7
Motor Vehicle Exhaust	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
Fugitive	13.3	117.5	138.3	154.0	167.9	165.8	169.2	148.1	131.1	125.6	83.4	83.4	83.4
On-Site Total	**13.4**	**142.9**	**175.0**	**193.3**	**211.0**	**211.6**	**215.7**	**190.8**	**164.8**	**146.6**	**93.2**	**93.4**	**92.2**
Off-Site Motor Vehicle Exhaust and Fugitive	**6.3**	**7.2**	**9.2**	**12.8**	**15.2**	**13.8**	**11.7**	**12.5**	**27.6**	**45.7**	**44.1**	**46.2**	**43.8**
Daily Total	**19.6**	**150.1**	**184.2**	**206.1**	**226.3**	**225.4**	**227.4**	**203.2**	**192.4**	**192.3**	**137.3**	**139.6**	**136.0**
Maximum On-Site Daily Total (lb/day)	**215.7**												
Maximum Off-Site Daily Total (lb/day)	**47.6**												
Maximum Daily Total (lb/day)	**227.4**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.0	2.7	4.0	4.4	4.8	5.2	5.4	5.1	4.2	3.1	1.8	1.8	1.6
Motor Vehicle Exhaust	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Fugitive	5.9	19.0	21.1	26.0	27.4	28.9	29.3	26.0	26.6	41.9	35.4	35.4	35.4
On-Site Total	**5.9**	**21.7**	**25.2**	**30.5**	**32.3**	**34.2**	**34.8**	**31.2**	**30.9**	**45.0**	**37.3**	**37.3**	**37.0**
Off-Site Motor Vehicle Exhaust and Fugitive	**3.8**	**4.4**	**5.6**	**7.4**	**8.9**	**8.1**	**6.9**	**7.4**	**16.2**	**26.5**	**25.5**	**26.7**	**25.2**
Hourly Total	**9.7**	**26.1**	**30.8**	**37.9**	**41.2**	**42.4**	**41.7**	**38.6**	**47.1**	**71.4**	**62.8**	**64.0**	**62.3**
Maximum On-Site Hourly Total (lb/hour)	**45.0**												
Maximum Hourly Total (lb/hour)	**71.4**												

Table 9-I (continued)
Solar Facility Construction PM10 Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.0
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	7.7	6.8	5.9	5.0	4.1	3.5	2.7	1.9	1.4	1.0	0.7	0.3
On-Site Total	**8.5**	**7.5**	**6.5**	**5.5**	**4.6**	**3.8**	**3.0**	**2.2**	**1.5**	**1.1**	**0.7**	**0.3**
Off-Site Motor Vehicle Exhaust and Fugitive	**3.8**	**3.3**	**2.8**	**2.3**	**1.9**	**1.5**	**1.2**	**0.8**	**0.5**	**0.3**	**0.2**	**0.0**
12-Month Total	**12.3**	**10.8**	**9.3**	**7.8**	**6.5**	**5.3**	**4.2**	**3.0**	**2.1**	**1.5**	**0.9**	**0.4**
Monthly Emissions (lb/month)												
On-Site												
Equipment	188.4	177.8	171.4	159.7	140.6	119.7	119.7	121.4	106.9	100.8	94.1	76.3
Motor Vehicle Exhaust	1.1	1.1	1.1	1.1	0.9	0.7	0.7	0.4	0.3	0.3	0.3	0.3
Fugitive	1,835.8	1,835.8	1,835.8	1,673.3	1,348.4	1,510.9	1,510.9	1,185.9	698.6	698.6	698.6	617.3
On-Site Total	**2,025.2**	**2,014.6**	**2,008.2**	**1,834.1**	**1,489.9**	**1,631.3**	**1,631.3**	**1,307.7**	**805.8**	**799.7**	**793.0**	**694.0**
Off-Site Motor Vehicle Exhaust and Fugitive	**924.4**	**1,048.2**	**905.1**	**881.4**	**809.0**	**646.1**	**676.7**	**604.2**	**406.1**	**282.5**	**273.9**	**84.2**
Monthly Total	**2,949.7**	**3,062.8**	**2,913.3**	**2,715.5**	**2,298.9**	**2,277.4**	**2,307.9**	**1,911.9**	**1,212.0**	**1,082.2**	**1,066.9**	**778.2**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	8.6	8.1	7.8	7.3	6.4	5.4	5.4	5.5	4.9	4.6	4.3	3.5
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	83.4	83.4	83.4	76.1	61.3	68.7	68.7	53.9	31.8	31.8	31.8	28.1
On-Site Total	**92.1**	**91.6**	**91.3**	**83.4**	**67.7**	**74.1**	**74.1**	**59.4**	**36.6**	**36.4**	**36.0**	**31.5**
Off-Site Motor Vehicle Exhaust and Fugitive	**42.0**	**47.6**	**41.1**	**40.1**	**36.8**	**29.4**	**30.8**	**27.5**	**18.5**	**12.8**	**12.4**	**3.8**
Daily Total	**134.1**	**139.2**	**132.4**	**123.4**	**104.5**	**103.5**	**104.9**	**86.9**	**55.1**	**49.2**	**48.5**	**35.4**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	1.6	1.5	1.4	1.3	1.1	0.9	0.9	1.0	0.8	0.8	0.8	0.6
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	35.4	35.4	35.4	32.5	26.6	29.5	29.5	23.6	13.3	13.3	13.3	11.8
On-Site Total	**37.0**	**36.9**	**36.9**	**33.8**	**27.7**	**30.5**	**30.5**	**24.6**	**14.1**	**14.1**	**14.1**	**12.4**
Off-Site Motor Vehicle Exhaust and Fugitive	**24.5**	**27.8**	**24.1**	**23.4**	**21.6**	**17.2**	**18.0**	**16.0**	**10.8**	**7.5**	**7.3**	**2.3**
Hourly Total	**61.6**	**64.7**	**60.9**	**57.2**	**49.3**	**47.7**	**48.5**	**40.6**	**24.9**	**21.6**	**21.4**	**14.7**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-J
Solar Facility Construction Maximum On-Site PM10 Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	3.1	46.3	4.0
Motor Vehicle Exhaust[a]	0.0	0.2	0.0
Fugitive[a]	41.9	169.2	17.2
Maximum On-Site Total	**45.0**	**215.7**	**21.2**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-K
Solar Facility Construction PM2.5 Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	3.5	3.6	3.4	3.1	2.8	2.4	2.0	1.6	1.3	1.0	0.8	0.8	0.7
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	5.4	5.5	5.3	5.0	4.5	4.0	3.5	3.0	2.5	2.1	1.8	1.6	1.4
On-Site Total	**8.9**	**9.1**	**8.7**	**8.1**	**7.3**	**6.5**	**5.6**	**4.6**	**3.8**	**3.1**	**2.6**	**2.4**	**2.2**
Off-Site Motor Vehicle Exhaust and Fugitive	**0.7**	**0.8**	**0.8**	**0.9**	**1.0**	**1.0**	**1.0**	**1.1**	**1.1**	**1.0**	**0.9**	**0.8**	**0.7**
12-Month Total	**9.6**	**9.9**	**9.6**	**9.0**	**8.3**	**7.5**	**6.6**	**5.7**	**4.8**	**4.1**	**3.5**	**3.3**	**2.9**
Maximum On-Site 12-Month Total (ton/year)	**9.1**												
Maximum 12-Month Total (ton/year)	**9.9**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	1.0	504.7	730.6	782.6	860.9	913.3	926.1	849.2	667.7	411.8	184.4	185.7	162.1
Motor Vehicle Exhaust	0.2	2.2	3.7	3.7	3.7	3.9	3.9	3.6	3.6	1.0	1.0	1.0	1.0
Fugitive	62.0	836.2	1,042.9	1,152.7	1,290.5	1,299.4	1,333.8	1,181.1	974.5	768.0	389.2	389.2	389.2
On-Site Total	**63.2**	**1,343.1**	**1,777.2**	**1,939.0**	**2,155.1**	**2,216.6**	**2,263.8**	**2,033.9**	**1,645.7**	**1,180.8**	**574.5**	**575.9**	**552.3**
Off-Site Motor Vehicle Exhaust and Fugitive	**28.5**	**36.4**	**45.8**	**74.1**	**86.7**	**80.5**	**71.4**	**74.7**	**142.1**	**233.4**	**224.7**	**233.9**	**223.2**
Monthly Total	**91.7**	**1,379.5**	**1,823.1**	**2,013.2**	**2,241.8**	**2,297.1**	**2,335.3**	**2,108.6**	**1,787.8**	**1,414.2**	**799.2**	**809.8**	**775.5**
Maximum On-Site Monthly Total (lb/month)	**2,263.8**												
Maximum Monthly Total (lb/month)	**2,335.3**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.0	22.9	33.2	35.6	39.1	41.5	42.1	38.6	30.3	18.7	8.4	8.4	7.4
Motor Vehicle Exhaust	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
Fugitive	2.8	38.0	47.4	52.4	58.7	59.1	60.6	53.7	44.3	34.9	17.7	17.7	17.7
On-Site Total	**2.9**	**61.0**	**80.8**	**88.1**	**98.0**	**100.8**	**102.9**	**92.4**	**74.8**	**53.7**	**26.1**	**26.2**	**25.1**
Off-Site Motor Vehicle Exhaust and Fugitive	**1.3**	**1.7**	**2.1**	**3.4**	**3.9**	**3.7**	**3.2**	**3.4**	**6.5**	**10.6**	**10.2**	**10.6**	**10.1**
Daily Total	**4.2**	**62.7**	**82.9**	**91.5**	**101.9**	**104.4**	**106.1**	**95.8**	**81.3**	**64.3**	**36.3**	**36.8**	**35.2**
Maximum On-Site Daily Total (lb/day)	**102.9**												
Maximum Off-Site Daily Total (lb/day)	**10.6**												
Maximum Daily Total (lb/day)	**106.1**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.0	2.4	3.6	4.0	4.4	4.7	4.9	4.6	3.8	2.8	1.6	1.6	1.3
Motor Vehicle Exhaust	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Fugitive	1.3	5.3	6.3	7.5	8.1	8.5	8.7	7.8	7.3	9.7	7.5	7.5	7.5
On-Site Total	**1.3**	**7.8**	**10.0**	**11.6**	**12.6**	**13.3**	**13.7**	**12.4**	**11.2**	**12.5**	**9.1**	**9.1**	**8.9**
Off-Site Motor Vehicle Exhaust and Fugitive	**0.8**	**1.1**	**1.3**	**1.9**	**2.3**	**2.1**	**1.9**	**2.0**	**3.8**	**5.9**	**5.7**	**5.9**	**5.6**
Hourly Total	**2.0**	**8.9**	**11.3**	**13.4**	**14.9**	**15.5**	**15.6**	**14.4**	**14.9**	**18.4**	**14.8**	**15.0**	**14.5**
Maximum On-Site Hourly Total (lb/hour)	**13.7**												
Maximum Hourly Total (lb/hour)	**18.4**												

Table 9-K (continued)
Solar Facility Construction PM2.5 Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.0
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	1.2	1.1	0.9	0.7	0.6	0.4	0.3	0.2	0.1	0.1	0.0	0.0
On-Site Total	**1.9**	**1.6**	**1.4**	**1.2**	**0.9**	**0.7**	**0.5**	**0.4**	**0.3**	**0.2**	**0.1**	**0.0**
Off-Site Motor Vehicle Exhaust and Fugitive	**0.6**	**0.5**	**0.4**	**0.3**	**0.3**	**0.2**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**
12-Month Total	**2.5**	**2.2**	**1.8**	**1.5**	**1.2**	**0.9**	**0.7**	**0.5**	**0.3**	**0.2**	**0.1**	**0.0**
Monthly Emissions (lb/month)												
On-Site												
Equipment	159.2	149.5	143.6	132.8	118.4	99.2	99.2	102.3	89.0	83.4	80.3	65.5
Motor Vehicle Exhaust	1.0	1.0	1.0	1.0	0.8	0.7	0.7	0.3	0.3	0.3	0.3	0.3
Fugitive	389.2	354.8	285.9	320.3	320.3	251.4	148.1	148.1	148.1	130.9	0.0	0.0
On-Site Total	**549.4**	**505.2**	**430.4**	**454.1**	**439.5**	**351.2**	**247.9**	**250.7**	**237.4**	**214.6**	**80.6**	**65.8**
Off-Site Motor Vehicle Exhaust and Fugitive	**201.7**	**200.3**	**176.8**	**147.3**	**142.8**	**126.0**	**92.4**	**66.4**	**59.1**	**22.5**	**9.0**	**3.6**
Monthly Total	**751.1**	**705.5**	**607.3**	**601.4**	**582.3**	**477.2**	**340.3**	**317.1**	**296.4**	**237.0**	**89.6**	**69.4**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	7.2	6.8	6.5	6.0	5.4	4.5	4.5	4.6	4.0	3.8	3.7	3.0
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	17.7	16.1	13.0	14.6	14.6	11.4	6.7	6.7	6.7	5.9	0.0	0.0
On-Site Total	**25.0**	**23.0**	**19.6**	**20.6**	**20.0**	**16.0**	**11.3**	**11.4**	**10.8**	**9.8**	**3.7**	**3.0**
Off-Site Motor Vehicle Exhaust and Fugitive	**9.2**	**9.1**	**8.0**	**6.7**	**6.5**	**5.7**	**4.2**	**3.0**	**2.7**	**1.0**	**0.4**	**0.2**
Daily Total	**34.1**	**32.1**	**27.6**	**27.3**	**26.5**	**21.7**	**15.5**	**14.4**	**13.5**	**10.8**	**4.1**	**3.2**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	1.3	1.2	1.2	1.1	1.0	0.8	0.8	0.8	0.7	0.7	0.6	0.5
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	7.5	6.9	5.6	6.3	6.3	5.0	2.8	2.8	2.8	2.5	0.0	0.0
On-Site Total	**8.9**	**8.2**	**6.8**	**7.4**	**7.3**	**5.8**	**3.6**	**3.7**	**3.5**	**3.2**	**0.7**	**0.5**
Off-Site Motor Vehicle Exhaust and Fugitive	**5.3**	**5.2**	**4.7**	**3.9**	**3.8**	**3.4**	**2.5**	**1.8**	**1.6**	**0.6**	**0.3**	**0.1**
Hourly Total	**14.1**	**13.4**	**11.5**	**11.2**	**11.1**	**9.2**	**6.1**	**5.4**	**5.1**	**3.8**	**0.9**	**0.7**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-L
Solar Facility Construction Maximum On-Site PM2.5 Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	4.9	42.1	3.6
Motor Vehicle Exhaust[a]	0.1	0.2	0.0
Fugitive[a]	8.7	60.6	5.5
Maximum On-Site Total	**13.7**	**102.9**	**9.1**

[a] Emissions from source during period with maximum on-site total emissions

Table 10
Emission Rates for Modeling Impacts During Construction of Solar Facility

Pollutant	Source	Averaging Period	Emission Rate (lb/hr)	How Calculated
CO	Construction Equipment	1-hr	9.01E+01	Maximum hourly (lb/hr)
CO	On-site Motor Vehicles	1-hr	1.61E+00	Maximum hourly (lb/hr)
CO	Construction Equipment	8-hr	9.01E+01	Maximum hourly (lb/hr)
CO	On-site Motor Vehicles	8-hr	1.61E+00	Maximum hourly (lb/hr)
NO2	Construction Equipment	1-hr	1.18E+02	Maximum hourly (lb/hr)
NO2	On-site Motor Vehicles	1-hr	2.48E+00	Maximum hourly (lb/hr)
NO2	Construction Equipment	Annual	5.87E+01	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
NO2	On-site Motor Vehicles	Annual	3.56E-01	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
SO2	Construction Equipment	1-hr	1.08E-01	Maximum hourly (lb/hr)
SO2	On-site Motor Vehicles	1-hr	2.49E-03	Maximum hourly (lb/hr)
SO2	Construction Equipment	3-hr	1.08E-01	Maximum hourly (lb/hr)
SO2	On-site Motor Vehicles	3-hr	2.49E-03	Maximum hourly (lb/hr)
SO2	Construction Equipment	24-hr	1.16E-01	Max. daily (lb/day)/8 hr. per day
SO2	On-site Motor Vehicles	24-hr	6.50E-04	Max. daily (lb/day)/8 hr. per day
SO2	Construction Equipment	Annual	5.32E-02	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
SO2	On-site Motor Vehicles	Annual	3.23E-04	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM10	Construction Equipment	24-hr	5.79E+00	Max. daily (lb/day)/8 hr. per day
PM10	On-site Motor Vehicles	24-hr	2.41E-02	Max. daily (lb/day)/8 hr. per day
PM10	Fugitive Emissions	24-hr	2.12E+01	Max. daily (lb/day)/ hr. per day
PM10	Construction Equipment	Annual	2.72E+00	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM10	On-site Motor Vehicles	Annual	1.20E-02	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM10	Fugitive Emissions	Annual	1.18E+01	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM2.5	Construction Equipment	24-hr	5.26E+00	Max. daily (lb/day)/8 hr. per day
PM2.5	On-site Motor Vehicles	24-hr	2.22E-02	Max. daily (lb/day)/8 hr. per day
PM2.5	Fugitive Emissions	24-hr	7.58E+00	Max. daily (lb/day)/8 hr. per day
PM2.5	Construction Equipment	Annual	2.46E+00	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM2.5	On-site Motor Vehicles	Annual	1.11E-02	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM2.5	Fugitive Emissions	Annual	3.78E+00	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day

Table 11-A
Gas Line Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Day	Daily Number				
					Month 1	Month 2	Month 3	Month 4	Month 5
					1	2	3	4	5
Construction Equipment									
Backhoe, CAT	416E	74	Diesel	5	10	15	8	12	4
Loader, CAT	966R	150	Diesel	5	0	4	4	7	2
Dozer, CAT	D8	305	Diesel	5	4	15	12	12	3
Crane 50 Ton, Grove	TR600E	173	Diesel	5	2	0	0	0	0
Sideboom, CAT	572R Series2	240	Diesel	5	5	24	24	24	6
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	5	1	1	0	0	0
Welder, Multiquip	BLW-400SS	31	Diesel	5	0	12	12	12	3
Motor Vehicles									
On-Site Vehicles									
On-Site Dump Truck, Volvo	WG64T	N/A	Diesel	0	9	12	0	0	0
On-Site Welding Truck	N/A	N/A	Diesel	0	0	12	12	12	3
On-Site Water Truck	N/A	N/A	Diesel	0	3	4	4	4	3
On-Site Bus, MC	102D3	N/A	Diesel	0	3	7	4	4	1
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Diesel	0	7	5	0	0	0
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	0	18	37	24	39	11
Off-Site Vehicles									
Off-Site Dump Truck, Volvo	WG64T	N/A	Diesel	36	9	12	0	0	0
Off-Site Welding Truck	N/A	N/A	Diesel	36	0	12	12	12	3
Off-Site Water Trucks	N/A	N/A	Diesel	36	3	4	4	4	3
Off-Site Bus, MC	102D3	N/A	Diesel	36	3	7	4	4	1
Off-Site Flat Bed Trucks	T7500	N/A	Diesel	36	7	5	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	36	18	37	24	39	11
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	60	147	242	174	225	63

All vehicle travel is considered off-site because it is on paved roads.

Table 11-B
Gas Line Construction Monthly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Daily Operating Hours or Miles[a]				
				Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment								
Backhoe, CAT	416E	74	Diesel	50	75	40	60	20
Loader, CAT	966R	150	Diesel	0	20	20	35	10
Dozer, CAT	D8	305	Diesel	20	75	60	60	15
Crane 50 Ton, Grove	TR600E	173	Diesel	10	0	0	0	0
Sideboom, CAT	572R Series2	240	Diesel	25	120	120	120	30
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	5	5	0	0	0
Welder, Multiquip	BLW-400SS	31	Diesel	0	60	60	60	15
Motor Vehicles								
On-Site Vehicles								
On-Site Dump Truck, Volvo	WG64T	N/A	Diesel	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Diesel	0	0	0	0	0
On-Site Water Truck	N/A	N/A	Diesel	0	0	0	0	0
On-Site Bus, MC	102D3	N/A	Diesel	0	0	0	0	0
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Diesel	0	0	0	0	0
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	0	0	0	0	0
Off-Site Vehicles								
Off-Site Dump Truck, Volvo	WG64T	N/A	Diesel	324	432	0	0	0
Off-Site Welding Truck	N/A	N/A	Diesel	0	432	432	432	108
Off-Site Water Trucks	N/A	N/A	Diesel	108	144	144	144	108
Off-Site Bus, MC	102D3	N/A	Diesel	108	252	144	144	36
Off-Site Flat Bed Trucks	T7500	N/A	Diesel	252	180	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	648	1,332	864	1,404	396
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	8,820	14,520	10,440	13,500	3,780

Table 11-C
Gas Line Construction Daily Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.3657	18.3	27.4	14.6	21.9	7.3
Loader, CAT	0.6345	0.0	12.7	12.7	22.2	6.3
Dozer, CAT	1.2964	25.9	97.2	77.8	77.8	19.4
Crane 50 Ton, Grove	0.4901	4.9	0.0	0.0	0.0	0.0
Sideboom, CAT	0.3665	9.2	44.0	44.0	44.0	11.0
Air Compressor, Ingersoll-Rand	0.0893	0.4	0.4	0.0	0.0	0.0
Welder, Multiquip	0.3168	0.0	19.0	19.0	19.0	4.8
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0121	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0121	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0121	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1040	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0117	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0121	3.9	5.2	0.0	0.0	0.0
Off-Site Welding Truck	0.1040	0.0	44.9	44.9	44.9	11.2
Off-Site Water Trucks	0.0121	1.3	1.7	1.7	1.7	1.3
Off-Site Bus, MC	0.0121	1.3	3.1	1.7	1.7	0.4
Off-Site Flat Bed Trucks	0.1040	26.2	18.7	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0172	11.2	22.9	14.9	24.2	6.8
Off-Site Construction Worker Commute	0.0172	151.8	249.9	179.7	232.3	65.1
Construction Equipment Total		**58.7**	**200.8**	**168.1**	**184.9**	**48.9**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**195.7**	**346.5**	**243.0**	**304.9**	**84.9**

Note: Totals may not match sum of individual values because of rounding.

Table 11-D
Gas Line Construction Daily Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.0990	4.9	7.4	4.0	5.9	2.0
Loader, CAT	0.1560	0.0	3.1	3.1	5.5	1.6
Dozer, CAT	0.3039	6.1	22.8	18.2	18.2	4.6
Crane 50 Ton, Grove	0.1274	1.3	0.0	0.0	0.0	0.0
Sideboom, CAT	0.1313	3.3	15.8	15.8	15.8	3.9
Air Compressor, Ingersoll-Rand	0.0352	0.2	0.2	0.0	0.0	0.0
Welder, Multiquip	0.1353	0.0	8.1	8.1	8.1	2.0
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0030	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0030	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0030	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0100	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0030	1.0	1.3	0.0	0.0	0.0
Off-Site Welding Truck	0.0100	0.0	4.3	4.3	4.3	1.1
Off-Site Water Trucks	0.0030	0.3	0.4	0.4	0.4	0.3
Off-Site Bus, MC	0.0030	0.3	0.7	0.4	0.4	0.1
Off-Site Flat Bed Trucks	0.0100	2.5	1.8	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0013	0.8	1.7	1.1	1.8	0.5
Off-Site Construction Worker Commute	0.0013	11.1	18.2	13.1	16.9	4.7
Construction Equipment Total		**15.8**	**57.4**	**49.2**	**53.5**	**14.1**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**16.0**	**28.5**	**19.4**	**23.9**	**6.7**

Note: Totals may not match sum of individual values because of rounding.

Table 11-E
Gas Line Construction Daily Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.6061	30.3	45.5	24.2	36.4	12.1
Loader, CAT	1.2230	0.0	24.5	24.5	42.8	12.2
Dozer, CAT	2.8731	57.5	215.5	172.4	172.4	43.1
Crane 50 Ton, Grove	0.9835	9.8	0.0	0.0	0.0	0.0
Sideboom, CAT	1.3089	32.7	157.1	157.1	157.1	39.3
Air Compressor, Ingersoll-Rand	0.1439	0.7	0.7	0.0	0.0	0.0
Welder, Multiquip	0.2790	0.0	16.7	16.7	16.7	4.2
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0389	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0389	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0389	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0180	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0389	12.6	16.8	0.0	0.0	0.0
Off-Site Welding Truck	0.0180	0.0	7.8	7.8	7.8	1.9
Off-Site Water Trucks	0.0389	4.2	5.6	5.6	5.6	4.2
Off-Site Bus, MC	0.0389	4.2	9.8	5.6	5.6	1.4
Off-Site Flat Bed Trucks	0.0180	4.5	3.2	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0017	1.1	2.2	1.4	2.3	0.7
Off-Site Construction Worker Commute	0.0017	14.8	24.3	17.5	22.6	6.3
Construction Equipment Total		**131.0**	**459.9**	**394.9**	**425.4**	**110.9**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**41.4**	**69.8**	**37.9**	**43.9**	**14.5**

Note: Totals may not match sum of individual values because of rounding.

Table 11-F
Gas Line Construction Daily Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.0006	0.0	0.0	0.0	0.0	0.0
Loader, CAT	0.0012	0.0	0.0	0.0	0.0	0.0
Dozer, CAT	0.0025	0.1	0.2	0.2	0.2	0.0
Crane 50 Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0
Sideboom, CAT	0.0013	0.0	0.2	0.2	0.2	0.0
Air Compressor, Ingersoll-Rand	0.0002	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0003	0.0	0.0	0.0	0.0	0.0
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Bus, MC	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**0.1**	**0.4**	**0.4**	**0.4**	**0.1**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 11-G
Gas Line Construction Daily Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.0553	2.8	4.1	2.2	3.3	1.1
Loader, CAT	0.0697	0.0	1.4	1.4	2.4	0.7
Dozer, CAT	0.1160	2.3	8.7	7.0	7.0	1.7
Crane 50 Ton, Grove	0.0562	0.6	0.0	0.0	0.0	0.0
Sideboom, CAT	0.0501	1.3	6.0	6.0	6.0	1.5
Air Compressor, Ingersoll-Rand	0.0106	0.1	0.1	0.0	0.0	0.0
Welder, Multiquip	0.0308	0.0	1.9	1.9	1.9	0.5
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0015	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0015	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0015	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0015	0.5	0.7	0.0	0.0	0.0
Off-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0015	0.2	0.2	0.2	0.2	0.2
Off-Site Bus, MC	0.0015	0.2	0.4	0.2	0.2	0.1
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.2	0.4	0.3	0.4	0.1
Construction Equipment Total		**7.0**	**22.2**	**18.4**	**20.6**	**5.5**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.1**	**1.7**	**0.8**	**0.9**	**0.3**

Note: Totals may not match sum of individual values because of rounding.

Table 11-H
Gas Line Construction Daily Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.0509	2.5	3.8	2.0	3.1	1.0
Loader, CAT	0.0641	0.0	1.3	1.3	2.2	0.6
Dozer, CAT	0.1067	2.1	8.0	6.4	6.4	1.6
Crane 50 Ton, Grove	0.0517	0.5	0.0	0.0	0.0	0.0
Sideboom, CAT	0.0461	1.2	5.5	5.5	5.5	1.4
Air Compressor, Ingersoll-Rand	0.0098	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0284	0.0	1.7	1.7	1.7	0.4
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0014	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0014	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0014	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0014	0.5	0.6	0.0	0.0	0.0
Off-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0014	0.2	0.2	0.2	0.2	0.2
Off-Site Bus, MC	0.0014	0.2	0.4	0.2	0.2	0.1
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.2	0.4	0.3	0.3	0.1
Construction Equipment Total		**6.4**	**20.4**	**17.0**	**18.9**	**5.1**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.0**	**1.6**	**0.7**	**0.8**	**0.3**

Note: Totals may not match sum of individual values because of rounding.

Table 11-I
Gas Line Construction Daily Construction Equipment and Motor Vehicle Fugitive PM10 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.7385	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.7385	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.7385	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.7384	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.7384	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0010	0.3	0.4	0.0	0.0	0.0
Off-Site Welding Truck	0.0008	0.0	0.4	0.4	0.4	0.1
Off-Site Water Trucks	0.0010	0.1	0.1	0.1	0.1	0.1
Off-Site Bus, MC	0.0010	0.1	0.2	0.1	0.1	0.0
Off-Site Flat Bed Trucks	0.0008	0.2	0.1	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	0.6	1.2	0.8	1.2	0.3
Off-Site Construction Worker Commute	0.0009	7.8	12.8	9.2	11.9	3.3
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**9.1**	**15.3**	**10.6**	**13.8**	**3.9**

Note: Totals may not match sum of individual values because of rounding.

Table 11-J
Gas Line Construction Daily Construction Equipment and Motor Vehicle Fugitive PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.1566	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.1566	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.1566	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1565	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.1566	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0002	0.1	0.1	0.0	0.0	0.0
Off-Site Welding Truck	0.0001	0.0	0.1	0.1	0.1	0.0
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0
Off-Site Bus, MC	0.0002	0.0	0.0	0.0	0.0	0.0
Off-Site Flat Bed Trucks	0.0001	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.1	0.2	0.1	0.2	0.1
Off-Site Construction Worker Commute	0.0002	1.4	2.3	1.7	2.1	0.6
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.6**	**2.8**	**1.9**	**2.5**	**0.7**

Note: Totals may not match sum of individual values because of rounding.

Table 11-K
Gas Line Construction Daily Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Day				
		Month 1	Month 2	Month 3	Month 4	Month 5
Excavation[a]	Cu. Yd.	522	784	418	627	209
Storage Pile Wind Erosion[b]	Acres-Days	13.1	13.1	13.1	13.1	13.1
Bulldozing,Scraping and Grading	Hours	20	75	60	60	15

[a] Total excavation is 4 ft. wide x 4 ft. deep x 18 mi. long, apportioned to daily backhoe operating hours each month and divided by 22 working days/month

[b] Based 4 ft. wide x 4 ft. tall x 18 mi. long and assuming 50 percent is stockpiled at any time.

Table 11-L
Gas Line Construction Daily Fugitive PM10 Emissions

Activity	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Excavation	9.94E-04	0.5	0.8	0.4	0.6	0.2
Storage Pile Wind Erosion	2.93	38.3	38.3	38.3	38.3	38.3
Bulldozing,Scraping and Grading	0.348	7.0	26.1	20.9	20.9	5.2
Total		**45.8**	**65.2**	**59.6**	**59.8**	**43.7**

Note: Totals may not match sum of individual values because of rounding.

Table 11-M
Gas Line Construction Daily Fugitive PM2.5 Emissions

Activity	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Excavation	2.07E-04	0.1	0.2	0.1	0.1	0.0
Storage Pile Wind Erosion	0.61	8.0	8.0	8.0	8.0	8.0
Bulldozing,Scraping and Grading	0.157	3.1	11.7	9.4	9.4	2.3
Total		**11.2**	**19.9**	**17.4**	**17.5**	**10.4**

Note: Totals may not match sum of individual values because of rounding.

Table 12-A
Transmission Line Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Day	Daily Number		
					Month 1	Month 2	Month 3
					1	2	3
Construction Equipment							
Cable Puller	N/A	385	Diesel	5	0	0	1
Forklift, Cat	3054E	120	Diesel	5	1	1	1
Pole Digger, International	4700	210	Diesel	5	1	2	0
Crane 90 Ton	N/A	275	Diesel	5	1	1	1
Manlift JLG 1350SJP	1350SJP	87	Diesel	5	1	1	2
Motor Vehicles							
On-site Vehicles							
On-Site Water Truck	N/A	N/A	Diesel	8	1	1	1
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	8	3	3	3
On-Site Low Boy Trucks	N/A	N/A	Diesel	8	5	9	0
Off-Site Vehicles							
Off-Site Water Trucks	N/A	N/A	Diesel	5	1	1	1
Off-Site Pickup Trucks	F-250	N/A	Gasoline	10	3	3	3
Off-Site Low Boy Trucks	N/A	N/A	Diesel	100	5	9	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	60	15	20	15

Table 12-B
Transmission Line Construction Monthly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Daily Operating Hours or Miles[a]		
				Month 1	Month 2	Month 3
Construction Equipment						
Cable Puller	N/A	385	Diesel	0	0	5
Forklift, Cat	3054E	120	Diesel	5	5	5
Pole Digger, International	4700	210	Diesel	5	10	0
Crane 90 Ton	N/A	275	Diesel	5	5	5
Manlift JLG 1350SJP	1350SJP	87	Diesel	5	5	10
Motor Vehicles						
On-site Vehicles						
On-Site Water Truck	N/A	N/A	Diesel	8	8	8
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	24	24	24
On-Site Low Boy Trucks	N/A	N/A	Diesel	40	72	0
Off-Site Vehicles						
Off-Site Water Trucks	N/A	N/A	Diesel	5	5	5
Off-Site Pickup Trucks	F-250	N/A	Gasoline	30	30	30
Off-Site Low Boy Trucks	N/A	N/A	Diesel	500	900	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	900	1,200	900

Table 12-C
Transmission Line Construction Daily Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.6529	0.0	0.0	3.3
Forklift, Cat	0.2288	1.1	1.1	1.1
Pole Digger, International	0.3475	1.7	3.5	0.0
Crane 90 Ton	0.7164	3.6	3.6	3.6
Manlift JLG 1350SJP	0.2540	1.3	1.3	2.5
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0121	0.1	0.1	0.1
On-Site 3/4 Ton Pick-Up, Ford	0.0117	0.3	0.3	0.3
On-Site Low Boy Trucks	0.0121	0.5	0.9	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0121	0.1	0.1	0.1
Off-Site Pickup Trucks	0.0172	0.5	0.5	0.5
Off-Site Low Boy Trucks	0.0121	6.1	10.9	0.0
Off-Site Construction Worker Commute	0.0172	15.5	20.7	15.5
Construction Equipment Total		**7.7**	**9.5**	**10.5**
On-Site Motor Vehicle Total		**0.9**	**1.3**	**0.4**
Off-Site Motor Vehicle Total		**22.1**	**32.2**	**16.1**

Note: Totals may not match sum of individual values because of rounding.

Table 12-D
Transmission Line Construction Daily Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.1813	0.0	0.0	0.9
Forklift, Cat	0.0684	0.3	0.3	0.3
Pole Digger, International	0.0997	0.5	1.0	0.0
Crane 90 Ton	0.1912	1.0	1.0	1.0
Manlift JLG 1350SJP	0.0772	0.4	0.4	0.8
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0030	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0030	0.1	0.2	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0030	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0013	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0030	1.5	2.7	0.0
Off-Site Construction Worker Commute	0.0013	1.1	1.5	1.1
Construction Equipment Total		**5.0**	**7.2**	**4.2**
On-Site Motor Vehicle Total		**0.2**	**0.3**	**0.1**
Off-Site Motor Vehicle Total		**1.1**	**1.5**	**1.1**

Note: Totals may not match sum of individual values because of rounding.

Table 12-E

Transmission Line Construction Daily Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	2.1202	0.0	0.0	10.6
Forklift, Cat	0.3828	1.9	1.9	1.9
Pole Digger, International	1.3088	6.5	13.1	0.0
Crane 90 Ton	1.8761	9.4	9.4	9.4
Manlift JLG 1350SJP	0.4815	2.4	2.4	4.8
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0389	0.3	0.3	0.3
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0389	1.6	2.8	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0389	0.2	0.2	0.2
Off-Site Pickup Trucks	0.0017	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0389	19.4	35.0	0.0
Off-Site Construction Worker Commute	0.0017	1.5	2.0	1.5
Construction Equipment Total		**20.2**	**26.8**	**26.7**
On-Site Motor Vehicle Total		**1.9**	**3.2**	**0.4**
Off-Site Motor Vehicle Total		**21.2**	**37.3**	**1.8**

Note: Totals may not match sum of individual values because of rounding.

Table 12-F
Transmission Line Construction Daily Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.0025	0.0	0.0	0.0
Forklift, Cat	0.0004	0.0	0.0	0.0
Pole Digger, International	0.0021	0.0	0.0	0.0
Crane 90 Ton	0.0018	0.0	0.0	0.0
Manlift JLG 1350SJP	0.0004	0.0	0.0	0.0
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0000	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0000	0.0	0.0	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0000	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0000	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0
Construction Equipment Total		**0.0**	**0.0**	**0.0**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 12-G

Transmission Line Construction Daily Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.0721	0.0	0.0	0.4
Forklift, Cat	0.0385	0.2	0.2	0.2
Pole Digger, International	0.0395	0.2	0.4	0.0
Crane 90 Ton	0.0727	0.4	0.4	0.4
Manlift JLG 1350SJP	0.0386	0.2	0.2	0.4
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0015	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0015	0.1	0.1	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0015	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0015	0.8	1.4	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0
Construction Equipment Total		**0.9**	**1.1**	**1.3**
On-Site Motor Vehicle Total		**0.1**	**0.1**	**0.0**
Off-Site Motor Vehicle Total		**0.8**	**1.4**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 12-H
Transmission Line Construction Daily Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.0663	0.0	0.0	0.3
Forklift, Cat	0.0354	0.2	0.2	0.2
Pole Digger, International	0.0363	0.2	0.4	0.0
Crane 90 Ton	0.0669	0.3	0.3	0.3
Manlift JLG 1350SJP	0.0355	0.2	0.2	0.4
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0014	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0014	0.1	0.1	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0014	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0014	0.7	1.3	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0
Construction Equipment Total		**0.9**	**1.1**	**1.2**
On-Site Motor Vehicle Total		**0.1**	**0.1**	**0.0**
Off-Site Motor Vehicle Total		**0.7**	**1.3**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 12-I

Transmission Line Construction Daily Construction Equipment and Motor Vehicle Fugitive PM10 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
On-site Vehicles				
On-Site Water Truck	0.7385	5.9	5.9	5.9
On-Site 3/4 Ton Pick-Up, Ford	0.7384	17.7	17.7	17.7
On-Site Low Boy Trucks	0.7385	29.5	53.2	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0010	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0010	0.5	0.9	0.0
Off-Site Construction Worker Commute	0.0009	0.8	1.1	0.8
On-Site Motor Vehicle Total		**53.2**	**76.8**	**23.6**
Off-Site Motor Vehicle Total		**1.3**	**2.0**	**0.8**

Note: Totals may not match sum of individual values because of rounding.

Table 12-J
Transmission Line Construction Daily Construction Equipment and Motor Vehicle Fugitive PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
On-site Vehicles				
On-Site Water Truck	0.1566	1.3	1.3	1.3
On-Site 3/4 Ton Pick-Up, Ford	0.1566	3.8	3.8	3.8
On-Site Low Boy Trucks	0.1566	6.3	11.3	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0002	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0002	0.1	0.2	0.0
Off-Site Construction Worker Commute	0.0002	0.1	0.2	0.1
On-Site Motor Vehicle Total		**11.3**	**16.3**	**5.0**
Off-Site Motor Vehicle Total		**0.2**	**0.4**	**0.1**

Note: Totals may not match sum of individual values because of rounding.

Table 12-K
Transmission Line Construction Daily Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Day		
		Month 1	Month 2	Month 3
Excavation[a]	Cu. Yd.	3	6	0
Storage Pile Wind Erosion[b]	Acres-Days	0.0	0.0	0.0
Bulldozing,Scraping and Grading	Hours	0	0	0

[a] Based on 115 cu. ft./pole, 14 poles month 1, 29 poles month 2, divided by 22 working days/month

[b] Negligible surface area, based on small volume excavated

Table 12-L
Transmission Line Construction Daily Fugitive PM10 Emissions

Activity	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Excavation	9.94E-04	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 12-M
Transmission Line Construction Daily Fugitive PM2.5 Emissions

Activity	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Excavation	2.07E-04	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 13-A
Gas Line Construction Daily CO Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	58.7	200.8	168.1	184.9	48.9
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
On-Site Total	**58.7**	**200.8**	**168.1**	**184.9**	**48.9**
Off-Site Motor Vehicles	**195.7**	**346.5**	**243.0**	**304.9**	**84.9**
Daily Total	**254.4**	**547.3**	**411.1**	**489.9**	**133.7**
Maximum Daily Total (lb/day)	**547.3**				

Table 13-B
Gas Line Construction Daily VOC Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	15.8	57.4	49.2	53.5	14.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
On-Site Total	**15.8**	**57.4**	**49.2**	**53.5**	**14.1**
Off-Site Motor Vehicles	**16.0**	**28.5**	**19.4**	**23.9**	**6.7**
Daily Total	**31.8**	**85.9**	**68.6**	**77.4**	**20.8**
Maximum Daily Total (lb/day)	**85.9**				

Table 13-C
Gas Line Construction Daily NOx Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	131.0	459.9	394.9	425.4	110.9
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
On-Site Total	**131.0**	**459.9**	**394.9**	**425.4**	**110.9**
Off-Site Motor Vehicles	**41.4**	**69.8**	**37.9**	**43.9**	**14.5**
Daily Total	**172.4**	**529.7**	**432.8**	**469.3**	**125.4**
Maximum Daily Total (lb/day)	**529.7**				

Table 13-D
Gas Line Construction Daily SOx Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	0.1	0.4	0.4	0.4	0.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.1**	**0.4**	**0.4**	**0.4**	**0.1**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Daily Total	**0.1**	**0.5**	**0.4**	**0.4**	**0.1**
Maximum Daily Total (lb/day)	**0.5**				

Table 13-E
Gas Line Construction Daily PM10 Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	6.4	20.4	17.0	18.9	5.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
Fugitive	45.8	65.2	59.6	59.8	43.7
On-Site Total	**52.2**	**85.5**	**76.5**	**78.7**	**48.8**
Off-Site Motor Vehicle Exhaust a	**10.2**	**17.0**	**11.4**	**14.6**	**4.2**
Daily Total	**62.4**	**102.5**	**87.9**	**93.4**	**53.0**
Maximum Daily Total (lb/day)	**102.5**				

Table 13-F
Gas Line Construction Daily PM2.5 Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	6.4	20.4	17.0	18.9	5.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
Fugitive	11.2	19.9	17.4	17.5	10.4
On-Site Total	**17.6**	**40.3**	**34.4**	**36.4**	**15.4**
Off-Site Motor Vehicle Exhaust a	**2.6**	**4.3**	**2.6**	**3.3**	**1.0**
Daily Total	**20.2**	**44.6**	**37.0**	**39.7**	**16.4**
Maximum Daily Total (lb/day)	**44.6**				

Table 14-A
Transmission Line Construction Daily CO Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	7.7	9.5	10.5
Motor Vehicles	0.9	1.3	0.4
On-Site Total	**8.6**	**10.7**	**10.9**
Off-Site Motor Vehicles	**22.1**	**32.2**	**16.1**
Daily Total	**30.7**	**42.9**	**27.0**
Maximum Daily Total (lb/day)	**42.9**		

Table 14-B
Transmission Line Construction Daily VOC Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	5.0	7.2	4.2
Motor Vehicles	0.2	0.0	0.0
On-Site Total	**5.2**	**7.2**	**4.2**
Off-Site Motor Vehicles	**1.1**	**1.5**	**1.1**
Daily Total	**6.3**	**8.7**	**5.3**
Maximum Daily Total (lb/day)	**8.7**		

Table 14-C
Transmission Line Construction Daily NOx Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	20.2	26.8	26.7
Motor Vehicles	1.9	3.2	0.4
On-Site Total	**22.2**	**29.9**	**27.1**
Off-Site Motor Vehicles	**21.2**	**37.3**	**1.8**
Daily Total	**43.4**	**67.2**	**28.8**
Maximum Daily Total (lb/day)	**67.2**		

Table 14-D
Transmission Line Construction Daily SOx Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0
On-Site Total	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**
Daily Total	**0.0**	**0.1**	**0.0**
Maximum Daily Total (lb/day)	**0.1**		

Table 14-E
Transmission Line Construction Daily PM10 Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	0.9	1.1	1.2
Motor Vehicles	0.1	0.1	0.0
Fugitive	53.2	76.8	23.6
On-Site Total	**54.1**	**78.0**	**24.8**
Off-Site Motor Vehicle Exhaust and Fugitive	**2.1**	**3.4**	**0.9**
Daily Total	**56.2**	**81.4**	**25.7**
Maximum Daily Total (lb/day)	**81.4**		

Table 14-F
Transmission Line Construction Daily PM2.5 Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	0.9	1.1	1.2
Motor Vehicles	0.1	0.1	0.0
Fugitive	11.3	16.3	5.0
On-Site Total	**12.2**	**17.5**	**6.2**
Off-Site Motor Vehicle Exhaust and Fugitive	**1.0**	**1.7**	**0.2**
Daily Total	**13.2**	**19.1**	**6.4**
Maximum Daily Total (lb/day)	**19.1**		

Data Request 13:

Please provide the results of the 2008 biological surveys for the entire project area and linear facilities.

Response:

As discussed in the AFC (5.3.2.4 Biological Surveys), the following surveys were conducted in 2008 (see Figure DR-13a):

- An 80-acre parcel and narrow strip along access road. These areas were added to the project after the 2007 spring surveys had been completed. While they were covered with multiple Zone of Influence (ZOI) transects in 2007, they received 100% survey coverage in 2008 for general biological resources, waters of the state, desert tortoise, burrowing owl, and special status plants, all per accepted agency protocols.

- The center line of the two transmission line options. While both transmission line corridors were covered in 2007 with multiple ZOI transects in 2007, transects on the centerlines received 100% coverage in 2008 for desert tortoise, burrowing owl, and special status plants all per accepted agency protocols.

- Gas pipeline corridor. This was added to the project description after the 2007 spring surveys had been completed and received 100% survey coverage in 2008 for general biological resources, waters of the state, desert tortoise, burrowing owl, and special status plants all per accepted agency protocols.

- Beacon Solar was asked to repeat the special status plant surveys of the Plant Site due to low rainfall in the winter of 2007.

Surveys were conducted as outlined in Tables DR-13a through DR-13c. The surveys were completed in early July. A detailed report of the 2008 survey results will be prepared and will be provided by August 31, 2008. A summary of the 2008 survey results are provided below. The results of the surveys are not materially different from the 2007 surveys and should not affect agency analysis of the Project's potential impacts.

Summary of Faunal Resources Observed (2008 Surveys)

Desert Tortoise

As shown in Figures DR-13b and DR-13c, a total of seven desert tortoises were observed during the 2008 survey season (all outside the plant site boundary). Four desert tortoises were observed near the transmission line corridor options, and two observations were

documented within the ZOI transects associated with the narrow strip north of the access road, and one along the ZOI at the southwest end of the natural gas pipeline corridor. Three burrows that were known to be desert tortoise burrows were recorded, and tortoise sign, including scat and carcasses, were observed within the 2008 desert tortoise survey area. These observations consisted of one burrow, one scat, and one carcass along the transmission line options; one burrow along the ZOI of the narrow strip north of the access road; and one burrow, three locations of scat, and one carcass along the survey corridor for the natural gas pipeline ZOI.

Burrowing Owl

Two burrowing owls were observed outside the plant site boundary during the 2008 surveys (Figures DR-13b and DR-13c). One of the burrowing owls was observed within the 1,000-foot buffer at the southwest end of the natural gas pipeline corridor, next to a burrow. The other burrowing owl was incidentally observed southeast of the Plant Site, off of an access road used by the survey team. Although one active burrowing owl burrow was documented within the 80-acre addition to the Plant Site, the majority of the other seven active and 13 inactive/potential burrowing owl burrows documented during the 2008 surveys were located within the 1,000-foot CEC buffer associated with the natural gas pipeline corridor. However, owls were not observed at any of these other burrows during the 2008 focused surveys.

Other Sensitive Species

Loggerhead shrike and Le Conte's thrasher were observed along the natural gas pipeline corridor route, and the locations of these observations are shown in Figures DR-13b and DR-13c. No other sensitive animal species were observed during the 2008 surveys.

Summary of Floral Resources Observed (2008 Surveys)

Due to favorable levels of winter precipitation, annuals in the western Mojave Desert region were abundant. In fact, during the 2008 surveys, the number of plants detected in the survey area almost tripled compared to 2007 surveys. The majority of plants accounting for this increase were native annual species.

Table DR-13a. Desert Tortoise Focused Surveys, 2008

Date		Start	Temp	Wind (mph)	Wind Max (mph)	% Clouds	Pcp	Surveyors Present	Notes
3/25/2008	**Start**	7:37 am	60	8.8	10.9			P. Wood, A. Currylow	Plant Site
	End	N/A						K. Hall	
3/26/2008	**Start**	N/A	57.8	8	11.9			A. Currylow	Plant Site
	End	N/A						K. Hall	
3/27/2008	**Start**	10:00 am	60.8	1.5				A. Currylow	Plant Site
	End	N/A						K. Hall	
3/28/2008	**Start**	N/A	44.5	1.9				A. Currylow	Plant Site
	End	N/A						K. Hall	
5/6/2008	**Start**	6:54 am	60	5.4		0	0	S. Dayman	Transmission line
	End	4:30 pm	92	8		10	0	A. Currylow	ZOI transects
5/7/2008	**Start**	6:22 am	65.9	2.2		0	0	S. Dayman	Transmission line
	End	5:05 pm	83	8		0	0	A. Currylow	ZOI transects
5/8/2008	**Start**	6:20 am	54	0		0	0	S. Dayman	Transmission line
	End	5:30 pm	77.9	17.5		0	0	A. Currylow	ZOI transects
5/9/2008	**Start**	6:47 am	67.8	1.5		0	0	S. Dayman	Transmission line
	End	6:30 pm	76	15		0	0	A. Currylow	ZOI transects
5/10/2008	**Start**	6:30 am	54.6	2.2		hazy		K. Hall	Transmission line
	End	5:22 pm	89.4	7.8		clear		A. Currylow	ZOI transects
5/11/2008	**Start**	6:25 am	66.4	0		clear		K. Hall	Transmission line
	End	1:47 pm	88	12		clear		A. Currylow	ZOI transects

N/A: not available

Table DR-13b. Western Burrowing Owl Focused Surveys, 2008

Date		Start	Temp	Wind	Wind Max	% Clouds	Pcp	Surveyors Present
3/28/2008	**Start**	17:30	62.3	13.4	20	clear		A. Currylow
pm	**End**	20:15	56	16	20	clear		
3/29/2008	**Start**	6:00	54	21.1	28	clear		A. Currylow
am	**End**	12:00	72	3	8	clear		
3/29/2008	**Start**	16:00	65	7.9	10.2	25		A. Currylow
pm	**End**	20:00	59	9.6	11.1	15		
3/30/2008	**Start**	6:00	48	8	11.2	5		A. Currylow
am	**End**	10:00	58.5	2.8	N/A	80		
5/27/2008	**Start**	5:30	53.1	1.6	3.2	clear		K. Hall
am	**End**	10:00	69.7	1.8	3	clear		
5/28/2008	**Start**	5:30	54	1.2	1.8	clear		K.Hall
am	**End**	10:00	72	2.3	1.9	clear		
5/28/2008	**Start**	16:45	75.7	8.6	11.2	5		K.Hall
pm	**End**	20:45	63.5	7	10	10		
5/29/2008	**Start**	5:30	54.1	1.3	2	clear		K.Hall
am	**End**	10:00	70.6	2.1	3.3	clear		
5/30/2008	**Start**	5:30	56	6.8	8	clear		K.Hall
am	**End**	10:00	62	7.2	8.6	clear		
5/30/2008	**Start**	17:00	81.3	18.6	20	5		K.Hall
pm	**End**	21:00	78.4	18	21.6	15		
5/31/2008	**Start**	16:30	77.4	22.1	24	15		K.Hall
pm	**End**	20:30	71.3	17.6	22	30		
6/1/2008	**Start**	16:30	79	7.3	9	clear		K.Hall
pm	**End**	20:30	72	9.6	11.2	clear		
6/9/2008	**Start**	5:30	61.3	13.4	16	clear		K.Hall
am	**End**	10:00	72	16	19.1	clear		
6/9/2008	**Start**	16:30	75.7	8.6	12.3	10		K.Hall
pm	**End**	20:30	63.5	7	11.3	35		
6/10/2008	**Start**	5:30	54	21.1	22	clear		K.Hall
am	**End**	10:00	72	3	2.6	clear		
6/10/2008	**Start**	16:30	65	7.9	12.3	50		K.Hall
pm	**End**	20:30	59	9.6	12	15		
6/11/2008	**Start**	5:30	54.1	1.3	2	clear		K.Hall
am	**End**	10:00	70.6	2.1	2.4	clear		
6/11/2008	**Start**	16:30	56	6.8	9.6	50		K.Hall
pm	**End**	20:30	62	7.2	9	80		
6/12/2008	**Start**	5:30	57	21.1	22	clear		K.Hall
am	**End**	10:00	73.4	3	2.3	15		
6/12/2008	**Start**	16:30	82.3	18.6	20	clear		K.Hall
pm	**End**	20:30	78.6	18	20.1	clear		

Table DR-13c. Rare Plant Focused Surveys, 2008

Dates	Surveyors Present	Observations
3-24-08 thru 3-28-08	J.Corona-Bennett, R. Dwerlkotte, F. Sproul, L. Woolley, D. Powell	No rare plants observed
4-22-08 thru 4-25-08	J.Corona-Bennett, D. Powell	No rare plants observed
5-27-08 thru 5-30-08	J.Corona-Bennett, J. Pietsch, L. SpearsLebrun, R. Montijo, D. Powell	No rare plants observed
7-1-08 thru 7-03-08	J.Corona-Bennett, J. Pietsch	No rare plants observed

Three botanical and rare plant surveys were conducted in 2008, with a fourth survey for a specific plant species. The first botanical and rare plant survey occurred the week of March 24, 2008. Extensive surveys took place within the Plant Site boundary and the corridors for the transmission line options. The 17.6-mile natural gas pipeline route with a 1,000-foot CEC corridor buffer was surveyed for abundance of annuals, variation in vegetation communities as compared to the Plant Site, and potential for rare plants. No vegetation mapping was performed during the first survey as most efforts were focused on locating and identifying any rare plants. The end of March was determined to be the peak blooming period for annuals. During this first survey, no rare plants were detected within the Plant Site boundary, in the 1-mile buffer area, along the optional transmission line routes, or along the 17.6-mile natural gas pipeline construction corridor.

The second botanical and rare plant survey occurred the week of April 22, 2008. The presence of annuals within the survey area was still high. Surveys of the Plant Site boundary, transmission line option corridors, and the entire 17.6-mile natural gas pipeline route were performed to detect and identify rare plants and perform some vegetation community mapping. EDAW, Inc. surveyed out to 1,000 feet on either side of Neuralia Road and California City Boulevard as required by CEC botanical survey guidelines for linear projects. Some areas along the 17.6-mile natural gas pipeline route were not surveyed (e.g., the Arciero Ranch Properties) because access was denied at that time.

The end of April was determined to be the end of the peak blooming period for most annuals, except for target rare plant species: Red Rock tarplant (*Deinandra arida*) and Mojave tarplant (*Deinandra mojavensis*), which flower April through November and July through October, respectively. During this second survey in 2008, no rare plants were detected in the Plant Site boundary area, transmission line option corridors, or 17.6-mile natural gas pipeline construction corridor/buffer zone.

The third botanical and rare plant survey occurred the week of May 27, 2008. The presence of annuals was significantly less than the second survey session. Surveys of the Plant Site boundary, transmission line option corridors, and the entire 17.6-mile pipeline were performed to detect and identify rare plants and perform vegetation community mapping. EDAW surveyed out to 1,000 feet on either side of Neuralia Road and California City Boulevard as required by CEC botanical survey guidelines for linear projects. All areas along the 17.6-mile natural gas pipeline route were surveyed, including the Arciero Ranch properties (access had been granted by that time). Even though surveys of Arciero properties did occur late in respect to the peak blooming period, EDAW still considers the survey complete because most of the areas within and around the Arciero properties do not have desert washes traversing through them and were noticed to have fewer annuals than most other areas along the 17.6-mile natural gas pipeline route. During the third survey, no rare plants were detected in the Plant Site boundary, transmission line option corridors, or 17.6-mile natural gas pipeline construction corridor/buffer zone.

An additional survey of these areas for the Mojave tarplant, whose peak blooming season is from July through October, was conducted during the week of July 1, 2008. The Mojave tarplant was not documented during any of the surveys.

Data Request 14:

Please provide a more detailed and specific monitoring plan for the evaporation ponds, including:

a. a discussion of the frequency and nature of the monitoring;
b. the elements that will be monitored (e.g. sodium, selenium);
c. resident and migratory species that could be at risk;
d. remedial actions that could be taken if the ponds became a hazard for wildlife; and
e. the events that might trigger implementation of those remedial actions.

Response:

a. Frequency and nature of monitoring.

A detailed evaporation pond monitoring plan will be prepared for the BSEP and submitted for agency review and approval prior to construction. Key elements of that plan are presented below. A Raven Monitoring, Management and Control Plan that includes monitoring of the evaporation ponds for use by common ravens is addressed in response to Data Request 16.

b. Elements that will be monitored.

The primary constituents of the evaporation pond water that could have a potential adverse effect on wildlife are selenium and hyper-saline conditions. As noted in the AFC, selenium has been documented as having the potential to adversely affect avian species. Selenium concentrations in surface water discharged into the evaporation ponds has been calculated at 0.0028 ppm, which is approximately 40 times lower than the most sensitive ecological risk benchmark (0.11 ppm) that observable adverse effects have been documented for waterfowl, and ranging to more than 3,000 times lower than concentrations at which an adverse effect has been documented. Due to such high variability associated with selenium concentrations and observable adverse affects to waterfowl, a strict monitoring trigger based solely on water quality testing is inappropriate. However, quarterly water quality testing of selenium concentrations would be conducted in conjunction with qualitative behavioral and avian health monitoring.

Ecological risk assessment studies have not focused on the biological toxicity associated with exposure to sodium or total dissolved solids (TDS), although it has been suggested that healthy birds that ingest hyper-saline water are able to adequately expel the excess salt via their salt glands (Woebser and Howard 1987, USGS 1999). The primary concern with increased avian hazards from exposure to hyper-saline conditions is associated with the formation and accumulation of salt crystals on the feathers of waterfowl, which impedes their ability to fly by weighing down the affected bird and potentially resulting in salt toxicosis (Woebser and Howard 1987, Gordus et al. 2002). Evidence suggests that salinity levels are not the determining factor in the potential for salt encrustation on waterfowl. Studies have shown that the formation of salt crystals on hyper-saline ponds requires water temperatures at or below 4 degrees Celsius (39 degrees Fahrenheit) (Woebser and Howard 1987, Gordus et al. 2002). It is not anticipated that water temperatures will consistently drop to this level of concern. Based on the biological monitoring associated with the evaporation ponds at the Harper Lake SEGS, salt toxicosis has been a rare occurrence (i.e., a single event was tied directly to high saline levels in the evaporation pond), and a recurrence has since been avoided by equalizing the water levels in all evaporation ponds that are active at any given time.

c. Resident and migratory species that could be at risk.

It is anticipated that birds are the taxon with the highest potential to be at risk if the evaporation ponds become a hazard to wildlife. It is anticipated that the tortoise-proof perimeter fencing associated with the Plant Site would restrict most terrestrial wildlife from entering the Plant Site (Figure DR-13b. Additionally, the evaporation ponds are located approximately 0.25-mile inside of the perimeter fence, thus minimizing any visual cues to terrestrial wildlife species that a source of water is present within the Plant Site boundary. A series of avian deterrence measures are being incorporated into the design and operation of

the evaporation ponds that would minimize access to the ponds by birds. The use of anti-perching devices, such as "Bird-B-Gone" and "WhirlyBird," around the perimeter of each pond would effectively exclude ravens and other birds from accessing the edge of the ponds to drink any of the water. Additionally, the operational design of the ponds is such that a minimum freeboard of 2 feet would be kept at all times, and the interior sides of the ponds would be at a 33 percent slope (3:1, horizontal:vertical). These design features would make it difficult for perching birds and/or shorebirds to access the water. Therefore, it is anticipated that only waterfowl, such as ducks and geese, would have consistent access to the water in the evaporation ponds, as they would be able to land on the water, since the ponds would remain uncovered, to maximize evaporation and avoid birds from getting trapped under netting or monofilament arrays.

d. Remedial actions that could be taken if the ponds become a hazard for wildlife and events that might trigger implementation of those remedial actions.

Avian monitoring would be conducted by the Project's Environmental Compliance Monitor (ECM) under the direction of the Project's Designated Biologist at least twice a month in coordination with the twice-monthly raven monitoring being conducted pursuant to the Project's Raven Monitoring, Management and Control Plan (see Data Response 16). The ECM would note any mortalities or physical infirmities (e.g., birth defects or reduced growth) associated with any bird observed on or adjacent to the evaporation ponds. Any dead bird that can be safely retrieved from the evaporation ponds would be collected by the ECM and sent to a qualified laboratory to determine if the mortality was directly related to selenium poisoning. The trigger for remedial action would be the documented mortality of birds from selenium poisoning, *and* water quality test showing selenium concentrations at or above the ecological risk assessment benchmark of 0.11 ppm, at which adverse effects on waterfowl have been documented. Should these two criteria be met simultaneously (i.e., a documented selenium-related mortality of birds within the Plant Site boundary, and a current evaporation pond water quality test [either before of after the documented mortality] showing selenium concentrations at or above 0.11 ppm), the evaporation ponds will be emptied of precipitate/sludge as necessary to bring concentrations back to below 0.11. The precipitate/sludge will be properly disposed of at a suitable landfill site.

As part of the water quality monitoring plan, each actively used evaporation pond will be outfitted with a thermometer, with the temperature data continuously recorded and stored in the onsite operations office. If the average overnight water temperature in the active evaporation ponds is at or below 4 degrees Celsius, the ECM will conduct a visual survey of the ponds immediately upon the following morning. If upon inspection of the active ponds, the ECM observes the formation of salt crystallization anywhere within the pond (i.e., at, above, or below the waterline), the ECM will implement one or more of the following remedial actions:

- Additional water will be pumped into the pond, in order to lower the average salinity within the pond. It is assumed that the presence of precipitate/sludge within the pond would result in higher saline concentrations than in either the raw groundwater or the cooling tower discharge, and that introduction of additional water will dilute the saline concentration.
- Initiate use of an air canon in order to haze waterfowl, and frighten them away from the evaporation ponds. The air canon would be stored onsite, but only used under this circumstance, since birds may become acclimated to the disturbance caused by air canon hazing, if used on a regular basis. The air canon would be used until the evaporation process was completed in the pond, or until the crystallized salts returned to solution.
- Deploy "Bird-B-Gone Balloon" (a visual scare device) or other hazing devices into the pond, to discourage waterfowl from landing on the pond.

At the conclusion of every operational year, the ECM will prepare a report for submittal to the CEC Compliance Project Manager (CPM), summarizing the results of the various tests and monitoring efforts, described as a part of the evaporation pond monitoring plan. The summary report will include copies of the water quality tests, a chronological listing of the overnight water temperatures for the active evaporation ponds, and any results of necropsies performed on birds salvaged from in or around the ponds.

References:

Gordus, A.G., H.L. Shivaprasad, and P.K. Swift. 2002. Salt Toxicosis in Ruddy Ducks that Winter on an Agricultural Evaporation Basin in California. Journal of Wildlife Diseases, 38(1), pp. 124-131.

United States Geological Survey (USGS). 1999. Field Manual of Wildlife Diseases: General Field Procedures and Diseases of Birds. Biological Resources Division, Information and Technology Report 1999-001.

Woebser, G. and J. Howard. 1987. Mortality of Waterfowl on a Hypersaline Wetland as a Result of Salt Encrustation. Journal of Wildlife Diseases, 23(1), pp. 127-134.

Data Request 15:

Please discuss how the evaporation ponds will be designed, built and operated to discourage wildlife use.

Response:

The design of the evaporation ponds will include features that would discourage use by wildlife that would be attracted to sources of surface water. Since the Plant Site boundary will be fenced along its perimeter with tortoise-proof materials, it is anticipated that the majority of terrestrial wildlife would be restricted from entering the Plant Site and hence the evaporation ponds. For avian species that would be able to fly over the perimeter fence, additional features would be implemented to minimize access to the evaporation ponds.

Each of the ponds would be designed with a side slope of 33 percent (3:1, horizontal:vertical), and to a depth of 7 feet with a maximum operational capacity of 12.9 million gallons (39.6 acre-feet) (when completely empty of precipitate/sludge) and a minimum operational capacity of 7.6 million gallons (23.3 acre-feet) (estimated as the capacity at the end of the 30 year life of the Project, without any removal of precipitate/sludge. Discharge into any pond would be limited such that a minimum freeboard depth of 2 feet from the top of the pond to the top of the high-water line of the pond would be maintained.

The ponds would remain uncovered, in order to maximize evaporation rates, thereby minimizing pond surface area. However, additional avian deterrents would be incorporated along the perimeter of the ponds, such as “Bird-B-Gone” spikes and/or “WhirlyBird” anti-perching devices. These anti-perching devices would discourage bird species from accessing the water in the evaporation ponds. With three evaporation ponds available, each pond can be prepared with a different configuration of deterrents (i.e., the first pond with only “Bird-B-Gone,” the second with only “WhirlyBird,” and the third pond with a combination of the two deterrents), with the Project’s ECM responsible for making qualitative and/or quantitative observations on the relative success of deterrence at each pond, and adapting the configuration of the anti-perching devices to maximize deterrence.

Data Request 16:

Please provide a detailed raven monitoring and control plan that includes at least the following elements:

a. a discussion of how the monitoring and control plan will be coordinated with CDFG and USFWS;
b. area to be covered by the plan;
c. use of perch-deterrent devices and locations of installation, and other pre-construction measures that might reduce raven presence and nesting activities;
d. a monitoring plan, including a discussion of survey methods and frequency, for establishing baseline data on pre-project raven numbers and activities and assessing post-project changes from this baseline
e. remedial actions that could be taken (e.g., nest removal) if ravens are preying on

desert tortoise and other wildlife; and

f. triggers for those remedial actions.

Response:

The Draft Raven Monitoring, Management and Control Plan, Beacon Solar Energy Project, has been submitted under separate cover on July 16, 2008.

Data Request 17:

Please describe how the newly-created channel would eventually replicate the functions and wildlife values of a natural desert wash. This analysis should include a conceptual revegetation plan, a discussion of how the new channel could recreate natural soil characteristics (biological soil crust, permeability), microtopography (microcatchments for moisture, seeds), hydrology, and geomorphology.

Response:

The newly-created channel (rerouted wash) will eventually replicate the functions and wildlife values of a natural desert wash because the soils, morphology, hydrology, and resulting biota (soil organisms and plants) of the rerouted wash will interact in a similar manner as a natural desert wash. The existing desert wash segments within the proposed Plant Site boundary (16.0 acres of waters of the state) have been disturbed by past agricultural activities and hydrological modification (i.e., from a railroad trestle along the more westerly wash) and only 2.4 acres of the 16.0 acres is vegetated.

Based on the hydrologic design of the rerouted wash and measures that are proposed as part of the California Department of Fish and Game (CDFG) Streambed Alteration Agreement (SAA) mitigation plan (submitted under separate cover to CDFG and CEC on July 16, 2008), the rerouted wash will function in a similar manner as the existing Pine Tree Creek wash (which is the larger of the two wash segments within the Plant Site boundary). As described below, the rerouted wash will include essentially the same soils and hydrology characteristics as the existing Pine Tree Creek wash. In conjunction with the abiotic physical conditions that will be established in the rerouted wash, measures proposed within the SAA mitigation plan (i.e., micro-topographic grading, seeding, and control of invasive exotic plants) will promote colonization of biological soil crusts and native desert wash vegetation.

The soils occurring within the two washes are Cajon loamy sand and Rosamond clay loam (NRCS 2007). Cajon sandy loam is formed in sandy alluvium from dominantly granitic rocks and is very deep and somewhat excessively drained, with rapid permeability (NRCS 2007). Rosamond clay loam is formed from mixed alluvium and is deep and well drained, with

moderate to moderately slow permeability (NRCS 2007). The rerouted wash will be established within these same two native soil types, such that permeability and other soil characteristics will replicate the existing desert washes onsite.

In addition, since hydrology, geomorphology, and micro-topography (each discussed below) will be replicated in the rerouted wash (as they occur in the existing washes), it is expected that beneficial biological soil crust will develop over time in the rerouted wash. Biological soil crusts are formed by living organisms (specialized community of cyanobacteria, mosses, and lichens) and their by-products which create a crust of soil particles bound together by organic materials. Because the crusts are concentrated in the top 1 to 4 mm of soil, they primarily affect processes that occur at the land surface or soil-air interface. These beneficial processes include improving soil stability, atmospheric nitrogen-fixation, nutrient contributions to plants, soil-plant-water relations, infiltration, seeding germination, and plant growth (USGS Canyonlands Research Station www.soilcrust.org).

As presented in the Project's Drainage Study (Carlton Engineering 2007; 2008), included as Attachment L to the AFC and as an attachment to the Project's SAA application submitted on July 16, 2008 under separate cover, the rerouted wash has been designed and sized (assuming native vegetation in the wash as discussed below) to convey Capital Storm Discharge for a 100-year event (as much as 20,000 cubic feet per second) with a minimum of one foot of freeboard above water surface elevation. The calculated 24-hour storm peak flow for a 10-year and a 100-year storm are the same at pre-development and post-development.

As described in the SAA application, the delineated waters of the state in the existing Pine Tree Creek wash vary from approximately 40 to 70 feet wide, with a 60-foot wide average. The minimum 345-foot wide wash bottom-floodplain (between toe-of-slopes of wash banks) in the rerouted wash will provide extensive lateral area for ephemeral flows to meander and develop multiple small channels in a natural braided pattern. The unconfined flows in the rerouted wash between the gentle outer banks (3:1 to 5:1 gradient) will result in positive hydrologic functions including subsurface recharge, transport of organic material and nutrients, nutrient cycling, creation of micro-topographic complexity (morphology processes), and support of hydrophytic vegetation.

The proposed SAA mitigation, including the creation of appropriate physical conditions, promotion of natural processes and establishment of native revegetation in the rerouted wash, was reviewed with Julie Means of CDFG during a SAA pre-application meeting onsite on June 12, 2008. The proposed mitigation approach, supported by CDFG, includes a 1:1 replacement ratio for unvegetated waters of the state (13.6 acres of replacement acreage) and a 2:1 replacement ratio for vegetated waters of the state (4.8 acres of replacement acreage) for a total mitigation area of 18.4 acres established in the rerouted wash.

As water flows in the existing wash segments within the Plant Site boundary, scouring and sediment movement (including deposition) leads to the development of multiple small channels (anastomosing) and interfluves where scattered scale-broom (*Lepidospartum squamatum*) and other species occurs. The design of the mitigation area in the rerouted channel will include contour grading to mimic the existing wash landform by initially establishing a meandering low flow and subtle depressions and hummocks (+/- 1.5 feet) with a balanced cut and fill approach. The proposed wash bottom contouring is intended to establish and promote continued micro-topographic complexity when the rerouted wash experiences future storm events. Lichvar et al. (2006) have described "ordinary" events that define bed and bank limits in Arid West channel as typically corresponding to the 5- and 8-year event, as opposed to the 1- and 2-year event in temperate climates (USACE 2007). The contour grading is intended to create a range of physical conditions that will promote natural processes and functions in the mitigation area.

It is understood and considered desirable that storm events occurring after the contour grading in the mitigation area will result in shifts in the low flow and secondary drainage paths (braided pattern) over time. The positive effects of storm events (including creating interfluves and micro-habitats with seasonal pockets of moisture retention) are expected to create conditions that will promote scattered natural plant recruitment over time. To supplement naturally occurring seed in the rerouted wash, the mitigation plan includes conducting hand-seeding with an alluvial fan scrub seed mix during the rainy season (between November and February) in scattered locations favorable for germination. The mitigation area will not receive temporary irrigation, such that germination and establishment of native species will be dependent on rainfall and natural successional processes. The mitigation plan includes maintenance and monitoring to verify 4.8 acres of native desert wash habitat establishes within the rerouted wash (i.e., 26 percent cover within 18.4 acres). Establishment of native species in the mitigation is accounted for in the flood capacity calculations for the rerouted wash (a Manning's n value of 0.035 was assumed for the design) (Carlton Engineering 2007). The mitigation plan also includes eradication of any problematic nonnative species (defined as "moderate" or "high" threats to California wildlands by Cal-IPC (2006)).

In regard to wildlife, the slopes of the banks of the rerouted wash range from 3:1 to 5:1 (approximately 11 to 17 degrees) and have been designed to accommodate desert tortoise movement, which requires slopes less than 2:1 (less than approximately 26 to 30 degrees) (Alice Karl 2008). Security and desert tortoise-proof fencing will be installed between the rerouted wash and the power plant facilities (Figure DR-13b) to prevent desert tortoise (and other wildlife) from entering the Plant Site Overall, the native desert wash habitat will provide beneficial functions and values for wildlife including providing food, water, refuge and shelter, and nesting and breeding habitat. Wildlife species that use the existing desert wash habitat and/or surrounding habitat that will likely use the habitat created in the rerouted wash include, but are not limited to, desert tortoise, western burrowing owl, Le Conte's thrasher, and desert cottontail.

In summary, the newly-created channel (rerouted wash) will replicate the functions and wildlife values of a natural desert wash.

References:

Please see SAA application submitted under separate cover on July 16, 2008.

Data Request 18:

> Please provide information on the location and characteristics of lands proposed for compensatory mitigation, the associated enhancement and endowment costs, and the long-term monitoring plan for these compensation lands. The discussion of offsite compensation habitat should reflect close coordination with the CDFG and USFWS.

Response:

Location and characteristics of lands proposed for compensatory mitigation.

While the BSEP team has begun identifying the location and characteristics of lands that could be used for compensatory mitigation, the acquisition of compensation lands is dependent upon all parties agreeing upon the number of acres that need to be acquired, since that can affect availability and cost. Nevertheless, the Project has initially identified the region to the east of the Project area as a potential focus for acquisition of lands proposed for compensatory mitigation, in the general vicinity west of the Desert Tortoise Natural Area (DTNA). This particular region was selected as the target for potential acquisition due to several factors, including the potential for lands to support the same suite of high-profile special status species (e.g., desert tortoise, Mohave ground squirrel, and western burrowing owl), that are present on or adjacent to the BSEP. Based on preliminary discussions with Jun Lee of the Desert Tortoise Preserve Committee (DTPC), potential compensation lands that are suitable for all three species are located on the west side of the DTNA. To the extent that land cannot be acquired in this particular area due to availability or cost, other areas as similar as possible to the area surrounding the DTNA will be pursued.

The ultimate goal is to acquire compensatory lands that would offset the loss of the biological values associated with construction and operation of the BSEP that cannot be completely addressed onsite. As potential compensatory lands are identified, the BSEP team would coordinate closely with the CEC, CDFG and USFWS to obtain consensus that the targeted lands are suitable. As part of the process leading up to the acquisition of compensation lands, a Property Analysis Record (PAR), or a PAR-like analysis, will be conducted. The PAR models the anticipated costs associated with the acquisition of land, as well as management

expenses, while accounting for escalation in costs associated with inflation. The PAR would analyze the characteristics of a target property, and the associated costs required to manage the site (e.g., fencing, habitat enhancement, monitoring, etc.). The end result of the PAR model would be an accurate estimate of the long-term endowment costs that would be required to fully implement all compensation measures. The funding associated with the PAR is addressed in the response to Data Request 25.

The BSEP team has begun a focused effort to identify suitable compensation lands for acquisition, and has prepared an approach to identify the amount of compensation acreage required to adequately offset the effects of the Project on the desert tortoise and Mohave ground squirrel. It is anticipated that the compensation lands identified for desert tortoise and Mohave ground squirrel also would be suitable to compensate for impacts to the western burrowing owl. Table DR-13d, below, is an update of Table 5.3-10 from the AFC that shows compensation acres for the area within the plant site boundary and the area west of the plant site boundary where the transmission line would be constructed. This table shows that when these two areas are added together, habitat acquisition to compensate for impacts to the Mohave ground squirrel, desert tortoise, and western burrowing owl for the entire project would require the acquisition of 52.9 acres (under Transmission Option 1), and up to 54.5 acres (under Transmission Option 2). The habitat compensation for impacts to the western burrowing owl are included under either scenario, since the impacts to the two owls observed within the Plant Site boundary would require a maximum of 39.0 acres of compensation, based on the CBOC/CDFG mitigation formula. It should be noted that the mitigation for burrowing owls is based on the documented presence of two owls during the 2007 surveys (none were observed during the 2008 surveys), which represents a correction to the information presented in the AFC, where three burrowing owls were originally reported within the Plant Site boundary. The correct number of burrowing owls documented within the Plant Site is two, as shown on AFC Figure 5.3-8, Sheets 7 and 9.

The compensation approach is as follows:

Compensation for Potential Impacts within Plant Site Boundary

There are 369.2 acres of Fallow Agricultural-Disturbed Atriplex Scrub and 60.3 acres of Mojave Desert Wash Scrub within the Plant Site boundary, for a total of 429.5 acres of vegetated cover that is not deemed to be suitable habitat for MGS or the DT but has a low potential to be occupied by transient Mohave ground squirrels and desert tortoises. Given the poor quality of this vegetative cover for the species and the limited amount of suitable adjoining habitat from which animals might disperse, a generous estimate of the number of Mohave ground squirrels and desert tortoises that might be temporarily present within the Plant Site boundary during the life of the Project, primarily during the construction phase prior to installation of tortoise-proof exclusion fencing, would be two of each species. The habitat that could most likely attract these species is the approximately 80 acres of Mojave Creosote

Bush Scrub west of the Fallow Agricultural-Disturbed Atriplex Scrub (see AFC Figure 5.3-3, Sheet 6). Desert tortoise surveys and observations indicate a very low density of animals in this area. Mohave ground squirrel population studies suggest that 80 acres of medium quality habitat might support 3 to 4 individuals.

Table DR-13d. Beacon Solar Energy Project: Anticipated Mitigation for Potential Impacts to Special Status Wildlife Species.

Listed Species	Total Impact[1]	Total Mitigation Acreage
Within Plant Site Boundary		
Desert Tortoise	Up to 2 transients	42.9
Mohave Ground Squirrel	Up to 2 transients	42.9
Western Burrowing Owl	2 pairs	13.0 - 39.0[2]
Total Within Plant Site Boundary		*42.9*[3]
Transmission Line Corridor West of Plant Site Boundary (see AFC Section 5.3.3.1 for details)		
With Transmission Line Option 1		
Desert Tortoise	5.0 acres	5.0 (1:1 ratio)
Mohave Ground Squirrel	5.0 acres	10.0 (2:1 ratio)
Total West of Plant Site Boundary (with Transmission Line Option 1)		*10.0*
With Transmission Line Option 2		
Desert Tortoise	5.8 acres	5.8 (1:1 ratio)
Mohave Ground Squirrel	5.8 acres	11.6 (2:1 ratio)
Total West of Plant Site Boundary (with Transmission Line Option 2)		*11.6*
Grand Total Project (with Transmission Option 1)		**52.9**[3]
Grand Total Project (with Transmission Option 2)		**54.5**[3]

[1] The temporary impacts are considered permanent in this desert ecosystem.
[2] Per CBOC/CDFG guidelines.
[3] Acreage values assume compensation lands can be acquired that are simultaneously suitable for all three species.

Mohave Ground Squirrel. Long-term research in the Coso region during the current decade indicates that study sites of 25 hectares (62 acres) support about six adult Mohave ground squirrels on average. This suggests Mohave ground squirrel densities in good quality, protected habitat could approximate 10 adult animals per 100 acres. Habitat in the vicinity of the DTNA that is subject to Off-Highway Vehicle use and livestock grazing would support lower densities, perhaps six animals per 100 acres. If this land were purchased for conservation and managed by fencing to improve habitat quality, carrying capacity should increase by about 1/3 or by two animals per 100 acres. Additional conservation measures to enhance the habitat quality of compensation land could increase the carrying capacity by another two animals per 100 acres. Therefore, conserved lands in the vicinity of the DTNA would be expected to support approximately 10 animals per 100 acres (or two animals per 20 acres).

Thus, acquisition and improvement of 42.9 acres of habitat could compensate for the possible incidental take of two transient Mohave ground squirrels on 429.5 acres of degraded *Atriplex* scrub and desert wash scrub vegetation in the Plant Site boundary. With the use of protective fencing and habitat enhancement, the acquired compensation lands would be expected to support at least four additional animals. This provides support for an increased permanent reproductive population, in compensation for loss of marginal habitat that at best would provide temporary shelter.

Desert Tortoise. In terms of the desert tortoise, the most recent published data of population density estimates of the species within the DTNA are approximately 25 individuals per square kilometer in 1992 (or 25 desert tortoises per 247.11 acres, equivalent to approximately one desert tortoise per 10 acres) (Berry 1997). The purchase, protection, and enhancement of desert tortoise habitat in the vicinity of the DTNA would be anticipated to support the species at similar densities. Therefore, the acquisition of 42.9 acres of high-quality habitat suitable for the desert tortoise would be expected to provide habitat for a minimum of four animals, which would adequately compensate for the loss of highly degraded vegetative cover within the Plant Site boundary that would only provide transient use by a tortoise, primarily prior to installation of exclusionary fencing at the start of construction.

Although the development within the Plant Site boundary would result in the loss of disturbed and degraded lands that have a low potential for occasional use by transient Mohave ground squirrel and desert tortoise, the loss would be offset by the acquisition and conservation of high-quality habitat for these species that would provide for the long-term maintenance of a greater number of individuals of both species.

Compensation for Potential Impacts to the Area West of Plant Site Boundary

Per Section 5.3.4.1 of the AFC, BSEP impacts outside of the Plant Site boundary, associated with the transmission line facilities to the west of the Plant Site boundary, would require

Mohave ground squirrel and desert tortoise compensation through the acquisition of up to an additional 10 acres (under Transmission Option 1), and up to 11.6 acres (under Transmission Option 2) of habitat suitable for both species.

Enhancement and endowment costs.

Beacon Solar, LLC (Beacon) will pay permanent per-acre endowment fees, the amount of which will be determined by conducting a Property Analysis Record (PAR) or PAR-like analysis for the type of Compensation Lands likely to be purchased as mitigation. Beacon will also work with CEC, CDFG, and USFWS to determine an appropriate enhancement fee for fencing, surveys, and habitat restoration of the lands.

Based on the expected compensation acres presented above, Beacon has used the following estimates to calculate the amount of financial security that it would provide prior to initiation of project construction to ensure adequate funding for acquisition enhancement and endowment of compensation lands:

1. Land acquisition costs for compensation lands, calculated at $5,000/acre for 52.9 acres (54.5 acres if Option 2 is adopted): $264,500; or $272,500 (if Option 2 is adopted)

2. Costs of enhancing compensation lands, calculated at $250/acre for 52.9 acres (54.5 acres if Option 2 is adopted): $13,225; or $13,625 (if Option 2 is adopted)

3. Costs of establishing an endowment for long-term management of compensation lands, calculated at $1,350/acre for 52.9 acres (54.5 acres if Option 2 is adopted): $71,415 or $73,575 (if Option 2 is adopted)

The estimate for the per acre cost of land acquisition is based on preliminary discussions with June Lee of the DTPC. Enhancement and endowment estimates are based on costs associated with similar compensation acquisitions in the region.

Long term monitoring plan for compensatory mitigation lands.

Upon completion of compensatory lands acquisition, Beacon, or an acceptable 3rd party such as the Desert Tortoise Preserve Committee, will prepare a Mitigation Land Acquisition report that will discuss the habitat characteristics of the parcel(s) of land, and how they meet the requirements of the desert tortoise, Mohave ground squirrel, and western burrowing owl. The report would be submitted to the CEC, CDFG, and USFWS.

Annual monitoring reports will be prepared addressing the habitat enhancement and conservancy of the mitigation lands acquired to compensate for impacts to covered species.

The reports will be prepared by the entity or organization to which Beacon assigns the compensation lands. That entity will be responsible for conducting the habitat enhancement (which may include habitat restoration, construction and maintenance of protective fencing, etc.), habitat monitoring, and annual reporting. The report will address the level of success of the habitat enhancement, and any suggestions for devising or implementing adaptive management strategies to improve the long-term viability of the covered species associated with the acquired lands. The annual report will be submitted to Beacon, CEC, CDFG and USFWS at the end of each calendar year, for no less than five years.

Data Request 19:

Please provide a summary table that lists the temporary and permanent acreage impacts to each habitat for the entire project, including linear facilities. This table could be similar to Table 5.3-8, but should use the same habitats as depicted in Figure 7 of Appendix F.

Response:

Data Request 19 references Figure 7 of Appendix F in the AFC for habitat types that should be used in a revised permanent and temporary impact table summary. This request is problematic because Figure 7 addresses desert tortoise habitat suitability, based on a single site visit over a portion of one day. As such, the polygons that were drawn for Figure 7 were prepared using a much coarser mapping scale than what was used for the vegetation community mapping (Figure 6 of Appendix F), where focused vegetation mapping efforts were conducted in this area over a period of four complete survey days in 2007, and an additional confirmation survey spanning two days in 2008. The vegetation community mapping surveys utilized sub-meter GPS to define the boundaries of the vegetation polygons with a high degree of accuracy. To retroactively apply the coarsely defined desert tortoise habitat assessment polygon boundaries to the vegetation communities mapping effort, would increase the number of habitat/community categories in Table 5.3-8, but at the expense of losing the accuracy of the sub-meter GPS data. After conferring with Dr. Alice Karl, who conducted the desert tortoise habitat assessment and prepared Figure 7, she agreed that the vegetation mapping was more accurate than Figure 7, and that impact calculations should be based on the vegetation community map. Therefore, a revised impact summary table has been prepared, based on updated 2008 vegetation surveys, but without incorporating the habitat categories from Figure 7, in order to maintain a high degree of data accuracy. The revised summary impact table is presented as Table DR-19 below.

Table DR-19. Anticipated Permanent and Temporary Impacts to Plant Communities, Waters of the State and Developed Areas by the Proposed Beacon Solar Energy Project

	Vegetation Communities and Other Cover	Total Permanent Impact Acreage	Total Temporary Impact Acreage[2]	Total Impact Acreage
PLANT SITE	Mojave Desert Wash Scrub	60.3	0.0	60.3
	Developed (Existing Access Road)	2.7	0.0	2.7
	Fallow Agricultural-Ruderal	1,579.7	0.0	1,579.7
	Fallow Agricultural-Disturbed Atriplex Scrub	369.2	0.0	369.2
	Waters of the State[1]	16.0	0.0	16.0
	Subtotal Plant Site	*2,011.9[1]*	*0.0*	*2,011.9[1]*
LINEAR FACILITIES	***Transmission Line Options***			
	Mojave Creosote Bush Scrub			
	Option 1	4.1	0.9	5.0
	Option 2	4.9	0.9	5.8
	Fallow Agricultural-Ruderal	0.0	0.9	0.9
	Natural Gas Pipeline			
	Developed (road/road shoulder)	0.0	60.0	60.0
	Subtotal Linear Facilities (with Option 1)	*4.1*	*61.8*	*65.9*
	Subtotal Linear Facilities (with Option 2)	*4.9*	*61.8*	*66.7*
	Total Acres All Areas with Transmission Option 1	**2,016.0[1]**	**61.8**	**2,077.8[1]**
	Total Acres All Areas with Transmission Option 2	**2,016.8[1]**	**61.8**	**2,078.6[1]**

[1] Acreage of waters of the state not added to total as area is counted within other vegetation communities.

[2] For purposes of analysis, all temporary impacts are considered to be permanent impacts, due to the relatively slow rate of natural recovery of desert ecosystems, following temporary disturbances.

Data Request 20:

Please provide a more comprehensive and detailed burrowing owl avoidance and mitigation plan which reflects site-specific conditions at the project area, and which provides enough information to evaluate its potential for success. This plan should reflect close coordination with CDFG and USFWS.

Response:

As an initial matter, page 8 of the Data Request states that "the project area supports an unusually high population of burrowing owls." However, the current Plant Site footprint is approximately 2,012 acres in size, and only two burrowing owls were detected within the Plant Site boundary, in association with four active burrowing owl burrows. The two burrowing owls observed within the Plant Site boundary were documented during the 2007 surveys; no burrowing owls were observed within the Plant Site boundary during the 2008 surveys. It is likely that each of the owls observed in 2007 represent a pair of burrowing owls and that two pairs of owls occupy areas within the Plant Site boundary. It should also be noted that within the much larger buffer area that was surveyed surrounding the Plant Site and linears, only four owls were observed (assumed to be four pairs). Given the size of the Project site and the significantly larger size of the survey area where additional owls were observed, the owl population observed here is actually quite small. While this species is often scarce in California's southern deserts, when observed in good burrowing owl habitat, populations are often larger than seen here. It should also be noted that the burrowing owl population on this site is largely artificial since the site was previously disturbed by agricultural uses. For example, vegetation directly east of the Plant Site is very thick *Atriplex* scrub and is unsuitable for burrowing owl. The burrowing owl population here is likely not sustainable without continued human disturbance in the form of vegetation removal either through grazing or other modifications.

The Data Request also suggests that the burrowing owl population on the Project site and in the surrounding area is at or near carrying capacity for the species. As discussed above, the population of owls on-site is relatively small, and it is unlikely that this area provides optimal burrowing owl habitat either due to a small prey base, high predation pressure or other factors. If the Plant Site contained optimal habitat, it would be expected that the size of the population would likely contain significantly more pairs of burrowing owls within the Project area and in the adjacent habitat. Given the history of the Plant Site boundary (previously disturbed), current conditions (sparse vegetation) and likely future conditions (thicker shrub community unsuitable for burrowing owls) it is also likely that the habitat quality within the Plant Site boundary for burrowing owls will diminish over time. As stated previously, the Plant Site is only suitable burrowing owl habitat due to human disturbance and will not (without additional human intervention) provide habitat for this species.

The AFC describes burrowing owl mitigation and the removal of those burrowing owls that would be directly impacted by the Project. These owls would be passively relocated off site with the use of supplemental burrows at a 2:1 replacement ratio and mitigation in the amount of 6.5 acres per pair was suggested. Passive relocation of burrowing owls into artificial burrows has been shown to be effective, through implementation of methodologies devised in collaboration between EDAW, CDFG, and USFWS, where 21 artificial burrows were constructed, and all were used by up to 10 passively relocated owls (EDAW 2008). Two concerns stated in the Data Request were whether or not the limiting factor within the area is the amount of burrows present and if 6.5 acres of conserved habitat is enough to support a pair of burrowing owls in this habitat. It should be noted here that the passive relocation of owls within the Project area is to ensure that no direct take of burrowing owls occurs during construction of the Project. It should also be noted that the preservation of acreage for owls is not going to be directly adjacent to the Project area, but is anticipated to be associated with an acquisition area located east of the Project area and west of the DTNA. Habitat will be managed in the vicinity of the Plant Site for the preservation of the species and this management will include maintaining habitat on the earthen bank/berm of the rerouted wash so that it continues to be suitable for burrowing owl.

The mitigation measures included in the AFC comply with the California Burrowing Owl Consortium (CBOC) (1993) guidelines that are currently accepted by CDFG (1995) and that were recently adopted by the CEC for the Victorville 2 Hybrid Power Project (07-AFC-1). While the CBOC and CDFG guidelines state that preservation of habitat adjacent to a project site is preferable, burrowing owl habitat on the BSEP site has been artificially created through agricultural uses and likely will not support burrowing owls long-term. Therefore, off-site mitigation of higher quality habitat has been proposed.

References:

California Burrowing Owl Consortium (CBOC). 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April.

California Department of Fish and Game (CDFG). 1995. Staff Report on Burrowing Owl Mitigation. Memorandum dated October 17, 1995.

EDAW, Inc. 2008. Year 2 Monitoring Report for the State Route 125 South Vernal Pool and Quino Checkerspot Butterfly Habitat Restoration Site (November 2006-October 2007). Prepared for the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California Department of Fish and Game, and Regional Water Quality Control Board. February.

Data Request 21:

a. Please provide a revised cumulative impact analysis that specifically addresses the cumulative effects of the project on a regional population of burrowing owls. Please include information on the compensatory mitigation provided by the Pine Tree Wind Development Project and the LADWP Barren Ridge-Castaic Transmission Project.

b. Describe how the mitigation for these two projects reduces the incremental impacts of the projects on the regional burrowing owl population.

Response:

The Beacon Solar Energy Project site was previously an agricultural area and natural vegetation had been removed. Due to the removal of vegetation, this open area provided suitable habitat for the western burrowing owl. Since the size of the burrowing owl population on-site is so small (two owl pairs for a site over 2,000 acres is a very small population of burrowing owls), there are probably several factors limiting the size of the population. The lack of availability of prey and increased predation pressure from disturbance adapted coyotes are likely the factors limiting the size of this population. Two incidents of predation of burrowing owls were observed on site in 2007. Given the proximity of the project site to California City, it is likely that coyote populations are larger than would be expected in areas without human habitation. While the opening up of the habitat through artificial human disturbance of agriculture did create potential for burrowing owls to exist here, the lack of prey base and increased predation pressure has likely prevented this semi-colonial species from becoming as large as expected. Cumulative impacts to the burrowing owl would not occur through implementation of the project because a) this is an artificially created burrowing owl population that without continued disturbance would not persist here and b) the site is not ideal for a large population of burrowing owls due to a lack of a prey base and increased predation pressure from the disturbance adapted coyotes.

The Pine Tree Wind Development Project (Pine Tree) consists of a livestock grazed rangeland with Joshua Tree woodland and desert scrub. Mitigation for loss of migratory bird habitat, including habitat for burrowing owls, for the Pine Tree project include off site and on site habitat enhancement through restoration of perennial grasslands. Preconstruction breeding season bird surveys for the Pine Tree project were required to document any nesting or breeding birds within the construction footprint. If documented, project activities would be modified to avoid the sensitive area by a minimum of 250 feet. Since this project would still contain suitable burrowing owl habitat and because the land will be managed to continue to provide suitable habitat for this species the impacts of the project on the species will be suitably mitigated. The regional burrowing owl population will not be negatively impacted by this project due to the proposed mitigations.

The LADWP Barren Ridge-Castaic Transmission Project is currently in the planning and review stage. It is anticipated that the project would identify and mitigate cumulative impacts on the burrowing owl as part of resource agency review and have oversight of the project.

Data Request 22:

Please provide a thorough analysis of direct, indirect, and cumulative impacts of the project on loggerhead shrike, northern harrier, snowy plover, desert kit fox, and American badger.

Response:

Northern Harrier

A pair of northern harriers was detected in the one-mile CEC survey buffer to the northeast of the Plant Site boundary in May 2007. The documented presence of the species within one mile of the Plant Site boundary is expected since the species is known to regularly nest in the vicinity of Cantil. However, the lack of detection within the Plant Site boundary or along any of the linear components of the Project during the multiple site visits conducted as part of the 2007 and 2008 surveys, suggests that the Project area provides only low-quality foraging habitat for the species. Additionally, the lack of wetland habitats within the Project area indicates that nesting activity would not occur onsite, although the species might occur relatively infrequently to forage.

Northern harriers breed in open wetlands, including marshy meadows, wet lightly grazed pastures, old fields, freshwater and brackish marshes, and dry uplands including upland prairies, mesic grasslands, drained marshlands, croplands, cold desert shrub-steppe, and riparian woodland. The densest populations of northern harriers are typically associated with large tracts of undisturbed habitat dominated by thick vegetation growth (Macwhirter and Bildstein 1996). Harrier prey includes small and medium-sized mammals (primarily rodents), birds, reptiles, and frogs. Suboptimal, low-quality foraging habitat for this species occurs throughout the survey area.

Within Kern County, the northern harrier is present year-round, but the population fluctuates due to seasonal migration and rarely breeds within the county (Morlan 2008). However, annual breeding activity has been documented in the vicinity of the town of Cantil, approximately 4 miles northeast of the BSEP Project site (Morlan 2008). Nesting typically occurs in close proximity to marsh habitat or otherwise routinely saturated areas, including active alfalfa fields.

Impact Assessment

Northern harrier nesting and breeding habitat would not be impacted by the BSEP. There would be a direct, but minor, incremental loss of low-quality northern harrier foraging habitat through development of the Project footprint. The occurrence of the species within the Project area is expected to be low, due to the disturbed nature of the site, and general low habitat quality, as indicated by the lack of consistent observation of the species over multiple site visits.

The primary indirect effect of construction and operation of the BSEP on the northern harrier would be a potential increase in nest predation by common ravens, which have the potential to be attracted to the Project vicinity due to the presence of surface water within the evaporation ponds in the Plant Site boundary. However, the ponds would be designed to deter the presence of, and the use by, the common raven, and common ravens would be controlled through measures included in the Raven Monitoring, Management, and Control Plan, a draft of which is provided in response to Data Request 16.

Since the construction of the BSEP would result in the loss of very low-quality northern harrier foraging habitat, it is anticipated that the proposed habitat compensation that would be acquired for impacts to other special status species would more than adequately compensate for all impacts to the species, as those areas targeted for compensation acquisition would consist of relatively high-quality undisturbed habitat that would be contiguous or in close proximity to contiguous blocks of conserved desert habitats.

The BSEP would contribute to the cumulative, incremental loss of northern harrier foraging habitat within the region, although the loss would consist of low-quality habitat that would be expected to play a minor role in the local ecology of the species. The BSEP's impacts on the regional cumulative loss of low-quality foraging habitat would be adequately offset through the acquisition of compensation lands for the Project because the compensation lands would be protected, enhanced, and managed to support a natural ecosystem, including supporting a small mammal/rodent community (i.e., a prey base for the northern harrier).

Loggerhead Shrike

Suitable habitat for loggerhead shrike occurs throughout the scrub habitats within the Project survey area and loggerhead shrikes were observed frequently during biological surveys. The species is relatively common in Kern County, and is typically associated with open desert, Joshua Tree woodland, and parks. Kern County represents a positive anomaly to the regional trend of decreasing loggerhead shrike populations, as the species is stable to increasing in eastern Kern County (Morlan 2008).

Loggerhead shrikes inhabit edges between habitat types, grasslands, and other open habitats (Yosef 1996). Prey includes invertebrates and small vertebrates, including small mammals, birds, and reptiles. In the southern part of its range, including the survey area, loggerhead shrikes are resident and remain on permanent territories throughout the year. Outside of the breeding season, males and females defend neighboring territories which coalesce at the beginning of the nesting period.

Impact Assessment

Direct impacts to the loggerhead shrike would occur through the loss of nesting and foraging habitat within the Project area footprint. However, the loss of nesting and foraging habitat of the species would not be considered significant because it would not result in the local extirpation of the species, and it is not expected to cause an adverse change in the regional and local population status of the species.

The primary indirect effect of Project construction and operation on the loggerhead shrike would be a potential increase in offsite nest predation by common ravens, which have the potential to be attracted to the Project vicinity, due to the presence of surface water within the evaporation ponds in the Plant Site boundary. However, the ponds would be designed to deter the presence of, and the use by, the common raven, and common ravens would be controlled through measures included in the Raven Monitoring, Management, and Control Plan, a draft of which is provided in response to Data Request 16.

The BSEP would contribute to the cumulative, incremental loss of loggerhead shrike nesting and foraging habitat within the region, although the loss would play a minor role in the local ecology of the species, since suitable habitat occurs throughout the region. The BSEP's effects on the regional cumulative loss of nesting and foraging habitat would be adequately offset through the acquisition of compensation lands for the Project because compensation lands would be protected, enhanced, and managed to support a natural ecosystem, including supporting a small mammal/rodent community, and a reptile community (i.e., prey for the loggerhead shrike). Additionally, the BSEP would construct a permanent perimeter fence around the Plant Site boundary, which would provide a large increase in the amount of perching habitat that the loggerhead shrike could use for hunting its prey.

Snowy Plover

No snowy plovers were observed within or adjacent to the Plant Site boundary and linear components during the 2007 and 2008 surveys and site visits. Snowy plovers are year-round residents of Kern County, but the population increases during the breeding season, particularly at the primary breeding sites within the county, including Edwards Air Force Base and China Lake (Morlan 2008). Koehn Lake, approximately 5.5 miles east-northeast of the Project area, supports a smaller breeding population, which was first

documented with a single nest in 1978 (Page and Stenzel 1981). Inland populations of snowy plovers nest in extremely open, unvegetated areas, on alkali flats associated with dry lakebeds. Relatively easy access to water is important in nest site selection (Page and Stenzel 1981).

Impact Assessment

Since the Plant Site boundary area is not associated with nesting or foraging habitat of the snowy plover, Project construction would not directly impact the species. However, potential indirect effects associated with Project construction and operation would include a potential increase in nest predation by common ravens, which have the potential to be attracted to the Project vicinity, due to the presence of surface water within the evaporation ponds in the Plant Site boundary. However, the ponds would be designed to deter the presence of, and the use by, the common raven, and common ravens would be controlled through measures included in the Raven Monitoring, Management, and Control Plan, a draft of which is provided in response to Data Request 16.

Project implementation could increase the potential for exposure to environmental contaminants associated with the evaporation pond water. However, the ponds have been designed to minimize exposure pathways to bird species, including shorebirds such as the snowy plover. As such, potential impacts would not be considered significant.

Project construction would not result in the loss of any snowy plover habitat, and therefore, no habitat compensation would be required. Additionally, since no nesting or foraging habitat would be lost, the Project would not contribute to the cumulative habitat loss or degradation within the region.

Desert Kit Fox

Desert kit fox was not detected during Project surveys in 2007, but sign of the species (a potential daytime resting/escape den) was documented during the 2008 focused surveys within the Plant Site boundary coincident with the burrowing owl burrow documented and mapped in the 80-acre addition (Figure DR-13a). No burrowing owl was observed in association with the burrow. Two other potential kit fox daytime resting/escape dens were documented at the same location as potential burrowing owl burrows, within the 1,000-foot CEC buffer for the natural gas pipeline route (Figure DR-13b). The 2007 burrowing owl and desert tortoise surveys documented the location of all burrows with the potential to provide shelter for those species, which would have included burrows suitable for the kit fox, while methodically walking along 100 percent coverage survey transects. No large burrow complexes were noted, which indicates that no natal den complexes occurred within the focused survey area at the time of the 2007 and 2008 surveys. Based on the size and habitat conditions, it is assumed that the potential kit fox burrows documented during the 2008 surveys are daytime resting/escape dens, and the species does not use the Plant Site or the natural gas pipeline buffer for breeding or rearing of young. The

Plant Site and natural gas pipeline buffer are relatively low-quality kit fox habitat, and if currently present within these areas, the species would occur at very low numbers.

Desert kit fox habitat consists of grass shrublands, shrublands, and the margins of pinyon-juniper woodlands, preferring open areas with soft soils for excavating dens (Meaney et al. 2006). Kit foxes in California prefer to inhabit areas that are relatively flat, with some micro-topography, although they have been noted in areas adjacent to actively irrigated agricultural fields. Kit foxes are semi-fossorial, and rely on dens throughout all stages of its life-cycle. The species utilizes multiple dens throughout the year, for shelter from the heat, as well as protection from predators. Kit foxes can excavate their own dens, although they often enlarge the burrows of other species, including those of the American badger, western burrowing owl, California ground squirrel, and even kangaroo rats. Kit foxes use both natal dens (large complexes with multiple entrances and chambers), and daytime resting/escape dens (a single chamber with one or two entrances). A kit fox may use as many as two dens per acre, since dens are often excavated in clusters in good habitat (Meaney et al. 2006). Dens can be reused by resident kit foxes, especially natal dens. The diet of the kit fox consists primarily of small rodents, and lagomorphs. It does not need to drink water, as it typically meets its water intake requirements through consumption of prey items.

Impact Assessment

Although one potential kit fox daytime resting/escape den was documented within the Plant Site boundary during Project surveys, the population of the species within the Project area is expected to be low, due to the disturbed nature of the site, and the relatively low concentration of dens within the Project area. Direct impacts would occur to one potential kit fox daytime resting/escape den, although no natal dens would be impacted. Project construction would also result in direct impacts to foraging habitat, although the disturbed nature of the Plant Site boundary provides low-quality foraging habitat, as is evidenced by the low number of cover burrows, and the lack of natal dens, within the survey area.

Potential indirect impacts include a potential for increased mortality through vehicle strikes due to an increase in traffic in the Project vicinity. However, since the kit fox is primarily nocturnal, it is not expected that traffic increases associated with the Project would contribute to any significant increase in vehicle strikes. Although the Plant Site perimeter would be completely fenced and secured from access by the species, indirect effects to wildlife movement across the region would not be considered significant, since the Plant Site consists of low-quality wildlife movement corridor resources (e.g., relatively sparse protective vegetative cover, and disturbance from off-highway activity and unauthorized dumping of trash). Additionally, habitat surrounding the Plant Site, consisting of habitat quality at or above that associated with the Plant Site, provides connectivity around the site. Therefore, impacts to wildlife habitat connectivity are not anticipated.

Based on discussions with Annette Tenneboe of the CDFG, the kit fox is afforded protection under the California Code of Regulations as a fur-bearing mammal, and that avoidance of "take" would be required through passive relocation of any kit fox out of the Project's disturbance footprint. Preconstruction surveys for the species would occur, in order to document all currently active dens and burrows within the construction area. All active burrow entrances would be fitted with one-way doors to allow exit from the den or burrow. All empty or inactive burrows will be collapsed under the supervision of a qualified biologist.

Additionally, the Project would not contribute to cumulative impacts to the desert kit fox, since no natal dens have been identified within the Project's proposed disturbance footprint, and the implementation of preconstruction surveys and passive relocation of any kit foxes using active dens within the Project construction area would avoid the "take" of any kit fox.

American Badger

The American badger was not detected during Project surveys in 2007 or 2008,. This species is known from the region, although it would not be considered a common species (Karl 2007). Methodical 100-percent coverage survey transects were walked across the Project's proposed disturbance footprint as part of the protocol-level desert tortoise and burrowing owl surveys. During those surveys, the locations of all burrows with the potential to provide shelter for either of those two species were documented and mapped, which would have included any burrow suitable for the American badger. Of the burrows that were documented during the 2007 and 2008 surveys, none were specifically deemed appropriate for the American badger.

The badger is a resident of level, open areas in grasslands, agricultural areas, and open shrub habitats. In the southwest, badgers are typically associated with creosote bush scrub, sagebrush, and a variety of other habitats containing components of juniper, cottonwood, Gambel oak, and Ponderosa pine (Sullivan 1996). It digs large burrows in dry, friable soils and feeds mainly on fossorial mammals: ground squirrels, gophers, rats, mice, etc. Badgers are primarily active during the day, but may become more nocturnal in close proximity to humans. The home range of male badger has been measured to be 1,327 to 1,549 acres for males and 338 to 751 acres for females in Utah (Lindzey 1978) and 400 to 600 acres in Idaho (Messick and Hornocker 1981). Mating occurs in late summer or early fall and two to three young are born 183 to 265 days later in March or April (Long 1973). Badgers are known to live 11 to 15 years (Messick and Hornocker 1981).

Badgers are fossorial, and will use multiple dens/cover burrows within its home range. It typically uses a different den every day, although it can use a den for a few days at a time (Sullivan 1996). Cover burrows are an average of 30 feet in length, and are approximately three feet in depth. Natal dens are larger and more complex than cover dens. The diet of the American badger consists of small rodents. In undisturbed, high-quality habitat, badger dens

can average 0.64 dens per acre, but are much lower in highly disturbed areas, even if the disturbance has been reclaimed by grasses and shrub cover (Sullivan 1996).

Impact Assessment

Although the American badger is known from the region, methodical burrow surveys of the Project's disturbance footprint did not document the presence of any burrows specifically suitable for the American badger. Although the species is not expected to inhabit the Plant Site or any of the linear corridors, it has an extremely low potential to occasionally transit the site while foraging or travelling through its home range.

Since the species is known from the region, potential indirect impacts include a potential for increased mortality through vehicle strikes due to an increase in traffic in the Project vicinity. Sullivan has identified vehicle strikes as one of the largest contributors to mortality of the species. However, since the American badger is primarily nocturnal, it is not expected that traffic increases associated with the Project would contribute to any significant increase in vehicle strikes. Although the Plant Site boundary would be completely fenced and secured from access by the species, indirect effects to wildlife movement across the region would not be considered significant, since the Plant Site consists of low-quality wildlife movement corridor resources (e.g., relatively sparse protective vegetative cover, and disturbance from off-highway activity and unauthorized dumping of trash). Additionally, habitat surrounding the Plant Site, consisting of habitat quality at or above that associated with the Plant Site, provides connectivity around the site. Therefore, impacts to wildlife habitat connectivity are not anticipated.

No American badger dens have been identified during the focused 2007 and 2008 surveys of the Plant Site and linears. However, preconstruction surveys conducted for the kit fox and desert tortoise would occur, in order to document all currently active dens and burrows within the construction area. All active burrow entrances suitable for the American badger or kit fox would be fitted with one-way doors to allow exit from the den or burrow. All empty or inactive burrows will be collapsed under the supervision of a qualified biologist.

Additionally, the Project would not contribute to cumulative impacts to the American badger, since no natal or resting dens have been identified within the Project's proposed disturbance footprint, and the implementation of preconstruction surveys and passive relocation of any badgers using active dens within the Project construction area.

References:

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Lindzey, F.G. Movement patterns of badgers in northwestern Utah. J. Wildl. Manage. 42: 418-422.

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Yosef, Reuven. 1996. Loggerhead Shrike (*Lanius ludovicianus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Laboratory of Ornithology; Retrieved from The Birds of North American Online: http://bna.birds.cornell.edu/beta/species/231.

Data Request 23:

Please provide avoidance/minimization measures for desert kit fox and American badger.

Response:

If construction is expected to start during the first four months of the year, preconstruction surveys for the desert kit fox and the American badger would occur prior to mid-January, since kit foxes have been documented giving birth to their young between late January and March, while American badgers give birth to their litters from late March through early April. The preconstruction surveys will document all currently active dens and burrows within the construction area. All active burrow entrances would be fitted with one-way doors to allow exit from the den or burrow, and any kit fox would be allowed to passively relocate to another den outside of the Project's disturbance footprint, per guidance provided by Annette Tenneboe of the CDFG. All empty or inactive burrows will be collapsed under the supervision of a qualified biologist. Since both species only use a specific den or burrow for a maximum of a few days at a time, the passive relocation plan would be initiated no later than the January 15th prior to construction. If construction starts after April, preconstruction surveys would be conducted after the birthing season (i.e., after April), a maximum of one month prior to construction, with passive relocation conducted, as described above.

Additionally, the design of the BSEP includes the construction of a perimeter fence prior to the commencement of construction on the Plant Site boundary. The perimeter fence would contribute to the avoidance and minimization of potential impacts to both species, by excluding their access to the Plant Site boundary area during construction and operation of the facility.

Data Request 24:

Please describe the goals and general elements of a closure plan that would provide environmental protection for special status species and other biological resources.

Response:

Beacon will prepare a closure plan for the BSEP that includes a Biological Resources Element to ensure environmental protection for special status species and other biological resources in the Project area. The closure plan will include mitigation measures that specifically address the local biological resources related to facility closure.

The Biological Resources Element of the closure plan will include:

1. Removal of facility components (e.g., transmission conductors) when they are no longer used and useful;
2. Removal of all above ground and subsurface plant site facilities and related appurtenances;
3. Methods for promoting the natural reestablishment of wildlife habitat and the passive reestablishment of native plant and wildlife species;
4. Criteria that would trigger implementation of the closure plan (e.g., nonoperational for one year or greater); and,
5. A cost estimate to complete closure-related activities.

In addition, Beacon shall secure funding to ensure implementation of the plan and provide to the CPM written evidence of the dedicated funding mechanism(s) (e.g., performance bond or "sinking" fund to minimize risk). The source of the funding is to be determined, see response to Data Request 25.

At least 12 months prior to commencement of planned closure activities, Beacon shall address all biological resources-related issues associated with facility closure, and provide final measures, in a Biological Resources Element. The draft planned permanent or unplanned closure measures shall be submitted to the CPM for comment by staff, CDFG, and USFWS. After revision, final measures shall comprise the Biological Resources Element, which shall include the items listed above as well as written evidence of the dedicated funding mechanism(s) for these measures. The final Biological Resources Element shall become part of the facility closure plan, which is submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.

In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement an on-site contingency plan.

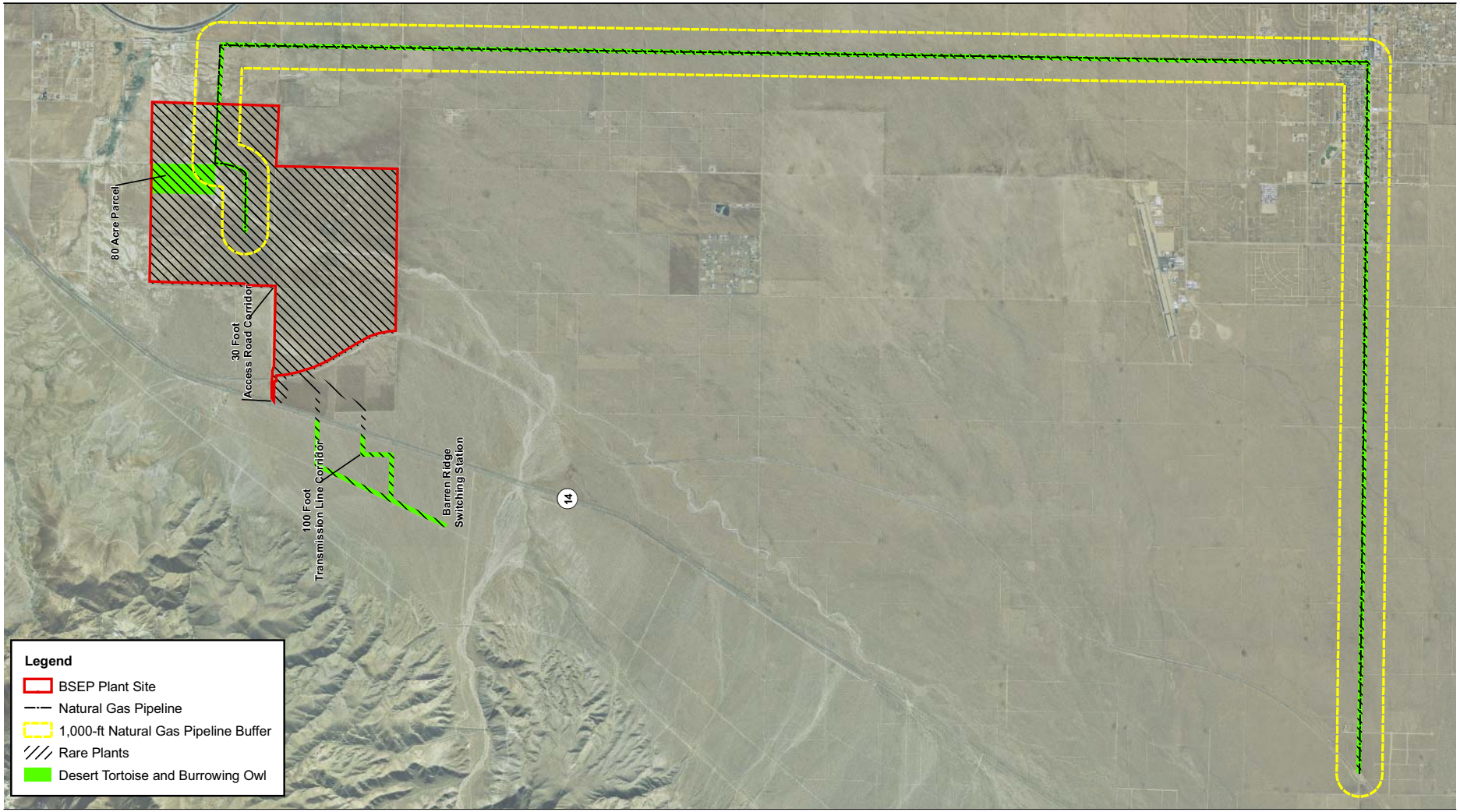
Upon facility closure, the project owner shall implement measures in the Biological Resources Element and provide written status updates on all closure activities to the CPM at a frequency determined by the CPM.

Data Request 25:

Please include a description of the funding and legal mechanisms needed to achieve the stated goals of the closure plan with respect to biological resources, both at the end of operations or in the event of unanticipated circumstances, such as a bankruptcy.

Response:

The Applicant has not yet selected a specific legal mechanism nor the form of funding to achieve stated goals of the closure plan with respect to biological resources, either at the end of operations or in the event of unanticipated circumstances. The specific legal mechanism selected would depend on the amount of bond required, market conditions at the time and will be based on site decommissioning methods, the timing of habitat restoration and other criteria. A variety of instruments - for example, surety bonds, corporate guaranty, Letters of Credit, etc. - are allowed for other energy operators and will be considered as options for this Project.



Source: NAIP 2005

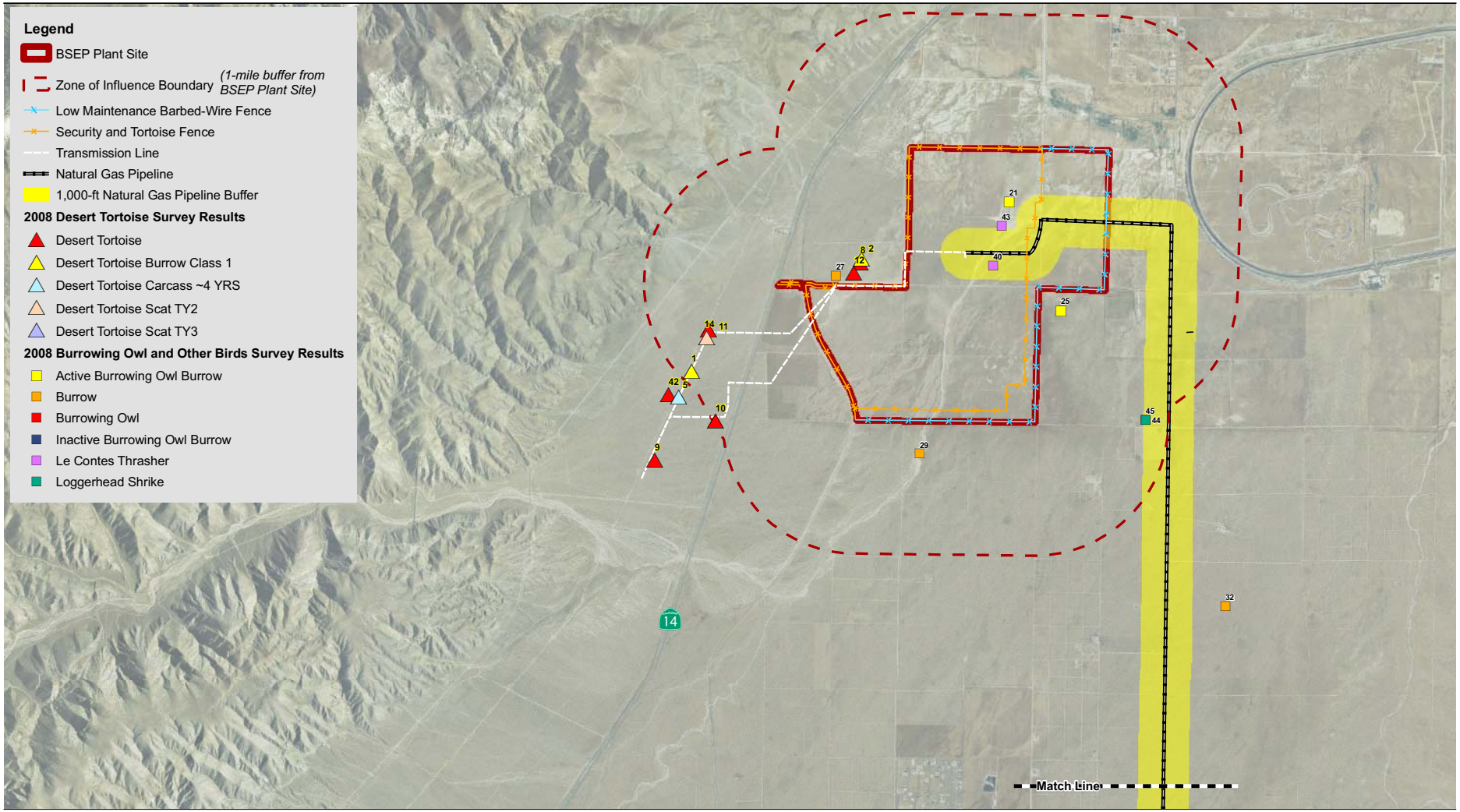
4,250 2,125 0 4,250 Feet

Scale: 1:51,000; 1 inch = 4,250 feet

Figure DR-13a
2008 Biological Survey Areas

Beacon Solar Energy Project

Path: P:\2008\08080001 FPLE Proj Beacon Solar\5GIS\MXD\misc\Future Survey Areas3.mxd, 07/15/08, LeeJ



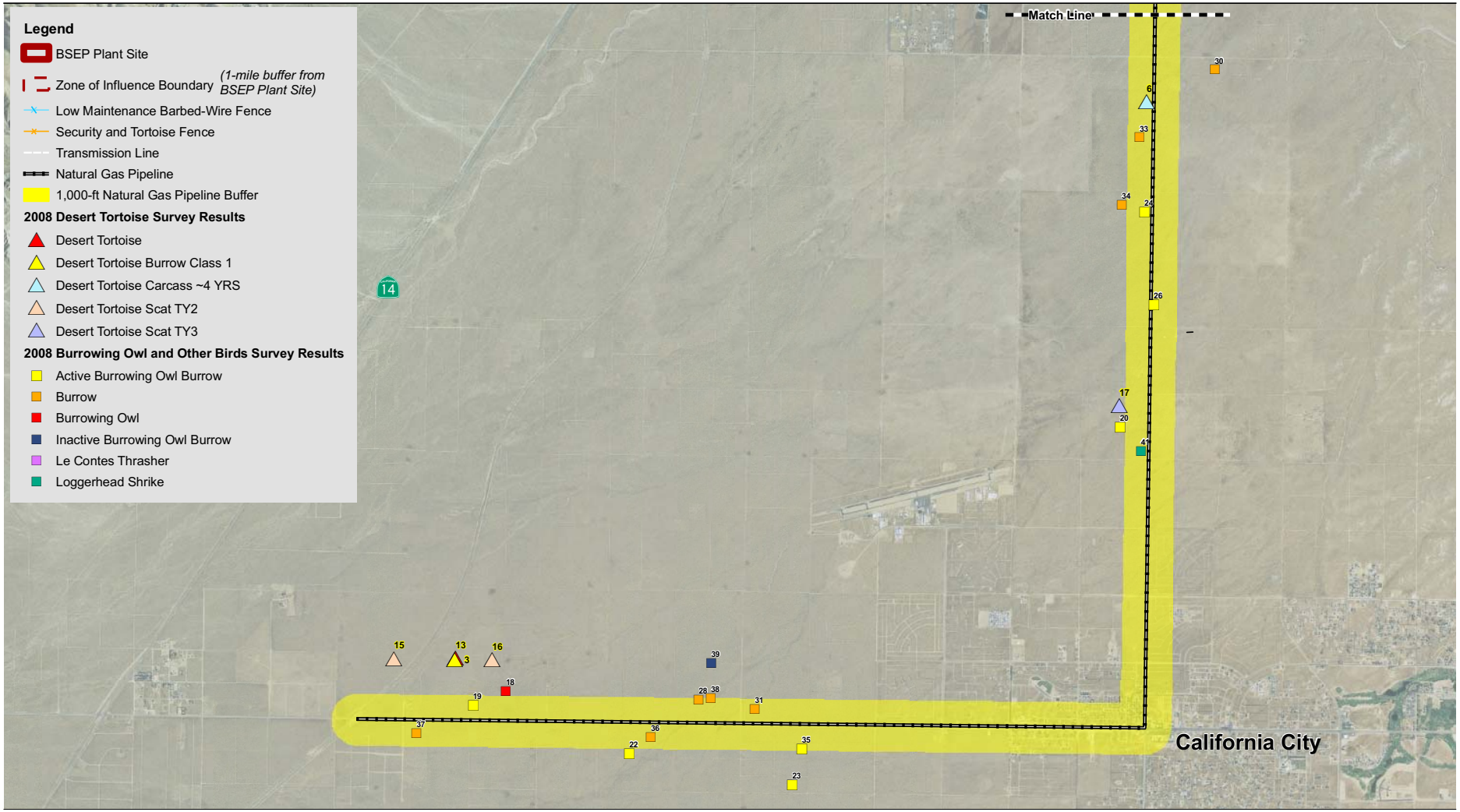
Source: NAIP 2005

3,500 1,750 0 3,500 Feet

Scale: 1:46,000; 1 inch = 3,833 feet

Figure DR-13b
Beacon Solar Energy Project
2008 Biological Survey Results

Path: P:\2008\08080001 Beacon Solar\5GIS\MXD\Field Maps\2008 Updated Wildlife Survey Results_rev.mxd, 07/15/08, LeeJ



Source: NAIP 2005

3,500 1,750 0 3,500 Feet

Scale: 1:46,000; 1 inch = 3,833 feet

Figure DR-13c
Beacon Solar Energy Project
2008 Biological Survey Results

Path: P:\2008\08080001 Beacon Solar\5GIS\MXD\Field Maps\2008 Updated Wildlife Survey Results_rev.mxd, 07/15/08, LeeJ

Data Request 26:

To allow staff to more fully consider Native American concerns, please provide copies of any correspondence or records of any telephone calls documenting responses from Native American contacts that have been received since March 2008.

Response:

Records of telephone calls documenting responses from Native American contacts since March 2008 are provided in Attachment DR-26. No correspondence has been received since March. Telephone messages have been left for several individuals. Conversations with John Valenzuela (San Fernando Band of Mission Indians) and Robert Wermuth indicated that they are interested in monitoring field work. At their request a map of the project area was emailed to each of them.

Data Request 27:

Please provide copies of any new correspondence as it is received.

Response:

Copies of letters and records of conversations with Native American representatives that occur after July 15, 2008 will be provided as they are received.

Data Request 28:

To allow staff to more fully consider the concerns of local historical and archaeological societies and museums, please provide copies of any correspondence or records of any telephone calls documenting responses from contacts that have been received since March 2008.

Response:

Copies of records of telephone calls documenting responses from local groups contacted since March 2008 are provided in Attachment DR-28. Telephone messages have been left for several individuals. Conversations with Liz Babcock at the Maturango Museum indicated that she had not seen the original contact letter and, at her request a second letter and response form was sent to her. She also provided a History of Ridgecrest that she had prepared. In a telephone call Barbara Pratt of the Boron 20 Mule Team Museum indicated that she had not received a letter concerning the project. A second letter was sent out to her attention.

Data Request 29:

To enable staff to compete its review of historic structures in the project area, please provide copies of the topographic maps that were examined, as well as any aerial photographs of the area that may be available.

Response:

Copies of the historic topographic maps that were examined for the project are provided in Attachment DR-29. These maps include: 1915 Searles Lake 1:125,000 Scale Topographic Map; 1915 (Reprinted 1938) Searles Lake 1:125000 Scale Topographic Map; 1951 Searles Lake 1:25000 Scale Topographic Map; 1915 Mojave 1:125000 Scale Topographic Map; 1915 (Reprinted 1933) Mojave 1:125000 Scale Topographic Map; 1923 Mojave 1:125000 Scale Topographic Map; 1947 Mojave 1:50000 Scale Army Service Map; 1956 Mohave 1:62500 Scale Topographic Maps; 1943 Cross Mountain 1:62500 Scale Topographic Map; 1947 Saltdale 1:50000 Army Service Map; 1956 Castle Butte 1:62500 Scale Topographic Map. Most of these maps came from the University of Alabama Historical Maps of California collection of topographic maps (http://alabamamaps.ua.edu/historicalmaps/us_states/california/index.html) where high resolution versions are available for viewing. A series of 1952 aerial photographs are also included in the attachment.

Data Request 30:

To enable staff to complete its review of the project's potential to affect California Register-eligible prehistoric site components, please provide the results of the excavation program agreed to on February 28, 2008 (February 28, 2008 Report of Conversation, TN 46670).

Response:

Please see the request for extension that was filed on July 7, 2008.

Data Request 31:

Please clarify why the evaluations of the prehistoric components at the remaining 7 sites considered "potentially eligible" for listing in the California Register (Table 6) do not appear to have been concluded.

Response:

A larger area than was ultimately encompassed by the project was surveyed. In particular, the area surveyed for the transmission line alternatives was much larger than the footprint of the alignments. The project will avoid impact to potentially eligible sites not slated for evaluation.

Data Request 32:

To enable staff to compete its review of the project's potential to affect California Register-eligible historic site components, please provide the results of the exaction program agreed upon February 28, 2008.

Response:

Please see the request for extension that was filed on July 7, 2008.

Data Request 33:

Please provide a table that enumerates the maximum depth that one would reasonably anticipate needing to construct each of the components of the generating facility enumerated in subsection 2.5.1 of the AFC.

Response:

Following is a list of typical main components of the General Arrangement with approximate foundation depth.

COMPONENT	FOUNDATION DEPTH
Steam Turbine	8' – 10'
Circulating Water Pipe	12' – 15'
Cooling Tower Basin	18' – 22'
Oil / Water Separator	2.5' – 3' (above ground)
Solar Field Pedestals	12' – 15'

Note: The above depths are from "Finish Grade" of the project. In the case of all items above, except the Solar Field Pedestals, the items are located in the power block. The power block is

in an area that will receive between 0' and 5' of fill. Therefore, the foundation depth below the original ground surface will be approximately from 0' to 5' less than indicated. The Solar Field Pedestals are located in areas of cut and fill. The greatest depth of cut is shown at 9.7 feet. Therefore, the foundation depth below the original ground surface will be between 22' and 25 feet.

Data Request 34:

Please provide a discussion of the historical geomorphology of the project site to better evidence a consideration of the potential there for buried archaeological deposits. The discussion should describe the development of the alluvial landforms and the lake bed deposits on which the project area is proposed with a focus on the character of local depositional regimes since the Late Pleistocene era. The basis for the discussion should be data on the geomorphology, sedimentology, pedology, and stratigraphy of the project area or the near vicinity. The source of these data may be a combination, as necessary, of extant literature or primary field research.

Response:

Please see the request for extension that was filed on July 7, 2008.

Data Request 35:

Please provide a discussion, on the basis of extant literature and Native American informants, of known traditional use areas such as rock art sites, shrines, or gathering places that are in sight of the project and that may be subject to the project's visual intrusion. If no such areas exist in sight of the project, please provide a discussion to that effect.

Response:

To date no traditional use areas within sight of the project are known. The Native American Heritage Commission file search did not identify any sacred sites in the vicinity of the project. Known potentially visually sensitive resources in the region include sites in the canyons of the southern Sierras. These include sites in Last Chance Canyon over 10 miles northeast of the project. In Jawbone Canyon, approximately 7 miles north, there are also a number of important sites, including at Dove Spring. These resources are west of the first line of foothills/ridges of the southern Sierra Nevada. These topographic features effectively block the view of the project area from these resources.

Attachment DR-26

Telephone Call Documentation

Native American Communication Log

Archeological Resources Report Figures

Beacon Solar Energy Project
Native American Communication Log

Tribe	Date	Representative	Discussion	Contacted by
Tule River Indian Tribe				
	7/1/08	Neil Peyron, Chairman	Left message offering to update Neil Peyron about the project and solicit interest in participating in testing.	EDAW to Neil Peyron
Kern Valley Indian Council				
	7/1/08	Robert Robinson, Historic Preservation Officer	Left message offering to update Robert Robinson about project and solicit interest in participating in testing.	EDAW to Robert Robinson
Kitanemuk and Yowlumne Tejon Indians				
	7/1/08	Delia Dominguez	Left message offering to update Delia Dominguez about project and solicit interest in participating in testing.	EDAW to Delia Dominguez
San Fernando Band of Mission Indians				
	7/1/08	John Valenzuela, Chairman	Spoke with John Valenzuela about the site area and updated him as to the number of sites found and the number of sites proposed to be tested. Valenzuela operates the 7-Feathers Corporation, which is a non-profit archaeological monitoring firm, and was very interested in providing monitors for testing. They do many jobs for California Edison and other agencies in the area. He provided his email and U.S. mail addresses and requested as much information as possible about the project/sites before starting any possible work. Valenzuela said that there are important traditional sites in the area, but needed a map to talk about them more specifically.	EDAW to John Valenzuela
	7/2/08		Sent follow-up email with map.	EDAW to John Valenzuela
	7/8/08		Left voicemail about interest in arranging for 7-Feathers Corporation to provide monitor.	EDAW to John Valenzuela
Tejon Indian Tribe				
Tubatulabals of Kern Valley				
	7/1/08	Donna Begay, Chairwoman	Left message offering to update Donna Begay about project and solicit interest in participating in testing.	EDAW to Donna Begay

Beacon Solar Energy Project
Native American Communication Log

Tribe	Date	Representative	Discussion	Contacted by
Independent Contacts				
	7/1/08	Robert Gomez	Not available. No message left.	EDAW to Neil Peyron
	7/1/08	Ron Wermuth	Spoke with Ron Wermuth about the site area and updated him as to the number of sites found and the number of sites proposed to be tested. Wermuth volunteered interest in being a monitor for testing, although travel may be inconvenient (he lives 60 miles away from the project site). Wermuth believes that rock art sites and other traditional use areas may be present, but would like to have a map sent to him via email to confirm.	EDAW to Ron Wermuth
	7/1/08		Sent email with map.	EDAW to Ron Wermuth

Dolan, Christy

From: Weidlich, Stephen
Sent: Wednesday, July 02, 2008 10:03 AM
To: tosend2@msn.com
Subject: Project Beacon
Attachments: Beacon Maps.pdf
YsiOriginalEntryID: 2008-7-2 9.27.10

John-
Just a followup on our chat yesterday: I've attached a .pdf of two maps related to the Beacon Solar Energy project just north of California city. The first one is a general location map, and the second one shows the project area.
Again, we're interested in seeing if the 7-Feathers Corporation would be free to assist in the field testing and we're also interested in documenting whether or not there are any traditional use areas within view of the solar project (so as to inform the visual impact analysis of the project).
Thanks again for the chat and we'll be in touch.
-Stev

Stephen "Stev" Weidlich
Ethnographer/Social Scientist

EDAW Inc
1420 Kettner Boulevard, Suite 500
San Diego, CA 92101
T 619.233.1454 F 619.233.0952
www.edaw.com

Dolan, Christy

From: Weidlich, Stephen
Sent: Tuesday, July 01, 2008 3:47 PM
To: warmoose@earthlink.net
Subject: Beacon Maps
Attachments: Beacon Maps.pdf
YsiOriginalEntryID: 2008-7-1 15.47.22

Ron-
Thanks for taking my call today. It was good speaking with you about the project and to touch bases with you about cultural resources in the area.
I've attached a .pdf of two maps associated with the Beacon Solar Energy project. The first one is the general location, while the second one shows the project boundary. If you have any feedback as to traditional use areas (e.g., rock art, spiritual areas, gathering areas) within view of the proposed Beacon solar energy project, please let me know. Of course, you can be as specific or as general in your description as you are comfortable with. Thanks for your help!
-Stev

Stephen "Stev" Weidlich
Ethnographer/Social Scientist

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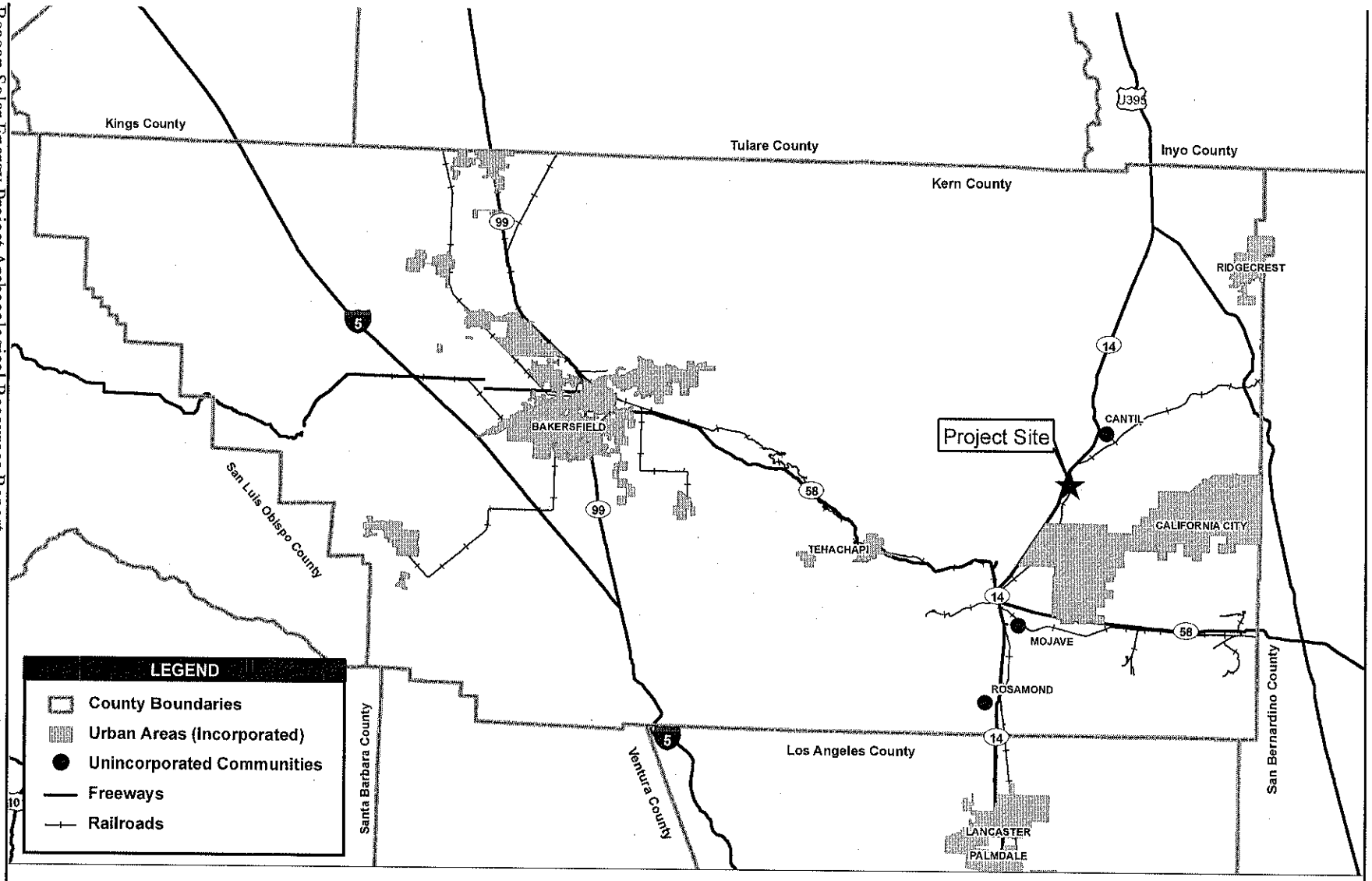
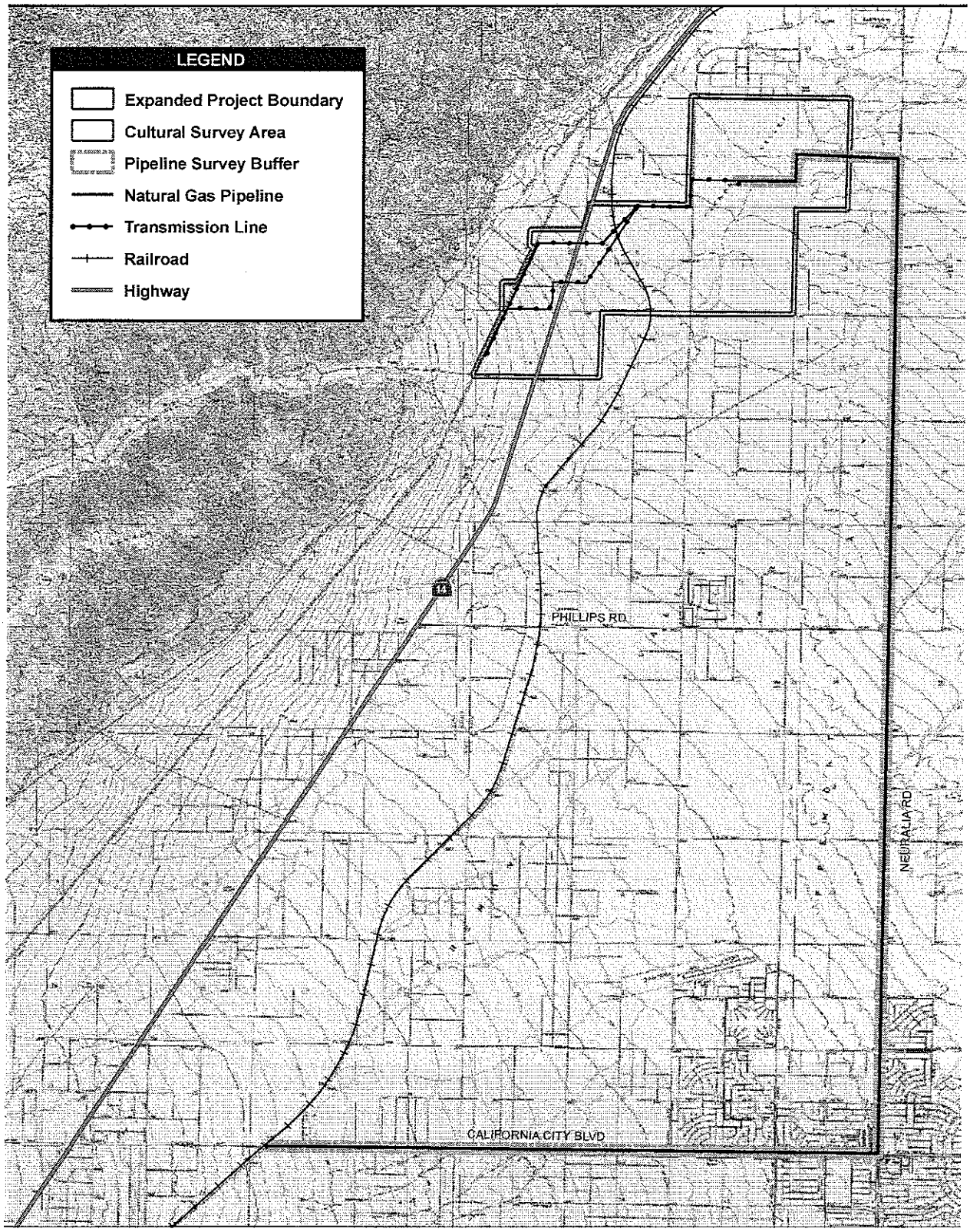
San Diego, CA 92101
T 619.233.1454 F 619.233.0952
www.edaw.com



Source: ESRI 2007; Kern County 2007

10 0 10 Miles

Figure 1
Regional Setting



Source: California City North (1973), California City South (1973); Cantil (1973), Cinco (1994), and Mojave NE (1994), Sanborn (1973) Calif., USGS 7.5' Series Quadrangles

7,500 3,750 0 7,500 Feet

Scale: 1:90,000; 1 inch = 7,500 feet

Figure 2
Survey Area

Path: P:\2008\08080001 FPLE Proj Beacon Solar\5GIS\MXD\Cultural\Figures\Archaeological Resources\Figure 2 Survey Area.mxd, 03/05/08, KochertE

Attachment DR-28

Contact Report Form Kern County Historical Society

Contact Report Form Historical Society of the Upper Mohave Desert

Contact Report Form Twenty Mule Team Museum

Boron Twenty Mule Museum Letter

Contact Report Form Kern Valley Museum

Contact Report Form Maturango Museum

Maturango Museum Letter

Maturango E-mail correspondance

Short History of the Indian Wells Valley E-mail

Ridgecrest History

EDAW | AECOM

1420 Kettner Boulevard, Suite 500
San Diego, California 92101
Phone 619.233.1454
Fax 619.233.0952

DISTRIBUTION:

Contact Report Form

EDAW Contact: Matt Tennyson
Date: 7/01/2008 2:35 pm **Project No.:** 0808001.01

CONTACT INFORMATION

Individual Contacted: Kern County Historical Society
Agency/Organization/ Address: P.O. Box 141
Bakersfield, CA 93302 **Phone No.:** 661.665.9864

ITEMS DISCUSSED

Matt Tennyson called the phone number found on the Kern County Historical Society's Website (http://www.kchistoricalsociety.org/stories/storyReader$16). Left a message for Lori Wear, Vice President of the Society.

Matt Tennyson indicated that the call was a follow-up to a letter sent asking for information about the project area or questions about the project.

Matt Tennyson left contact information for EDAW (619.233.1454) in case the society had questions or comment.

FOLLOW UP

EDAW | AECOM

1420 Kettner Boulevard, Suite 500
San Diego, California 92101
Phone 619.233.1454
Fax 619.233.0952

DISTRIBUTION:

Contact Report Form

EDAW Contact: Matt Tennyson
Date: 7/01/2008 2:45 pm **Project No.:** 08080001.01

CONTACT INFORMATION

Individual Contacted: Bruce Wertenberger President
Agency/Organization/ Address: Historical Society of the Upper Mojave Desert
P.O. Box 2001 Ridgecrest, CA 93556 **Phone No.:** 760.375.2369

ITEMS DISCUSSED

Matt Tennyson called the phone number listed on the Society's website, but got no response.

Matt Tennyson left a message indicating that a letter had been sent to the Society and was calling to follow up in case the Society any questions or comments.

FOLLOW UP

EDAW | AECOM

1420 Kettner Boulevard, Suite 500
San Diego, California 92101
Phone 619.233.1454
Fax 619.233.0952

DISTRIBUTION:

Contact Report Form

EDAW Contact: Matt Tennyson
Date: 7/1/2008 3:09 pm **Project No.:** 08080001

CONTACT INFORMATION

Individual Contacted: Barbara Pratt Director
Agency/Organization/ Address: Boron 20 Mule Team Museum 26962 Twenty Mule Team Road, Boron, CA 93516 **Phone No.:** 760.762.5810

ITEMS DISCUSSED

Matt Tennyson spoke with Barbara Pratt about the letter sent December 4, 2007. She indicated that she did not receive a letter and requested another be sent addressed to the museum and Attention Barbara Pratt.

FOLLOW UP

A second letter will be sent.

EDAW | AECOM

EDAW Inc
1420 Kettner Boulevard, Suite 500, San Diego, California 92101
T 619.233.1454 F 619.233.0952 www.edaw.com

July 3, 2008

Boron Twenty Mule Team Museum
Attention: Barbara Pratt
26962 Twenty Mule Team Road
Boron, CA 93516

Dear Ms. Pratt,

Per our conversation on July 1, 2008 here is a second copy of the letter previously sent to you regarding the Beacon Solar Project. Please respond by July 7, 2008 so that your comments may be incorporated into our report.

EDAW, Inc. (EDAW) has been retained by FPL Energy, LLC to conduct cultural resource investigations for the Beacon Solar project. The project consists of the construction of a solar plant and associated structures. The project is located along Highway 14, northwest of California City (see enclosed map).

The purpose of this letter is to notify you of this project and to solicit your input. We would like to know if you have any questions, comments, or concerns. We would also like to know if you or your organization has any additional information on this project area that may contribute to our report. A project map and a reply form have been included for your convenience. Providing comments now does not limit your ability to comment at a later time.

Sincerely,

Matt Tennyson, M.A., R.P.A.
Staff Archaeologist

Enclosures: Map
Response form

EDAW | AECOM

1420 Kettner Boulevard, Suite 500
San Diego, California 92101
Phone 619.233.1454
Fax 619.233.0952

DISTRIBUTION:

Contact Report Form

EDAW Contact: Matt Tennyson
Date: 7/01/2008 3:20 pm **Project No.:** 08080001.01

CONTACT INFORMATION

Individual Contacted:

Agency/Organization/ Address: Kern Valley Museum
49 Big Blue Road
P.O. Box 651
Kernville, CA 93238

Phone No.: 760.376.6683

ITEMS DISCUSSED

Matt Tennyson called the Kern Valley Museum and received no answer. Voice message indicated that the museum was named Kern River Valley Museum.

Matt Tennyson left a message indicating a letter had been sent and left contact information in case the museum had question or comment about the project.

FOLLOW UP

EDAW | AECOM

1420 Kettner Boulevard, Suite 500
San Diego, California 92101
Phone 619.233.1454
Fax 619.233.0952

DISTRIBUTION:

Contact Report Form

EDAW Contact: Matt Tennyson
Date: 07/01/2008 3:30 pm **Project No.:** 08080001

CONTACT INFORMATION

Individual Contacted: Liz Babcock , Historical Director
Maturango Museum of the Indian Wells Valley
Agency/Organization/ Address: 100 E. Las Flores
Ridgecrest, CA 93555 **Phone No.:** 760.375.6900

ITEMS DISCUSSED

Matt Tennyson contacted Liz Babcock and she indicated that the letter had not been received and asked that a second copy be sent to Harris Brokke (Director of the Museum) and herself.

She indicated that a history of their area can be provided.

Matt Tennyson said a second letter will be sent.

FOLLOW UP

Send second letter.

EDAW | AECOM

EDAW Inc
1420 Kettner Boulevard, Suite 500, San Diego, California 92101
T 619.233.1454 F 619.233.0952 www.edaw.com

July 3, 2008

Maturango Museum of the Indian Wells Valley
Attention: Harris Brokke
100 E. Flores
Ridgecrest, CA 93555

Dear Mr. Brokke,

Per my conversation with Liz Babcock on July 1, 2008 here is a second copy of the letter previously sent to you regarding the Beacon Solar Project. Please respond by July 7, 2008 so that your comments may be incorporated into our report.

EDAW, Inc. (EDAW) has been retained by FPL Energy, LLC to conduct cultural resource investigations for the Beacon Solar project. The project consists of the construction of a solar plant and associated structures. The project is located along Highway 14, northwest of California City (see enclosed map).

The purpose of this letter is to notify you of this project and to solicit your input. We would like to know if you have any questions, comments, or concerns. We would also like to know if you or your organization has any additional information on this project area that may contribute to our report. A project map and a reply form have been included for your convenience. Providing comments now does not limit your ability to comment at a later time.

Sincerely,

Matt Tennyson, M.A., R.P.A.
Staff Archaeologist

Enclosures: Map
Response form

CC: Liz Babcock

From: Liz Babcock [matmus3@maturango.org]
Sent: Tuesday, July 01, 2008 5:17 PM
To: Tennyson, Matt
Subject: Short history of the Indian Wells Valley

Attachments: RidgecrestHistory.doc

Dear Matt --

I hope the attached short history (in MS Word) will meet your needs. I created the write-up in 2003 when the local Exchange Club needed a history to go with a game the club was selling called "Ridgecrestopoly." I have corrected the history slightly over the years since then; for example, the middle name for Joseph Walker is almost universally referred to as "Reddeford," but it is actually Rutherford. The other spelling came from a mistaken obituary writer!

Please do let me know if for some reason you can't get the document open. I could always send it to you in PDF.

Liz Babcock
--
Curator for History
Maturango Museum
(760) 375-6900
matmus3@maturango.org

Ridgecrest History

By Liz Babcock
Feb 2003

Many thousands of years ago, some prehistoric hunter no doubt ventured into the high desert valley that is now Ridgecrest's home, perhaps stopping for a moment to look out over the gradually sloping, sparsely vegetated ground, then turning away to look for his prey — a bison, a camel or an early ancestor of the horse.

Our valley would have to wait more thousands of years before its first permanent inhabitants arrived. The earliest nearby village appeared near Little Lake perhaps 4,000 years ago. Obsidian mining began, and local people found that the hard, black volcanic glass made arrow and spear points that could be used or traded for other goods. Black Mountain, the 5,259-foot basalt peak overlooking our valley to the south, served as a gathering place and site of peacemaking ceremonies.

Sometime during the last few hundred years, Shoshonean people began traveling through our valley on the "Big Trail," which made its way to Little Lake along the lower slopes of the Sierra Nevada. As recently as the 19th century, the Kawaiisu people still organized hunting parties into what are now China Lake ranges.

Perhaps the first white man to appear here was the explorer Joseph Rutherford Walker, who looked out over our valley in 1834 and described it as "a beautiful sandy plain or desert stretching out to the east, far beyond the reach of the eye."

By the late 1800s, ore-laden mule teams were toiling over the old Indian trail from the rich Cerro Gordo mine to the north, taking the Bullion Road through Red Rock Canyon to reach the village of Los Angeles to the south. Also crowding the road were stagecoaches bringing settlers and supplies to Cerro Gordo and other mines. Other roads crossed the valley too, as teamsters hauled ore and freight from mines in the Argus mountains, the Cosos, the Panamints, and Death Valley.

Cattlemen from Kern River Valley and Owens Valley brought their stock here for winter pasturage and water, while Native American herders came down from Haiwee Meadows with herds of Angora goats to winter here.

The first recorded homesteader in our area was Freeman Raymond, owner of the Coyote Holes Stage Station, who claimed ownership of 160 acres in 1894. Then in about 1906, the William Callaway, Sr., family set up a tent and laid claim to acreage in the northwest part of our valley.

In 1908, construction of the Los Angeles Aqueduct began. The village of Brown sprang to booming life as a supply station and rest stop for aqueduct workers. By 1910 the village of Inyokern was growing, the valley's first post office opened in Brown, homesteads dotted the valley, wells were being drilled, and teams were clearing brush from the land. Orchards and alfalfa fields appeared. The Inyokern Land and Water Co. built a general store, a warehouse, and a hotel.

In September 1911, the valley's first school opened in a little board shack near Leliter. Students arrived from many miles away, on foot or riding horses or burros. The

first church opened in 1914 near Inyokern. By the start of World War I, between 150 and 200 families lived in our valley.

After completion of the aqueduct, the town of Brown began to decline. In the meantime, Inyokern was prospering — while across the valley another community began to grow. Ridgecrest can trace its roots to establishment of the McNeil Dairy in 1924 near what are now our city's southern limits. In 1933, Robert and Jim Crum and their cousin Wilbur bought the dairy from McNeil and opened the Crum Brothers Dairy Farm, thus inspiring the name "Crumville."

In 1936, Joe Fox, who had arrived here two years earlier, bought the Crum property and began developing it into an alfalfa field. Then in 1939, Bill Bentham built the first general store and gas station. His daughter Donna became the little community's librarian at the age of 10! Just two years later, Ridgecrest officially came into being. Bentham wanted to establish a post office and held an election in his store to determine the community's name. "Ridgecrest" won by one vote, and Bentham became the village's first postmaster.

Then came World War II — and with it a revolution for Ridgecrest. The Navy arrived in our valley in late 1943 — and Ridgecrest's days as a quiet farming community were over. With the new Naval Ordnance Test Station came construction workers, scientists and engineers, military people, and new demands for Ridgecrest.

The community responded with numerous stores and services. Between 1944 and 1949, two bus lines, an airline, several trucking lines, and three taxi services opened for business. Dr. Thomas Drummond left the eight-bed hospital he had been running in Randsburg to open a hospital here in 1944.

Joe Fox played a prominent role in the community's development. He deeded parcels of his land to churches, to the local Veterans of Foreign Wars, and to the government for the establishment of the Federal Recreation Building (the USO Club, later a county courthouse and site of many community meetings, dances and plays).

By 1951, Ridgecrest had its "Miracle Mile," a business district that boasted such amenities as Pappalardo's Supper Club, the Porthole Cafe, the Desert Wholesale Food Center, the Triangle Sport Shop, Mary Sue's Dress Shop, and more. Most people, civilian and military, lived at China Lake during that era, since the Federal Housing Administration refused to believe that the Navy was here to stay. In 1956, for example, China Lake had a population of nearly 11,000, while the population of Ridgecrest was around 5,000. All but about 700 of NOTS' 4,000 employees lived on base.

Not until the mid-1950s did the FHA authorize its first home financing here, and widely available FHA home loans weren't available until the 1970s.

The City of Ridgecrest incorporated in 1963, and as the 1970s and '80s brought new housing tracts and dozens of new businesses. By 1973 our valley boasted more than 7,500 housing units, at least 100 times the number of houses here when the Navy arrived in 1943.

With the end of the Cold War and the scaleback in defense spending, China Lake suffered severe cutbacks in the 1990s. As a result Ridgecrest also experienced a decline, which we met with creativity and community spirit.

Today, as our close working relationship with China Lake continues, we are growing beyond a one-industry town, with the filming business, high-technology work in the private sector, and tourism just three of the areas in which we are expanding.

TO = MATT TENNYSON
Fax = 619-233-0952

Maturango Museum of the Indian Wells Valley
Attention: Harris Brokke
100 E. Las Flores
Ridgecrest, CA 93555

Please check all that apply:

- ☐ Please call me to discuss the project further; my day-time phone number is (_____)_____
  or my evening phone number is (_____)_____
- ☐ I have further comments as provided below
- ☒ I do not have any comments

Comments:

Signature:

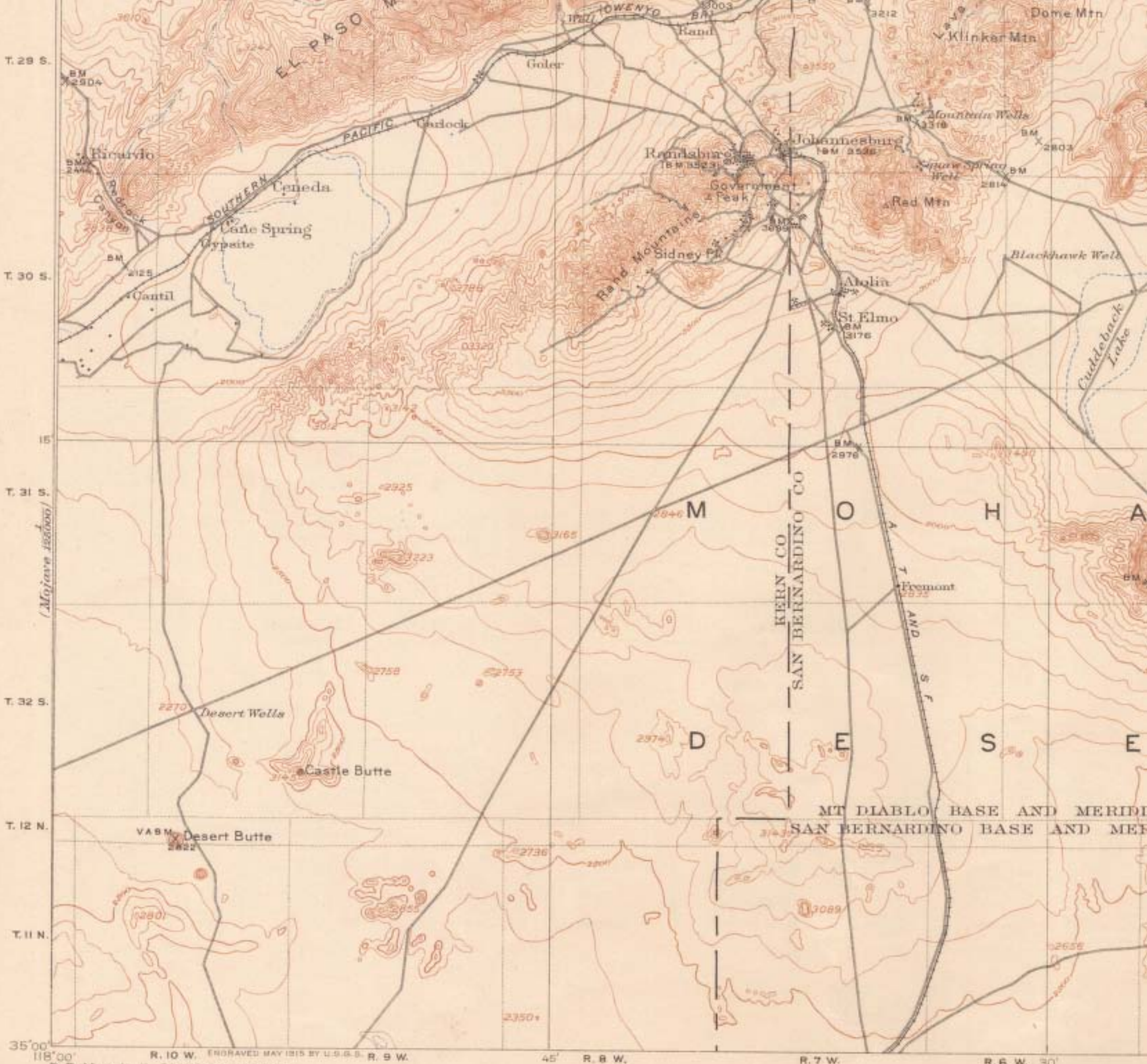
Harris Brokke 07/07/08

Harris Brokke Date

Attachment DR-29

Historic Topographic Maps

1915 SEARLES LAKE 1:125,000 SCALE TOPOGRAPHIC MAP

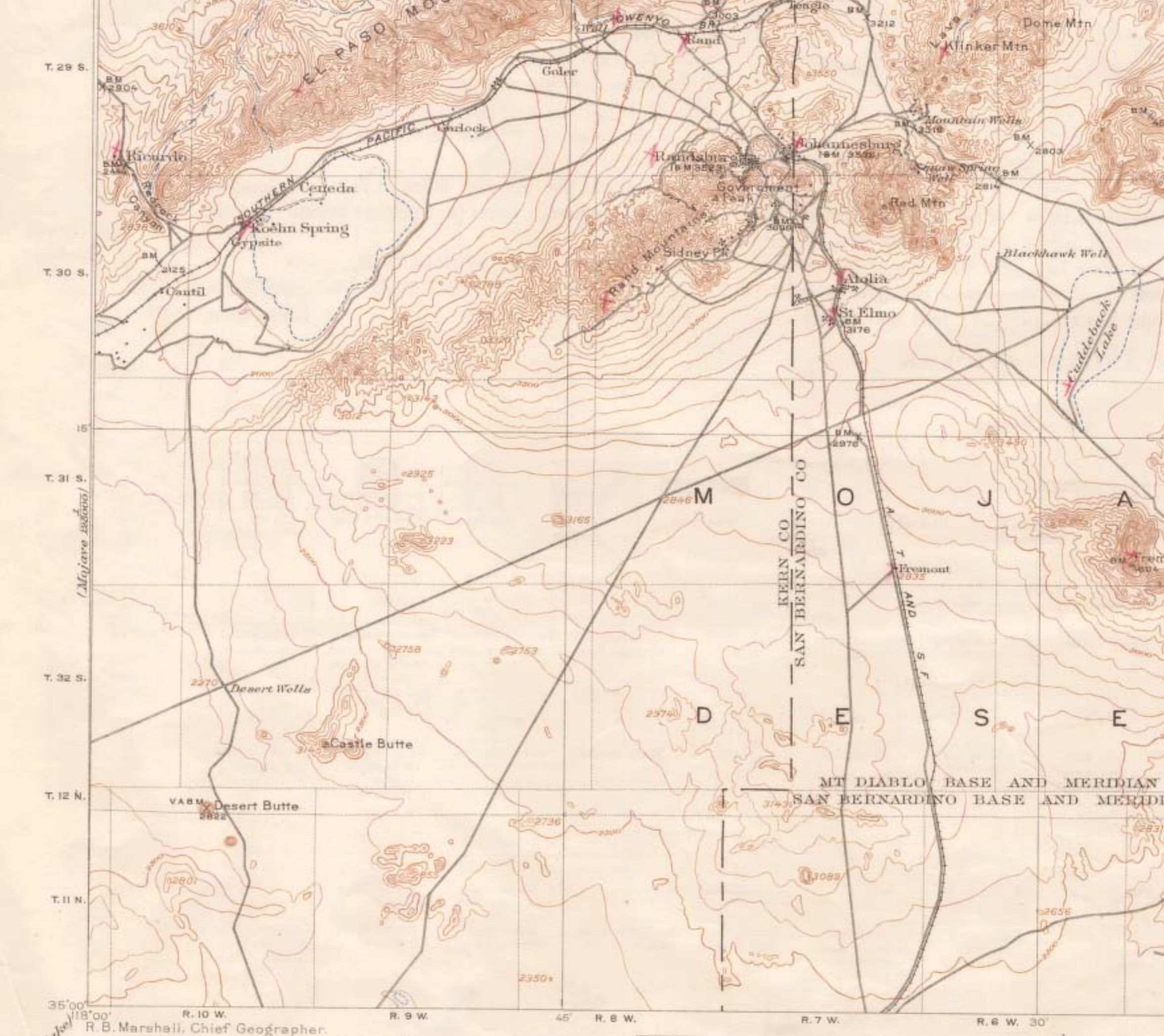


ENGRAVED MAY 1915 BY U.S.G.S.

R.B. Marshall, Chief Geographer.
Geo R Davis Geographer in charge.

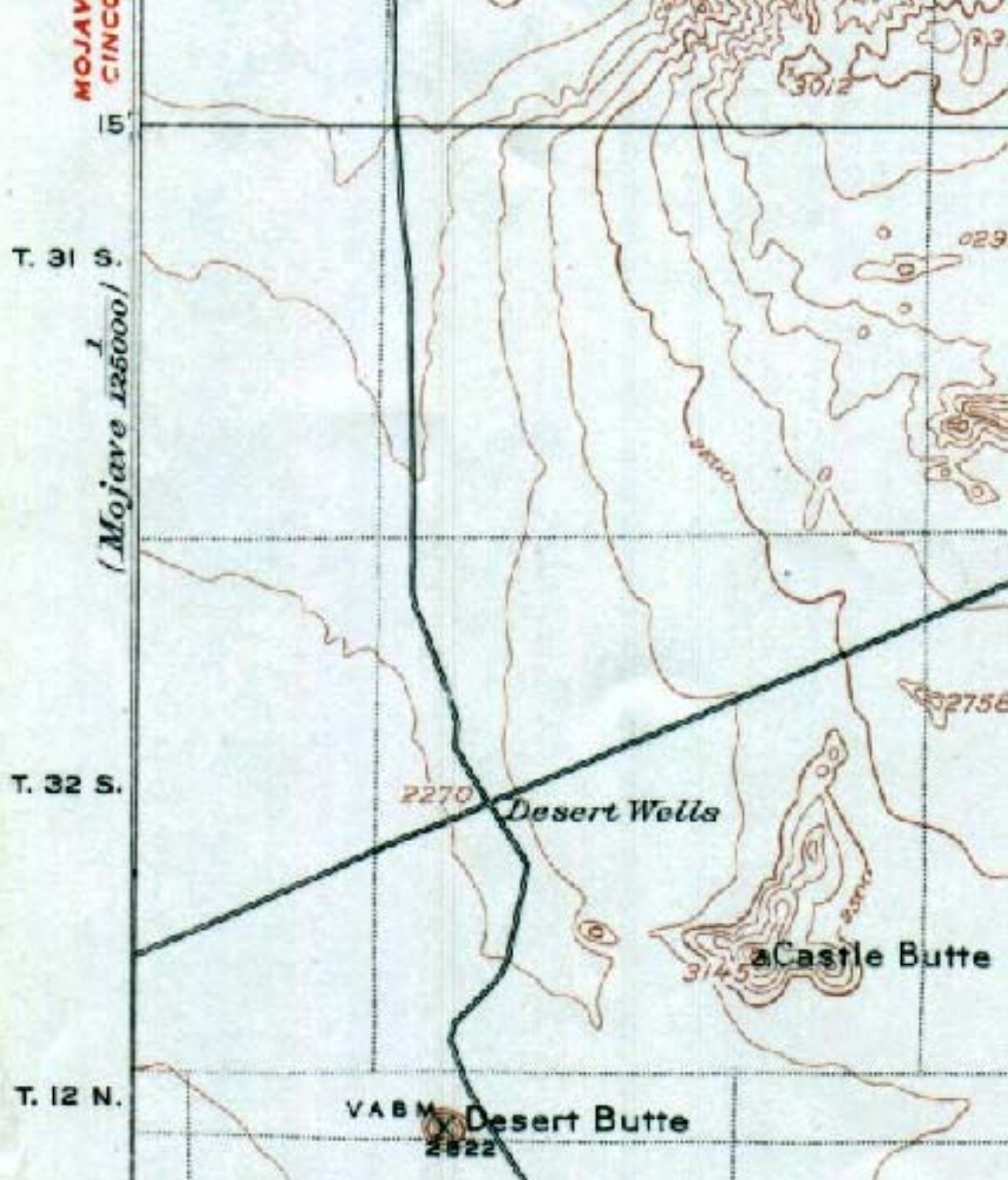
Scale $\frac{1}{125000}$

1915 (REPRINTED 1938) SEARLES LAKE 1:125000 SCALE TOPOGRAPHIC MAP



R. B. Marshall, Chief Geographer.

1951 SEARLES LAKE 1:25000 SCALE TOPOGRAPHIC MAP


MOJAVE
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T. 31 S.
(Mojave 1/125000)
T. 32 S.
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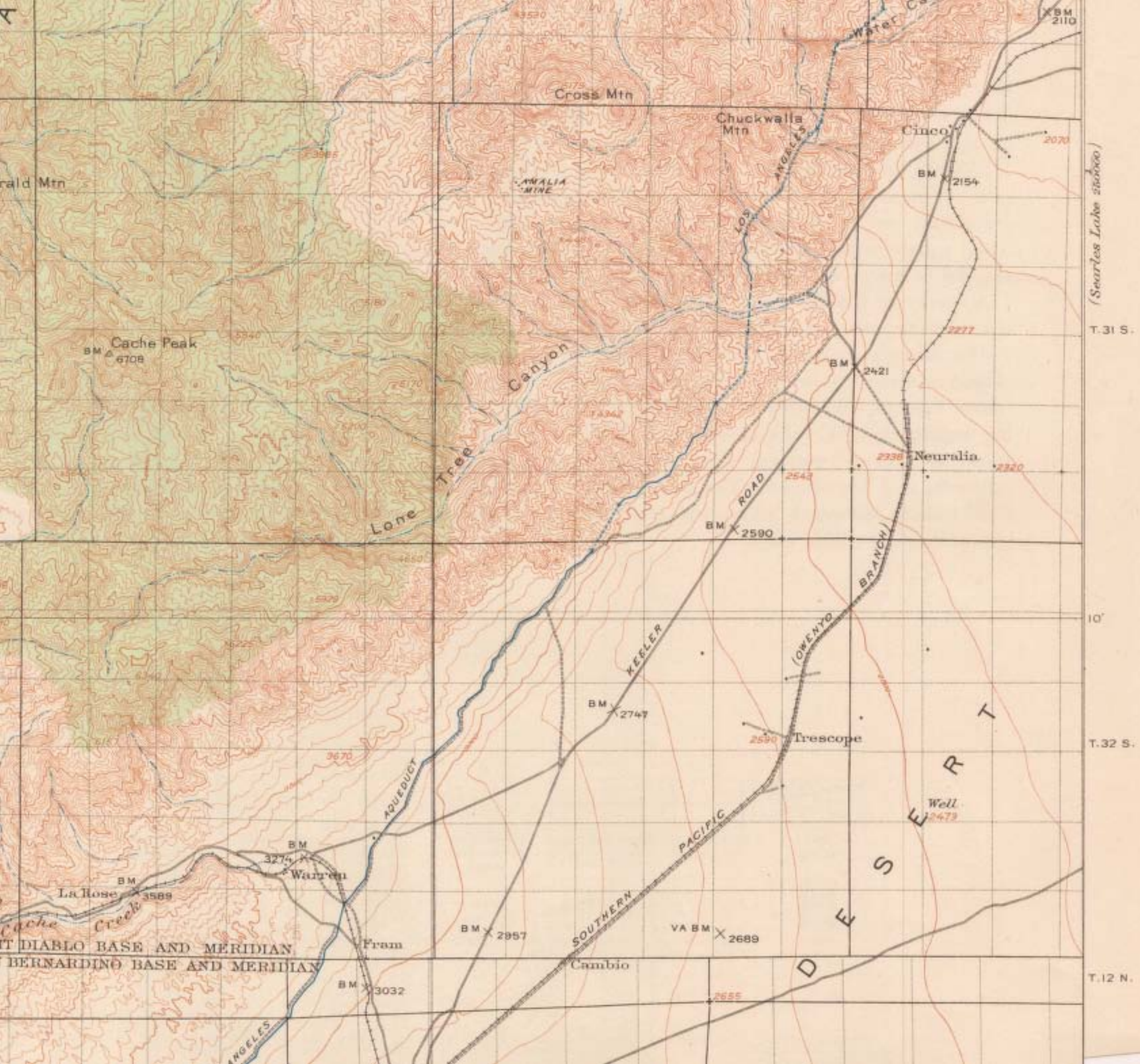
2758
2270
Desert Wells
3145
Castle Butte
VABM
Desert Butte
2822

1915 MOJAVE 1:125000 SCALE TOPOGRAPHIC MAP


Cross Mtn
Chuckwalla Mtn
Cinco
BM 2110
BM 2154
Water Co
LOS ANGELES
AMALIA MINE
rald Mtn
Cache Peak
BM 6708
Canyon
Lone Tree
BM 2421
Neuralia
BM 2590
ROAD
(OWENYO BRANCH)
KEELER
BM 2747
Trescope
Well
AQUEDUCT
BM 3274
Warren
BM 3589
La Rose
Cache Creek
Fram
BM 3032
BM 2957
SOUTHERN PACIFIC
VA BM 2689
Cambio
DESERT
(Searles Lake 250000)
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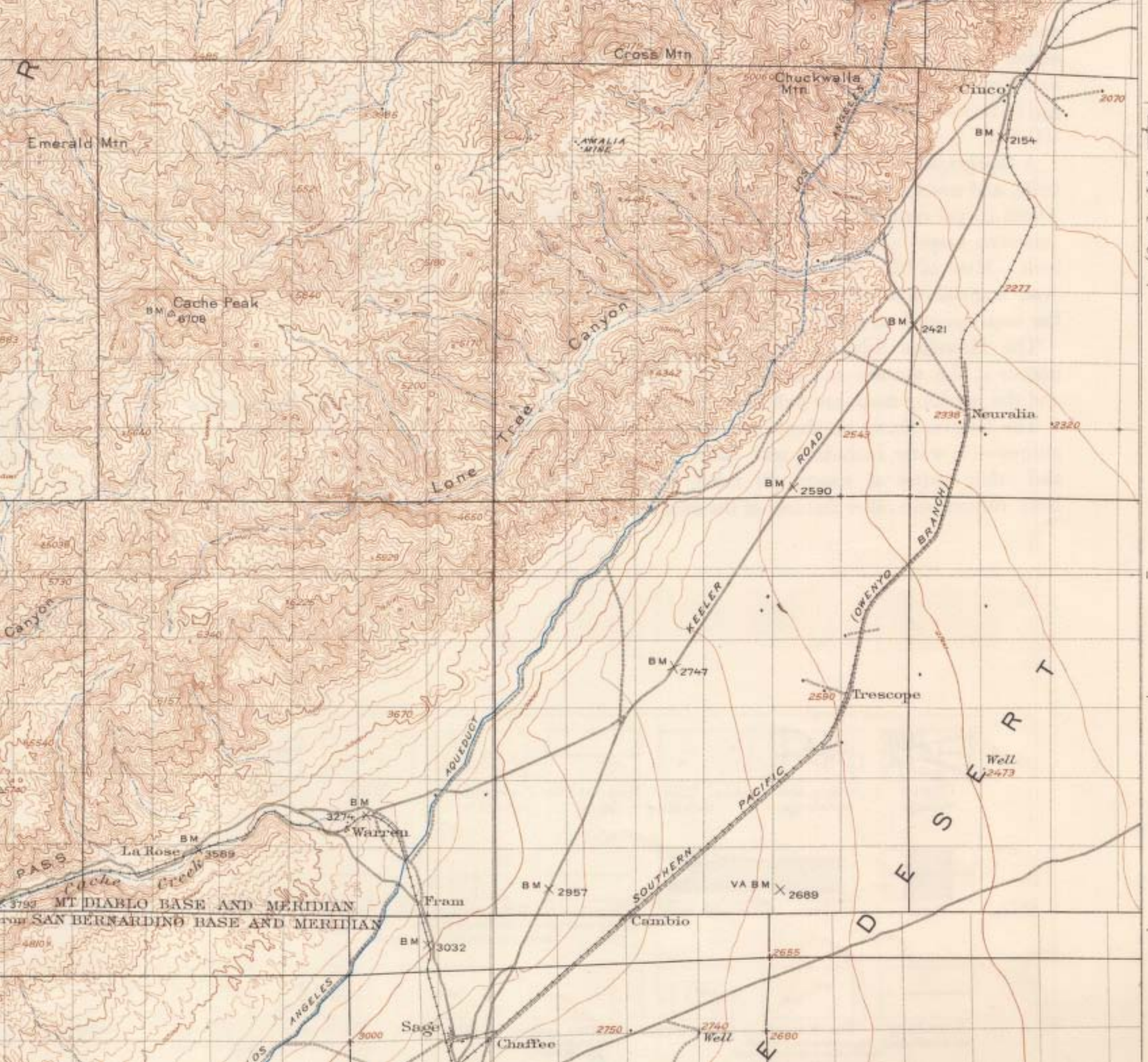
10'
T. 32 S.
T. 12 N.
IT DIABLO BASE AND MERIDIAN
BERNARDINO BASE AND MERIDIAN

1915 (REPRINTED 1933) MOJAVE 1:125000 SCALE TOPOGRAPHIC MAP


Cross Mtn
Chuckwalla Mtn
Cinco
Emerald Mtn
AWALIA MINE
LOS ANGELES
BM 2154
2070
(Searles Lake 250000)
T. 31 S.
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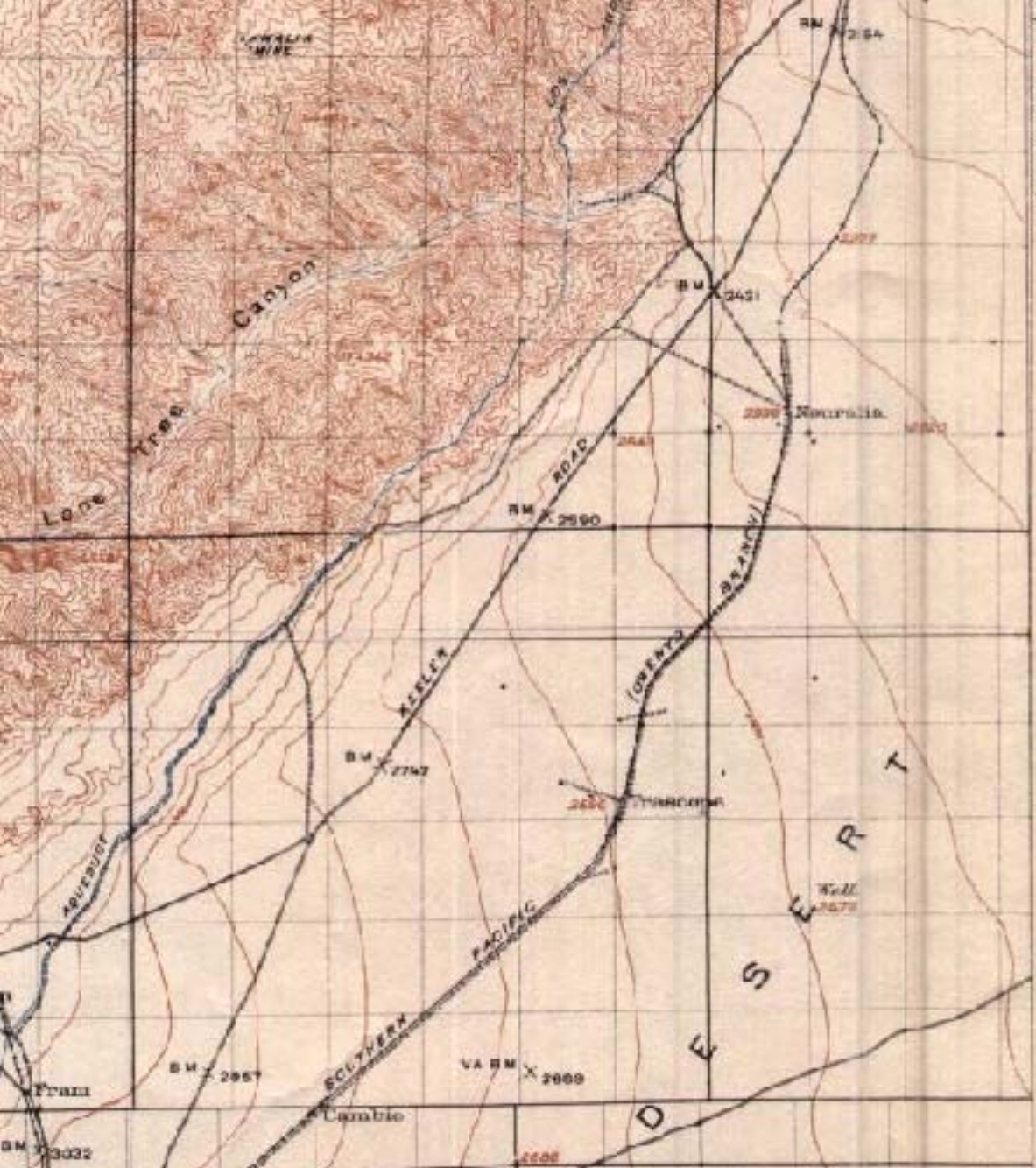
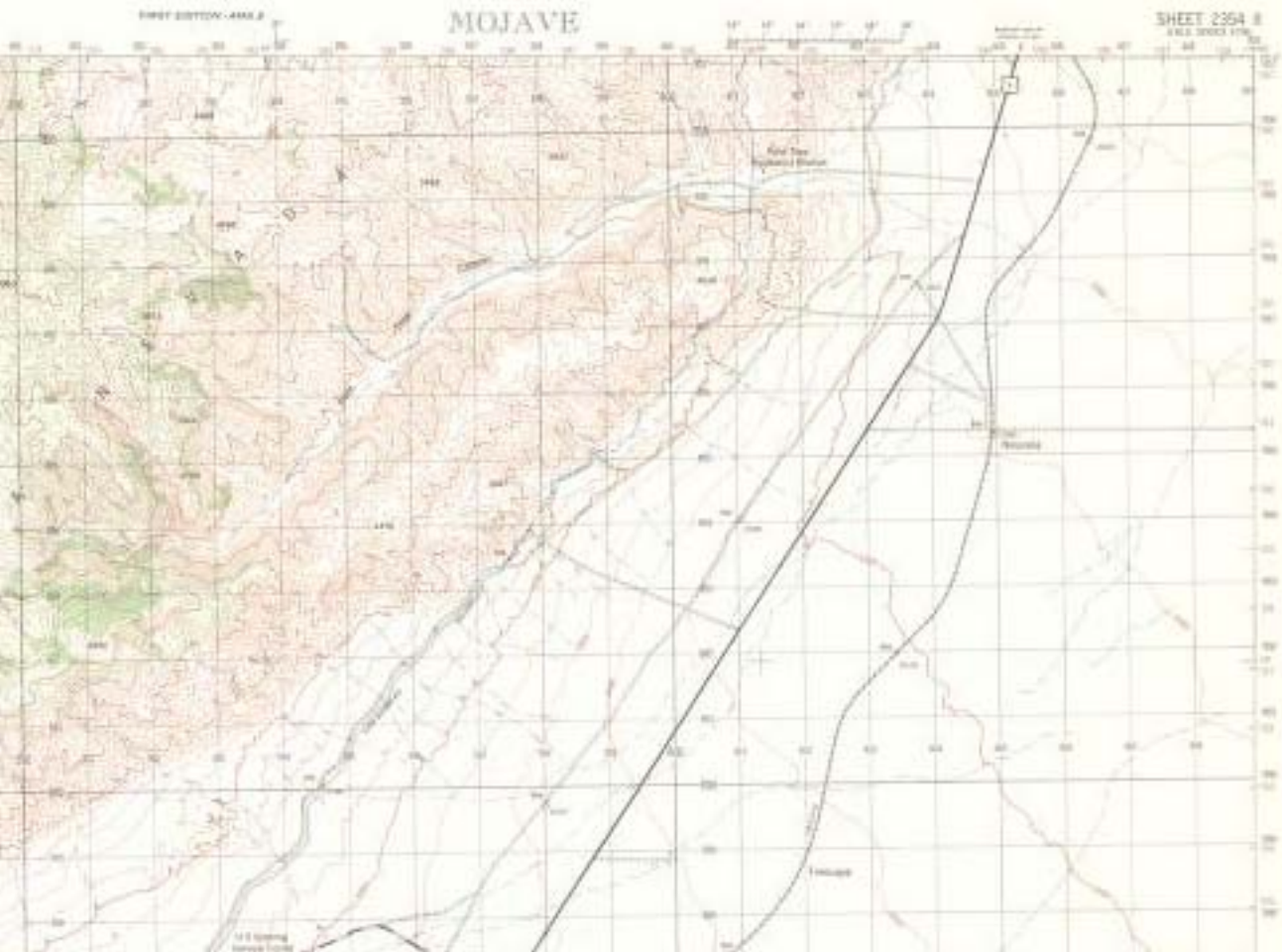
Cache Peak
BM 6108
Lone Tree Canyon
BM 2421
Neuralia
2338
2320
2543
ROAD
BM 2590
OWENYO BRANCH
10'
Canyon
KEELER
BM 2747
Trescope
2590
T. 32 S.
3670
AQUEDUCT
Well
2473
DESERT
BM 3274
Warren
BM
La Rose
3589
PASS
Cache Creek
SOUTHERN PACIFIC
BM 2957
VA BM 2689
MT DIABLO BASE AND MERIDIAN
SAN BERNARDINO BASE AND MERIDIAN
Fram
Cambio
T. 12 N.
BM 3032
2655
ANGELES
Sage
Chaffee
2750
2740
Well
2680

1923 MOJAVE 1:125000 SCALE TOPOGRAPHIC MAP

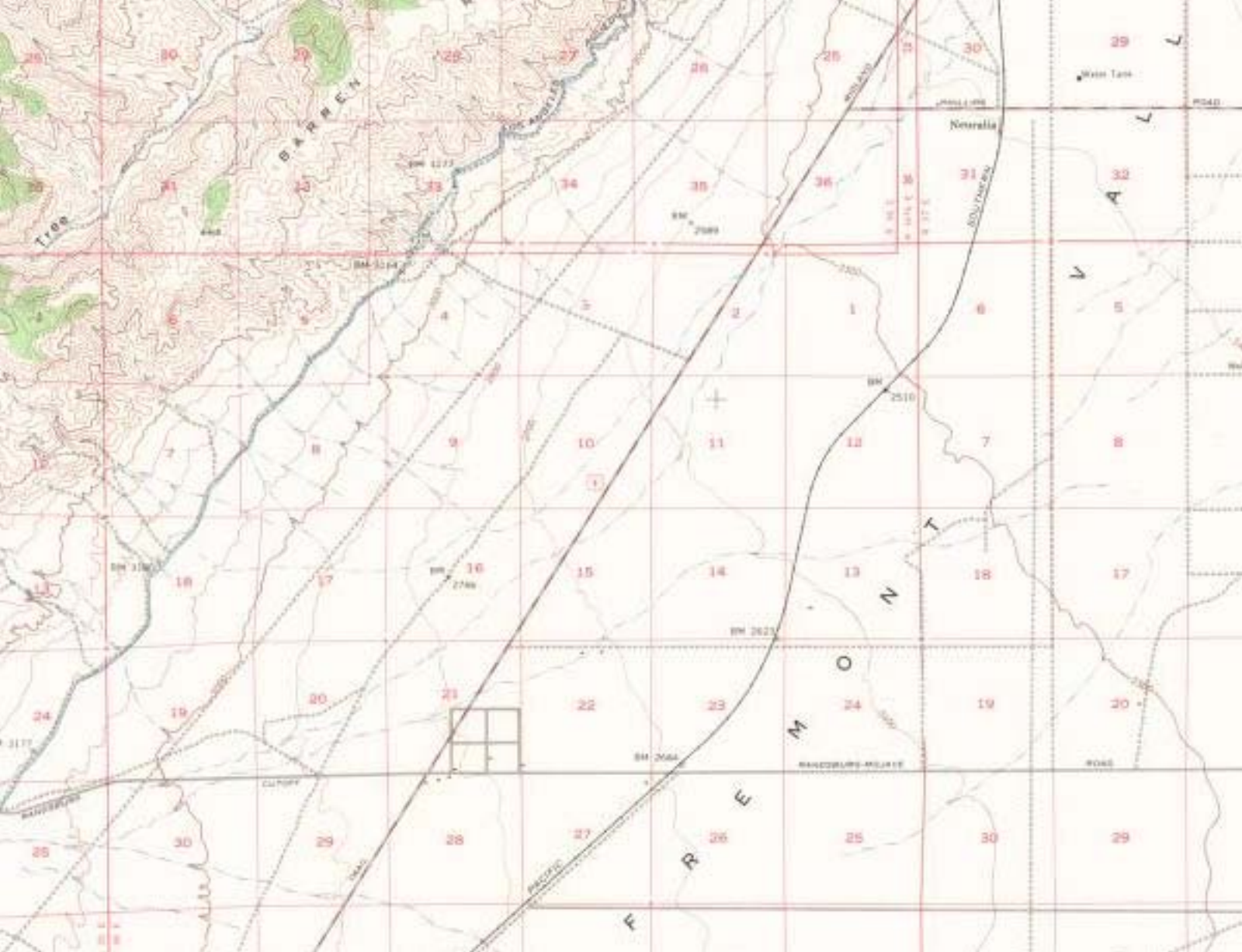

Lone Tree Canyon
Newcastle
Thermopolis
Wall
Frain
Cambio
DESERT
ROAD
KEELER
LORENZO BAZANO
AQUEDUCT
SOUTHERN PACIFIC
B.M. 2421
B.M. 2590
B.M. 2747
B.M. 2957
B.M. 3032
VA B.M. 2669
T. 31 S.
T. 32 S.
T. 12 N.

1947 MOJAVE 1:50000 SCALE ARMY SERVICE MAP

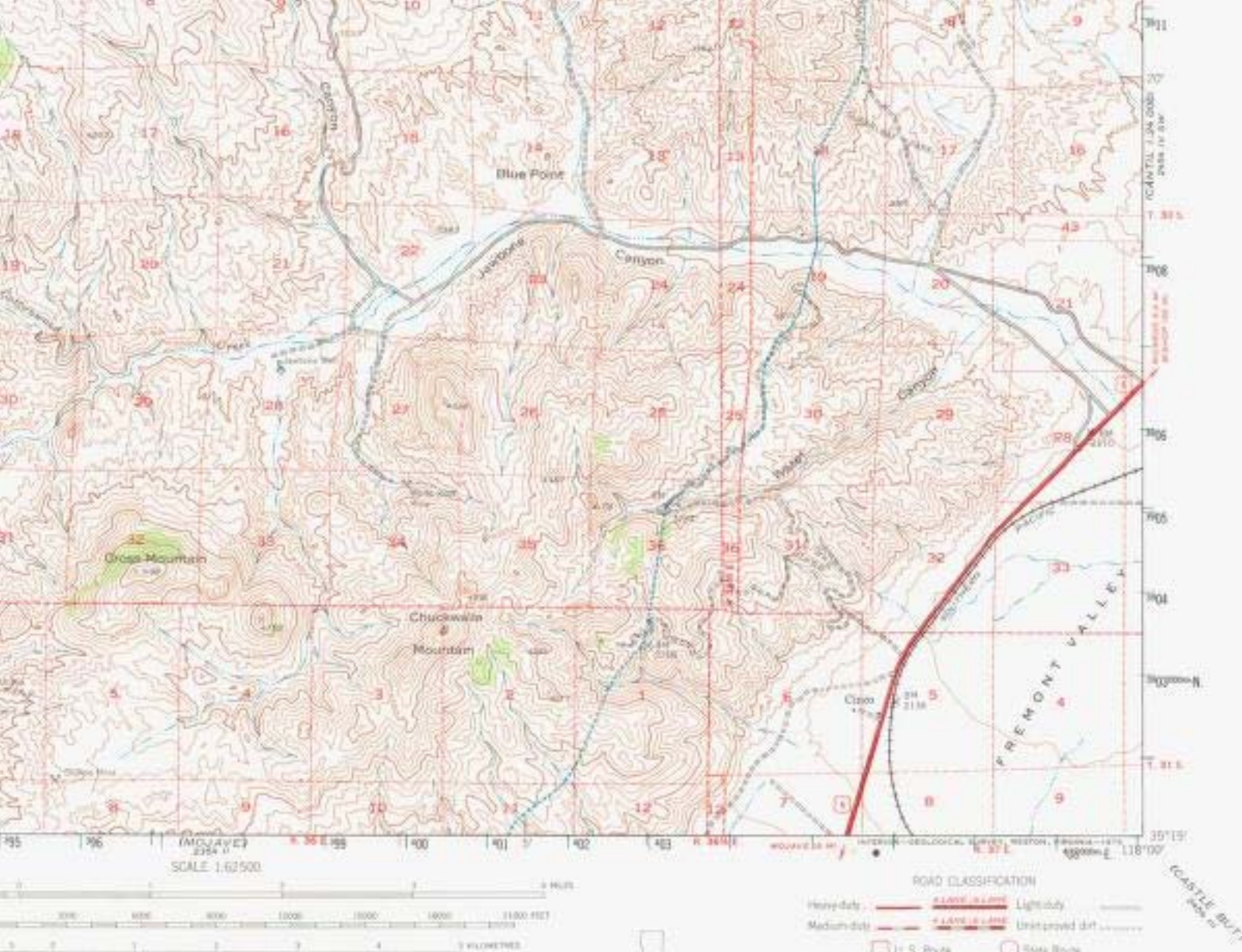

MOJAVE
SHEET 2354 II

1956 MOHAVE 1:62500 SCALE TOPOGRAPHIC MAPS

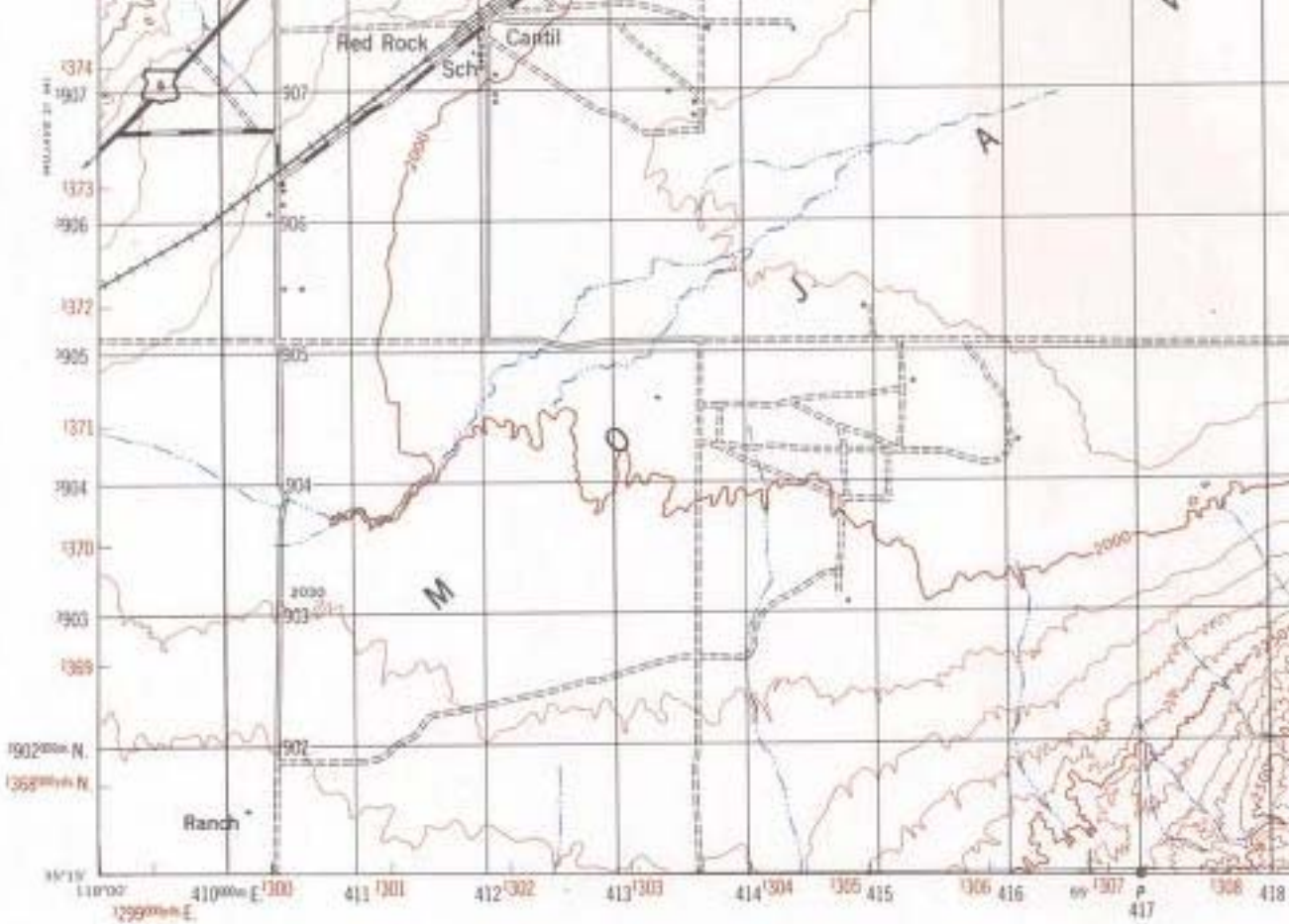
(CROSS MTN.)
Canyon
BARREN RIDGE
Nonesia
VALLEY
Water Tank
Well


BARREN
Neuralia
FREMONT
VALL
Water Tank
BM 2510
BM 2621
BM 2744
BM 2589
BM 3244
BM 3177
BM 3180
BM 3177
RANCOBURG-MOUNTAIN
ROAD
CUTOFF
PACIFIC
ROAD

1943 CROSS MOUNTAIN 1:62500 SCALE TOPOGRAPHIC MAP


Blue Point
Jackass
Canyon
Creek
Cross Mountain
Chuckwalla
Mountain
FREMONT VALLEY
(MOJAVE)
SCALE 1:62500
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U. S. Route
State Route
KANTISH 1:24 000
CASTLE BUTTE
35°15'
118°00'

1947 SALTDALE 1:50000 ARMY SERVICE MAP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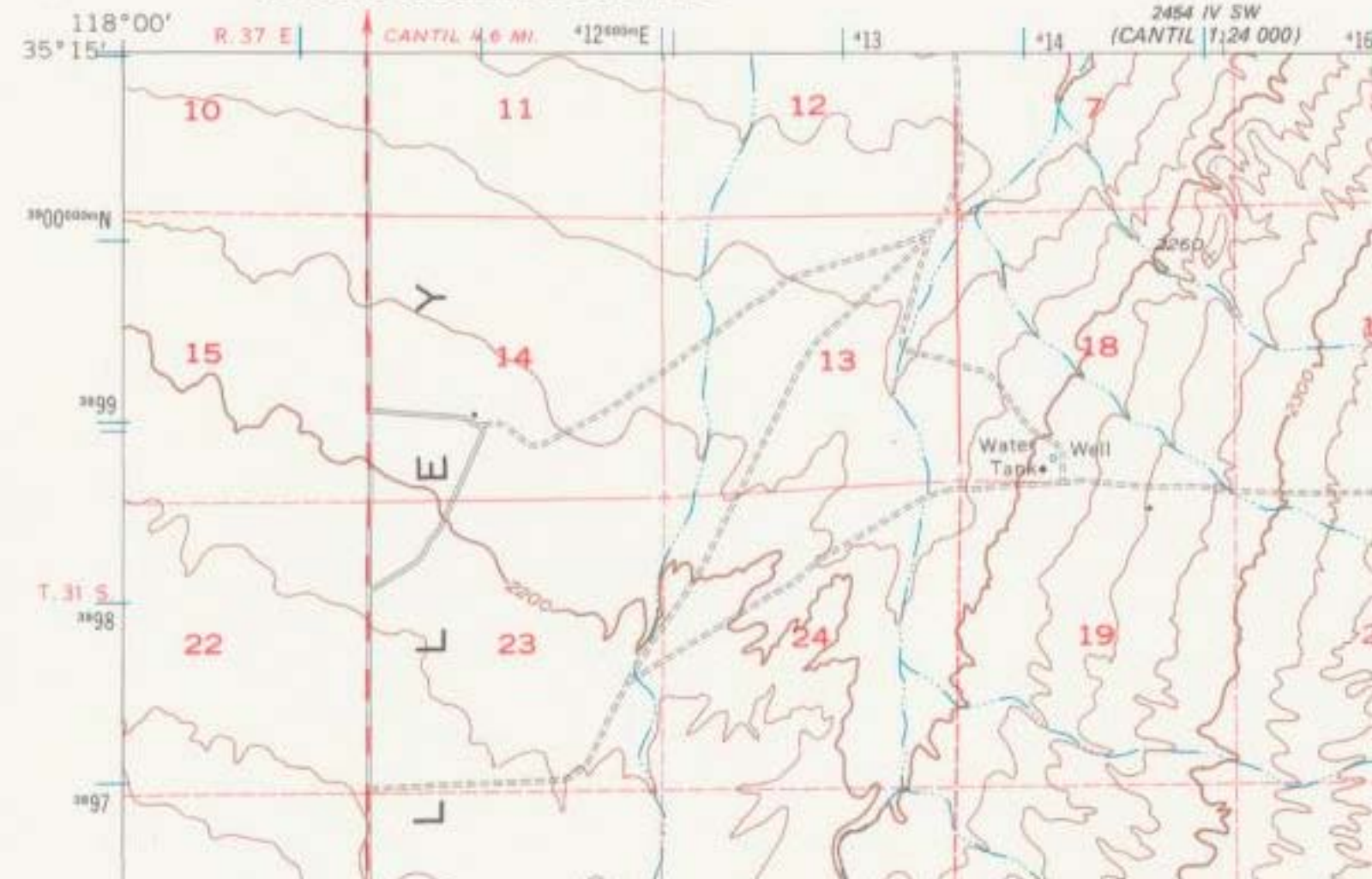
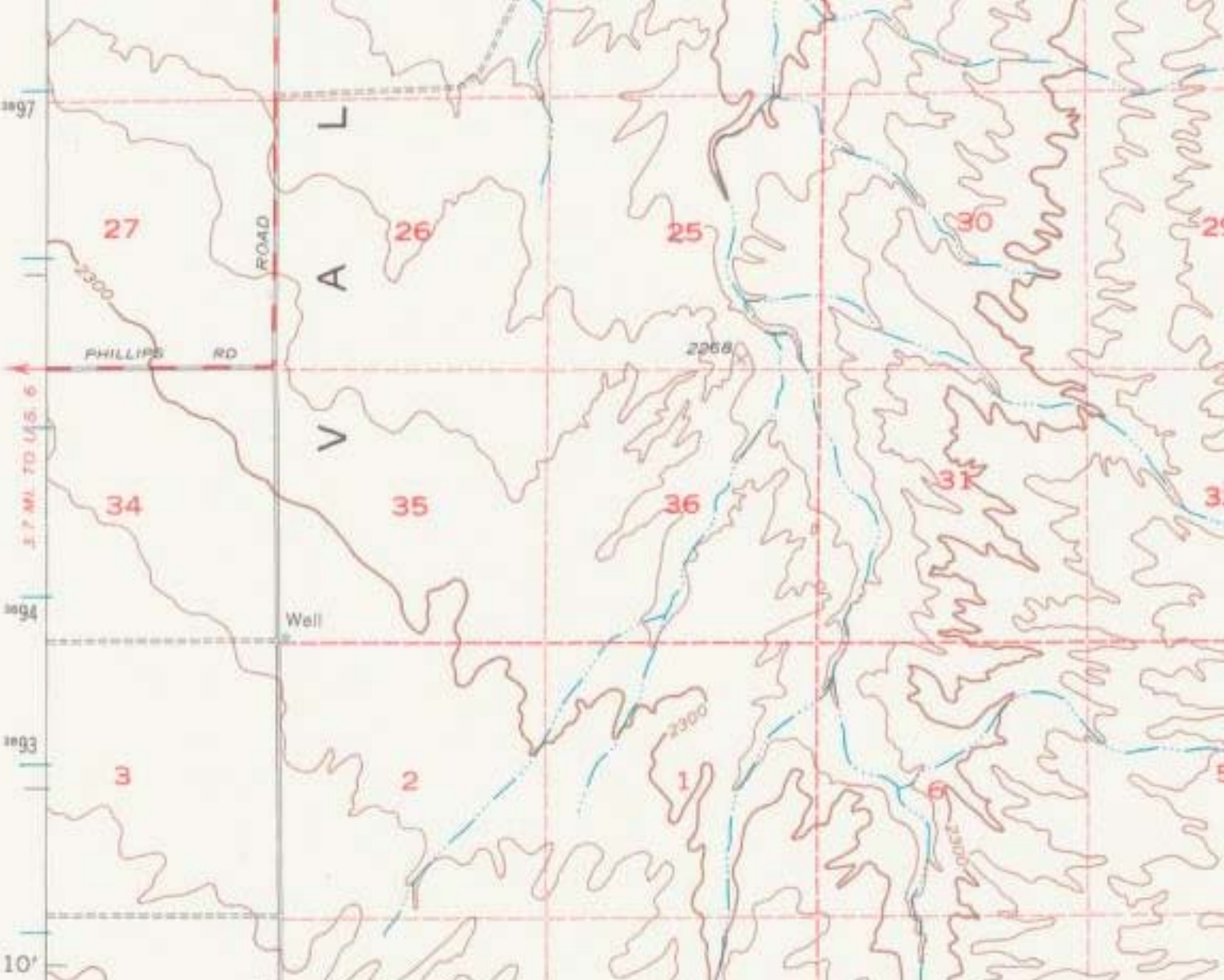
A.M.S. V795

1956 CASTLE BUTTE 1:62500 SCALE TOPOGRAPHIC MAP

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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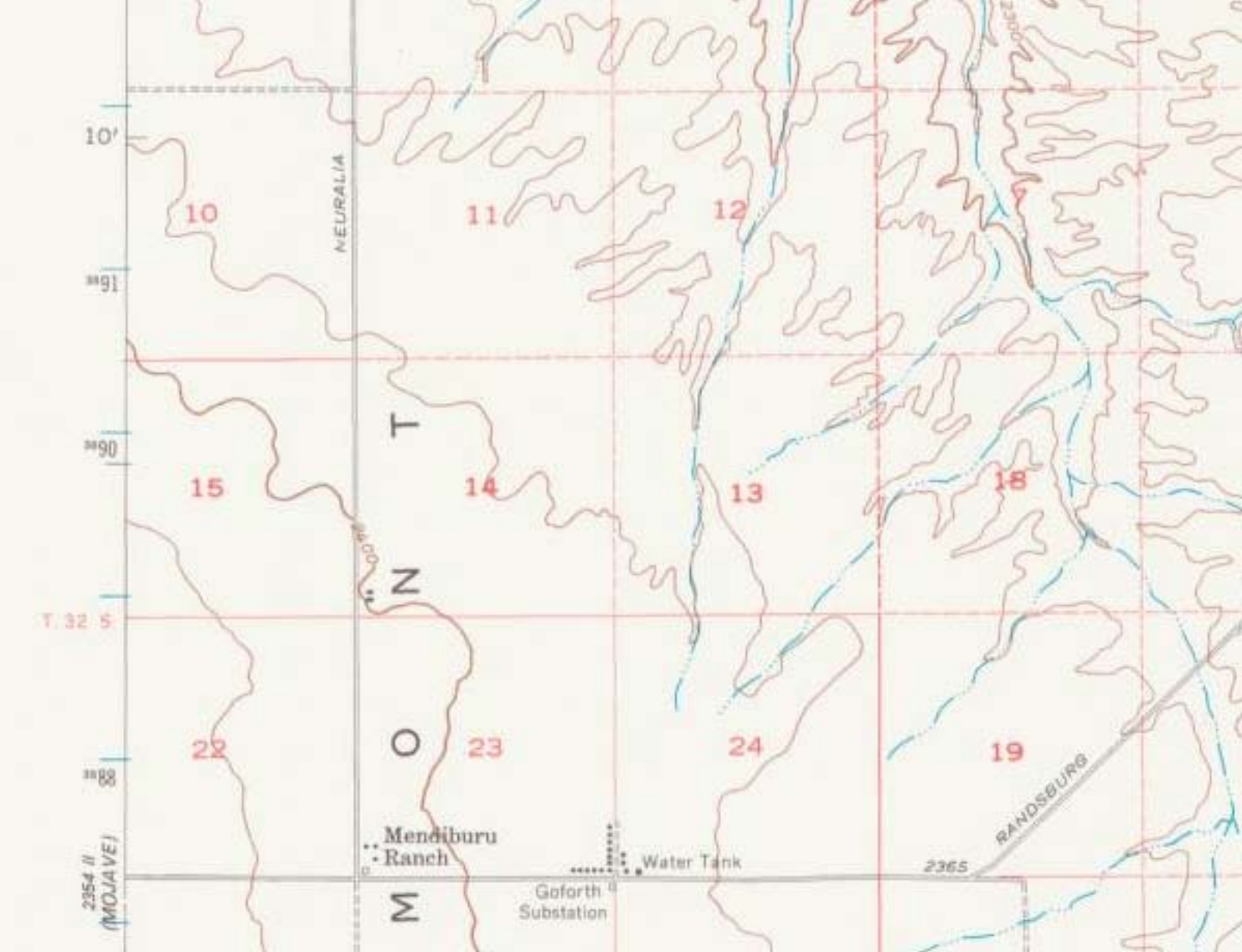
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24
19
RANDSBURG
Mendiburu
Ranch
Water Tank
2365
Goforth
Substation
2354 II
(MOJAVE)

The EDR Aerial Photo Decade Package

California City Solar Project
Near Munsey Rd & Cheyenne Blvd.
Califorina City, CA 93501

Inquiry Number: 1917024.5

May 04, 2007

EDR® Environmental Data Resources Inc

The Standard in Environmental Risk Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

EDR Aerial Photo Decade Package

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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Date EDR Searched Historical Sources:

Aerial Photography May 04, 2007

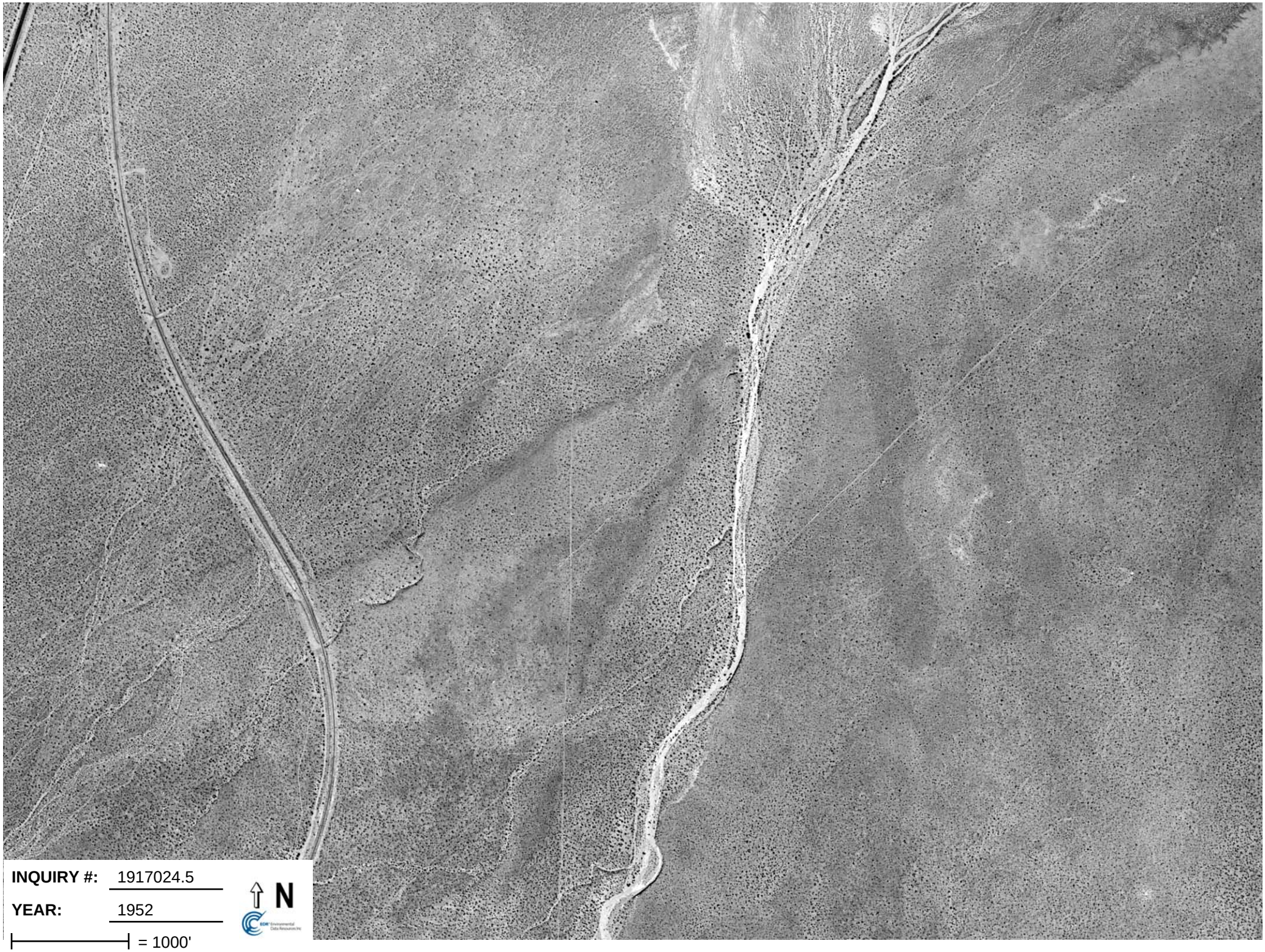
Target Property:

Near Munsey Rd & Cheyenne Blvd.

Califorina City, CA 93501

Year	***Scale***	***Details***	***Source***
1952	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1952 Best Copy Available from original source	Robinson
1952	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1952	Robinson
1952	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1952	Robinson
1983	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1983	WSA
1983	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1983	WSA
1983	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1983	WSA
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	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
2002	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2002	USGS

INQUIRY #: 1917024.5
YEAR: 1952
= 1000'
N

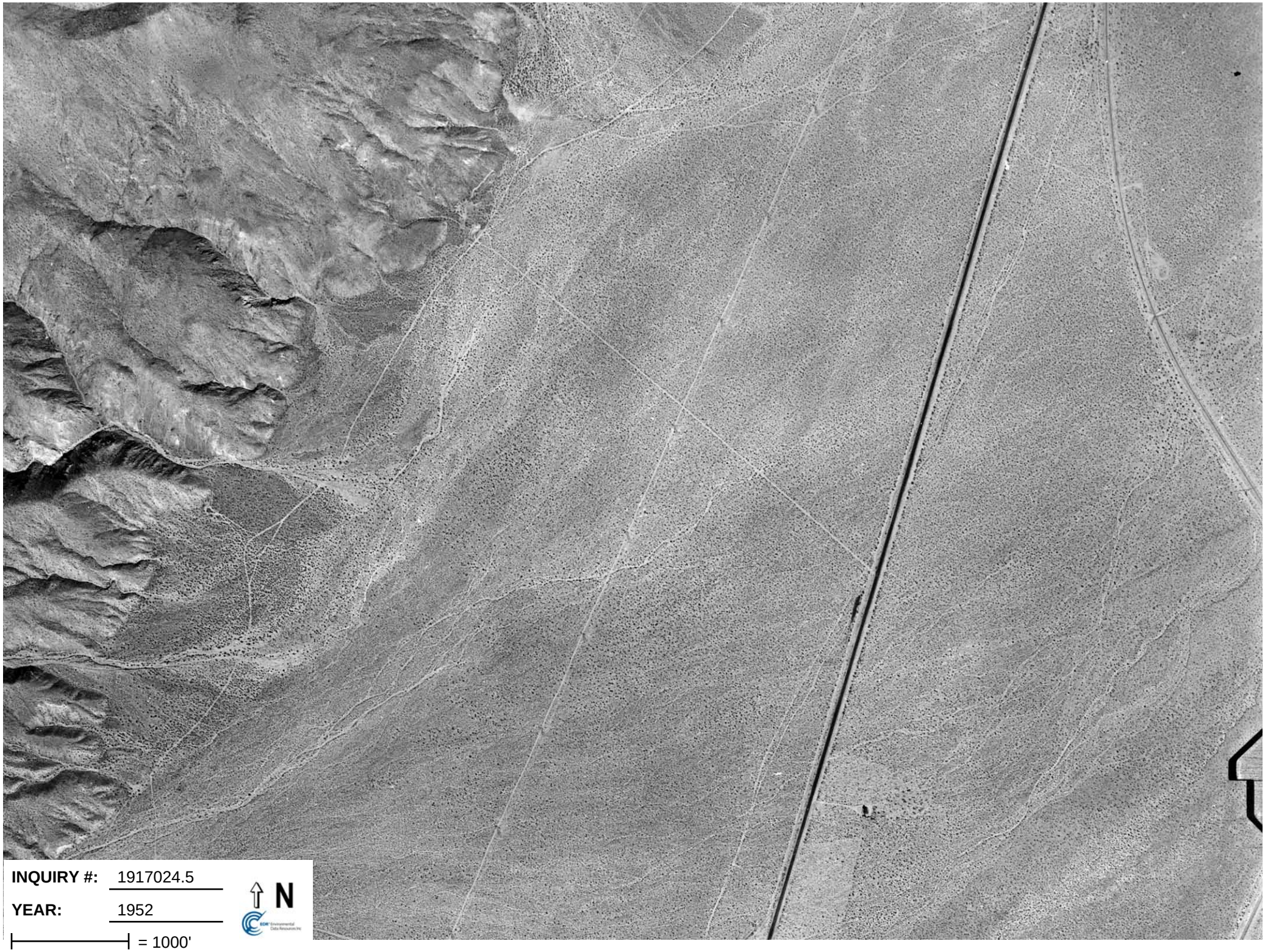


INQUIRY #: 1917024.5

YEAR: 1952

= 1000'

N


INQUIRY #: 1917024.5
YEAR: 1952
= 1000'
N

Data Request 43:

The redirecting of Pine Tree Creek through two 90 degree turns may result in significant erosion during high flow and flood events. Please provide the rationale for selecting this potentially problematic alignment.

Response:

See response to data request 44 for a discussion regarding the design of the rerouted wash. Due to physical constraints of the parabolic trough mirrors it was impractical to re-route Pine Tree Creek through the middle of the project. Routing Pine Tree Creek through the project would impact the number of parabolic troughs that could be located on the project. This reduction would reduce the electrical output of the project.

Data Request 44:

Please provide design information showing this configuration is suitable for the anticipated flows. Please discuss other alternate alignments that were considered.

Response:

Please see Attachment DR-44, a response by Carlton Engineering, dated June 25, 2008.

Data Request 45:

Please provide plans or maps that clearly show:

a. the existing (predevelopment) site conditions;
b. the conceptual grading plan that identifies all cut and fill areas;
c. the sequence of grading from initial clearing and grubbing to final grade;
    1) which areas of the sire will be developed first, according to the above sequencing;
    2) how long each 15-acre section will take to be graded;
d. whether complex area, such as Pine Tree Creek, will require more extensive cutting and filling and more overall time for grading;
e. the construction phase erosion control measures proposed to mitigate erosion/sedimentation hazards; and
f. the post construction drainage plan.

Response:

Revised diagrams are provided in Attachment DR-45. See below for a list of revisions made to these diagrams:

1) Site Plan, FPLS-0-SK-111-002-001, REV H
   a. Items revised:
      i. Evaporation Pond Location
      ii. Admin Building Location
      iii. Biotreatment Unit Location
      iv. Added Debris and Organic Handling Areas
2) Existing Conditions Site Plan, FPLS-0-SK-111-002-000, REV A. (in response to Data Request 45.a.)
3) Conceptual Grading Plan Sheet C1-C6 REV B
   a. Items revised:
      i. Revised location of evaporation ponds and admin building to match site plan
      ii. Added dry wash details
      iii. Added low flow wash within re-routed wash.

a. Please see Attachment DR-45a "Existing Conditions Site Plan".
b. Please see Attachment DR-45b "Conceptual Grading Plan".
c. A typical grading sequence is as follows:
   - Pre-water area(s) in consideration
   - Clearing and grubbing the area(s) per the recommendations of the geotechnical engineer.
   - Staking of the site per proposed grading plans
   - Scarify and re-compact per geotechnical recommendations at all fill areas.
   - Cut areas where needed per proposed grading plans and spread the soil onto the fill areas
   - Water and re-compact
   - In area of cut, once the desired elevation is achieved, scarify and re-compact.

     1) It is anticipated that grading development will be performed generally in a north to south pattern. Excavation of the drainage channel will occur so that it can be completed, and made functional in order to re-route the drainage pattern from the site in the early stages of the grading activity.
     2) The estimated "cut" volume is 5,160,000 cubic yards. Assuming that the "cut" occurs over one half of the site (one half cut, one half fill), and the depth of cut is somewhat uniform, there will be

approximately 67,000 cubic yards of material to cut in each 15 acre area. Grading of these areas will take between 2 and 3 days.

d. The geometry of the re-routed Pine Tree Creek will allow for similar earthmoving productions as the plant site. Additional time will be required after grading operations for finish grading of the channel and placement of the rock.
e. Erosion control will be generally accomplished by the installation of mat liners (where needed), hydro seeding with native vegetation, and cobbles to dissipate velocity and to protect the edges of the channel at strategic locations. Also, the use of straw bales and silt fences will be utilized during construction. Please see Appendix L.2 for a more detailed description of the BMP's to be implemented during construction
f. Please see Attachments DR-45b- DR-45g, particularly Attachment DR-45b.

Data Request 46:

Please provide a map that clearly shows where soils suitable for compaction will be stored and provide a description of how these soils will be protected from erosion.

Response:

Materials suitable for compaction will not be stored. Materials suitable for compaction will be excavated during the grading operation, transported directly to a fill location, and will be spread and compacted.

Data Request 47:

a. Please provide an appropriately scaled map that clearly shows where materials that are unsuitable for compaction will be stored and provide a description of how these materials will be protected from erosion.
b. Please explain the rationale for determining when these unsuitable materials will be removed from the site.
c. Explain the methods expected to be used to load and transport these materials from the site.

Response:

a. See the General Arrangement Site Plan and the noted "Debris and Organics Handling Area" in Attachment DR-47. It is not anticipated that the debris or organics will need to be protected form erosion. If protection from erosion is

required, the debris and organics storage piles will be covered by tarps prior to being hauled off site or being re-spread on site.

b. According to the Preliminary Geotechnical Investigation Report for Beacon Solar Energy Project contained in Appendix B.2 to the AFC, the only materials considered unsuitable are the organics, debris and other deleterious materials. Organics can be chipped/ground and spread outside the power block and solar area. Debris will be temporarily stockpiled and will be hauled to an appropriate landfill for disposal when the quantity warrants.

c. Loaders and dump trucks will be used for debris off-haul from the site.

Data Request 48:

Please provide the construction schedule/sequence for preparing these areas for their proposed use.

Response:

As noted, the construction material lay down area and parking area cover over 16 acres. Both areas are identified on the General Arrangement Site Plan (Attachment DR-47) and are located in areas to receive fill. The fill in these areas will be completed early in the grading operation in order to develop these areas as useful for the intended purpose. The areas to be used for debris and organics handling area generally located in the north half of the project and in the south half of the project. These locations will enable a shorter haul distance for the materials. These areas can be used without extensive grading, and will only be used until such time as the debris and organics (materials unsuitable for compaction) are hauled off or spread at suitable locations.

Data Request 49:

Please provide a description of the methodology proposed for subsurface crossing of underground pipelines beneath roadways. The description should provide the excavation method, address soils handling and erosion control, and provide a contingency should groundwater be encountered.

Response:

For short crossings boring may be used under roadways. Boring pits will be dug on each side of the crossing. For longer crossings horizontal direction drilling will be used. Standard excavation methods will be used to remove soil from bore pits and stockpiled as needed. Soil stockpiles will be covered prior to forecasted storm events and during windy conditions. Fiber

rolls or gravel bags will be placed around the perimeter of the stockpiles to further minimize the potential for runoff. Should groundwater be encountered, it will be tested for contaminants. If contamination is encountered, the water will not be discharged prior to treatment. It is anticipated that clean groundwater will be discharged into the local storm system/ditches.

Attachment DR-44

Carleton Engineering Response

June 25, 2008

Geoff Baxter, P.E.
WorleyParsons
2330 E. Bidwell, Suite 150
Folsom, CA 95630

Re: Beacon Solar Energy Project
Project #14291-1006 DR
Response to CEC Draft Issues Identification Report and Data Request

Dear Geoff,

We are in receipt of the Draft Issues Identification Report dated June 2, 2008 and the Data Request Letter dated June 16, 2008 from the California Energy Commission for the subject property. A response to each follows the original comment in ***bold italics***:

Data Request Letter dated June 16, 2008

Item 44. Please provide design information showing this configuration is suitable for the anticipated flows.

DESCRIPTION
The Beacon Solar Energy Project is located in the Fremont Valley on approximately 2,330 acres adjacent to State Route 14 (Midland Trail), north of California City in Kern County, California (Figures 1 & 2). The site is bounded by State Route 14 to the west, and undeveloped land to the north, east and south. Railroad tracks operated by Southern Pacific Railroad run north/south, bisecting the western portion of the site. The project includes construction of a solar power plant, which will generate approximately 250 Megawatts of power using solar thermal technology. In conjunction with the power plant, an administration building, a warehouse, and a paved access road from State Route 14 to the central power block will be constructed. The site is located over the Cantil Valley Fault (Garlock West Fault).

Based on Flood Hazard Maps prepared by the Federal Emergency Management Agency (FEMA) a 100-year flood zone crosses the central portion of the site, trending northeast along the alignment of Pine Tree Creek dry wash. Off-site drainage comes from the El Paso Mountains to the southwest. Pine Tree Creek is similar to other streams in the area. It discharges from well defined, steep canyons, but tends to spread out into a number of poorly defined drainage channels on the valley floor. This is evident from the topographic survey of the project site (provided by Lars Andersen).

The proposed improvements will realign the Pine Tree Creek dry wash to follow

the southern and eastern property boundaries. See attached exhibit. This will be achieved by the creation of two turns: the first turn is approximately 65 degrees to the east and the second turn is 90 degrees to the north. Due to the existing, poorly defined dry wash (sheet flow through portions of the dry wash) the channel outlet will be designed to return the flow from a concentrated flow into a sheet flow, which mimics the existing dry wash conditions.

DESIGN PARAMETERS

Per the Kern County Division Four Standards for Drainage, the constructed drainage system shall be designed to convey the Capital Storm Design Discharge (CSDD) 100-year event plus freeboard with the water surface elevation contained within the channel.

Based on a previous FEMA Flood Insurance Study, the 100-year peak discharge storm flow in the Pine Tree Creek Dry Wash is estimated to be between 14,000 and 20,000 cfs (see Conceptual Drainage Study prepared by Carlton Engineering, Inc., dated February 2008). For the purpose of this letter the more conservative flow of 20,000 cfs will be analyzed.

CHANNEL GEOMETRY AND ROUGHNESS

The Channel was designed using open channel flow criteria outlined in the Kern County Division Four Standards (KCDFS) for drainage. The typical rerouted dry wash channel is designed with maximum 3:1 side slopes and a minimum channel bottom of 345 feet. A 3 ft deep by 40 ft wide trapezoidal rock lined channel with 4:1 side slopes will be constructed in the center of the main channel to carry low flows (maximum capacity of 370 cfs) through the site. The low flow channel will be lined with Light Class (Caltrans Standard Specification Section 72) rock.

At the upstream end of the project the outside edge slope of the trapezoidal channel will be constructed at a 2:1 and lined with Light Class (Caltrans Standard Specification Section 72) rock. A 5-foot high berm will be constructed above the 8-foot deep channel, creating a total channel depth of 13 feet. This additional depth of channel will help turn the water at the bend and keep the water within the constructed channel.

The rerouted dry wash will slope from a minimum of 0.5% to a maximum of 1.38%. Channel Manning's n roughness was taken from Table 3 Summary of Roughness Coefficients in the FEMA Flood Insurance Study Kern County, California Unincorporated Areas Volume 1. The Manning's "n" roughness value for the Jawbone Canyon Wash in the channel ranges between 0.030-0.045. A Manning's n value of 0.035 was assumed for the rerouted dry wash (Pine Tree Creek). This will allow for a stone covered channel bottom and weed covered banks. This assumed n value will take into account re-vegetation of the dry wash with native plant species. The rock lined sides and rock lined low flow channel was assumed to have a Manning's n value of 0.045. A composite Manning's n value was determined to be 0.039.

Due to the high water velocities (8.2 to 12 fps) as indicated below, the channel may require additional erosion control measures (i.e. rip-rap, blanket, etc.). Per Figure 2 – *"Size of stone that will resist displacement for various velocities and side slopes"* in Appendix D of the Conceptual Drainage Study, the rip-rap will range in size between No. 1 Backing Class to Light Class (see Caltrans Standard Specification Section 72 for specification of class type). The rip-rap shall be placed along the channel floor and up the channel sides to estimated freeboard depth.

ALIGNMENT AND FREEBOARD

Per the KCDFS Chapter X the following standards shall be met:

1. The minimum centerline radii for curves in constructed channels shall be three (3) times the top width of the design water surface.

2. The minimum freeboard between the design water surface, and the top of bank of the channel shall be 0.50 feet or 0.20 of the specific energy, whichever is greater.

3. The super-elevation of the water surface resulting from changing directions shall be considered prior to computing the required freeboard.

In order to compute the water surface elevation in a channel due to super-elevation, we used the method outlined in the Caltrans Highway Design Manual Chapter 860 Open Channels (dated September 1, 2006). Flow around a curve will result in a rise of the water surface on the outside of the curve. The heights required by this super-elevation of the water surface can be computed by the following Soil Conservation Service (SCS) formulas:

Trapezoidal Channels during Subcritical flow:

$$E = \frac{V^2(b+2kd)}{2(gr - 2KV^2)}$$

Where
- E = Maximum height of water surface in feet above depth "d".
- V = Average velocity for the flow cross section in feet per second at entrance to curve.
- b = Width of rectangular channel or bottom width of trapezoidal channel in feet.
- g = Acceleration of gravity = 32.2 feet per second squared.
- r = Radius of channel centerline in feet.
- K = Cotangent of bank slope.
- d = Depth of flow in feet for straight alignment at entrance to curve.

The Caltrans Method and the Kern County Method for determining channel alignment has been used for the calculations below.

DESIGN METHODOLOGY

The program Flowmaster by Bently was used to determine the water surface and velocity in the realigned channel. For purpose of this report, five channel section locations were analyzed in the rerouted dry wash. We assumed for these channels that the depth of flow achieves a condition known as normal depth, and is assumed constant along the length of the channel.

The analysis of the rerouted dry wash has been broken out into five sections:

Turn #1 – the first turn at the upstream end of the project – the beginning of the realigned dry wash.

Straight #1 – downstream of Turn #1 – traveling east to west - approximately 1800 LF in length.

Turn #2 – down stream of Straight #1 - 90 degree turn– south east corner of the project.

Straight #2 – downstream of Turn #2 – traveling south to north - approximately 5100 LF in length.

Outlet – downstream of Straight #2

TURN #1 - 65 degree turn

Turn #1 has a smooth outside curve radius of 1800 ft. The centerline radius of Turn #1 is 600 ft. The inside radius is 970 ft with an angle point of 65 degrees. Turn #1 at the project southern property line is approximately 1600 ft wide. At the end of Turn #1 the bottom width of the channel is 345 ft. Turn #1 was designed following Caltrans requirements for calculating the outside water surface elevation due to the super-elevation of the water surface around the turn.

Velocity at entrance to curve = 6.1 fps
Velocity at exit to curve = 8.8 fps

Estimated Radius of channel centerline = 600 ft
Soil Conservation Service (SCS) formula for Trapezoidal Channel for Subcritical Flow: E = Maximum height of water surface in feet above depth "d".

TURN #1 SUMMARY TABLE

Trapezoidal Channel	Slope	Normal Depth	Specific Energy	Freeboard (0.2 x Specific Energy)	Super-elevation Height (E)	Normal Depth + Super-elevation Height + Freeboard	Minimum Channel Design Depth
Entrance of Curve - 1600 ft Bottom Width with 2:1 Side Slopes Outside Edge and 3:1Side Slopes Inside Edge	1.3%	2.05 FT	2.63 FT	0.53 FT	3.1 FT	5.7FT	11.9 FT Inside Curve 13 FT Outside Curve
Exit of Curve - 345 ft Bottom Width with 2:1Side Slopes Outside Edge and 3:1 Side Slopes Inside	0.5%	6.82 FT	7.25 FT	1.45 FT	1.4 FT	9.67 FT	11.9 FT Inside Curve 13 FT Outside Curve

The minimum designed channel depth at Turn #1 on the inside of the turn is 11.9 ft. The minimum design channel depth at Turn #1 on the outside of the turn is 13ft. A 5 ft tall berm will be constructed on the outside turn.

The minimum freeboard required following Kern County's requirements is 0.5 ft or 0.2 x Specific Energy, whichever is greater. The maximum Specific Energy in turn #1 is 7.25 ft. The maximum freeboard is 1.45 ft (0.2 x 7.25 ft>0.5 ft).

The maximum water surface at the outside edge of Turn #1 is approximately 8.22 ft (6.82ft + 1.4ft). The minimum required channel depth is 9.67 ft (6.82ft + 1.4 ft+ 1.45ft). The minimum designed channel depth at Turn #1 is 11.9 ft on the inside of the turn and 13 ft on the outside of the turn. The super-elevated water in Turn #1 will remain within the designed channel.

The entire channel is lined with Light Class (Caltrans Standard Specification Section 72) rock to dissipate the energy of the incoming water.

STRAIGHT #1

The depth of flow for Straight #1 at a slope of 0.5 is 6.04 feet with a velocity of approximately 8.7 fps. The flow is subcritical.

STRAIGHT #1 SUMMARY TABLE

Trapezoidal Channel	Slope	Normal Depth	Specific Energy	Freeboard (0.2 x Specific Energy)	Water Depth + Freeboard	Minimum Channel Design Depth
345 ft Bottom Width with 3:1 Side Slopes	0.5%	6.04 FT	7.23 FT	1.45 FT	7.5 FT	8 FT

The minimum freeboard required following Kern County's requirements is 0.5 ft or 0.2 x Specific Energy, whichever is greater. The Specific Energy in straight #1 is 7.23 ft. The freeboard is 1.45 ft (0.2 x 7.23 ft>0.5 ft). The minimum required channel depth is 7.5 ft (6.04 ft + 1.45 ft). The minimum designed channel depth at Straight #1 is 8 ft. The water in Straight #1 will remain within the designed channel.

TURN #2 - 90 Degree turn
Channel configuration: Top width of water surface = 375 ft
Radius of channel centerline = 1143 ft (Kern County Minimum Radius 1125 ft [3 x 375 ft])
Velocity at entrance to curve = 10.51 fps
Soil Conservation Service (SCS) formula for Trapezoidal Channel during Subcritical Flow: E = Maximum height of water surface in feet above depth "d"= 1.04 ft

TURN #2 SUMMARY TABLE

Trapezoidal Channel	Slope	Normal Depth	Specific Energy	Freeboard (0.2 x Specific Energy)	Super-elevation Height (E)	Normal Depth + Super-elevation Height + Freeboard	Minimum Channel Design Depth
345 ft Bottom Width with 3:1 Side Slopes	0.9%	5.02 FT	6.74 FT	1.35 FT	1.04 FT	7.4 FT	8 FT

The minimum freeboard required following Kern County's requirements is 0.5 ft or 0.2 x Specific Energy, whichever is greater. The Specific Energy in turn #2 is 6.74 ft. The freeboard is 1.35 ft (0.2 x 6.74 ft>0.5 ft).
The water surface at the outside edge of Turn #2 is approximately 6.06 ft. The minimum required channel depth is 7.4 ft (6.06 ft + 1.35 ft). The minimum designed channel depth at Turn #2 is 8 ft on the inside of the turn and varies from 8 ft to 16 ft on the outside of the turn. The super-elevated water in Turn #2 will remain within the designed channel.

STRAIGHT #2

The depth of flow for Straight #2 at a slope of 1.38% is 4.38 feet with a velocity of approximately 12.01 fps. The flow is subcritical.

STRAIGHT #2 SUMMARY TABLE

Trapezoidal Channel	Slope	Normal Depth	Specific Energy	Freeboard (0.2 x Specific Energy)	Water Depth + Freeboard	Minimum Channel Design Depth
345 ft Bottom Width with 3:1 Side Slopes	1.38%	4.38 FT	6.62 FT	1.32 FT	5.7 FT	8 FT

The minimum freeboard required following Kern County's requirements is 0.5 ft or 0.2 x Specific Energy, whichever is greater. The Specific Energy in Straight #2 is 6.62 ft. The freeboard is 1.32 ft (0.2 x 6.62 ft>0.5 ft). The minimum required channel depth is 5.7 ft (4.38 ft + 1.32 ft). The minimum designed channel depth at Straight #2 is 8 ft. The water in Straight #2 will remain within the designed channel.

OUTLET

Due to the nature of the existing dry wash spreading out into poorly defined drainages on the valley floor, the outlet of the rerouted dry wash will return the channelized flow back into sheet flow. The channel will transition from a well-defined trapezoidal channel to a wide channel that will convert the concentrated flow into sheet flow.

The Low Flow Channel will continue toward the north east to a location where it will tie into an existing channel and exit the project site.

CONCLUSIONS

Using Caltrans and Kern County's design criteria for open channels we have shown that the configuration of the re-routed dry wash is suitable for the anticipated flows.

During the design of final construction documents, final erosion control measures in the channel shall be further reviewed and refined.

Data Request Letter Dated June 16, 2008

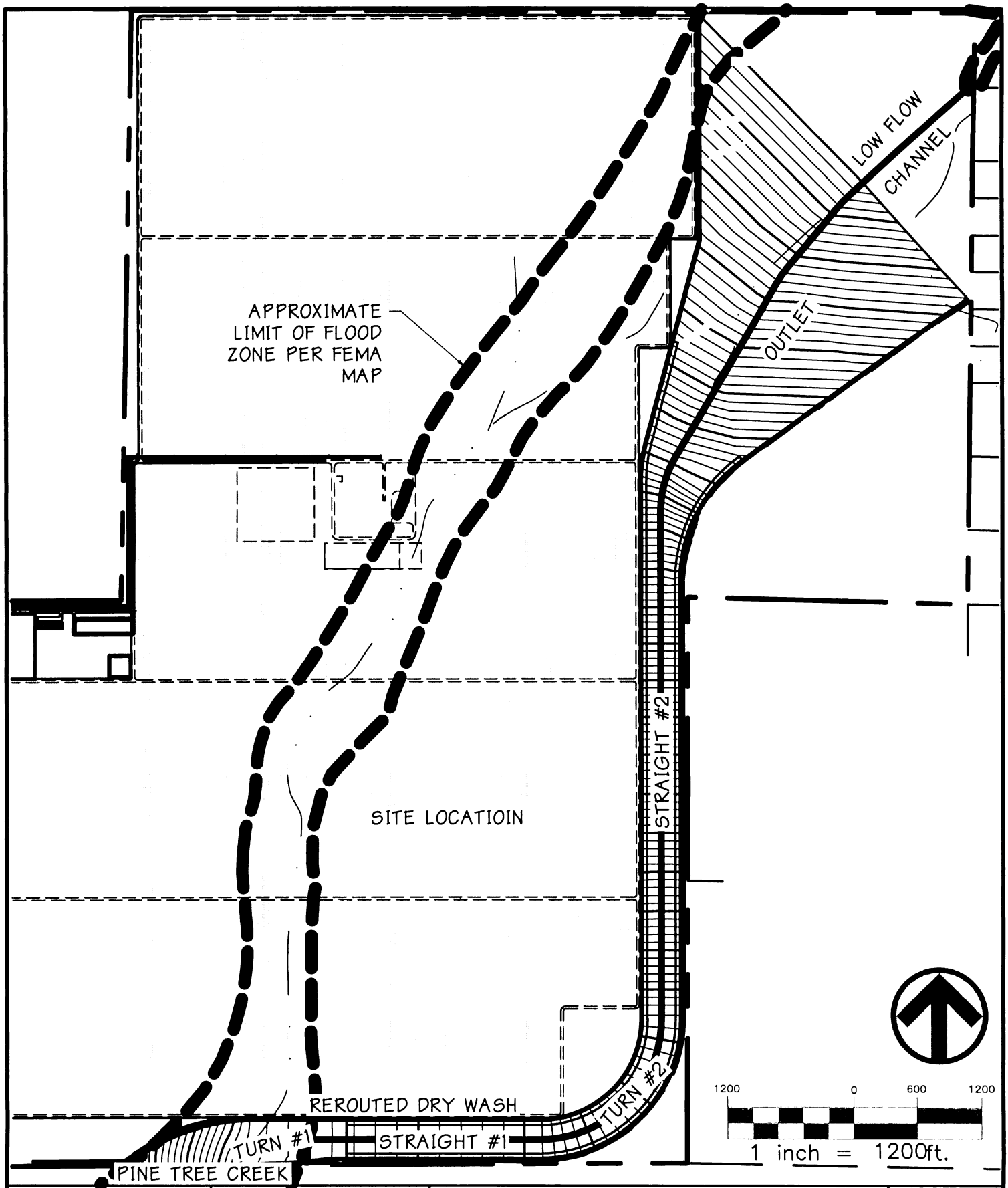
Item 45.b. Please provide plans or maps that clearly show the conceptual grading plan that identifies all cut and fill area.

Carlton believes the Conceptual Grading plan submitted with the original submittal satisfies item 45.b. The existing ground contours and proposed contours are shown on the Conceptual Grading plan. In addition to the proposed contours, grade tags at the corners and points of interest have been added. However, in order to simplify review, we have added an additional sheet (Sheet C2) that shows depth of cuts or fills relative to the existing ground surface and to the proposed finished grade surface. These cut/fill distances have been shown on a roughly 200 ft x 200 ft grid.

In conclusion, please refer to attached prints showing additional information described above and do not hesitate to call if you have any questions.

Sincerely,
Carlton Engineering, Inc.

Michael Hauge, P.E.
Project Engineer



6199-01-07	06/25/2008	BEACON SOLAR ENERGY PROJECT	FIGURE
CARLTON Engineering Inc.		Kern County, California	1
3883 Ponderosa Road, Shingle Springs, CA 95682 Voice 530.677.5515 Fax 530.677.6645		Site Map	

Trapezoidal Channel 1.0% - Turn #1 – 1600 ft

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.045	
Channel Slope	0.01300	ft/ft
Left Side Slope	2.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Bottom Width	1600.00	ft
Discharge	20000.00	ft^3/s

Results

Normal Depth	2.05	ft
Flow Area	3295.96	ft^2
Wetted Perimeter	1611.08	ft
Top Width	1610.27	ft
Critical Depth	1.69	ft
Critical Slope	0.02480	ft/ft
Velocity	6.07	ft/s
Velocity Head	0.57	ft
Specific Energy	2.63	ft
Froude Number	0.75	
Flow Type	Subcritical	
Normal Depth	2.05	ft
Critical Depth	1.69	ft
Channel Slope	0.01300	ft/ft
Critical Slope	0.02480	ft/ft

Trapezoidal Channel 0.5% - Turn #1 – 345 ft

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.045	
Channel Slope	0.00500	ft/ft
Left Side Slope	2.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Bottom Width	345.00	ft
Discharge	20000.00	ft^3/s

Results

Normal Depth	6.82	ft
Flow Area	2468.27	ft^2
Wetted Perimeter	381.80	ft
Top Width	379.09	ft
Critical Depth	4.66	ft
Critical Slope	0.01798	ft/ft
Velocity	8.10	ft/s
Velocity Head	1.02	ft
Specific Energy	7.84	ft
Froude Number	0.56	
Flow Type	Subcritical	
Normal Depth	6.82	ft
Critical Depth	4.66	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.01798	ft/ft

Trapezoidal Channel 0.5% - Straight #1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth
Channel Slope	0.00500 ft/ft
Discharge	20000.00ft³/s

Section Definitions

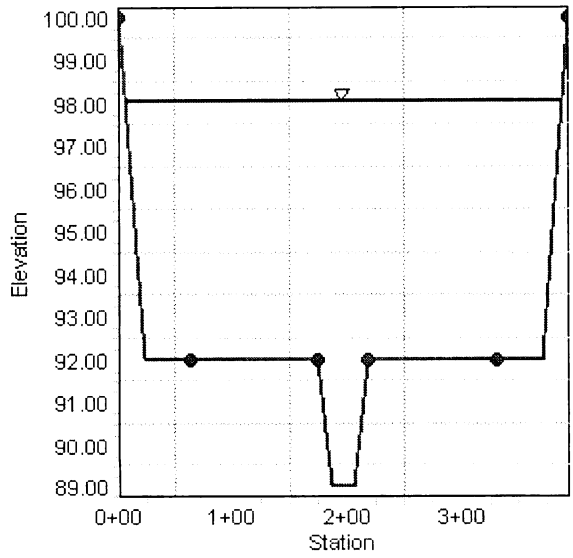
Station (ft)	Elevation (ft)
0+00	100.00
0+24	92.00
0+64	92.00
1+75	92.00
1+87	89.00
2+07	89.00
2+19	92.00
3+29	92.00
3+69	92.00
3+93	100.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 100.00)	(0+64, 92.00)	0.045
(0+64, 92.00)	(1+75, 92.00)	0.035
(1+75, 92.00)	(2+19, 92.00)	0.045
(2+19, 92.00)	(3+29, 92.00)	0.035
(3+29, 92.00)	(3+93, 100.00)	0.045

Results

Normal Depth	6.04	ft
Flow Area	2289.56	ft²
Wetted Perimeter	383.94	ft
Specific Energy	7.23	ft



Trapezoidal Channel 0.9% - Turn #2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth
Channel Slope	0.00900 ft/ft
Discharge	20000.00 ft^3/s

Section Definitions

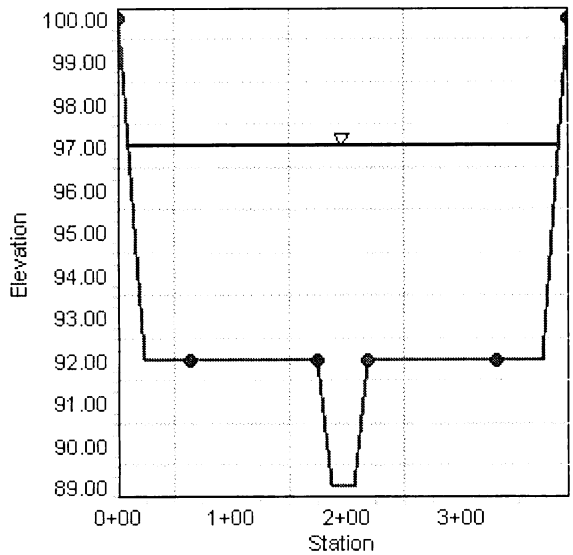
Station (ft)	Elevation (ft)
0+00	100.00
0+24	92.00
0+64	92.00
1+75	92.00
1+87	89.00
2+07	89.00
2+19	92.00
3+29	92.00
3+69	92.00
3+93	100.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 100.00)	(0+64, 92.00)	0.045
(0+64, 92.00)	(1+75, 92.00)	0.035
(1+75, 92.00)	(2+19, 92.00)	0.045
(2+19, 92.00)	(3+29, 92.00)	0.035
(3+29, 92.00)	(3+93, 100.00)	0.045

Results

Normal Depth	5.02 ft
Flow Area	1903.55 ft^2
Wetted Perimeter	377.49 ft
Specific Energy	6.74 ft



Trapezoidal Channel 1.38% - Straight #2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth
Channel Slope	0.01380 ft/ft
Discharge	20000.00 ft^3/s

Section Definitions

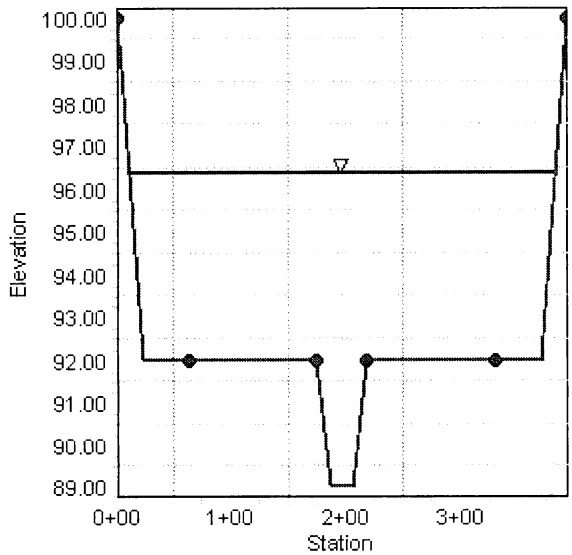
Station (ft)	Elevation (ft)
0+00	100.00
0+24	92.00
0+64	92.00
1+75	92.00
1+87	89.00
2+07	89.00
2+19	92.00
3+29	92.00
3+69	92.00
3+93	100.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 100.00)	(0+64, 92.00)	0.045
(0+64, 92.00)	(1+75, 92.00)	0.035
(1+75, 92.00)	(2+19, 92.00)	0.045
(2+19, 92.00)	(3+29, 92.00)	0.035
(3+29, 92.00)	(3+93, 100.00)	0.045

Results

Normal Depth	4.38 ft
Flow Area	1665.66 ft^2
Wetted Perimeter	373.46 ft
Specific Energy	6.62 ft



Attachment DR-45

Soil Figures

a. Existing Conditions Site Plan

b. Conceptual Grading Plan

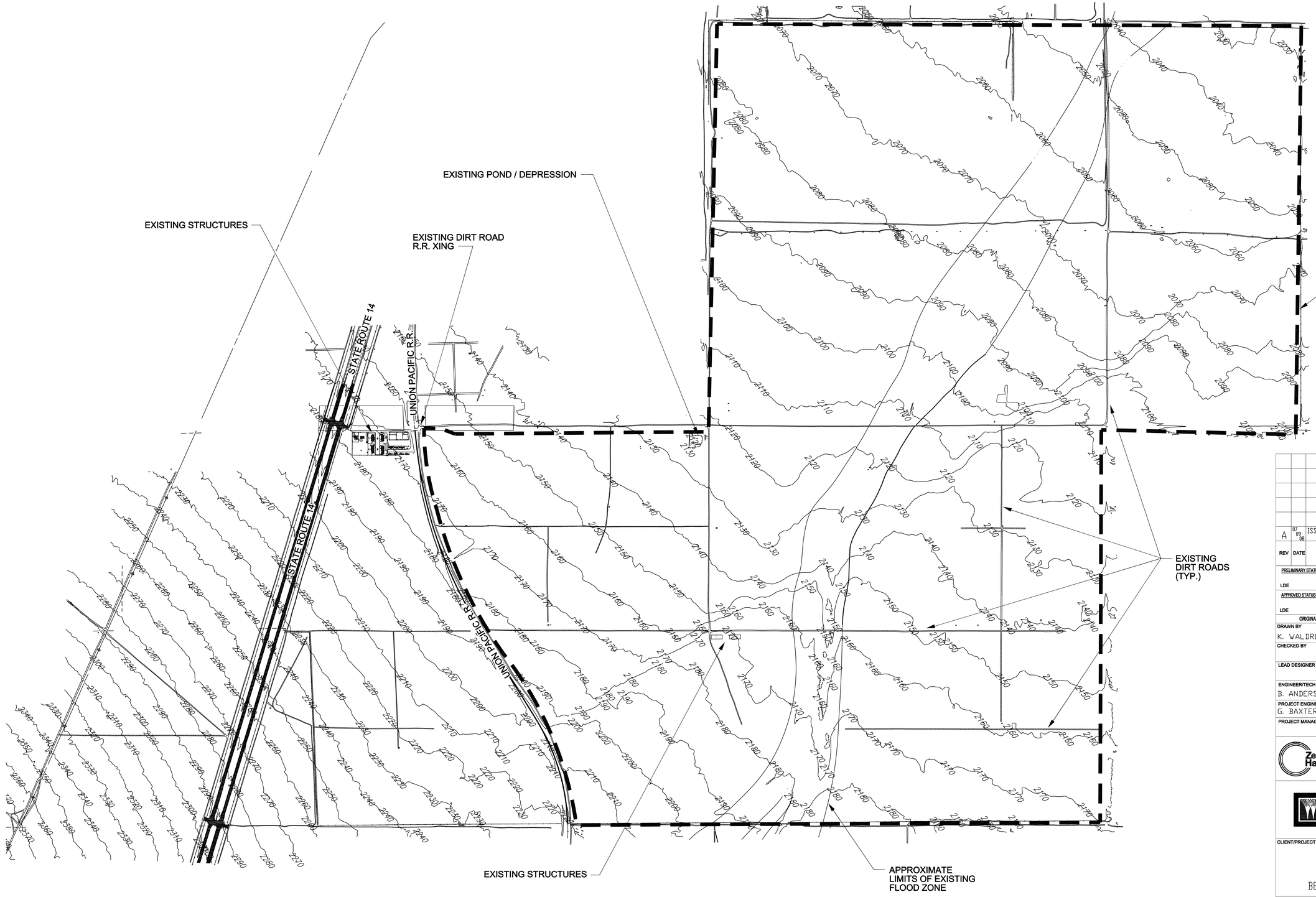
c. Conceptual Cut Fill Map

d. Channel Grading Plan (1)

e. Channel Grading Plan (2)

f. Channel Sections (1)

g. Channel Sections (2)



REV	DATE	DESCRIPTION	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER/ TECH SPEC	LEAD DISC ENGINEER	PROJ ENGR MANAGER	PROJECT MANAGER
A	07 09 08	ISSUED FOR USE	KSV			BA		GB	

PRELIMINARY STATUS — DATE — LDE
REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.

APPROVED STATUS — DATE — LDE
REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL

DRAWN BY: K. WALDRON
CHECKED BY:
LEAD DESIGNER:
ENGINEER/TECH SPECIALIST: B. ANDERS
PROJECT ENGINEERING MANAGER: G. BAXTER
PROJECT MANAGER:

Zero Harm — Leadership, No Incidents, Safe Behavior

PROFESSIONAL ENGINEER'S SEAL

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
LIC. NO.: DATE:

WorleyParsons
resources & energy

CLIENT/PROJECT TITLE

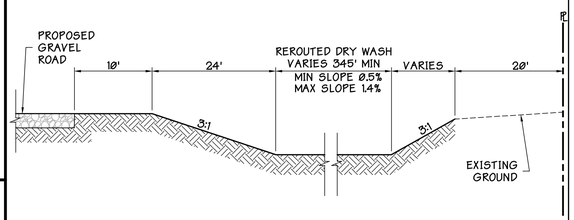
BEACON SOLAR, LLC

BEACON SOLAR ENERGY PROJECT

EXISTING CONDITIONS

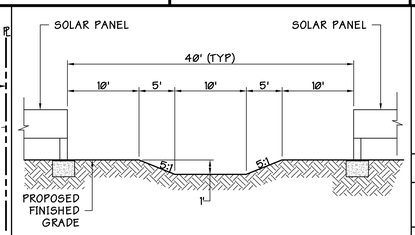
SITE PLAN

SCALE: 1" = 1000'
DRAWING SIZE: ARCH D (36" x 24")
WORLEYPARSONS DWG. NO.: FPLS-0-SK-111-002-000
REV: A



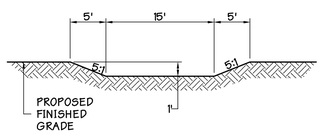
Rerouted Dry Wash

NTS **1**



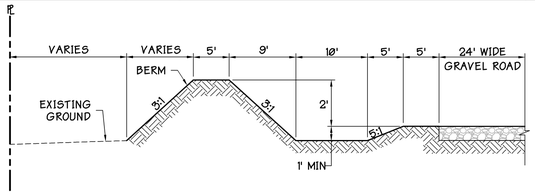
Ditch Detail

NTS **2**



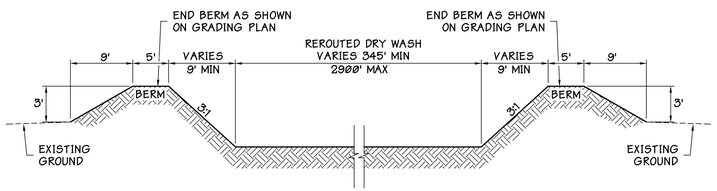
Ditch Detail

NTS **3**



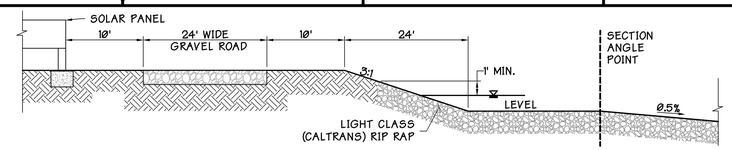
Berm

NTS **4**



Rerouted Dry Wash Channel Outlet

NTS **5**



Ditch Detail

NTS **6**

DATE	CUT (YARDS)	FILL (YARDS)	TOTAL (YARDS)
01-16-2008	5,160,000	4,830,000	330,000 CUT *

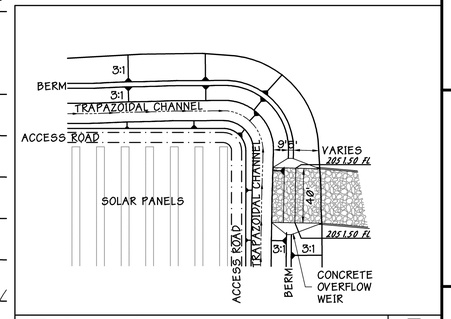
* ASSUMES SHRINK OF APPOXIMATELY 7% BASED ON RELATIVE COMPACTION OF 90 PERCENT OF MAXIMUM DENSITY PER ASTM D1577

600 0 300 600 1200

1 inch = 600 ft.

General Notes

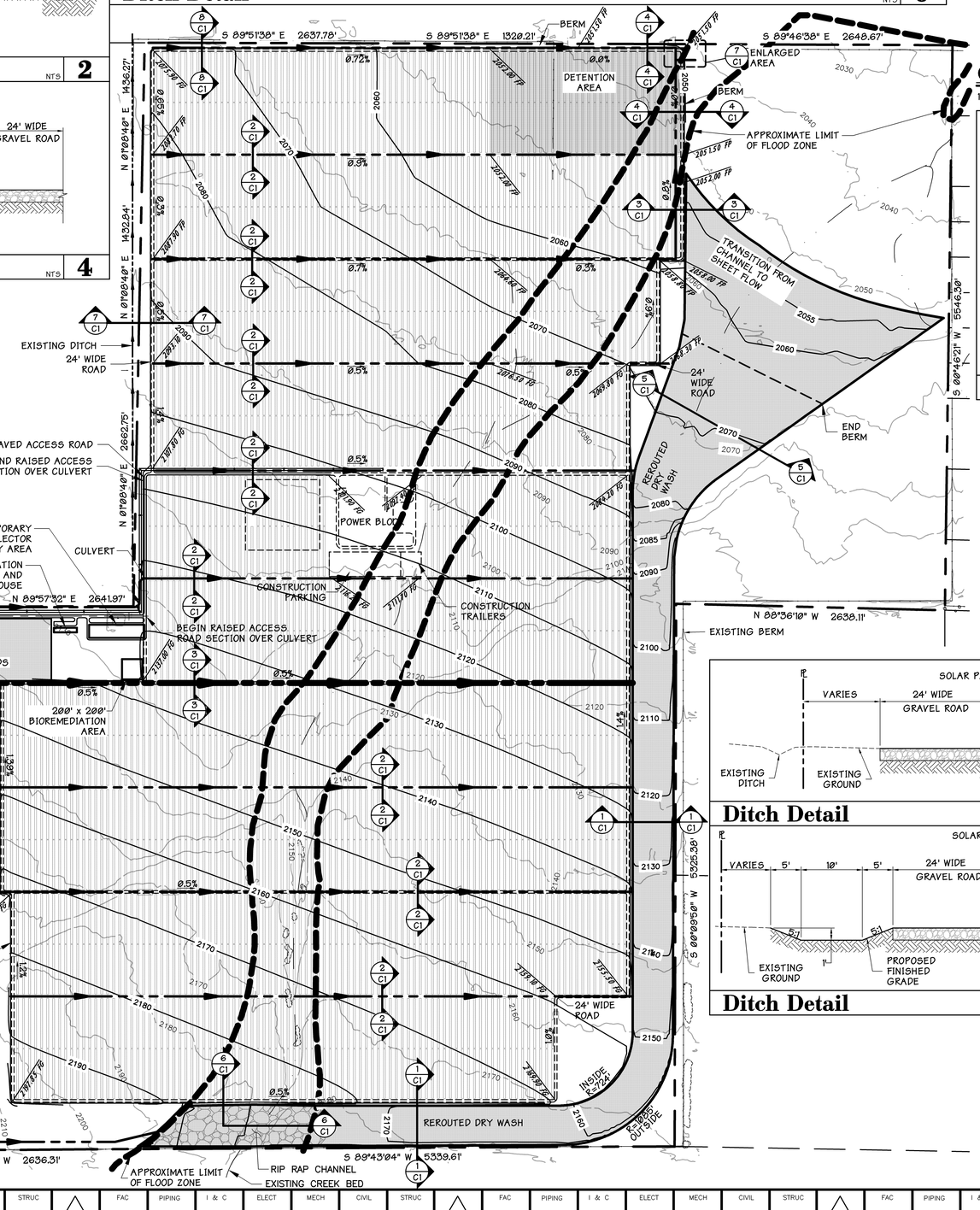
1. ALL SLOPES ARE 3:1 UNLESS OTHERWISE SHOWN

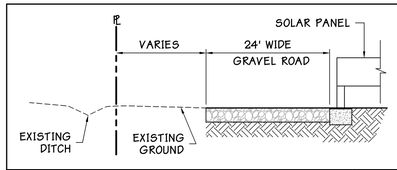


Enlarged Area

NTS **7**

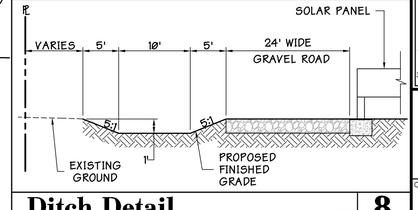
WORKING DRAWING DATE 02/21/2008 REV





Ditch Detail

NTS **7**



Ditch Detail

NTS **8**

PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE .		
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE		

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: PEM	
CHECKED BY: JDT	
LEAD DESIGNER: MDH	
ENGINEER/TECH SPECIALIST: MDH	
PROJECT ENGINEERING MANAGER: GEOFF BAXTER	
PROJECT MANAGER:	

Zero Harm — Leadership, No incidents, Safe Behavior

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF PE: STATE: LIC. NO.: DATE:

TEAM DRIVEN SOLUTIONS FOR THE BUILT ENVIRONMENT

CARLTON Engineering Inc.
3883 Ponderosa Road, Shingle Springs, CA 95682
Voice 530.677.5515 Fax 530.677.6645

PRELIMINARY NOT FOR CONSTRUCTION

WorleyParsons resources & energy

CLIENT/PROJECT TITLE

BEACON SOLAR, LLC
BEACON SOLAR
ENERGY PROJECT

DRAWING TITLE: CONCEPTUAL GRADING PLAN

SHEET NO: C1

SCALE: 1" = 600'

DRAWING SIZE: ARCH D (24" x 36")

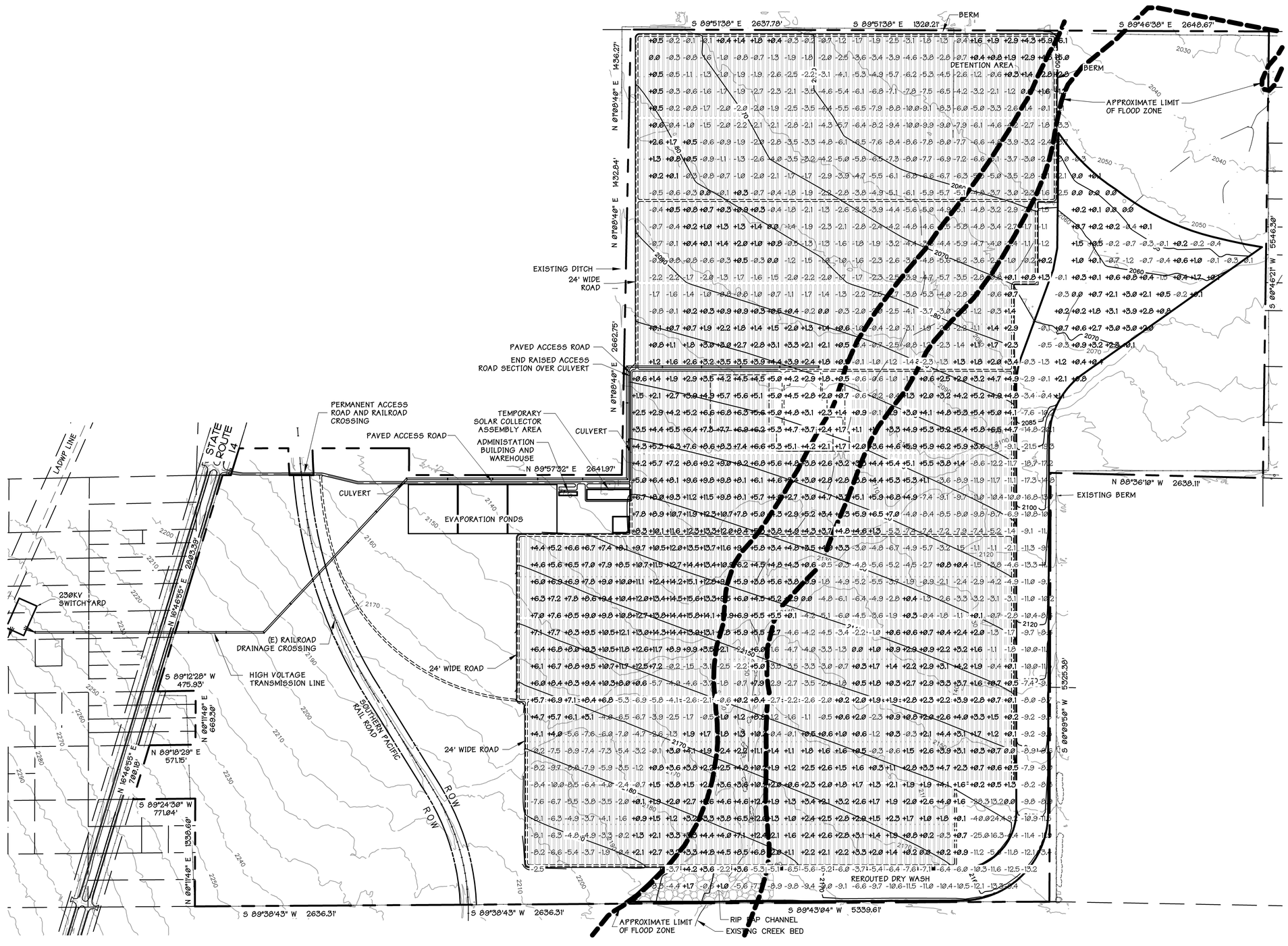
WORLEYPARSONS DWG. NO.

REV: A

PROJECT MANAGER	
PROJ ENGR MANAGER	
LEAD DISC ENGINEER	
ENGINEER/ TECH. SPEC	
LEAD DESIGNER	
CHECKED	
DRAWN	
DATE	
REV	

FAC PIPING I & C ELECT MECH CIVIL STRUC

25Jan2008 11:08am pmckenna Z:\Worley Parsons\6199-01-07 FPE Project Beacon\DwgSet\6199301_C1



600 0 300 600 1200

1 inch = 600 ft.

Cut/Fill Legend

-1.3	DEPTH OF CUT
0.0	BALANCE
+1.0	DEPTH OF FILL

WORKING DRAWING — DATE 06/26/2008 — REV

PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE .		
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE		

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: PEM	
CHECKED BY: JDT	
LEAD DESIGNER: MDH	
ENGINEER/TECH SPECIALIST: MDH	
PROJECT ENGINEERING MANAGER: GEOFF BAXTER	
PROJECT MANAGER:	

Zero Harm — Leadership, No Incidents, Safe Behavior

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: ____ STATE: ____
LIC. NO.: ____ DATE: ____

TEAM DRIVEN SOLUTIONS FOR THE BUILT ENVIRONMENT

CARLTON Engineering Inc.
3883 Ponderosa Road, Shingle Springs, CA 95682
Voice: 530.677.5515 Fax: 530.677.6545

PRELIMINARY — NOT FOR CONSTRUCTION

WorleyParsons — resources & energy

CLIENT/PROJECT TITLE
BEACON SOLAR, LLC
BEACON SOLAR
ENERGY PROJECT

DRAWING TITLE
CONCEPTUAL
CUT/FILL MAP

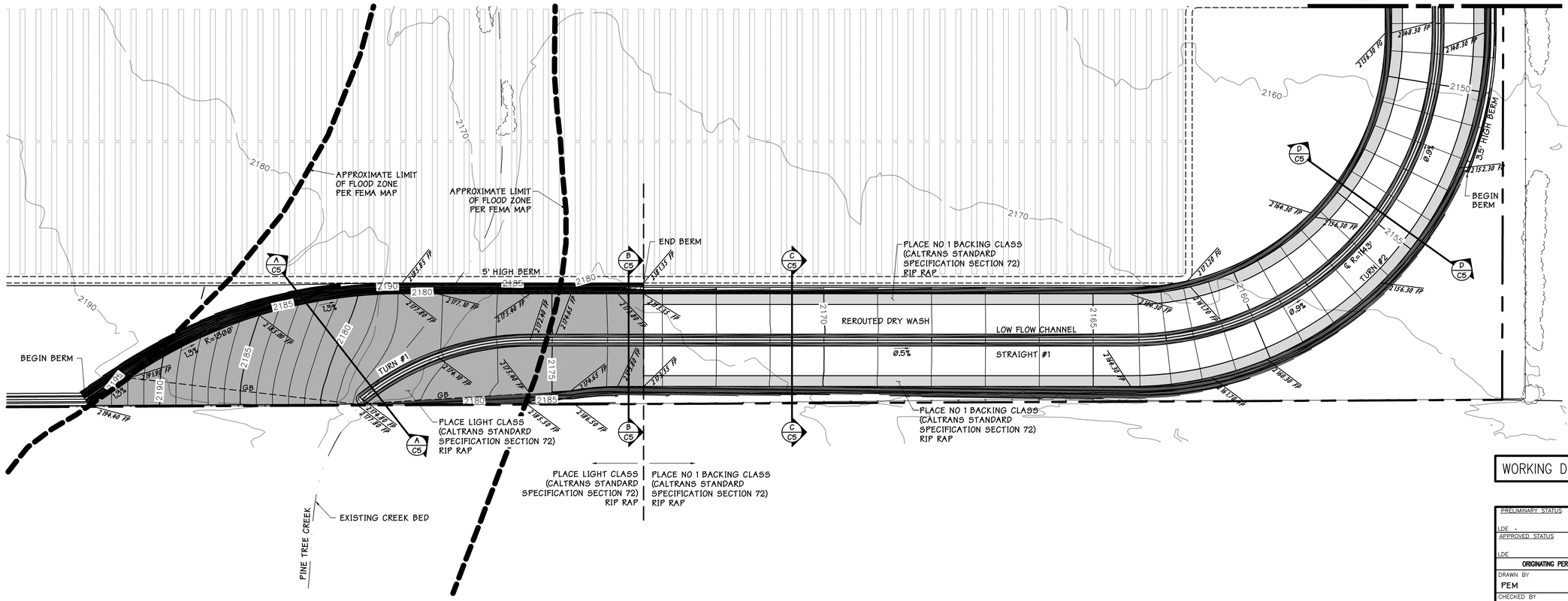
SHEET NO: C2

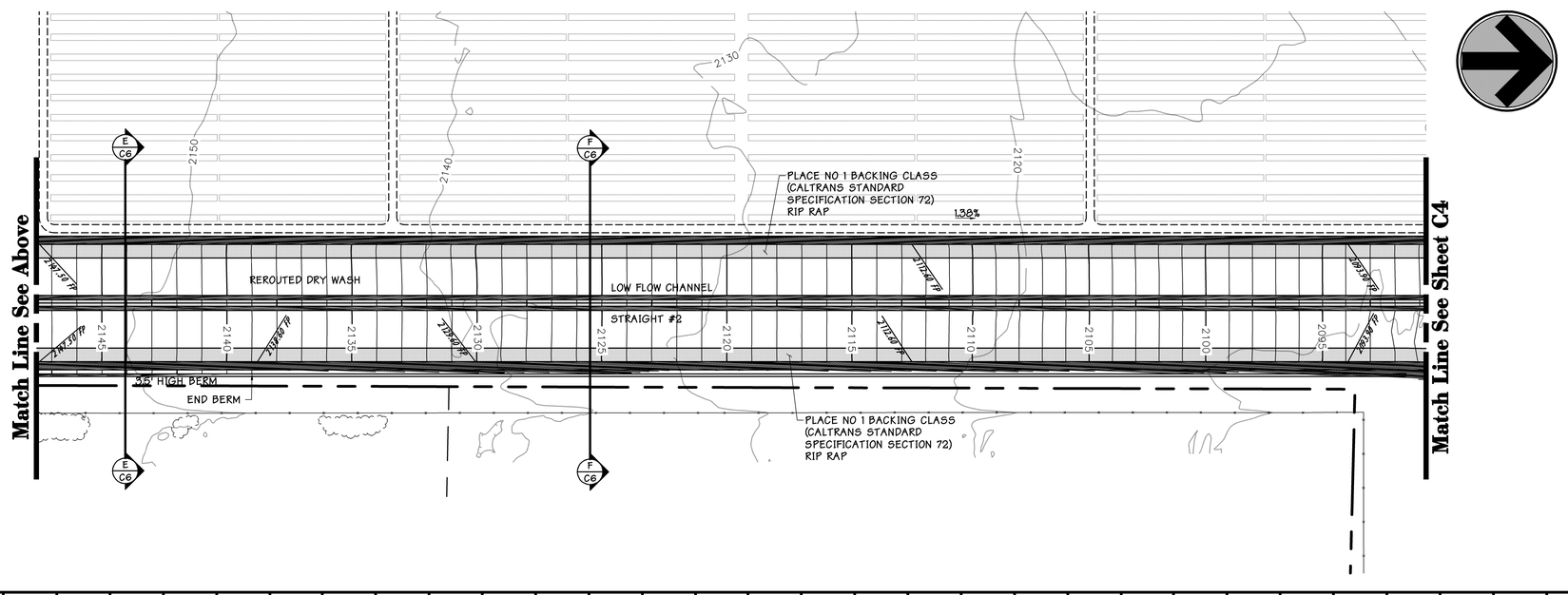
SCALE: 1" = 600'
DRAWING SIZE: ARCH D (24" x 36")
WORLEYPARSONS DWG. NO.
REV

PROJECT MANAGER	
PROJ ENGR MANAGER	
LEAD DISC. ENGINEER	
ENGINEER/ TECH. SPEC.	
LEAD DESIGNER	
CHECKED	
DRAWN	
DATE	
REV	

FAC | PIPING | I & C | ELECT | MECH | CIVIL | STRUC

26Jun2008 7:57am pmcdanie Z:\Worley Parsons\619p-01-07 FRE Project Beacon\DwgSet\619901_C2





WORKING DRAWING — DATE 06/26/2008 — REV

PRELIMINARY STATUS LDE .	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
APPROVED STATUS LDE	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: PEM	
CHECKED BY: JDT	
LEAD DESIGNER: MDH	
ENGINEER/TECH SPECIALIST: MDH	
PROJECT ENGINEERING MANAGER: GEOFF BAXTER	
PROJECT MANAGER	

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ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
UC NO.: DATE:

TEAM DRIVEN SOLUTIONS FOR THE BUILT ENVIRONMENT
CARLTON Engineering Inc.
3883 Ponderosa Road, Shingle Springs, CA 95682
Voice 530.677.5515 Fax 530.677.6645

PRELIMINARY — NOT FOR CONSTRUCTION

WorleyParsons resources & energy

CLIENT/PROJECT TITLE
BEACON SOLAR, LLC
BEACON SOLAR
ENERGY PROJECT

PROJECT MANAGER	
PROJ ENGR MANAGER	
LEAD DISC ENGINEER	
ENGINEER/ TECH. SPEC.	
LEAD DESIGNER	
CHECKED	
DRAWN	
DATE	
REV	

DRAWING TITLE: CHANNEL GRADING PLAN

SHEET NO: C3

SCALE: 1" = 200'

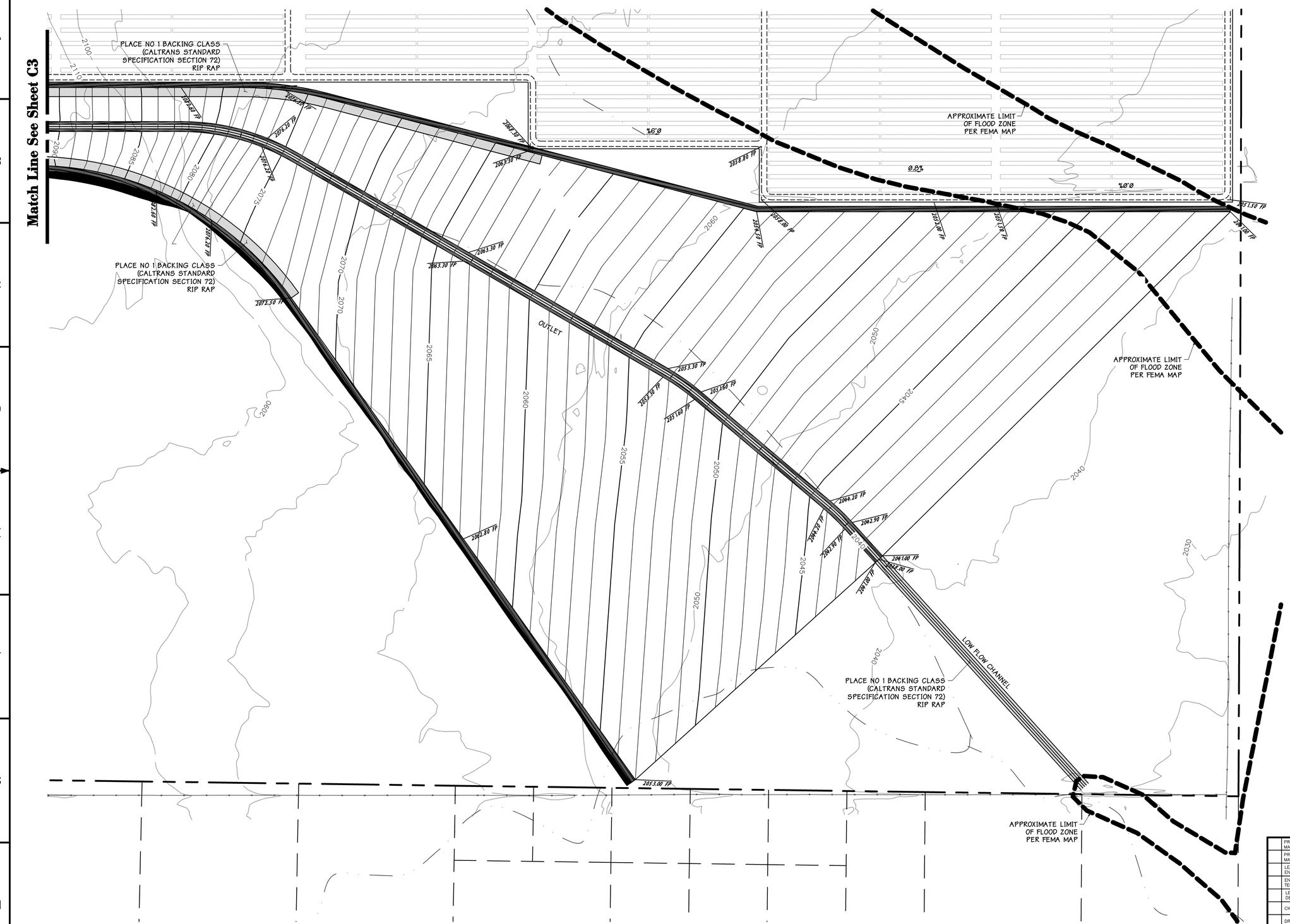
DRAWING SIZE: ARCH D (24" x 36")

WORLEYPARSONS DWG. NO.

REV

FAC | PIPING | I & C | ELECT | MECH | CIVIL | STRUC

26Jun2008 7:57am pmckenna Z:\Worley Parsons\61199-01-07 PRE-Project Beacon\DwgSet\61990_C3



1 inch = 200 ft.

WORKING DRAWING	DATE 06/26/2008	REV

PRELIMINARY STATUS LDE .	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
APPROVED STATUS LDE	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: PEM	
CHECKED BY: JDT	
LEAD DESIGNER: MDH	
ENGINEER/TECH SPECIALIST: MDH	
PROJECT ENGINEERING MANAGER: GEOFF BAXTER	
PROJECT MANAGER	

Zero Harm — Leadership, No Incidents, Safe Behavior

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
LIC. NO.: DATE:

TEAM DRIVEN SOLUTIONS FOR THE BUILT ENVIRONMENT
CARLTON Engineering Inc.
3883 Ponderosa Road, Shingle Springs, CA 95682
Voice 530.677.5515 Fax 530.677.6645

PRELIMINARY
NOT FOR CONSTRUCTION

WorleyParsons
resources & energy

CLIENT/PROJECT TITLE
BEACON SOLAR, LLC
BEACON SOLAR
ENERGY PROJECT

DRAWING TITLE
CHANNEL
GRADING PLAN

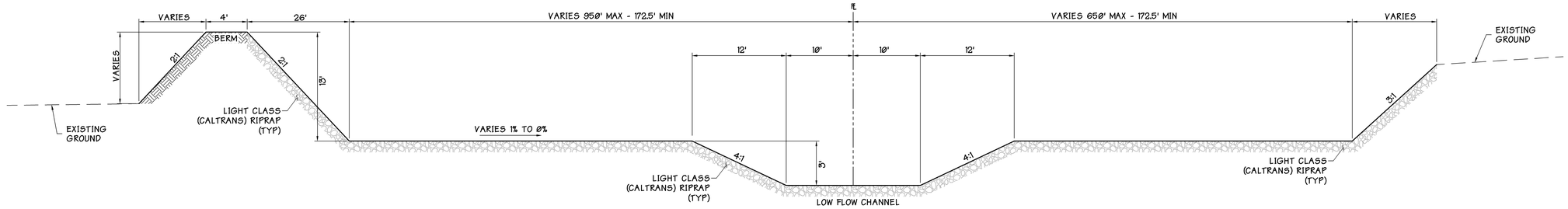
SHEET NO: C4

SCALE 1" = 200'
DRAWING SIZE ARCH D (24" x 36")
WORLEYPARSONS DWG. NO.
REV

PROJECT MANAGER	
PROJ ENGR MANAGER	
LEAD DISC ENGINEER	
ENGINEER/ TECH. SPEC	
LEAD DESIGNER	
CHECKED	
DRAWN	
DATE	
REV	

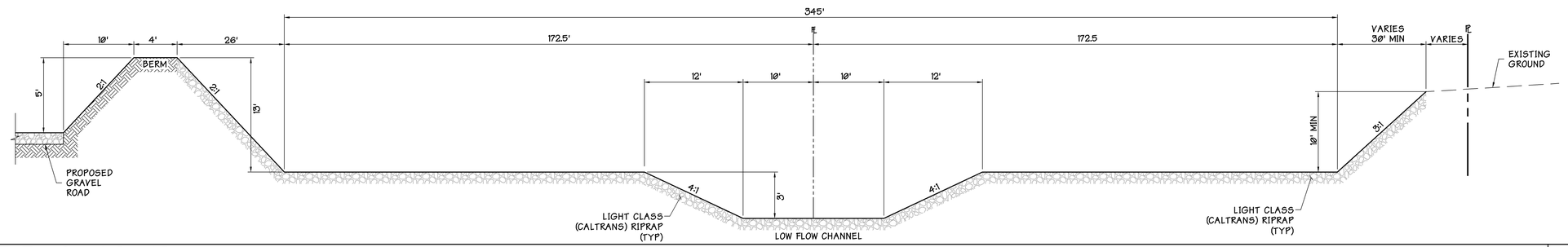
FAC PIPING I & C ELECT MECH CIVIL STRUC

26Jun2008 7:49am pmckenna Z:\Worley Parsons\6199-01-07 FRLE Project Beacon\Dwgart\61990_C4



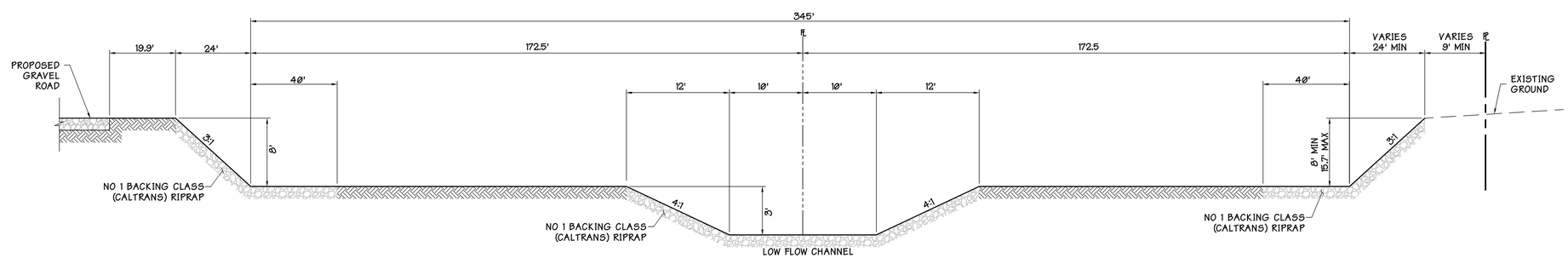
Section A-A - Turn #1

NTS **A**



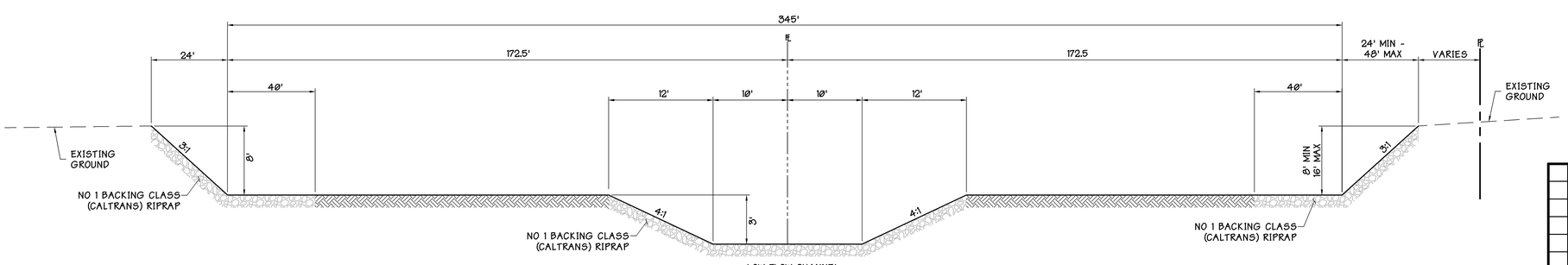
Section B-B - Straight #1

NTS **B**



Section C-C - Straight #1

NTS **C**



Section D-D - Turn #2

NTS **D**

WORKING DRAWING DATE 06/26/2008 REV

PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE .		
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE		

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: PEM	
CHECKED BY: JDT	
LEAD DESIGNER: MDH	
ENGINEER/TECH SPECIALIST: MDH	
PROJECT ENGINEERING MANAGER: GEOFF BAXTER	
PROJECT MANAGER	

Zero Harm — Leadership, No Incidents, Safe Behavior

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
LIC. NO.: DATE:

TEAM DRIVEN SOLUTIONS FOR THE BUILT ENVIRONMENT
CARLTON Engineering Inc.
3883 Ponderosa Road, Shingle Springs, CA 95682
Voice 530.677.5515 Fax 530.677.6645

PRELIMINARY NOT FOR CONSTRUCTION

WorleyParsons resources & energy

CLIENT/PROJECT TITLE
BEACON SOLAR, LLC
BEACON SOLAR
ENERGY PROJECT

DRAWING TITLE: CHANNEL SECTIONS

SHEET NO: C5

SCALE: 1" = 600'

DRAWING SIZE: ARCH D (24" x 36")

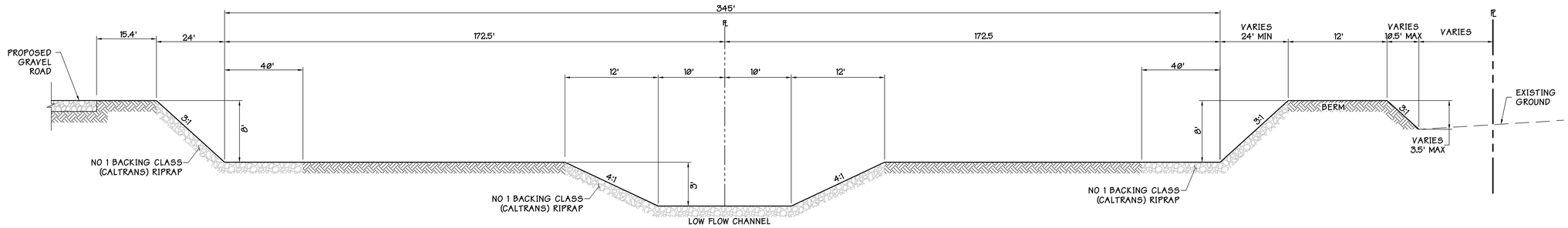
WORLEYPARSONS DWG. NO.

REV

PROJECT MANAGER	
PROJ ENGR MANAGER	
LEAD DISC ENGINEER	
ENGINEER/ TECH. SPEC	
LEAD DESIGNER	
CHECKED	
DRAWN	
DATE	
REV	

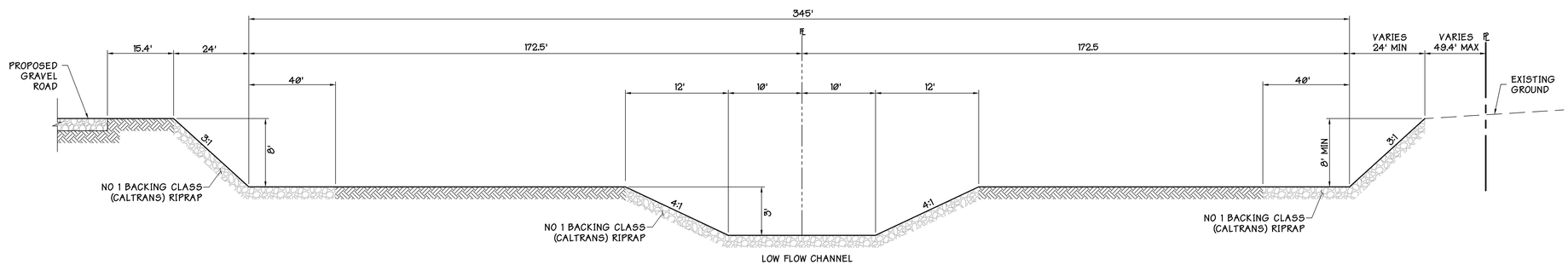
FAC PIPING I & C ELECT MECH CIVIL STRUC

26Jun2008 7:47am pnickerns Z:\Worley Parsons\61199-01-07 FPLE Project Beacon\Dwg\Cat\61199\1_C5



Section E-E

NTS **E**



Section F-F

NTS **F**

PROJECT MANAGER	
PROJ ENGR MANAGER	
LEAD DISC ENGINEER	
ENGINEER/ TECH. SPEC	
LEAD DESIGNER	
CHECKED	
DRAWN	
DATE	
REV	

WORKING DRAWING — DATE 06/26/2008 — REV

PRELIMINARY STATUS — DATE — LDE . — REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.

APPROVED STATUS — DATE — LDE — REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL

DRAWN BY: PEM
CHECKED BY: JDT
LEAD DESIGNER: MDH
ENGINEER/TECH SPECIALIST: MDH
PROJECT ENGINEERING MANAGER: GEOFF BAXTER
PROJECT MANAGER:

PROFESSIONAL ENGINEER'S SEAL

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
LIC. NO.: DATE:

Zero Harm — Leadership, No Incidents, Safe Behavior

TEAM DRIVEN SOLUTIONS FOR THE BUILT ENVIRONMENT
CARLTON Engineering Inc.
3883 Ponderosa Road, Shingle Springs, CA 95682
Voice 530.677.5515 Fax 530.677.6645

PRELIMINARY — NOT FOR CONSTRUCTION

WorleyParsons resources & energy

CLIENT/PROJECT TITLE
BEACON SOLAR, LLC
BEACON SOLAR
ENERGY PROJECT

DRAWING TITLE: CHANNEL SECTIONS

SHEET NO: C6

SCALE: 1" = 600'

DRAWING SIZE: ARCH D (24" x 36")

WORLEYPARSONS DWG. NO.

REV

FAC | PIPING | I & C | ELECT | MECH | CIVIL | STRUC

26Jun2008 7:44am pmckenna Z:\Worley Parsons\6199-01-07 FRLE Project Beacon\Dwg&Art\619901_C6

Attachment DR-47

General Arrangement Site Plan

N

N 645014.93
E 1993976.58

N 644991.77
E 2001903.42

FENCE

APPROXIMATE LIMIT OF EXISTING FLOOD ZONE

RELOCATED SCE DISTRIBUTION LINE

LADWP 230 KV LINE

LADWP 500 KV LINE

ROW

ROW

MIDLAND TRAIL STATE ROUTE 14

14

24' WIDE EARTHEN ROAD

EXISTING SCE DISTRIBUTION LINE

EXISTING SCE DISTRIBUTION LINE

UNDERGROUND GAS LINE TO SOCAL GAS CONNECTION

PAVED ACCESS ROAD

NORTH DEBRIS & ORGANICS HANDLING AREA

24' WIDE EARTHEN ROAD

ADMINISTATION BUILDING AND WAREHOUSE

SOLAR COLLECTOR ASSEMBLY FABRICATION AREA

PERMANENT ACCESS ROAD & RR XING

PAVED ACCESS ROAD

GATE

PROPERTY LINE

CONST TRAILERS

CONST PARKING

LAYDOWN AREA

WELL 63

LOW MAINTENANCE FENCE

WELL 42

WELL 49

BEACON SOLAR ENERGY PROJECT, 230KV SWITCHING STATION

PL

HIGH VOLTAGE TRANSMISSION LINE INTERCONNECTION OPTION 2

EVAPORATION PONDS

LAND FARM

SOUTH DEBRIS & ORGANICS HANDLING AREA

24' WIDE EARTHEN ROAD

WELL 41

24' WIDE ROAD

24' WIDE EARTHEN ROAD

ROW

ROW

HIGH VOLTAGE TRANSMISSION LINE INTERCONNECTION OPTION 1

PL

FENCE

REROUTED DRY WASH

N 634184.94
E 1999176.05

PL

N 634126.01
E 1988563.99

APPROXIMATE LIMIT OF EXISTING FLOOD ZONE

14

LADWP LINE

NEW 230KV LINE TO BARREN RIDGE SWITCHING STATION

500 0 500 1000 1500 2000 2500

SCALE IN FEET

PRELIMINARY STATUS	DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.
LDE .		
APPROVED STATUS	DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.
LDE		

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: Edol	
CHECKED BY	
LEAD DESIGNER	
ENGINEER/TECH SPECIALIST: J. FOSTER	
PROJECT ENGINEERING MANAGER: GEOFF BAXTER	
PROJECT MANAGER	

Zero Harm — Leadership, No Incidents, Safe Behavior

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
LIC. NO: DATE:

WorleyParsons resources & energy

CLIENT/PROJECT TITLE

BEACON SOLAR, LLC
BEACON SOLAR ENERGY PROJECT

GENERAL ARRANGEMENT
SITE PLAN

SCALE: 1' = 600'
DRAWING SIZE: ARCH D (24" x 36")
WORLEYPARSONS DWG. NO.: FPLS-0-SK-111-002-001
REV: H

REV	DATE	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER/ TECH. SPEC.	LEAD DISC ENGINEER	PROJ. ENGR MANAGER	PROJECT MANAGER
H	05/19/08	KSW	JF	ELD				

ISSUED FOR INFORMATION

FAC	PIPING	I & C	ELECT	MECH	CIVIL	STRUC

DWG-FILE: FPLS-0-SK-111-002-001.dwg
DWG-DATE: 19-MAY-08

Data Request 36:

Please indicate the total number of rooms available in those 12 hotels and the estimated number of construction workers that may be expected to use those rooms.

Response:

The number of hotel rooms available in each of the nearby 12 hotel/motels are provided below.

California City Microtel Inn and Suites – 70 rooms
Econo Lodge – 33 rooms
Best Western Desert Winds – 51 rooms
Days Inn – 50 rooms
Mariah Country Inn – 50 rooms
Motel 6 – 121 rooms
Desert Inn - 19 rooms
Best Motel - 28 rooms
Cottage Hotel – 4 rooms
Comfort Inn – 86 rooms
Tehachapi Summit Travelodge – 107 rooms
Best Western Country Park – 59 rooms
TOTAL – 678 Rooms

The exact number of construction workers that are likely to need accommodations during the construction period would vary depending on the location of the contractor(s) chosen as well as the preferences of individual construction workers. An average of 477 construction workers is estimated to work on-site over the 25-month construction period. It is estimated that up to 280 construction workers would come from the local area (California City, Mojave, Rosamond, Ridgecrest, and Tehachapi) and would not require temporary lodging. If the remaining 197 average workers were to need temporary lodging, there would be sufficient capacity within nearby hotels and motels (678 rooms). In addition, there is a supply of available homes and apartments for rent in the vicinity, with vacancy rates in Kern County averaging at 5.4 percent (Census American Community Survey 2006).

Additionally, it is typical for construction workers to commute as much as two hours to and from the site. Thus, it is unlikely that the majority of construction workers who live outside of the local area would require temporary lodging. Due to the remote location to the project site and nearby hotels, where there are typically vacancies, the flux of construction workers into the area would have a positive economic impact to local hotel/motel companies.

Furthermore, Bakersfield, a large metropolitan area with an abundance of temporary lodging accommodations and rental opportunities, is located approximately 60 miles west of the Project

site, and could more than meet the needs of temporary construction lodging. Lancaster and Palmdale are also located approximately 40 and 50 miles south of the project site respectively, and have an abundance of lodging and rental accommodations. Therefore, there are a variety of options for workers requiring lodging during the 25-month construction period.

Data Request 37:

Please provide the average response time to the project site by Station 12, Station 14, and Station 66.

Response:

Kern County Fire Chief Dennis Thompson was contacted regarding response times to and from the site. The response times for the closest fire stations are as follows:

- Kern County FD Station 14, Mojave would arrive in approximately 27 minutes.
- Kern County FD Station 75, Randsburg would arrive in approximately 32 minutes.
- Kern County FD Station 73, Inyokern would arrive in approximately 43 minutes.

Data Request 38:

Please provide the average response time to the project site by the California City Fire Department.

Response:

California City Fire Department Chief Den Mylander was contacted regarding fire department response times to the Project site (Personal Communication via email, June 26, 2008). The Project would be served by the Kern County Fire Department and California City would provide assistance via request from mutual/automatic aid. Response times to incidents vary upon type of incident, geographic location of incident, and whether prior incidents have taken place. The California City Fire Department would respond to hazardous materials incidents and provide initial on-scene actions. Each incident is unique and would be handled accordingly. Additional assistance could be required from Kern County Fire hazardous materials units as well as the Kern County Department of Environmental Health.

According to Kern County Fire Chief Dennis Thompon, California City FD Station 190 would arrive to the site in approximately 17 minutes. California City FD is dispatched by the Kern County FD's Communication Center and would be responding automatically due to location.

Data Request 39:

Please provide the amount of the operational payroll.

Response:

Operational payroll for the Project is valued at between $7 and $8 million annually.

Data Request 40:

Please provide the estimated amount for the indirect and induced income per year for the operational life of the project.

Response:

Based upon IMPLAN model results generated for the operation phase of the Project and assuming an annual operational payroll of between $7 and $8 million, the estimated annual beneficial economic output impacts within Kern County and surrounding counties would be as follows (rounded values):

Direct expenditures = $6,000,000
Indirect regional revenues = $649,000
Induced regional revenues = $950,000
Total impact = $7,599,900

Data Request 41:

Please provide the estimated number of indirect and induced jobs resulting from the operation of the Project.

Response:

Page 5.11-27 of the AFC indicates that the estimated numbers of indirect and induced jobs resulting from the operation of the Project are 25 and 73, respectively.

Data Request 42:

Please assess the impact of those two projects, including the temporary housing agreements for the Pine Tree Wind Development, on the availability of temporary housing for workers on the Beacon Solar Energy Project.

Response:

Construction activity for the Project is estimated to begin in June 2009 and extend for a 25-month period through June 2011. The Pine Tree Wind Development Project is currently under construction (began in 2006) and completion is estimated for June 2009. Because the construction period of the Beacon Project and the Pine Tree Wind Development Project would not overlap, no socioeconomic cumulative impacts from the Pine Tree Development Project related to temporary lodging are anticipated.

The Barren Ridge-Castaic Transmission Project is currently under environmental review, and construction is anticipated to begin in late 2010. Both projects would be under construction simultaneously for an estimated 8 months to 1 year. The Barren Ridge-Castaic Transmission Project is a 75-mile long transmission line project and construction would vary over a large area between Los Angeles and Kern Counties. Due to the variable location of construction activity, construction workers would have many options regarding the location of the temporary lodging. Construction workers would not be located at any location for an extended period of time. In addition, ample lodging opportunities are available in the Project vicinity to meet the needs of the Project, as indicated in response 36. Therefore, cumulative impacts related to the availability of temporary lodging for construction workers are not anticipated to be significant. The demand for temporary housing would result in a positive economic impact to the area.

Data Request 50:

Please submit a complete SIS report in coordination with LADWP, SCE, and approved by the California ISO, for interconnection of the Beacon project at a nominal output of 250MW. The study should include a power flow, short circuit, and transient stability analyses with a mitigation plan for any identified reliability criteria violations. In the report, list all major assumptions in the base cases including major path flows, major generations including queue generation, and loads in the area systems. Also identify the reliability and planning criteria utilized to determine the reliability criteria violations.

Response:

As noted in the extension request submitted on July 7, the System Impact Study results were discussed with LADWP on July 8, 2008. A final version of the SIS report is expected to be provided before August 16, 2008.

Data Request 51:

Please provide power flow diagrams with and without the Beacon project for base cases. Power flow diagrams should also be provided for all overloads or voltage criteria violations under normal system (N-0) or contingency (N-1 & N-2) conditions.

Response:

The requested information is expected to be included in the System Impact Study Report. It will be provided as noted above.

Data Request 52:

Please provide electronic copies of *.sav, *.dyd, and *.swt GE PSLF files and EPCL contingency files in a CD (if available).

Response:

All the requested information may not be available. We will check with LADWP to see what files were created to perform the studies and which files will be available to submit after the System Impact Study Report is finalized. We requested this information during our July 8, 2008 meeting with LADWP representatives. However, we were told they would need to seek approval from senior management to release these data files. As a result, an email was sent

to Mr. Mark Lieberman of LADWP formally requesting the information. We have not yet received his response.

Data Request 53:

Please provide the expected date, after contacting the California ISO, when the final interconnection approval letter from the California ISO would be issued.

Response:

An interconnection approval letter from the Cal ISO will not be obtained. As you are aware, CAISO no longer issues either “preliminary” or “final” interconnection approval under their Large Generator Interconnection Procedure. In addition, the Interconnection Request and System Impact Study for the Project are with the LADWP, which is not a member of the California ISO. Therefore, we expect LADWP to tender a Draft Large Generator Interconnection Agreement to Beacon Solar, LLC in the future. We have requested a schedule from LADWP for release of this document, but have not yet received a response to our request. Nevertheless, it will likely take another 4 to 5 months for the issuance of the draft Large Generator Interconnection Agreement.

Data Request 54:

Please provide one map that delineates the Fremont Valley Ranch and the 80-acre and 14.39-acre parcels. Please indicate on the map which portions of each property are included as part of the BSEP site.

Response:

Beacon Solar has purchased the property for the BSEP plant site in three groups of parcels for which three separate ASTM Phase I report were generated and submitted with the AFC. The first purchase consisted of 24 parcels covering about 2,273 acres, including the area of the former "Fremont Valley Ranch" as well as some parcels to the west of the Ranch and across SR-14. By "Fremont Valley Ranch", we assume that the CEC Staff is looking for the boundaries of this initial 2,273 acre purchase, and not the boundaries of the actual Ranch. Subsequent to the initial purchase, a second group of 6 parcels was purchased which comprise the 80-acre site, and then a single 14.39 acre parcel that contains the access road for the site was purchased. Please see Figure DR-54 for a figure that shows the boundaries of these 3 purchases in relation to the boundary of the BSEP plant site.

Data Request 55:

Please provide a map of the Fremont Valley Ranch. Please identify on the map the recognized environmental conditions, include buildings, irrigation wells, and underground storage tanks.

Response:

Please see Figure DR-55 for a figure showing the location of recognized environmental conditions, including underground storage tanks, buildings and irrigation wells in relation to the BSEP plant site boundary. Except for an open barn structure in the middle of the property and an irrigation water reservoir, all of the buildings and underground fuel storage tanks are associated with the Fremont Valley Ranch complex, the group of buildings that is just south of the access road that goes onto the site from SR-14. Beacon Solar purchased the additional 14.39 acre parcel when it was learned that the existing access road and rail road crossing was not on the original 2,273 acre property. Beacon Solar intends to upgrade the existing access road and rail road crossing as needed, but it is only this road and some distance of road shoulder that is considered within the BSEP Plant Site boundary. None of the Fremont Valley Ranch complex will be within the fenced BSEP Plant Site. Note that all recognized environmental conditions are located outside the plant site boundary in an area that will not in any way be affected by Project construction or operation.

Data Request 56:

Please provide a Phase I ESA for the 17.6-mile underground natural gas pipeline corridor. The Phase I ESA should be conducted in accordance with the American Society for Testing and Materials (ASTM) E 1527-05 guidelines. The ESA should indicate if the natural gas pipeline crosses the following types of properties and identify whether there are any environmental concerns related to these land uses:

a. Property where contamination is known or suspected at an up-gradient or adjoining site;
b. Property which is or has been used for industrial/manufacturing purposes. Adjoining property with this type of usage should also be included in the investigation;
c. Property for which any prior environmental investigation indicated the potential for contamination;
d. Property displaying evidence of hazardous waste storage on site, whether permitted or not. For example, the existence of a former dry cleaner or gas station, which utilized underground or above ground storage tanks. Agricultural properties where pesticides were stored/mixed and potentially released should also be investigated;
e. Property with visible staining;
f. Property where contaminants exceeding drinking water standards have been detected;
g. Property where state/federal agency notices of violation have been issued;
h. Property on which equipment containing polychlorinated biphenyls (PCB) was stored;
i. Property where fill dirt has been brought that has or may have originated from a contaminated site;
j. Property with known or suspected discharges of wastewater (other than stormwater and sanitary waste) into a stormwater drain;
k. Property with an environmental lien on it (imposed either by CERCLA 42USC/9607(1) or similar state and local laws);
l. Property along existing or past railroad tracks; and
m. Properties where there have been agricultural activities.

Response:

Please see Attachment DR-56 for a Phase I Environmental Site Assessment of the natural gas pipeline route. Note, about 1.2 miles of the pipeline occur within the BSEP Plant Site boundary, which had already been surveyed. Therefore, this Phase I report covers the other 16.4 miles of the route.

No recognized environmental conditions were identified along the proposed route. A gasoline service station is located on the northwest corner of California City Blvd and Neuralia Road. This site is a closed leaking underground storage tank (LUST) site. Based on a review of the RWQCB database it appears that this site experienced a release to soil in 1987 due to a faulty product line. Groundwater does not appear to have been impacted. Regulatory site closure was issued in August 1993. No additional gasoline service stations, dry cleaners or other businesses of concern were observed along the route.

Data Request 57:

Please describe why apparently bioremediation will no longer be necessary to treat soil contaminated with 1,000 to 10,000 milligrams per kilogram of HTF.

Response:

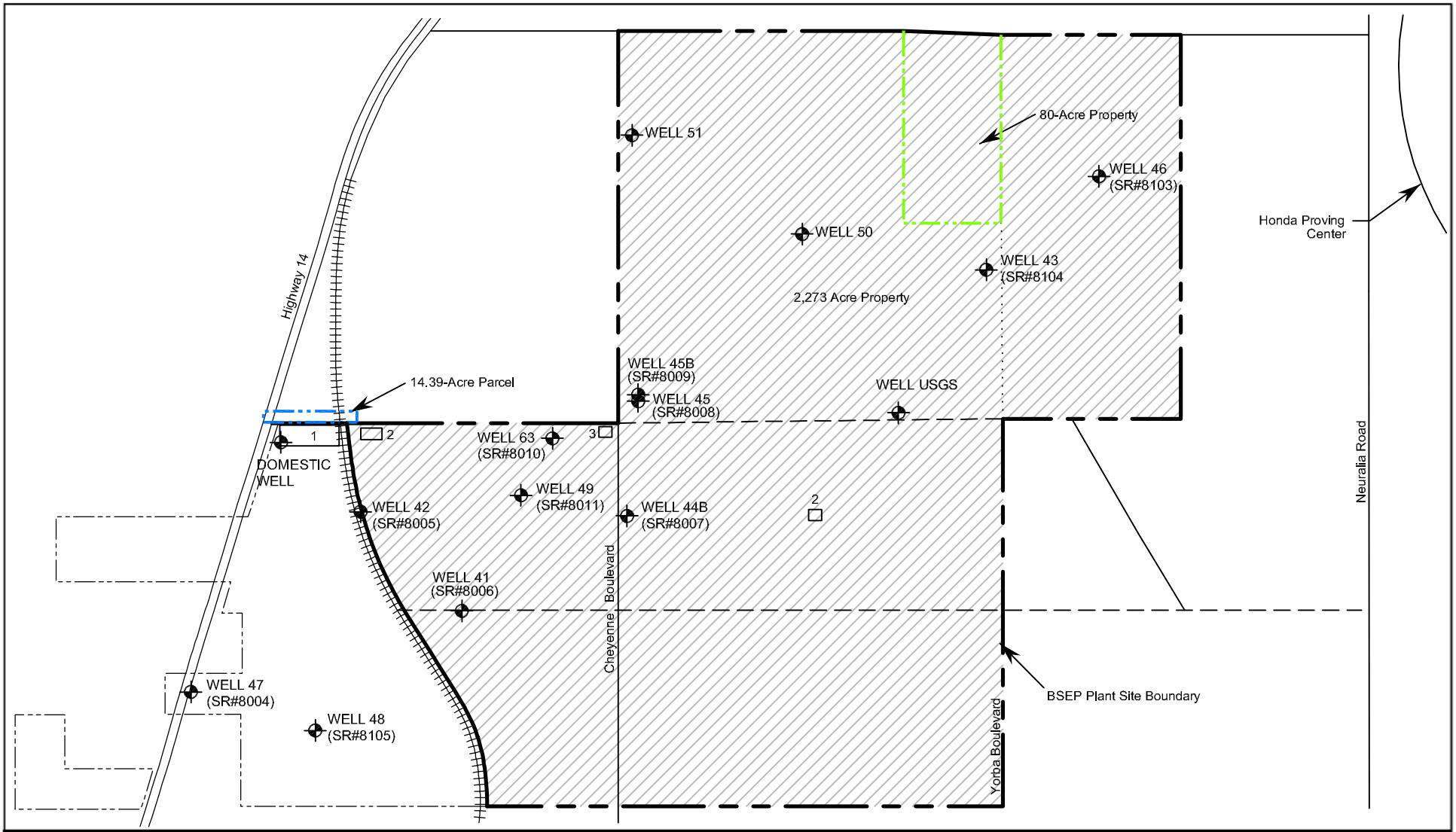
A design change was made during the preparation of the Report of Waste Discharge (ROWD) application in response to additional information discovered after the AFC was submitted to the CEC. The bioremediation unit and land treatment unit were based on the design of similar systems at the Kramer Junction Solar Electric Generating System (SEGS) units (III through VII), which consists of a bioremediation unit constructed to hold heat transfer fluid (HTF) contaminated soil (i.e., up to 10,000 mg/kg of HTF) and a land treatment unit to hold HTF contaminated soil with less than 100 mg/kg HTF. The Kramer Junction bioremediation unit was constructed to hold California hazardous waste and the land treatment unit to hold nonhazardous waste.

After construction and operation of Kramer Junction, the facility operator petitioned to the Department of Toxic Substances Control (DTSC) to reclassify HTF contaminated soil as nonhazardous based on its hazard characteristics. The DTSC issued a letter on April 4, 1995 stating that HTF contaminated soil “poses an insignificant hazard and [the DTSC] classifies the waste as nonhazardous pursuant to 22 CCR section 66260.200(f).”

The Harper Lake SEGS units (VIII and IX) were constructed after the Kramer Junction SEGS units, and it was concluded that only a land treatment unit utilizing the DTSC classification of HTF contaminated soil as nonhazardous was needed. The Regional Water Quality Control Board (RWQCB), Lahontan Region (Victorville office) issued Waste Discharge Requirements (Board Order Number 6-98-74 and Waste Discharge Identification Number WDID 6B368050006) to Luz Solar Partners Ltd. VIII and IX, All American Venture Corporation, High Desert Land Acquisition LLC for the Harper Lake SEGS facilities. The waste discharge requirements included the land treatment unit description and requirements for operation. A separate bioremediation unit was not deemed necessary. At the Harper Lake SEGS units, a single land treatment unit is used to treat and store soil contaminated with HTF concentrations

up to 10,000 mg/kg of HTF. Soil concentrations above 10,000 mg/kg must be shipped off site for proper disposal.

Since the Lahontan RWQCB has jurisdiction over Kramer Junction, Harper Lake, and the Beacon Project, ENSR contacted the RWQCB, Lahontan Region to discuss the proposed design change and operations at the two operational facilities. The RWQCB suggested modeling the ROWD application after the Harper Lake SEGS units rather than the Kramer Junction SEGS facilities. Based on ENSR's discussion with the RWQCB, the permitted facility at Harper Lake, and the letter from the DTSC classifying HTF contaminated soil as nonhazardous, the bioremediation unit was eliminated in favor of one land treatment unit that could handle both ranges of contaminated soils.



LEGEND

- Approximate BSEP Plant Site Boundary
- Approximate Property Boundaries
- Union Pacific Railroad Tracks
- Paved Road
- Unpaved Road
- **1** Fremont Valley Ranch Complex
- **2** Approximate location of Barn Structure
- **3** Irrigation Water Reservior

N W E S

0 1,000' 2,000' 4,000' Feet

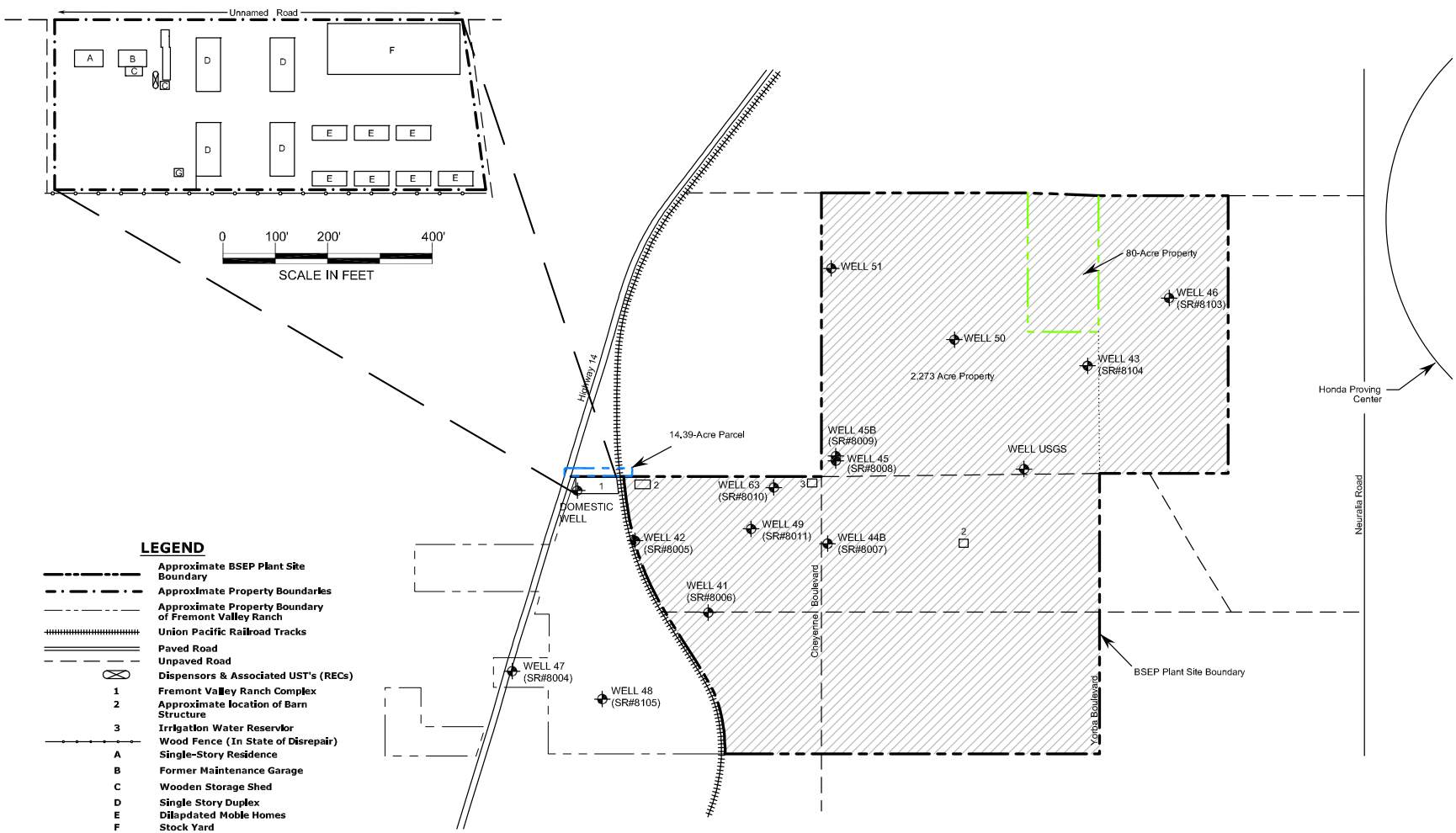
BSEP

Figure DR-54
Plant Site Boundary
and Property Purchases

Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008



LEGEND

- Approximate BSEP Plant Site Boundary
- Approximate Property Boundaries
- Approximate Property Boundary of Fremont Valley Ranch
- Union Pacific Railroad Tracks
- Paved Road
- Unpaved Road
- Dispensors & Associated UST's (RECs)
- 1 Fremont Valley Ranch Complex
- 2 Approximate location of Barn Structure
- 3 Irrigation Water Reservior
- Wood Fence (In State of Disrepair)
- A Single-Story Residence
- B Former Maintenance Garage
- C Wooden Storage Shed
- D Single Story Duplex
- E Dilapdated Mobile Homes
- F Stock Yard
- G Corrugated Metal Storage Shed

N W E S

0 1,000' 2,000' 4,000' Feet

BSEP

Figure DR-55
Location of Recognized Environment Conditions

Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008

FILENAME: J:\2008_Projects\10056-FPL Energy\014 - BSEP\AFC Preparation\Due Diligence\site Plan- FVR complex.dwg

Attachment DR-56

Phase I Environmental Site Assessment of Proposed 16.4 Natural Gas Pipeline Route, Fremont Valley, Kern County, California

Prepared for:
Beacon Solar, LLC
Juno Beach, Florida

Phase I Environmental Site Assessment of a Proposed 16.4-Mile Natural Gas Pipeline Route, Fremont Valley, Kern County, California

ENSR Corporation
July 2008
Document Number: 10056-014-300

ENSR | AECOM

Prepared for:
Beacon Solar, LLC
Juno Beach, Florida

Phase I Environmental Site Assessment of a Proposed 16.4-Mile Natural Gas Pipeline Route, Fremont Valley, Kern County, California

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ENSR Corporation
July 2008
Document Number: 10056-014-300

ENSR | AECOM

EXECUTIVE SUMMARY

Beacon Solar, LLC (BSL) contracted with ENSR Corporation to perform a Phase I Environmental Site Assessment (ESA) of a 16.4-mile proposed natural gas pipeline route that will support a planned solar power plant. The majority of the route will follow portions of Neuralia Road and California City Boulevard Fremont Valley, Kern County, California. This Phase I ESA was performed in conformance with the general scope and limitations of ASTM Standard Practice E 1527-05 for ESAs. Exceptions to, or deletions from, this practice are described in Section 1.3 of this report.

This assessment took place between June 30 and July 14, 2008, with the field survey occurring on July 2, 2008. In general, the proposed route begins approximately 10 miles north of California City along Neuralia Road and runs south were it connects with California City Boulevard. From there the route turns west, where it runs for approximately 6 miles towards the Union Pacific Railroad (UPRR) tracks. Just before the UPRR tracks the route turns south and runs for approximately 0.4 mile where it will eventually connect with an existing natural gas pipeline.

Scattered trash and debris were observed along potions of the pipeline route (primarily along the shoulder of Neuralia Road). No discolored soil, water, unusual vegetative conditions, staining, or visual evidence of a hazardous materials release was observed. In addition, no visual evidence of groundwater monitoring wells, clarifiers, or dry wells, was observed along the proposed pipeline route.

The majority of the area surrounding the proposed pipeline route consists of vacant desert land. Several ranches, and abandoned buildings were observed along the unincorporated portions of the route. Within California City, the route passes through several residential and commercial areas. A gasoline service station was observed at the southwest corner of Neuralia Road and California City Boulevard. Based on a review of an environmental database report and the Regional Water Quality Control Board (RWQCB) Geotracker website, this gasoline service station is not expected to present an environmental concern to the proposed pipeline route.

No stained soil, chemical storage areas, or drycleaners were observed near the proposed pipeline route. No offsite sources of concern were indentified during the field survey.

Historical; research indicates that from at least 1915 through the present, the proposed natural gas pipeline route has been developed with the existing roads (California City Boulevard and Neuralia Road). No historical onsite or offsite environmental concerns were identified along the proposed pipeline route.

Based on ENSR's site visit; review of governmental environmental databases, files, and historical documents; and interviews conducted with selected individuals, no recognized environmental conditions (RECs), historical RECs (HRECs) or de minimis condition were indentified in connection with the proposed pipeline route. No additional assessment is recommended at this time.

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A Representative Site Photographs
B Environmental Database Report
C Qualifications of Environmental Professionals

1.0 Introduction

1.1 Purpose

The purpose of this ESA is to provide the client with information for use in evaluating potential environmental concerns associated the proposed natural gas pipeline route.

1.2 Scope of work

The Phase I ESA included a site visit, regulatory research, historical review, and environmental database search of a 16.4-mile proposed natural gas pipeline route that is planned for Fremont Valley, Kern County, California. In conducting the Phase I ESA, ENSR assessed the subject property for visible signs of possible contamination, researched public records for the subject property, and conducted interviews with regulatory agencies.

This project was performed in general accordance with American Society for Testing and Materials (ASTM) Standard Practice Designation E 1527-05. Conclusions made in this report are based upon the assessment performed and are subject to the study limitations presented in Section 1.3, below.

1.3 Study limitations

This report describes the results of ENSR's due diligence assessment to identify the presence of environmental liabilities materially affecting the proposed natural gas pipeline route. In the conduct of this due diligence evaluation, ENSR assessed the presence of such problems within the limits of the established scope of work as described in our email to Mr. Kenny Stein with Beacon Solar LLC (BSL), dated June 19, 2008.

In the conduct of this due diligence assessment, ENSR has attempted to independently assess the presence of such problems within the limits of the established scope of work as described in our proposal. As with any due diligence evaluation, there is a certain degree of dependence upon oral information provided by facility or site representatives which is not readily verifiable through visual observations or supported by any available written documentation. ENSR shall not be held responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed by facility or site representatives at the time this assessment was performed. In addition, the findings in the report are subject to certain conditions and assumptions. The conditions and assumptions are noted in the report, and any party reviewing the findings of the report must carefully review and consider all such conditions and assumptions.

This report and all field data and notes were gathered and/or prepared by ENSR in accordance with the agreed upon scope of work and generally accepted engineering and scientific practice in effect at the time of ENSR's assessment of the subject site. The statements, conclusions, and opinions contained in this report are only intended to give approximations of the environmental conditions at the subject site.

This report is prepared pursuant to an agreement between the client and ENSR and is for the exclusive use of the client. No other party is entitled to rely on the conclusions, observations, specifications, or data contained herein without first obtaining ENSR's written consent and provided any such party signs an ENSR generated reliance letter. A third party's signing of the ENSR reliance letter and ENSR's written consent are conditions precedent to any additional use or reliance on this report.

The passage of time may result in changes in technology, economic conditions, site variations, or regulatory provisions which would render the report inaccurate. Reliance on the report after the date of issuance as an accurate representation of current site conditions shall be at the user's sole risk.

It should be noted that due to the length of the pipeline route (16.4 miles), a thorough on the ground site walk of the route was not considered practical.

1.4 Data failure/data gaps

ENSR submitted a Freedom of Information Act (FOIA) request to Kern County Department of Environmental Health (KCDEH) regarding historical hazardous materials releases along the proposed pipeline route (if any). A response to this FOIA request had not been received as of the date of this report. Based on the information contained within this report, ENSR does not anticipate that the responses from KCDEH will alter the conclusions or recommendations of this report. Therefore, ENSR does not consider this a significant data failure or gap in the preparation of this report.

Per ASTM E 1527-05, interviews with past owners, operators, and occupants of the proposed pipeline route, who are likely to have material information regarding the potential for contamination along the proposed pipeline route, shall be conducted to the extent that they can be identified and that the information likely to be obtained is not duplicative of information already obtained from other sources. During the ESA process, ENSR was unable to contact State or County officials with specific knowledge regarding the ownership of the proposed pipeline route. This limitation is not expected to change the outcome of the report based on historical information gathered from other sources, which are documented throughout this report.

2.0 Site Description

2.1 Site location

The proposed pipeline route is located in Fremont Valley, Kern County, California. The proposed route begins approximately 0.5 mile west of Neuralia Road and runs east along an unnamed dirt road. From this point the route heads south along Neuralia Road and runs for approximately 9.5 miles towards California City. At mile 10.3 the route turns west and connects with California City Boulevard where it runs for approximately 6 mile stowards the Union Pacific Railroad tracks. From here the route heads south for approximately 0.4 mile where it will connect with the existing Southern California Gas (SCG) pipeline. The approximate location of the proposed pipeline route is illustrated on Figure 1 - Site Location Map.

2.2 Site ownership

The portion of the proposed pipeline that is located along Neuralia Road (to the north of California City) and the portion that is located along California City Boulevard (to the west of California City) is owned by Kern County. The portions of the proposed pipeline route that are located within California City are owned and maintained by the City. No information on the past land ownership was indentified during this Phase I ESA.

2.3 Field Survey

Mr. Jim Fickerson of ENSR's Camarillo, California, office surveyed the proposed pipeline route on July 2, 2008. The weather at the time of the site visit was excellent with clear skies, dry conditions, light winds, and temperatures in the mid 80s (degrees F). Representative photographs taken during the survey are provided as Appendix A.

The survey methodology consisted of slowly driving the majority of the proposed pipeline route (at speeds of approximately 15 to 20 miles per hour) and periodically stopping to walk portions of the route to further evaluate debris or adjacent properties. Please note that for safety reasons, the driving speed along California City Boulevard was increased to approximately 45 miles per hour due to the speed and amount of traffic present along this road.

During the survey, particular focus was paid to areas of dumping/garbage and debris. Field binoculars were used during the course of the assessment to ensure that significant site features were fully evaluated. Specific features that were noted during the field survey have been indentified by the mile marker in which they were observed. For example, the beginning of the route (near the proposed solar plant) has been identified as mile marker 0 and the terminus of pipeline route (near the Union Pacific Railroad tracks and natural gas connection point) has been identified as mile marker 16.4. The following sections summarize the results of the field survey.

2.3.1 Site description

In general, the proposed pipeline route follows existing right-of-ways and dirt shoulders of Neuralia and California City Boulevards. More specifically, the proposed natural gas line begins to the east of the proposed solar power plant and heads east approximately 0.5 mile along a corridor previously disturbed by the installation of existing Southern California (SCE) power distribution lines. From there the route heads south along the disturbed road shoulders of Neuralia Road for approximately 11 miles. From there, the route heads west along the street right-of-way of California City Boulevard for approximately 5 miles at which point the route heads south into undeveloped, vacant desert to connect with an existing SCG line.

Scattered trash and debris were observed along potions of the pipeline route, primarily along the shoulder of Neuralia Road. No discolored soil, water, unusual vegetative conditions, staining, or visual evidence of a hazardous materials release was observed during ENSR's field survey. In addition, no visual evidence of groundwater monitoring wells, clarifiers, or dry wells, was observed along the proposed pipeline route. The proposed pipeline route and significant features noted during the field survey are illustrated in Figure 2 – Site Plan.

2.3.2 Building description

No buildings or structures were present along the proposed pipeline route.

2.3.3 Surrounding properties

In general, miles 0.5 to 9.3 of the proposed pipeline route are surrounded by vacant undeveloped desert. Specific features noted during the field survey include:

- At mile 0.9 Rancho Cantil was observed approximately 200 feet west of Neuralia Road.
- At mile 1.4 an abandoned building was observed approximately 100 feet east of Neuralia Road.
- At mile 2.3 an abandoned water well was observed approximately 50 feet west of Neuralia Road.
- At mile 3.6 a farm storage area abutted the west side of Neuralia Road.
- At mile 3.8 a vacant storage area abutted the west side of Neuralia Road.
- At mile 7.5 an abandoned building was observed approximately 150 feet west of Neuralia Road.
- At mile 8.4 broken fluorescent light bulbs were observed approximately 15 feet east of Neuralia Road.
- At mile 9.3 Neuralia Road intersects with Mendiburu Road. At this point, scattered residences were observed to the east and west of the proposed pipeline route.
- At mile 10 a concrete-lined storm channel was observed running underneath Neuralia Road.
- At mile 10.3 the California City Chamber of Commerce was observed at the northeast corner, the Aspen Business Office Complex was observed at the southeast corner, a gasoline service station was observed at the southwest corner, and residences were observed in the area beyond the northwest corner of Neuralia Road and California City Boulevard. Additional details on the service station are provided in Section 5.3.2.
- At mile 10.3 the Victor Plaza was observed to the north of California City Boulevard. The plaza contained several restaurants, a bakery, ice cream shop, a laundromat, liquor store, and real estate office.
- At mile 12.5 the surrounding area generally consists of vacant undeveloped desert.
- At mile 16.0 the Deep Well Ranch is located approximately 200 feet north of California City Boulevard.
- At mile 16.4, the UPRR tracks are present to the west of the proposed pipeline route. The surrounding area consists of undeveloped desert.

No stained soil, chemical storage areas or drycleaners were observed near the proposed pipeline route. Scattered trash and debris was periodically observed alongside the proposed pipeline route. No offsite sources of concern were identified during the field survey.

2.3.4 Petroleum hydrocarbons and hazardous materials

No petroleum hydrocarbons or hazardous materials were observed along the proposed pipeline route during ENSR's field survey. In addition, Mr. Michael Bevins, Public Works Director with California City, was unaware of the presence of a hazardous materials release or an existing petroleum pipeline along the City's portions of Neuralia Road and California City Boulevard.

2.3.5 Aboveground storage tanks (ASTs)

No ASTs were observed along the proposed pipeline route during ENSR's field survey.

2.3.6 Underground storage tanks (USTs)

No visual evidence of fuel-related USTs (e.g., vent pipes, fill ports) was observed along the proposed pipeline route during ENSR's field survey. In addition, no USTs were listed in the State of California Geotracker® database or the environmental database report reviewed by ENSR. However, a 76 gasoline service station is located at the southwest corner of Neuralia Road and California City Boulevard. This gasoline service station is described in additional detail in Section 5.3.2.

2.3.7 Solid Waste

No dumpsters, trash enclosures, or illicit dumping were observed along the proposed pipeline route during ENSR's field survey. As noted in Section 2.3.1, miscellaneous trash and debris was observed scattered along the proposed pipeline route during ENSR's field survey.

2.3.8 Stormwater

A concrete-lined storm channel was observed running underneath Neuralia Road at mile 10 during ENSR's field survey. No stormwater drains were observed along Neuralia Road. Several storm drains were observed between mile 10.0 and mile 11.0 along California City Boulevard. No staining or visual evidence of a hazardous materials release was observed in the vicinity of the storm drains.

Due to the highly variable topography present along the proposed pipeline route, stormwater flow direction is anticipated to be highly variable as well. Along Neuralia Road and the majority of California City Boulevard stormwater is anticipated to infiltrate into the ground. Between miles 10 and 11, stormwater is expected to enter the several stormwater drains that are present in this area.

2.3.9 Utilities

An overhead power line operated by SCE is located along the north side of the proposed pipeline route from mile 0 to 0.5, at which point it connects to power lines that run along the east side of Neuralia Road. At mile 2.0 power lines cross Neuralia Road and continue to the south on the west side of Neuralia Road. Signage indicating a buried underground telephone line was observed along the east side of Neuralia Road. Signage indicting a buried SCG pipeline was observed along the south side of California City Boulevard. No other utilities were observed along the proposed pipeline route.

3.0 Environmental Setting

3.1 Topography

Based on a review of the United States Geological Survey (USGS) topographic maps of the proposed pipeline route (Mojave, Searles Lake, Searles Lake NE, California City, California City South, California City North, Castle Butte, Sanborn, and Cache Peak Quad, California, quadrangles) and the Google Earth website, the elevation along the proposed pipeline route ranges between approximately 2,050 feet above mean sea level (msl) on the northern extent of the route to 2,400 feet at the intersection of Neuralia Road and California City Boulevard to 2,680 near the proposed SGC tie-in point to the west. Based on a review of the topographic maps and ENSR's field survey, the proposed route along Neuralia Road, generally slopes to the south and the proposed route along California City Boulevard generally slopes to the east.

3.2 Soil

According to the U.S. Department of Agriculture's Soil Conservation Services the soil along the proposed pipeline route is expected to consist predominately of sandy loam to heavy loam. Soils of this type are anticipated to have high infiltration rates. During ENSR's field survey, ENSR noted that the soil along the proposed pipeline route appeared to generally consist of silty sands and cobbles.

3.3 Groundwater

According to California's Groundwater Bulletin 118, much of the proposed pipeline route is located within the Fremont Valley Groundwater Basin. The basin is characterized by both Quaternary alluvium and Lacustrine deposits. However, the alluvium is considered the most important water-bearing material in the basin. Groundwater in the alluvium is generally unconfined. Average well yield in the basin is reportedly 530 gallons per minute (gpm).

A number of water wells are located on the former Freemont Ranch which abuts the northern portion of the proposed pipeline route. In October 2007, the depth to groundwater below the Freemont Ranch ranged from 210 to 436 feet below ground surface. Groundwater, beneath the Freemont Ranch was anticipated to flow in a generally northeasterly direction. No additional site-specific groundwater information was identified during the course of this Phase I ESA. However, based on the topography of the area, depth to groundwater is anticipated to be present at similar depths along the majority of the pipeline route.

4.0 Site and Area History

Historical information for the proposed natural gas pipeline route and surrounding properties is based on ENSR's review of aerial photographs dated 1952, 1984, 1994, and 2002; and topographic maps dated 1915, 1947, 1956, 1973, 1992, and 1994. According to Environmental Data Resources (EDR), no Sanborn® Fire Insurance maps are available for the subject property. No previously prepared environmental reports were provided for ENSR's review during the course of this assessment.

4.1 Proposed Pipeline Route

From at least 1915 through the present, the proposed natural gas pipeline route has been developed with the existing roads (California City Boulevard and Neuralia Road). No historical environmental concerns were identified along the proposed pipeline route.

4.2 Adjacent sites

The 1915 and 1947 topographic maps of the areas surrounding the proposed natural gas pipeline route depict the area as predominately open rural land with no features of concern.

In the 1952 aerial photographs, the railroad tracks for the existing UPRR were shown developed adjacent to the west of the proposed gas tie-in point (see Figure 2, Map 6 of 6). The Ranch Site located east of Maverick Street (see Figure 2, Map 6 of 6), was shown developed; however, it was shown developed with only a couple of small structures at that time. California City was shown mostly undeveloped with approximately three developed/graded areas, or sites, each shown north of the proposed natural gas pipeline route (north of the existing California City Boulevard), in the areas of Figure 2, Map 5 of 6. The area of the Farm Storage Lot appeared developed with approximately two structures (see Figure 2, Map 2 of 6).

The 1956 topographic maps depict the area of the proposed natural gas pipeline route from the proposed gas tie-in point (see Figure 2, Map 6 of 6) to approximately Yerba Boulevard (see Figure 2, Map 5 of 6) developed similarly as they appeared during ENSR's site visit. No features of concern are depicted.

In the 1984 aerial photograph, the areas surrounding the proposed natural gas pipeline route were shown developed similarly as they appeared during ENSR's site visit, except the area of the Empty Storage Lot (see Figure 2, Map 2 of 6) was not shown. The area of the Farm Storage Lot appeared abandoned, and no evidence of activity (e.g., land disturbance, structures) was shown in the area of the current Abandoned Water Well (see Figure 2, Map 1 of 6).

In the 1994 aerial photographs, the areas surrounding the proposed natural gas pipeline route were shown developed similarly as they appeared during ENSR's site visit and as shown in the previous 1984 aerial photographs, except approximately one structure was shown within a graded 'yard' area, in the area of the current Abandoned Water Well (see Figure 2, Map 1 of 6).

The 1973, 1980, and 1994 topographic maps depicted the areas surrounding the proposed natural gas pipeline route developed similarly as they appeared during ENSR's site visit. No features of concern are depicted.

In the 2002 aerial photographs, the areas surrounding the proposed natural gas pipeline route were shown developed similarly as they appeared during ENSR's site visit and as shown in the previous 1984 and 1994 aerial photographs, except that approximately three structures were shown occupying a graded 'yard' area (instead of one), in the area of the current Abandoned Water Well (see Figure 2, Map 1 of 6).

Historical research indicates that the surrounding sites were largely vacant and undeveloped desert from at least the early 1900s until the mid to late 1970s when the properties to the south and east were developed into agricultural use (primarily alfalfa) in association with the Freemont Valley Ranch. Highway 14 (then known as Keeler Road) is shown on the earliest historical resource available, the 1915 topographic map. With the exception of the Freemont Valley Ranch, no significant development appears to have taken place in the vicinity of the subject property. No historical offsite sources of concern were identified.

5.0 Database and Records Review

5.1 User Provided Information

On July 10, 2008, ENSR contacted Mr. Kenneth Stein with BSL regarding his knowledge of title records, environmental liens, specialized knowledge, and/or real estate value reduction issues associated with the subject property. Mr. Stein was not aware of environmental cleanup liens or activity and use limitations that had been placed along the proposed pipeline route. Mr. Stein stated that he did not have specialized knowledge or experience that is material to RECs in connection with the proposed pipeline route.

Mr. Stein stated that it was his impression that the proposed pipeline route has generally been used as a roadway for automobiles. He was unaware of specific chemicals, spills, chemical releases, or environmental cleanups that may have taken place along the proposed pipeline route. According to Mr. Stein, it was his opinion that there were no obvious indicators pointing to the presence or likely presence of contamination along the pipeline route.

5.2 Title Records/Environmental Liens

Due to the length of the proposed pipeline route, an environmental lien search of the route was not considered practical. Based on ENSR's regulatory and historical research, it is ENSR's opinion that environmental liens and/or activity or use limitations are unlikely to have been placed along the proposed pipeline route. A title report was not reviewed as part of this Phase I ESA.

5.3 Database information

In accordance with the scope of work and ASTM Standard E-1527-05, a search of various governmental databases was conducted by EDR. The environmental database report (EDR) report was reviewed to determine the potential for environmental impacts along the proposed natural gas pipeline route or from offsite sources of concern. The database abbreviations are provided in the EDR report. Sites that could not be mapped by EDR were researched by ENSR during the field survey. A summary of the results of the EDR database search are presented below. A list of the databases searched and the search distances are provided in the EDR report. A copy of the database report is provided in Appendix B.

Based on ENSR's research, the proposed natural gas pipeline route is not located on or within a 1-mile radius of tribal lands.

5.3.1 Proposed natural gas pipeline route

The proposed pipeline route was not listed in the environmental database report.

5.3.2 Surrounding sites

The EDR report listed one ICIS, one FINDS, one Cortese, one LUST, one CA FID UST, one UST, one HIST UST, two SWEEPS UST , and two HAZNET sites within their respective search distances. Based on their distance from the subject property, regulatory status (e.g., received case closure), media impacted (e.g., soil only), and/or topographical position from the subject property (e.g., down-gradient) the majority of these sites do not present RECs to the subject property.

Based on its distance to the proposed pipeline route, the following site is discussed in additional detail:

- A 76 gasoline service station is located at the northwest corner of California City Boulevard and Neuralia Road at 7990 California City Boulevard. This site abuts the proposed pipeline route. According to the environmental database report and a review of the Geotracker database, this site is a closed LUST site that experienced a release of gasoline to soil in 1987 due to a faulty product line. Groundwater does not appear to have been impacted by the historic release. Regulatory site closure was issued in August 1993. During ENSR's field survey, no groundwater monitoring wells or remediation equipment was observed at this gasoline service station. Based on this information, it is ENSR's opinion that this site does not present an environmental concern to the subject property.

No additional offsite sources of concern were identified in the environmental database report, or during ENSR's area reconnaissance.

5.4 Agency review

5.4.1 Kern County Environmental Health Department

ENSR submitted a FOIA request to KCEHD to determine if they have files related to USTs and /or a historical hazardous materials release that may have occurred along the proposed pipeline route. As of the date of this report, a response from the KCEHD had not been received. Based on ENSR's research to date, ENSR does not anticipate the response from the KCEHD to our FOIA request will significantly alter the conclusions or recommendations of this report.

5.4.2 Regional Water Quality Control Board

ENSR reviewed the Regional Water Quality Control Board's (RWQCB) Geotracker website to determine if they have files related to USTs and/or a historical hazardous materials release that may have occurred along the proposed natural gas pipeline route. No USTs or historical hazardous materials releases were identified in the Geotracker database. In addition, ENSR reviewed the Geotracker database to obtain additional information on the gasoline service station located on the southwest corner of Neuralia and California City Boulevard. Information obtained during this review has been incorporated in Section 5.3.2.

6.0 Conclusions and Recommendations

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-05 of the subject property. Any exception to, or deletions from, this practice are described in Section 1.0 of the report. No REC were indentified during this assessment. No additional assessment is recommended at this time.

7.0 Quality Control/Quality Assurance

7.1 Site visit, research, and report preparation:

The field survey, historical research, regulatory research, environmental analysis, and report preparation were conducted by Mr. Jim Fickerson, Senior Project Manager, in ENSR's Camarillo, California office. Mr. Fickerson completed this report on July 11, 2008. Mr. Fickerson has over 14 years of environmental due diligence experience and has performed and/or managed hundreds of Phase I ESAs of commercial and industrial property located throughout the United States. Mr. Fickerson's signature is below and his resume is included in Appendix C.

Signature: _____
Jim Fickerson, Senior Project Manager

7.2 Quality control review

A first level review of this report was conducted by Ms. Kirsten Bradford, Project Specialist, in ENSR's Camarillo, California, office. Ms. Bradford completed her review of this report on July 11, 2008. Ms. Bradford has 5 years of environmental due diligence experience and has performed and/or managed Phase I ESAs of commercial and industrial property located throughout the western United States. Ms. Bradford's signature is below and her resume is included in Appendix C.

Signature: _____
Kirsten Bradford, Project Specialist

A second level review of this report was conducted by Ms. Brenda Miller, Senior Project Manager, in ENSR's Camarillo, California, office. Ms. Miller completed her review of this report on July 14, 2008. Ms. Miller has over 15 years of environmental due diligence experience and has performed and/or managed Phase I ESAs of commercial and industrial property located throughout the United States. Ms. Miller's signature is below and her resume is included in Appendix C.

Signature: _____
Brenda Miller, Senior Project Manager

7.3 Environmental professional statement

Mr. Fickerson was the Environmental Professional for this project. Mr. Fickerson's Environmental Professional statement is below:

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in §312.10 of 40 CFR and that I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the proposed natural gas pipeline route. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signature: _____

Jim Fickerson, REA
Senior Project Manager

Date: July 14, 2008

8.0 References

8.1 Persons Interviewed/Agencies Contacted

Bevins, Public Works Director, California City, 7800 Moss Avenue, California City, California 93505, pwdir@ccis.com. Information obtained through a phone interview with Ms. Ronna L. Green with Planning Technician on July 11, 2008.

Stein, Kenneth, BSL, 700 Universe Boulevard, Juno Beach, Florida 33408, Kenneth_stein@fpl.com. Interviewed via telephone by Mr. Jim Fickerson, ENSR Corporation, 1220 Avendia Acaso, Camarillo, California 93012, July 10, 2008. Completed ASTM 1527-05 User Questionnaire.

Green, Ronna, Planning Technician, 21000 Hacienda Boulevard, California City, California 93505 (760) 373-7141, planning@@ccis.com. Contacted by Mr. Jim Fickerson, ENSR Corporation, 1220 Avendia Acaso, Camarillo, California 93012, on July 11, 2008.

Request for Public Records, Kern County , Environmental Health Services Department, Resource Management Agency, 2700 "M" Street, Suite 300, Bakersfield, California, 93301-2370. Request submitted July 25, 2008.

8.2 Documents Reviewed

Aerial photograph dated 2008 of the subject property. Photograph reviewed online at Google Earth website, http://www.google.com.

Assessor Parcel Information, Kern County Assessors. Information reviewed online at: http://assessor.co.kern.ca.us/kips/property_search.asp

EDR Aerial Photos Decade Package, prepared for 17.5 Mile Gas Pipeline Assessment, California City, California 93505, dated July 8, 2008. Inquiry number 2256382.1. Aerial photographs dated 1952, 1984, 1994, and 2002. Report prepared by Environmental Data Resources, 440 Wheelers Farms Road, Milford, Connecticut 06461, (800) 353-0050.

EDR DataMap™ Corridor Study, 17.5 Mile Gas Pipeline Assessment, California City, California 93505, dated July 2, 2008. Inquiry Number 02256382.3r. Report prepared by Environmental Data Resources, 440 Wheelers Farms Road, Milford, Connecticut 06461, (800) 352-0050.

EDR Historical Topographic Map Report, prepared for 17.5 Mile Gas Pipeline Assessment, California City, California 93505, dated June 30, 2008. Inquiry number 2256382.2. Topographic maps dated 1915, 1947, 1956, 1973, 1992, and 1994 (Mojave, Searles Lake, Searles Lake NE, California City, California City South, California City North, Castle Butte, Sanborn, and Cache Peak, California Quads). Report prepared by Environmental Data Resources, 440 Wheelers Farms Road, Milford, Connecticut 06461, (800) 353-0050.

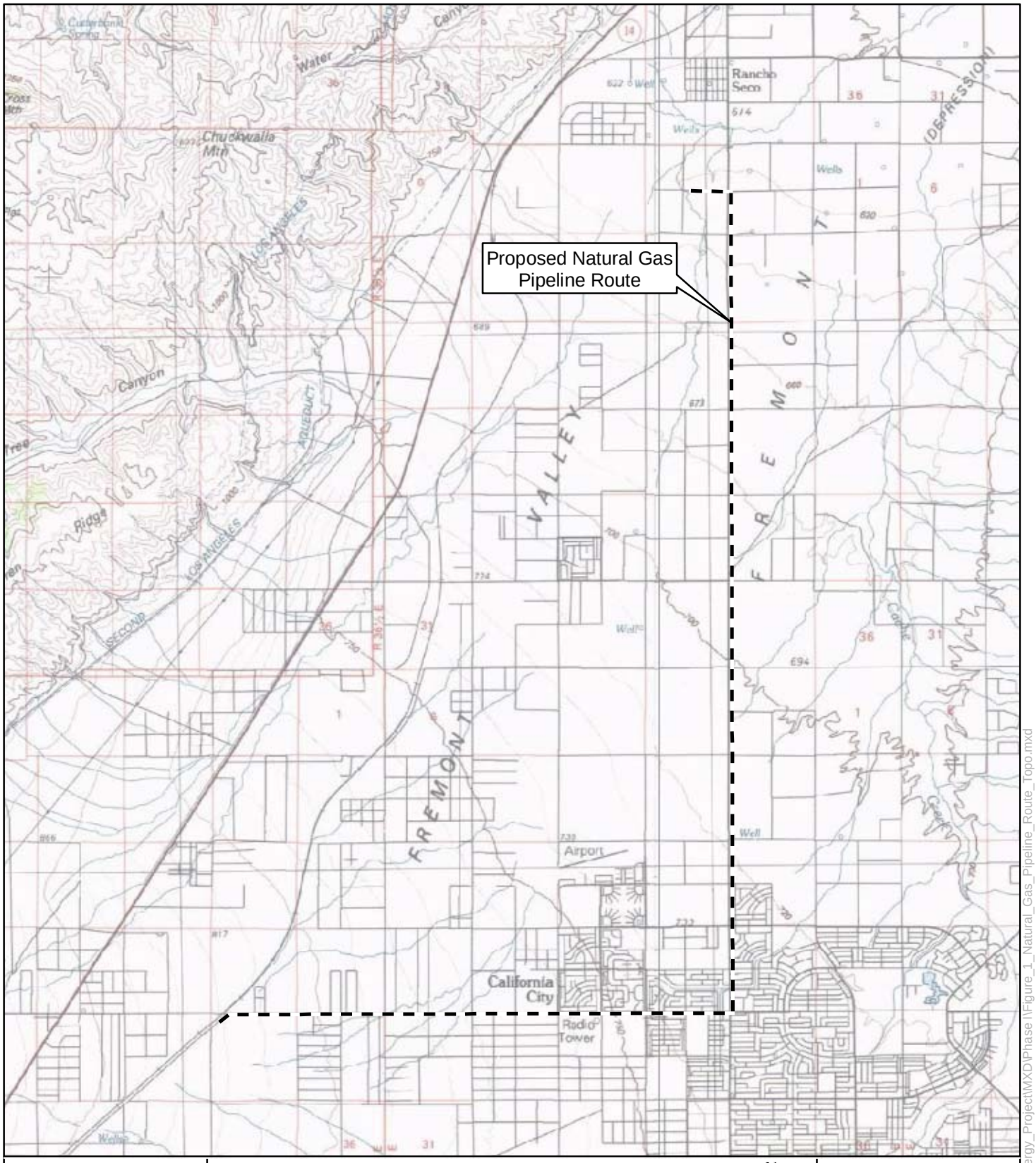
Kern County Environmental Health Department Hazardous Materials Program, http://www.co.kern.ca.us/eh/HazMatPage.asp.

Leaking Underground Fuel Tank Information, reviewed at the State of California Geotracker website, http://geotracker.swrcb.ca.gov/search/addresssearch.htm.

Certified Sanborn® Map Report, "Unmapped Property." 17.5 Mile Gas Pipeline Assessment, California City, California 93505, dated June 30, 2008, dated July 10, 2008. Inquiry Number 2266517.1. Report prepared by Environmental Data Resources, 440 Wheelers Farms Road, Milford, Connecticut 06460, (800) 352-0050.

South Lahontan Hydrologic Region Freemont Valley Groundwater Basin, California's Groundwater Bulletin 118, dated July 27, 2004.

FIGURES



Map Location

Beacon Solar Energy Project

Figure 1
Site Location Map
16.4 Mile Proposed Natural Gas Pipeline Route
Fremont Valley, Kern County, California

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Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008

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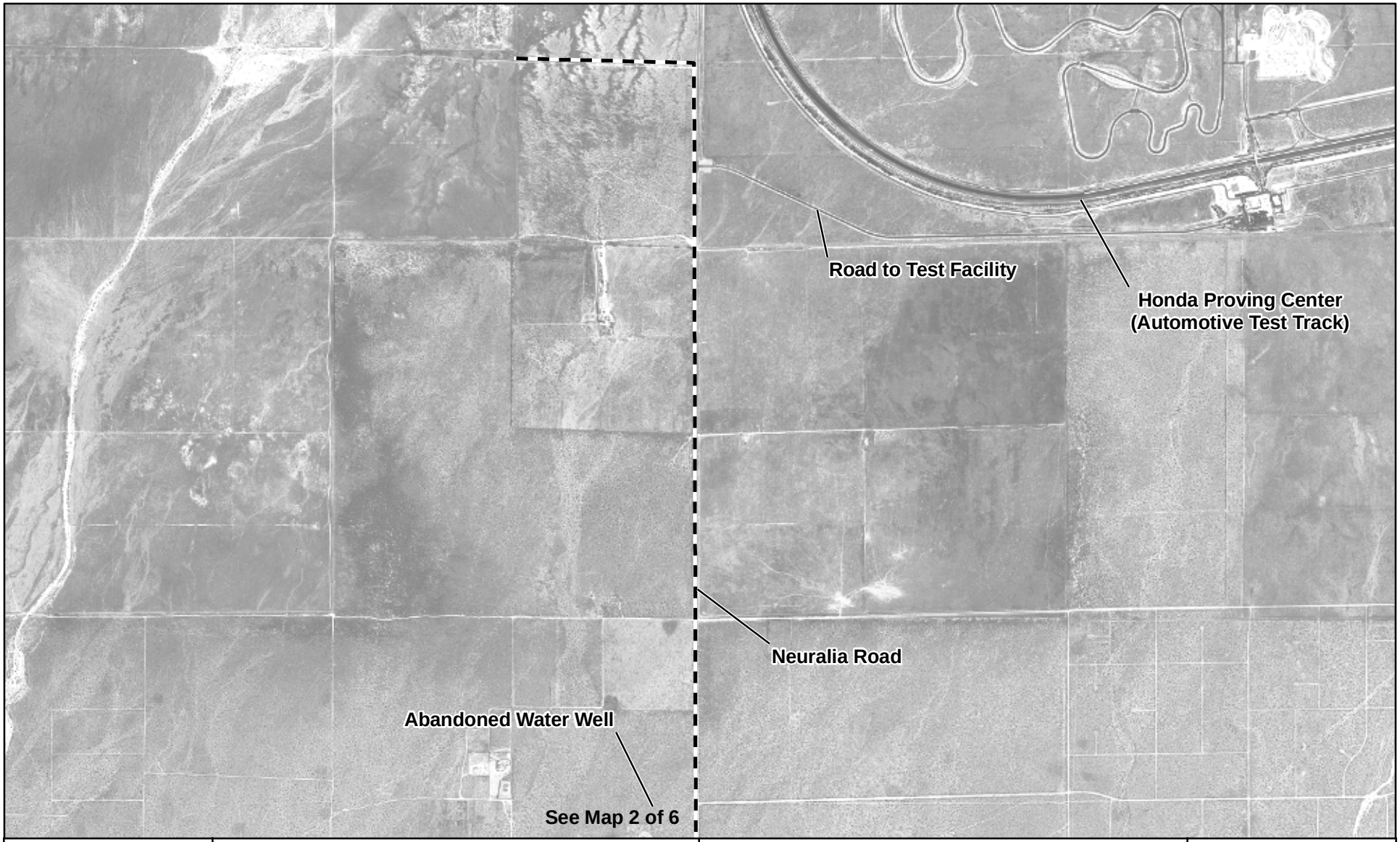

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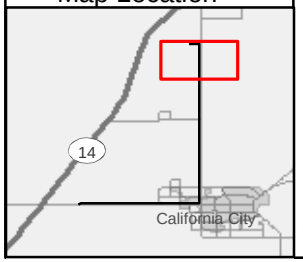

Legend

Proposed Natural Gas Pipeline Route

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Source:2006 NAIP

Beacon Solar Energy Project

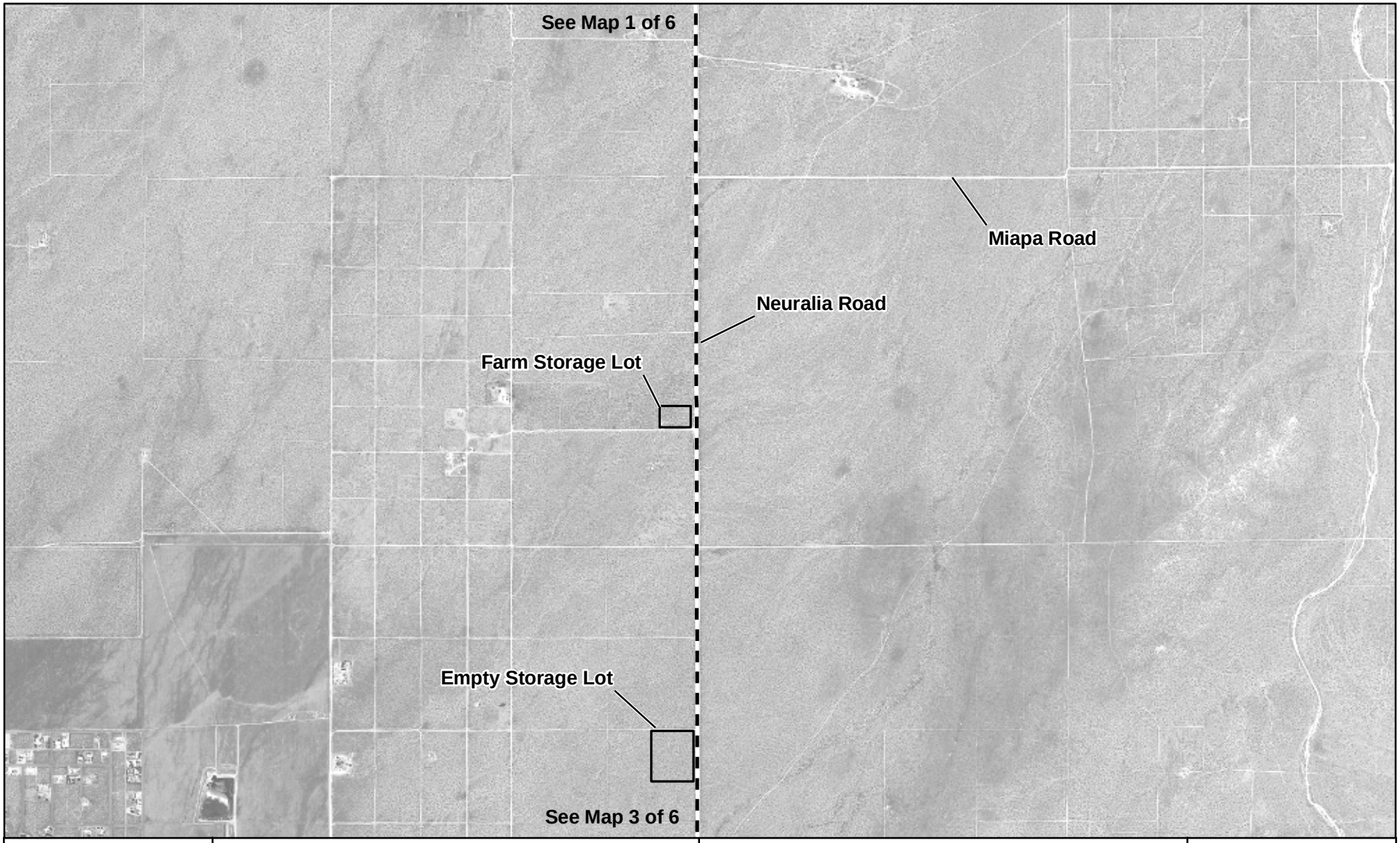
Figure 2
Site Plan
16.4 Mile Proposed Natural Gas Pipeline Route
Fremont Valley, Kern County, California

Mapsheet 1 of 6

Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008



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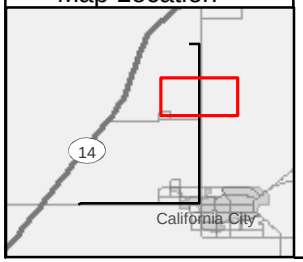

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Proposed Natural Gas Pipeline Route

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Source:2006 NAIP

Beacon Solar Energy Project

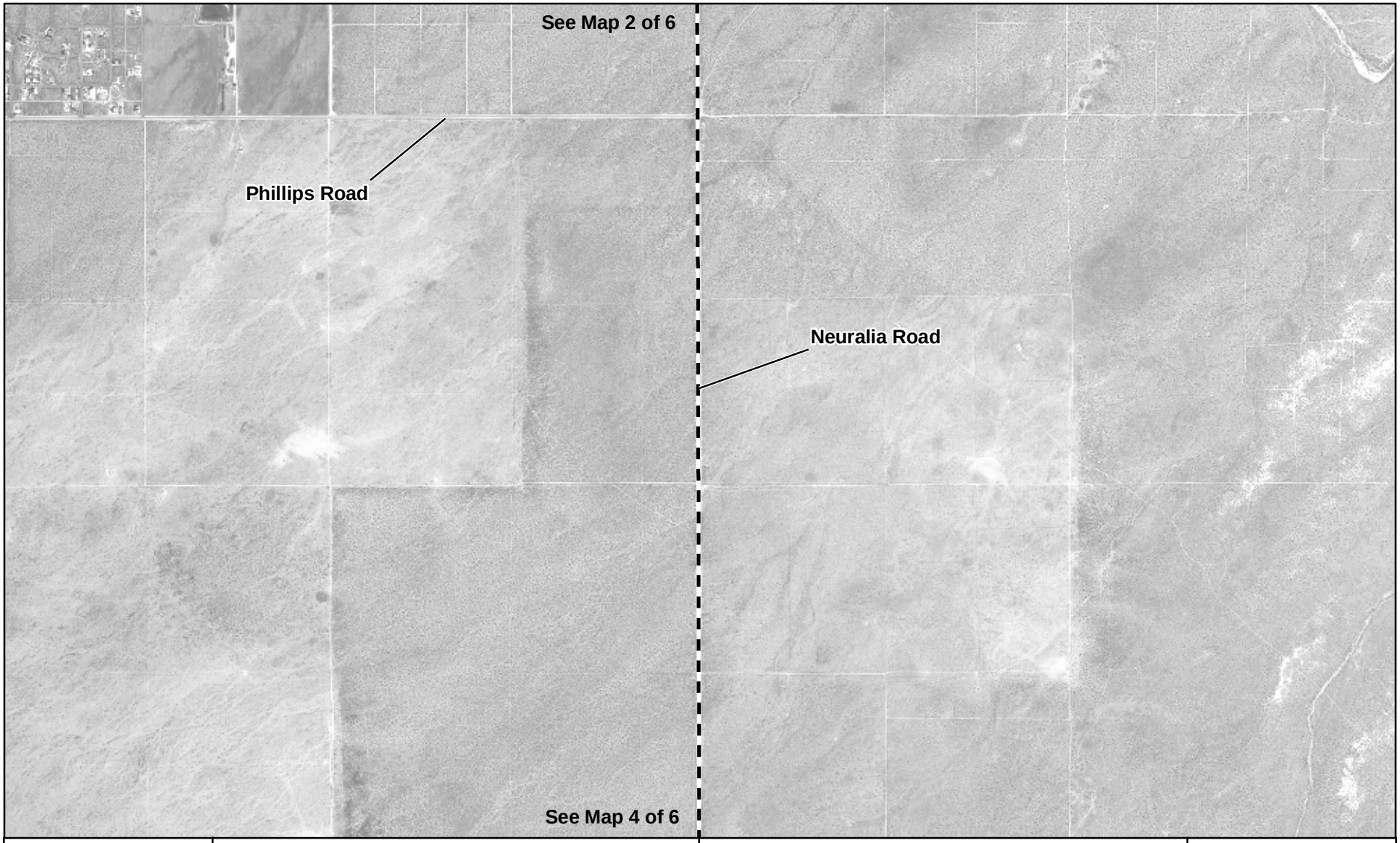
Figure 2
Site Plan
16.4 Mile Proposed Natural Gas Pipeline Route
Fremont Valley, Kern County, California

Mapsheet 2 of 6

Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008



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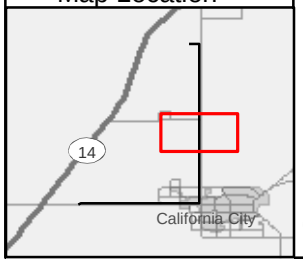

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Proposed Natural Gas Pipeline Route

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Source:2006 NAIP

Beacon Solar Energy Project

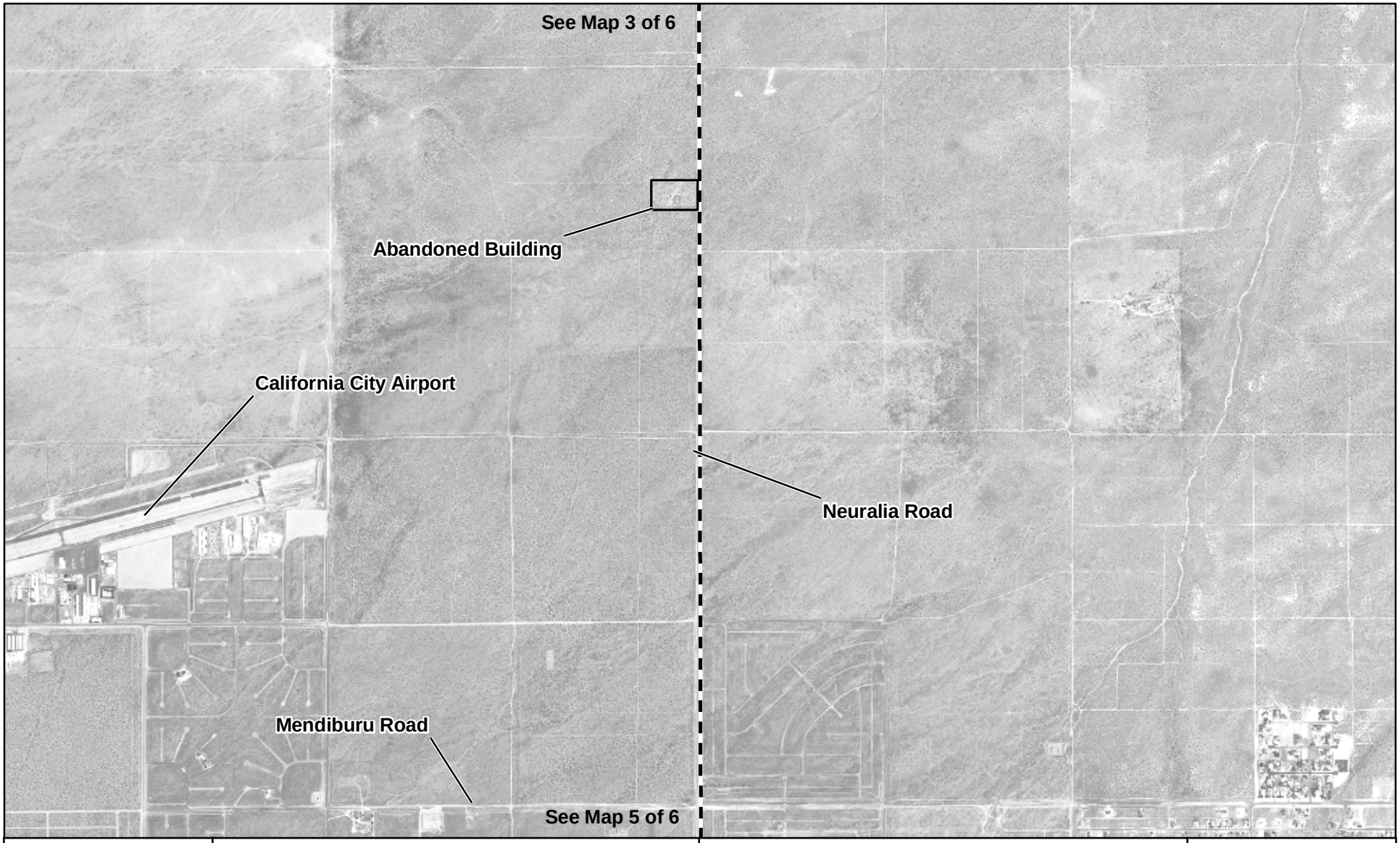
Figure 2
Site Plan
16.4 Mile Proposed Natural Gas Pipeline Route
Fremont Valley, Kern County, California

Mapsheet 3 of 6

Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008



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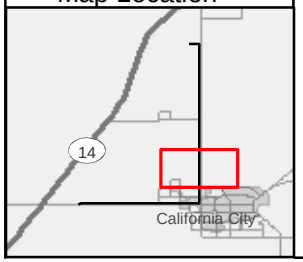

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Proposed Natural Gas Pipeline Route

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Source:2006 NAIP

Beacon Solar Energy Project

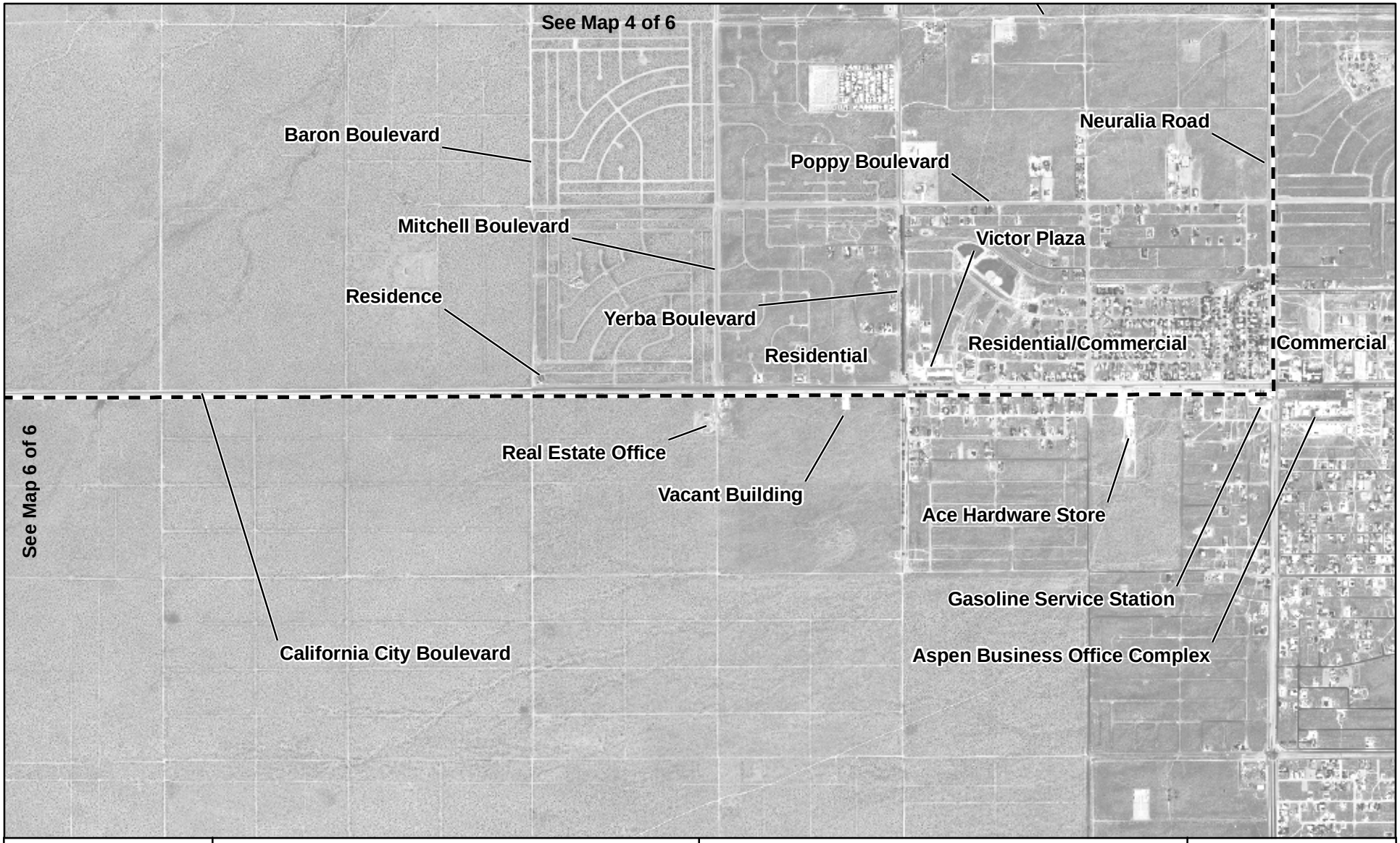
Figure 2
Site Plan
16.4 Mile Proposed Natural Gas Pipeline Route
Fremont Valley, Kern County, California

Mapsheet 4 of 6

Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008



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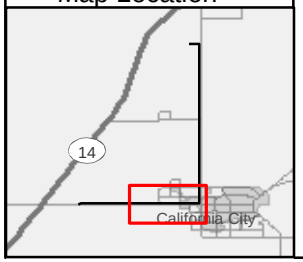

Legend

Proposed Natural Gas Pipeline Route

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Source:2006 NAIP

Beacon Solar Energy Project

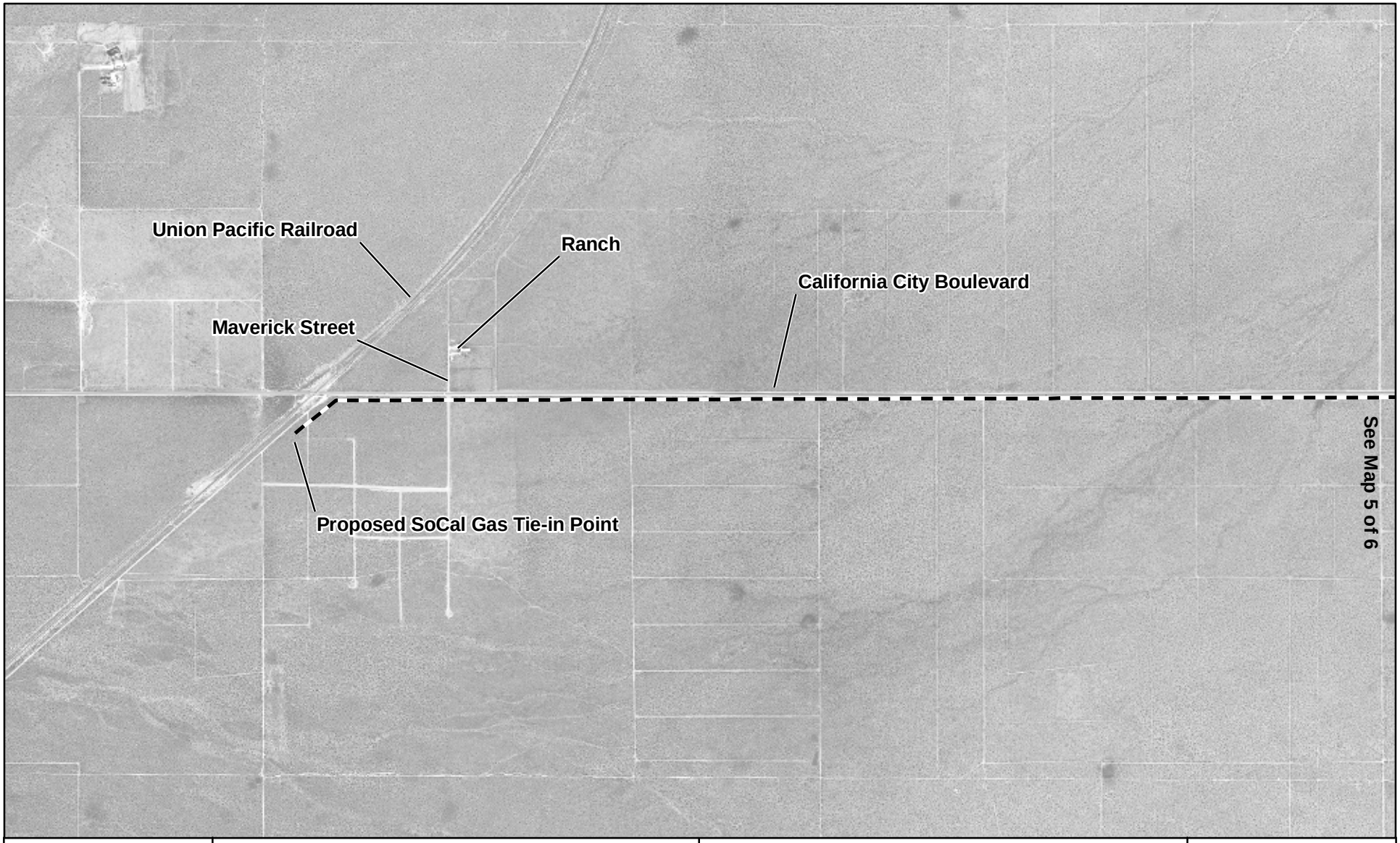
Figure 2
Site Plan
16.4 Mile Proposed Natural Gas Pipeline Route
Fremont Valley, Kern County, California

Mapsheet 5 of 6

Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008



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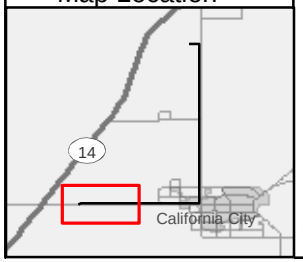

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Proposed Natural Gas Pipeline Route

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Source:2006 NAIP

Beacon Solar Energy Project

Figure 2
Site Plan
16.4 Mile Proposed Natural Gas Pipeline Route
Fremont Valley, Kern County, California

Mapsheet 6 of 6

Beacon Solar

ENSR | AECOM

Project: 10056-014-300
Date: July 2008

APPENDIX A
Representative Site Photographs

PHOTOGRAPHIC LOG

ENSR | AECOM

Site Name:	Site Location:	Project No.
16.4-Mile Proposed Pipeline Route	Freemont Valley, Kern County, California	10056-014-300

Photo No.	Date:
1	7/2/08

Direction Photo Taken:

West

Description:

View of northwestern portion of the proposed pipeline route looking west towards the proposed Solar Plant site.

Photo No.	Date:
2	7/2/08

Direction Photo Taken:

North

Description:

View from approximately 0.5 mile along the proposed pipeline route looking north along Neuralia Road.

PHOTOGRAPHIC LOG

ENSR | AECOM

Site Name:	Site Location:	Project No.
16.4-Mile Proposed Pipeline Route	Freemont Valley, Kern County, California	10056-014-300

Photo No.	Date:
3	7/2/08

Direction Photo Taken:

West

Description:

View of abandoned water well located approximately 50 feet west of Neuralia Road. This well is located near mile 2.3 of the pipeline route.

Photo No.	Date:
4	7/2/08

Direction Photo Taken:

East

Description:

Representative view of trash and debris that was located along the proposed pipeline route. This photo was taken along the east side of Neuralia Road near mile 3.4 of the pipeline route.

PHOTOGRAPHIC LOG

ENSR | AECOM

Site Name:	Site Location:	Project No.
16.4-Mile Proposed Pipeline Route	Freemont Valley, Kern County, California	10056-014-300

Photo No.	Date:
5	7/2/08

Direction Photo Taken:

West

Description:

View of farm storage lot located along the proposed pipeline route. No physical address was indentified. This photo was taken along the east side of Neuralia Road near mile 3.6 of the proposed pipeline route.

Photo No.	Date:
6	7/2/08

Direction Photo Taken:

South

Description:

View looking south along Neuralia Road near mile 9.3 of the proposed pipeline route.

PHOTOGRAPHIC LOG

ENSR | AECOM

Site Name:	Site Location:	Project No.
16.4-Mile Proposed Pipeline Route	Freemont Valley, Kern County, California	10056-014-300

Photo No.	Date:
7	7/2/08

Direction Photo Taken:

South

Description:

View of gasoline service station located at the southwest corner of Neuralia Road and California City Boulevard. This photo was taken near mile 10.3 of the proposed pipeline route.

Photo No.	Date:
8	7/2/08

Direction Photo Taken:

West

Description:

View looking west along California City Boulevard. This photo was taken near mile 10.3 of the proposed pipeline route.

PHOTOGRAPHIC LOG

ENSR | AECOM

Site Name:	Site Location:	Project No.
16.4-Mile Proposed Pipeline Route	Freemont Valley, Kern County, California	10056-014-300

Photo No.	Date:
9	7/2/08

Direction Photo Taken:

West

Description:

View looking west along California City Boulevard. This photo was taken near mile 16 of the proposed pipeline route.

Photo No.	Date:
10	7/2/08

Direction Photo Taken:

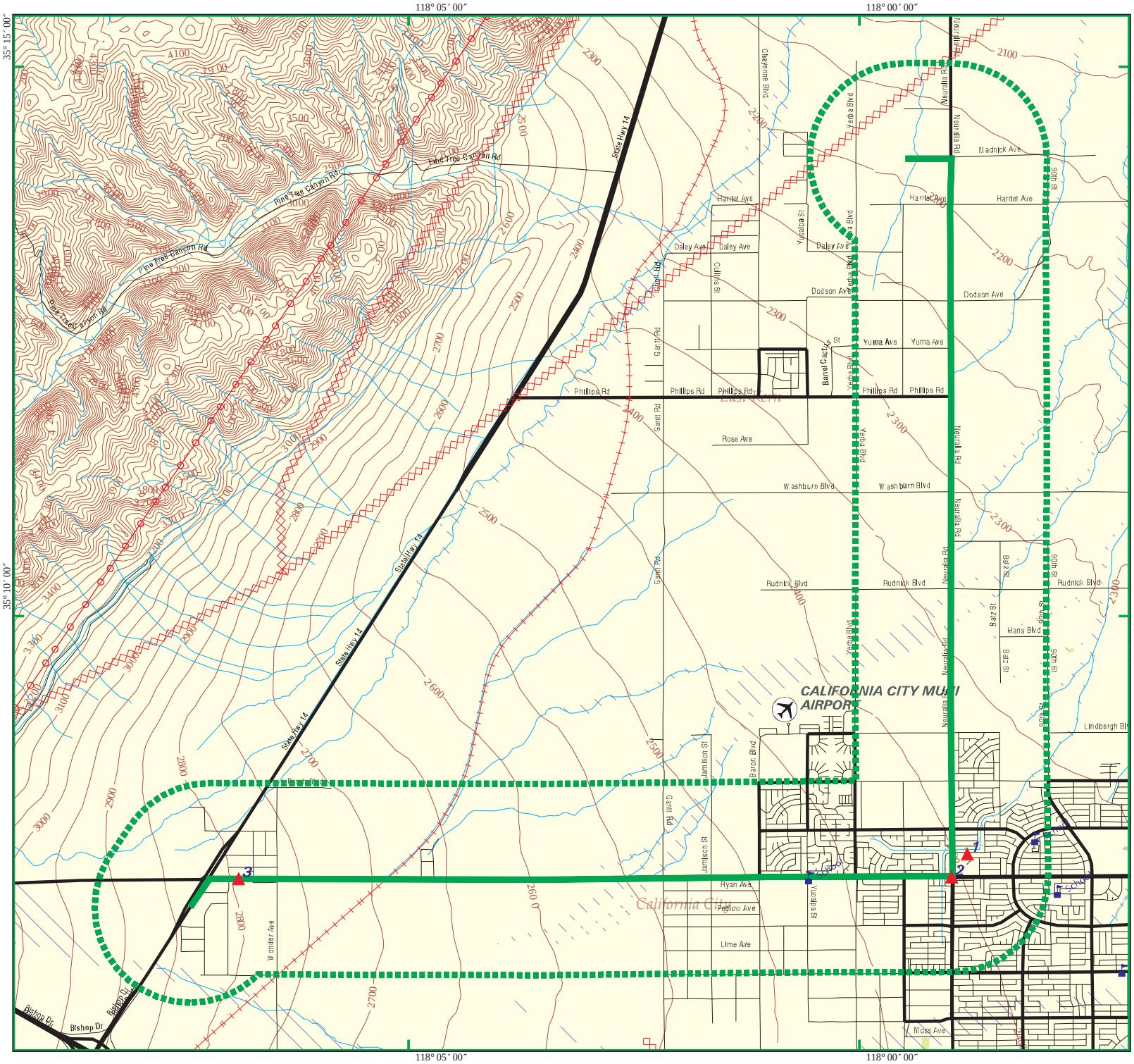
South

Description:

View looking west near mile 16.4 of the proposed pipeline route and the proposed connection point with the SGC pipeline..

ENSR | AECOM

APPENDIX B
Environmental Database Report



17.5 Mile Gas Pipeline Assessment

- Listed Sites
- Earthquake Epicenters (Richter 5 or greater)
- Search Boundary
- Roads
- Major Roads
- Waterways
- Railroads
- Contour Lines
- Pipelines
- Powerlines
- Fault Lines
- Water
- Superfund Sites
- Federal DOD Sites
- Indian Reservations BIA
- 100-Yr Flood Zones
- National Wetland Inventory

N

California City, CA

0 1/2 1

Scale in Miles

EDR® Environmental Data Resources Inc

02256382.3r - 02 Jul 08

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17.5 Mile Gas Pipeline Assessment
California City, CA 93505

Inquiry Number: 02256382.3r
July 02, 2008

EDR DataMap™ Corridor Study

EDR® Environmental Data Resources Inc

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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EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

CALIFORNIA CITY, CA 93505
CALIFORNIA CITY, CA 93505

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 NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	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
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems

EXECUTIVE SUMMARY

PADS ..... PCB Activity Database System
MLTS ..... Material Licensing Tracking System
RADINFO ..... Radiation Information Database
RAATS ..... RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

HIST Cal-Sites ..... Historical Calsites Database
CA BOND EXP. PLAN ..... Bond Expenditure Plan
SCH ..... School Property Evaluation Program
Toxic Pits ..... Toxic Pits Cleanup Act Sites
SWF/LF ..... Solid Waste Information System
CA WDS ..... Waste Discharge System
WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
SLIC ..... Statewide SLIC Cases
AST ..... Aboveground Petroleum Storage Tank Facilities
LIENS ..... Environmental Liens Listing
CHMIRS ..... California Hazardous Material Incident Report System
Notify 65 ..... Proposition 65 Records
DEED ..... Deed Restriction Listing
VCP ..... Voluntary Cleanup Program Properties
DRYCLEANERS ..... Cleaner Facilities
WIP ..... Well Investigation Program Case List
CDL ..... Clandestine Drug Labs
RESPONSE ..... State Response Sites
AIRS ..... Emissions Inventory Data
HAULERS ..... Registered Waste Tire Haulers Listing
ENVIROSTOR ..... EnviroStor 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.

EXECUTIVE SUMMARY

FEDERAL RECORDS

ICIS: The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

A review of the ICIS list, as provided by EDR, and dated 02/28/2008 has revealed that there is 1 ICIS site within the searched area.

Site	Address	Map ID	Page
ED STAFFORD & SON CONSTRUCTION	452 CALIFORNIA CITY BLV	3	10

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 04/03/2008 has revealed that there is 1 FINDS site within the searched area.

Site	Address	Map ID	Page
ED STAFFORD & SON CONSTRUCTION	452 CALIFORNIA CITY BLV	3	12

STATE AND LOCAL RECORDS

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

A review of the Cortese list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 Cortese site within the searched area.

Site	Address	Map ID	Page
PIONEER ARCO	***7990 CALIFORNIA CITY BL***	***2***	***5***

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 04/08/2008 has revealed that there is 1 LUST site within the searched area.

EXECUTIVE SUMMARY

Site	Address	Map ID	Page
PIONEER ARCO	***7990 CALIFORNIA CITY BL***	***2***	***5***
Facility Status: Case Closed			

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within the searched area.

Site	Address	Map ID	Page
T.A. ELEC. INC.	8060 WALPOLE	1	4
WHITE'S ARCO	7990 CALIFORNIA CITY BL	2	5

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 04/08/2008 has revealed that there are 6 UST sites within the searched area.

Site	Address	Map ID	Page
CAL CITY BUSINESS PARK	8203 DOGBANE RD	1	3
T A ELECTRIC, INC	8060 WALPOLE	1	3
CAL CITY CHEVRON	7990 CALIFORNIA CITY BL	2	5
CAL CITY 76	7990 CALIFORNIA CITY BL	2	10
FASTOP FOOD STORE	601 CALIFORNIA CITY BLV	3	11
FASTOP FOOD STORE	601 CALIFORNIA CITY BLV	3	13

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 2 HIST UST sites within the searched area.

Site	Address	Map ID	Page
T.A. ELEC. INC.	8060 WALPOLE AVE	1	3
WHITE'S ARCO	7990 CALIFORNIA CITY BL	2	9

SWEEPS UST: 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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are

EXECUTIVE SUMMARY

2 SWEEPS UST sites within the searched area.

Site	Address	Map ID	Page
T.A. ELEC. INC.	8060 WALPOLE ST	1	4
PIONEER ARCO	***7990 CALIFORNIA CITY BL***	***2***	***5***

HAZNET: 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 from non-California manifests & continuation sheets are not included at the present time. 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, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the HAZNET list, as provided by EDR, and dated 12/31/2006 has revealed that there are 2 HAZNET sites within the searched area.

Site	Address	Map ID	Page
FASTOP MINI MART	601 CALIFORNIA CITY BLV	3	12
FASTOP FOOD & GAS	601 CALIFORNIA CITY BLV	3	13

EXECUTIVE SUMMARY

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	0
NPL LIENS	0
CERCLIS	0
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	0
RCRA-SQG	0
RCRA-CESQG	0
RCRA-NonGen	0
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	0
HMIRS	0
DOT OPS	0
US CDL	0
US BROWNFIELDS	0
DOD	0
FUDS	0
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
ODI	0
DEBRIS REGION 9	0
MINES	0
TRIS	0
TSCA	0
FTTS	0
HIST FTTS	0
SSTS	0
ICIS	1
PADS	0
MLTS	0
RADINFO	0
FINDS	1
RAATS	0
STATE AND LOCAL RECORDS	
HIST Cal-Sites	0
CA BOND EXP. PLAN	0
SCH	0
Toxic Pits	0
SWF/LF	0

MAP FINDINGS SUMMARY

Database	Total Plotted
CA WDS	0
WMUDS/SWAT	0
Cortese	1
SWRCY	0
LUST	1
CA FID UST	2
SLIC	0
UST	6
HIST UST	2
AST	0
LIENS	0
SWEEPS UST	2
CHMIRS	0
Notify 65	0
DEED	0
VCP	0
DRYCLEANERS	0
WIP	0
CDL	0
RESPONSE	0
HAZNET	2
AIRS	0
HAULERS	0
ENVIROSTOR	0
TRIBAL RECORDS	
INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0
EDR PROPRIETARY RECORDS	
Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.)	Site	Database(s)	EDR ID Number EPA ID Number
1	**CAL CITY BUSINESS PARK** **8203 DOGBANE RD** **CALIFORNIA CITY, CA 93505**	**UST**	**U004113247** **N/A**

UST:

Region:	Kern
Owner Id:	550075
Owner Name:	BISSETT, ROBERT
Active Facility:	No
Bakersfield City:	No
APN:	Not reported
Compliant:	Not reported
Number of Tanks:	0
Tank Num:	Not reported
Tank Capacity:	Not reported
Common Name:	Not reported

1	**T A ELECTRIC, INC** **8060 WALPOLE** **CALIFORNIA CITY, CA 93505**	**UST**	**U004113206** **N/A**

UST:

Region:	Kern
Owner Id:	550022
Owner Name:	ALLRED, LOUIS F
Active Facility:	No
Bakersfield City:	No
APN:	Not reported
Compliant:	Not reported
Number of Tanks:	0
Tank Num:	Not reported
Tank Capacity:	Not reported
Common Name:	Not reported

1	**T.A. ELEC. INC.** **8060 WALPOLE AVE** **CALIFORNIA CITY, CA 93505**	**HIST UST**	**U001586285** **N/A**

HIST UST:

Region:	STATE
Facility ID:	00000049213
Facility Type:	Other
Other Type:	CONTRACTOR
Total Tanks:	0001
Contact Name:	LOUIS F. ALLRED
Telephone:	6193734366
Owner Name:	T.A. ELEC. INC.
Owner Address:	8460 ASPEN
Owner City,St,Zip:	CALIFORNIA CITY, CA 93505
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED

T.A. ELEC. INC. (Continued) **U001586285**

Tank Construction: Not reported
Leak Detection: None

---

1 **T.A. ELEC. INC.** **CA FID UST** **S101620795**
8060 WALPOLE **N/A**
CALIFORNIA CITY, CA 93505

CA FID UST:

Facility ID:	15005045
Regulated By:	UTNKA
Regulated ID:	00049213
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	6193734366
Mail To:	Not reported
Mailing Address:	P O BOX
Mailing Address 2:	Not reported
Mailing City,St,Zip:	CALIFORNIA CITY 93505
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

---

1 **T.A. ELEC. INC.** **SWEEPS UST** **S106932760**
8060 WALPOLE ST **N/A**
CALIFORNIA CITY, CA 93505

SWEEPS UST:

Status:	Not reported
Comp Number:	49213
Number:	Not reported
Board Of Equalization:	44-006322
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	15-000-049213-000001
Actv Date:	Not reported
Capacity:	1000
Tank Use:	M.V. FUEL
Stg:	PRODUCT
Content:	REG UNLEADED
Number Of Tanks:	1

2 **CAL CITY CHEVRON** **UST** **U003981752**
7990 CALIFORNIA CITY BLVD **N/A**
CALIFORNIA CITY, CA 93505

UST:

Local Agency:	15000
Facility ID:	FA0003395

---

2 **WHITE'S ARCO** **CA FID UST** **S101629482**
7990 CALIFORNIA CITY BLVD **N/A**
CALIFORNIA CITY, CA 93505

CA FID UST:

Facility ID:	15000438
Regulated By:	UTNKA
Regulated ID:	00036087
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	6193738422
Mail To:	Not reported
Mailing Address:	P O BOX
Mailing Address 2:	Not reported
Mailing City,St,Zip:	CALIFORNIA CITY 93505
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

---

2 **PIONEER ARCO** **LUST** **S100227815**
7990 CALIFORNIA CITY BLVD **Cortese** **N/A**
CALIFORNIA CITY, CA 93505 **SWEEPS UST**

LUST:

Region:	STATE
Case Type:	Soil only
Cross Street:	Not reported
Enf Type:	R
Funding:	Undefined
How Discovered:	Tank Test
How Stopped:	Not reported
Leak Cause:	Structure Failure
Leak Source:	Piping
Global Id:	T0602900825
Stop Date:	1987-05-14 00:00:00
Confirm Leak:	Not reported
Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	Not reported
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
Report Date:	1993-08-24 00:00:00

PIONEER ARCO (Continued) **S100227815**

Discover Date: 1987-05-14 00:00:00
Enforcement Dt: 1965-01-01 00:00:00
Release Date: 1987-07-06 00:00:00
Review Date: 1989-11-03 00:00:00
Enter Date: 1989-11-03 00:00:00
MTBE Date: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Max MTBE GW ppb: Not reported
Max MTBE Soil ppb: Not reported
County: 15
Org Name: Not reported
Reg Board: 6V
Status: Case Closed
Chemical: Gasoline
Contact Person: Not reported
Responsible Party: WHITE'S BLACK GOLD OIL COMPANY
RP Address: Not reported
Interim: Not reported
Oversight Prgm: LUST
MTBE Class: *
MTBE Conc: 0
MTBE Fuel: 1
MTBE Tested: Site NOT Tested for MTBE.Includes Unknown and Not Analyzed.
Staff: KD
Staff Initials: SBC
Lead Agency: Local Agency
Local Agency: 15000L
Hydr Basin #: FREMONT VALLEY (6-46
Beneficial: Not reported
Priority: LOP/LOW - MINOR OR NO POTENTIAL WATER RESOURCE IMPACT
Cleanup Fund Id: Not reported
Work Suspended: Not reported
Local Case #: 550015
Case Number: 6B1500125T
Qty Leaked: Not reported
Abate Method: Vent Soil - bore holes in soil to allow volatilization of contaminants
Operator: MR ROOKS
Water System Name: Not reported
Well Name: Not reported
Distance To Lust: 0
Waste Discharge Global ID: Not reported
Waste Disch Assigned Name: Not reported
Summary: Not reported

LUST:
Region: 6V
Case Number: 6B1500125T
Leak Record: 11/3/1989
Report Date: 7/6/1987
Reported By Address: Not reported
Responsible Party: WHITE'S BLACK GOLD OIL COMPANY
Operator: MR ROOKS
Cross Street: Not reported
Local Agency: 15000L
Regional Board: 6V
Chemical: Gasoline

PIONEER ARCO (Continued) **S100227815**

Case Type:	Soil only
Funding:	R
Enforce Type:	N
How Found:	Tank Test
How Stopped:	Not reported
Cause of Leak:	Structure Failure
Leak Source:	Piping
Global ID:	T0602900825
Stop Date:	5/14/1987
Leak Confirm:	Not reported
Submit Workplan:	Not reported
Prelim Assess:	Not reported
Pollution Char:	Not reported
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
Close Date:	8/24/1993
Discovered:	5/14/1987
Enforce Date:	1/1/1965
Review Date:	11/3/1989
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
MTBE class:	*
Max MTBE Grnd Wtr:	Not reported
Max MTBE Soil:	Not reported
MTBE Counts:	0
MTBE Fuel:	1
MTBE Tested:	NT
Organization Name:	Not reported
Status:	Case Closed
Contact:	Not reported
Interim Action:	Not reported
Pilot Program:	LUST
Lat/Long:	35.1260237 / -117.9855218
Staff Initials:	KD
Local Agency Staff:	SBC
Lead Agency:	Local Agency
Summary:	Not reported
Basin Number:	FREMONT VALLEY (6-46
Beneficial:	Not reported
Priority:	Not reported
UST Cleanup Fund ID:	Not reported
Suspended:	Not reported
Local Case Number:	550015
Amount:	Not reported
Abate Method:	Vent Soil - bore holes in soil to allow volatilization of contaminants
Water System:	Not reported
Well Name:	Not reported
Distance:	167
Wst Disch Reqrmnt Global ID:	Not reported
Wst Disch Reqrmnt Name:	Not reported

Cortese:

Region:	CORTESE
Facility Addr2:	7990 CALIFORNIA CITY BLVD

PIONEER ARCO (Continued) **S100227815**

SWEEPS UST:

Status:	A
Comp Number:	36087
Number:	2
Board Of Equalization:	44-006186
Ref Date:	09-29-93
Act Date:	04-11-94
Created Date:	09-30-89
Tank Status:	A
Owner Tank Id:	146-3
Swrcb Tank Id:	15-000-036087-000001
Actv Date:	07-01-85
Capacity:	6000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	4

Status:	A
Comp Number:	36087
Number:	2
Board Of Equalization:	44-006186
Ref Date:	09-29-93
Act Date:	04-11-94
Created Date:	09-30-89
Tank Status:	A
Owner Tank Id:	146-2B
Swrcb Tank Id:	15-000-036087-000002
Actv Date:	07-01-85
Capacity:	4000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	36087
Number:	2
Board Of Equalization:	44-006186
Ref Date:	09-29-93
Act Date:	04-11-94
Created Date:	09-30-89
Tank Status:	A
Owner Tank Id:	146-2A
Swrcb Tank Id:	15-000-036087-000003
Actv Date:	07-01-85
Capacity:	4000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	36087
Number:	2
Board Of Equalization:	44-006186
Ref Date:	09-29-93

PIONEER ARCO (Continued) **S100227815**

Act Date:	04-11-94
Created Date:	09-30-89
Tank Status:	A
Owner Tank Id:	146-1
Swrcb Tank Id:	15-000-036087-000004
Actv Date:	07-01-85
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	LEADED
Number Of Tanks:	Not reported

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2 **WHITE'S ARCO** **HIST UST** **U001586286**
7990 CALIFORNIA CITY BLVD **N/A**
CALIFORNIA CITY, CA 93505

HIST UST:

Region:	STATE
Facility ID:	00000036087
Facility Type:	Gas Station
Other Type:	Not reported
Total Tanks:	0005
Contact Name:	BALSITIS
Telephone:	6193738422
Owner Name:	BLACK GOLD OIL COMPANY
Owner Address:	1194 E. HOLT BLVD.
Owner City,St,Zip:	ONTARIO, CA 91761

Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Tank Construction:	Not reported
Leak Detection:	None

Tank Num:	002
Container Num:	146-3
Year Installed:	Not reported
Tank Capacity:	00006000
Tank Used for:	PRODUCT
Type of Fuel:	PREMIUM
Tank Construction:	Not reported
Leak Detection:	Stock Inventor

Tank Num:	003
Container Num:	146-2B
Year Installed:	Not reported
Tank Capacity:	00004000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Tank Construction:	Not reported
Leak Detection:	Stock Inventor

Tank Num:	004
Container Num:	146-2A
Year Installed:	Not reported

WHITE'S ARCO (Continued) **U001586286**

Tank Capacity: 00004000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Stock Inventor

Tank Num: 005
Container Num: 146-1
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Tank Construction: Not reported
Leak Detection: Stock Inventor

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2 **CAL CITY 76** **UST** **U004113871**
7990 CALIFORNIA CITY BLVD **N/A**
CALIFORNIA CITY, CA 93505

UST:
Region: Kern
Owner Id: 550015
Owner Name: BERNARD L RIZZARDINI
Active Facility: Not reported
Bakersfield City: Not reported
APN: Not reported
Compliant: Yes
Number of Tanks: Not reported

Tank Num: 5
Tank Capacity: 20000
Common Name: UNLEADED/UNLEAD PLUS

Tank Num: 6
Tank Capacity: 20000
Common Name: DIESEL/PREM UNLEAD

---

3 **ED STAFFORD & SON CONSTRUCTION** **ICIS** **1010584747**
452 CALIFORNIA CITY BLVD **N/A**
MOJAVE, CA 93502

ICIS:
Enforcement Action ID: 09-2000-0182
FRS ID: 110001197419
Program ID: FRS 110001197419
Action Name: STAFFORD AND SON CONSTRUCTION #2
Facility Name: ED STAFFORD & SON CONSTRUCTION
Facility Address: 452 CALIFORNIA CITY BLVD
MOJAVE, California 93502
Enforcement Action Type: CAA 113A Admin Compliance Order (Non-Penalty)
Facility County: KERN
EPA Region #: 9

Program ID: FRS 110001197419
Facility Name: ED STAFFORD & SON CONSTRUCTION

ED STAFFORD & SON CONSTRUCTION (Continued) **1010584747**

Address: 452 CALIFORNIA CITY BLVD MOJAVE CA 93502
Tribal Indicator: No
Fed Facility: Not reported
NAIC Code: Not reported
SIC Code: 1622

Program ID: FRS 110001197419
Facility Name: ED STAFFORD & SON CONSTRUCTION
Address: 452 CALIFORNIA CITY BLVD MOJAVE CA 93502
Tribal Indicator: No
Fed Facility: Not reported
NAIC Code: Not reported
SIC Code: 7623

Enforcement Action ID: 09-2000-0038
FRS ID: 110001197419
Program ID: FRS 110001197419
Action Name: STAFFORD AND SON CONSTRUCTION #1
Facility Name: ED STAFFORD & SON CONSTRUCTION
Facility Address: 452 CALIFORNIA CITY BLVD
MOJAVE, California 93502
Enforcement Action Type: CAA 113A Admin Compliance Order (Non-Penalty)
Facility County: KERN
EPA Region #: 9

Program ID: FRS 110001197419
Facility Name: ED STAFFORD & SON CONSTRUCTION
Address: 452 CALIFORNIA CITY BLVD MOJAVE CA 93502
Tribal Indicator: No
Fed Facility: Not reported
NAIC Code: Not reported
SIC Code: 1622

Program ID: FRS 110001197419
Facility Name: ED STAFFORD & SON CONSTRUCTION
Address: 452 CALIFORNIA CITY BLVD MOJAVE CA 93502
Tribal Indicator: No
Fed Facility: Not reported
NAIC Code: Not reported
SIC Code: 7623

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3 **FASTOP FOOD STORE** **UST** **U004118149**
601 CALIFORNIA CITY BLVD **N/A**
CALIFORNIA CITY, CA 93505

UST:
Region: Kern
Owner Id: 550030
Owner Name: ELIAS KAI
Active Facility: Not reported
Bakersfield City: Not reported
APN: Not reported
Compliant: Yes
Number of Tanks: Not reported

Tank Num: 5
Tank Capacity: 12000

FASTOP FOOD STORE (Continued) **U004118149**

Common Name: UNLEADED

Tank Num: 6
Tank Capacity: 12000
Common Name: PREMIUM

Tank Num: 7
Tank Capacity: 12000
Common Name: DIESEL

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3 **FASTOP MINI MART** **HAZNET** **S108206723**
601 CALIFORNIA CITY BLVD **N/A**
CALIFORNIA CITY, CA 93501

HAZNET:

Gepaid:	CAC002596033
Contact:	KAI ELIAS
Telephone:	6616637052
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	18366 1/2 SOLEDAD CANYON RD
Mailing City,St,Zip:	SANTA CLARITA, CA 91387
Gen County:	Kern
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Not reported
Tons:	0.22
Facility County:	Not reported

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3 **ED STAFFORD & SON CONSTRUCTION** **FINDS** **1005619572**
452 CALIFORNIA CITY BLVD **110001197419**
MOJAVE, CA 93502

FINDS:
Other Pertinent Environmental Activity Identified at Site

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and its Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

Map ID Direction Distance Distance (ft.)	Site	Database(s)	EDR ID Number EPA ID Number
3	**FASTOP FOOD STORE** **601 CALIFORNIA CITY BLVD** **MOJAVE, CA 93501**	**UST**	**U004050985** **N/A**

UST:

Local Agency:	15000
Facility ID:	FA0003399

3	**FASTOP FOOD & GAS** **601 CALIFORNIA CITY BLVD** **CALIFORNIA CITY, CA 93505**	**HAZNET**	**U003731292** **N/A**

HAZNET:

Gepaid:	CAC001086368
Contact:	ALIAS KAI
Telephone:	7603731212
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	601 CALIFORNIA CITY BLVD
Mailing City,St,Zip:	CALIFORNIA CITY, CA 935050000
Gen County:	Kern
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Tank bottom waste
Disposal Method:	Recycler
Tons:	2.2935
Facility County:	Kern

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CALIFORNIA CITY	S108724455	VILLANUEVA RECYCLING	7021 CALIFORNIA CITY BLVD LOT 408	93505	SWRCY
CALIFORNIA CITY	S101620792	CALIF. CITY PARK MAINTENANCE Y	10400 HEATHER CENTRAL PARK	93505	CA FID UST, SWEEPS UST
CALIFORNIA CITY	U001586281	CALIF. CITY PARK MAINTENANCE Y	10400 HEATHER (CENTRAL PARK)	93505	HIST UST
CALIFORNIA CITY	U004113210	PARK MAINTENANCE YARD	10400 HEATHER	93505	UST
CANTIL	S104161428	RED ROCK CANYON DEPT OF PARKS	HWY 14	93519	LUST
CANTIL	S105023061	JAWBONE CANYON STORE	32629 HWY 14	93519	LUST, Cortese
CANTIL	U004113239	RED ROCK CANYON STATE PARK	HWY 14 & ABBOTT DR	93519	UST
CANTIL	S106927734	JAWBONE CANYON STORE	14 MILES N MOJAVE HWY 14	93519	SWEEPS UST
CANTIL	U001586535	JAWBONE CANYON STORE	14 MILES N. MOJAVE HWY 14	93519	HIST UST
CANTIL	U004113215	JAWBONE CANYON STORE	19 MI. N/HWY 14, CANTIL	93519	UST
CANTIL	S103651067	HONDA PROVING CENTER OF CA	30216 NEURALIA RD	93519	HAZNET, SWEEPS UST
CANTIL	U003981634	HONDA PROVING CENTER OF CALIF	30216 NEURALIA RD	93519	UST
CANTIL	U004113878	HONDA PROVING CENTER CALIFORNIA	30216 NEURALIA RD	93519	UST
CANTIL	A100176558	RED ROCK CANYON SP	ST. RTE. 14	93519	AST
KRAMER JCT.	U001586534	FOUR CORNERS UNION	HWY 395 / 58	93519	HIST UST
MOJAVE	1000857527	CALTRANS CACHE CREEK BRIDGE	BR #50-201L P M R107.6 HWY 58	93501	RCRA-SQG, FINDS, HAZNET
MOJAVE	S102426217	CALTRANS MOJAVE MAINTENANCE	HWY 14	93501	LUST
MOJAVE	S106930073	OASIS	16900 HIGHWAY 14	93501	SWEEPS UST
MOJAVE	U003879720	OASIS CENTER	16825 HWY 14	93501	UST
MOJAVE	U003981688	GIANT TRUCK STOP OF MOJAVE	16600 HWY 14	93501	UST
MOJAVE	U004113451	LEONARD CONSTRUCTION	HWY 14 & HWY 58	93501	UST
MOJAVE	U004113894	RSI CARDLOCK	15800 HWY 14 (SIERRA HWY	93501	UST
MOJAVE	U004113897	OASIS CLUB INC	16825 HWY 14	93501	UST
MOJAVE	U004113898	LA DEPT OF WATER AND POWER, MOJAVE	17031 HIGHWAY 14	93501	UST
MOJAVE	S106027443	CALIFORNIA HIGHWAY PATROL	1365 HIGHWAY 58	93501	CA FID UST, SWEEPS UST
MOJAVE	S106027449	FIRE STATION #14	1953 HIGHWAY 58	93501	CA FID UST, SWEEPS UST
MOJAVE	U003731285	AT AND T (CAO580)	HWY 58 9 MI E OF MOJAVE	93501	UST
MOJAVE	U003939704	FASTRIP #38	2350 HWY 58	93501	UST
MOJAVE	U003981691	PRICE SAVERS TRUCK STOP	2001 HWY 58	93501	UST
MOJAVE	U004113231	SHAHNAZ ENT	1155 HWY 58	93501	UST
MOJAVE	U004113441	KERN COUNTY FIRE DEPT STATION 14	1953 HWY 58	93501	UST
MOJAVE	U004113445	CALIF HWY PATROL-MOJAVE	1365 HWY 58	93501	UST
MOJAVE	U004113452	MR. LEE PULSIPHER	1875 HWY 58	93501	UST
MOJAVE	U004113874	AT AND T (CA7004)	HWY 58 9 MI E OF MOJAVE	93501	UST
MOJAVE	U004113896	PRICE SAVERS TRUCK STOP/RAPID LUBE	2001 HWY 58	93501	UST
MOJAVE	U004113901	FASTRIP FOOD STORE #38	2350 HWY 58	93501	UST
MOJAVE	U001586272	NINE MILE STATION	CONTACT ELMER HUMPHRY	93501	HIST UST
MOJAVE	S101620787	NINE MILE STATION	CONTACT ELMER HUMPHR	93501	CA FID UST, SWEEPS UST
MOJAVE	S106927719	JAMIESON HILL STATION #703	SE CORNER HWY 58 / 14	93501	SWEEPS UST
MOJAVE	1003879873	MOJAVE BURN DUMP	2M S OF HWY 58/2M E OF MOJAVE	93501	CERC-NFRAP
MOJAVE	U003940331	LA DEPT OF WATER & POWER	17031 SIERRA HWY (HWY 14)	93501	UST
MOJAVE	U003981372	MOJAVE SHELL	16048 SIERRA HWY (HWY 14)	93501	UST
MOJAVE	U003981451	MOJAVE CHEVRON #91095	15800 SIERRA HWY (HWY 14)	93501	UST

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MOJAVE	U004113437	MOJAVE STATION	15887 N SIERRA HWY	93501	UST
MOJAVE	U004113890	MOJAVE SHELL	16048 SIERRA HWY (HWY 14)	93501	UST
MOJAVE	U004113892	SPEEDWAY TRAVEL CENTER	16660 SIERRA HWY	93501	UST
MOJAVE	U004113900	AM PM MINI MART #5674	16300 SIERRA HWY (HWY 14)	93501	UST
MOJAVE	1000131928	A&W SMELTER AND REFINERS	SILVER QUEEN RD	93501	CERCLIS, RCRA-SQG, FINDS, HAZNET, Cortese
MOJAVE	1003879941	VICTORY MILLSITE (A & W SMELTER)	SILVER QUEEN ROAD	93501	CERC-NFRAP
MOJAVE	1003879733	BLM-CACTUS GOLD MINES CO.	STAR RTE 1-BACKUS RD & TEHACHAPI-WILLOW	93501	CERC-NFRAP
MOJAVE	S106926720	GILBERT E. COOK	STAR RT 1 BOX 54E	93501	SWEEPS UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/30/2008
Date Data Arrived at EDR: 05/06/2008
Date Made Active in Reports: 06/09/2008
Number of Days to Update: 34

Source: EPA
Telephone: N/A
Last EDR Contact: 04/28/2008
Next Scheduled EDR Contact: 07/28/2008
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 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

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: 04/30/2008
Date Data Arrived at EDR: 05/06/2008
Date Made Active in Reports: 06/09/2008
Number of Days to Update: 34

Source: EPA
Telephone: N/A
Last EDR Contact: 04/28/2008
Next Scheduled EDR Contact: 07/28/2008
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: 04/30/2008
Date Data Arrived at EDR: 05/06/2008
Date Made Active in Reports: 06/09/2008
Number of Days to Update: 34

Source: EPA
Telephone: N/A
Last EDR Contact: 04/28/2008
Next Scheduled EDR Contact: 07/28/2008
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
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: 04/08/2008
Date Data Arrived at EDR: 04/25/2008
Date Made Active in Reports: 05/21/2008
Number of Days to Update: 26

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 06/17/2008
Next Scheduled EDR Contact: 09/15/2008
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: 12/03/2007
Date Data Arrived at EDR: 12/06/2007
Date Made Active in Reports: 02/20/2008
Number of Days to Update: 76

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 06/17/2008
Next Scheduled EDR Contact: 09/15/2008
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: 02/08/2008
Date Data Arrived at EDR: 03/07/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/26/2008
Date Data Arrived at EDR: 04/02/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 34

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Transporters, 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: 03/06/2008
Date Data Arrived at EDR: 03/06/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/21/2008
Next Scheduled EDR Contact: 08/18/2008
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: 03/06/2008
Date Data Arrived at EDR: 03/06/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/21/2008
Next Scheduled EDR Contact: 08/18/2008
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: 03/06/2008
Date Data Arrived at EDR: 03/06/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/21/2008
Next Scheduled EDR Contact: 08/18/2008
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: 03/06/2008
Date Data Arrived at EDR: 03/06/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/21/2008
Next Scheduled EDR Contact: 08/18/2008
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: 03/06/2008
Date Data Arrived at EDR: 03/06/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/21/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 04/04/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 04/04/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 01/23/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 54

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 04/22/2008
Next Scheduled EDR Contact: 07/21/2008
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 04/16/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 29

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 04/16/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 02/14/2008
Date Data Arrived at EDR: 02/27/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 22

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/28/2008
Next Scheduled EDR Contact: 08/25/2008
Data Release Frequency: Varies

CDL: Clandestine Drug Labs

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: 12/03/2007
Date Made Active in Reports: 12/28/2007
Number of Days to Update: 25

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 06/27/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 04/30/2008
Date Made Active in Reports: 05/30/2008
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 04/30/2008
Next Scheduled EDR Contact: 07/14/2008
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: 703-692-8801
Last EDR Contact: 05/09/2008
Next Scheduled EDR Contact: 08/04/2008
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: 12/31/2006
Date Data Arrived at EDR: 08/31/2007
Date Made Active in Reports: 10/11/2007
Number of Days to Update: 41

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
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: 06/09/2008
Next Scheduled EDR Contact: 09/08/2008
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: 02/08/2008
Date Data Arrived at EDR: 04/25/2008
Date Made Active in Reports: 05/30/2008
Number of Days to Update: 35

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/22/2008
Next Scheduled EDR Contact: 07/21/2008
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/14/2008
Date Data Arrived at EDR: 01/22/2008
Date Made Active in Reports: 01/30/2008
Number of Days to Update: 8

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Annually

UMTRA: 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: 07/13/2007
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 06/16/2008
Next Scheduled EDR Contact: 09/15/2008
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 257 or Part 258 Subtitle D Criteria.

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: 03/25/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/07/2008
Date Data Arrived at EDR: 03/26/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 23

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/25/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 06/16/2008
Next Scheduled EDR Contact: 09/15/2008
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: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 04/28/2008
Next Scheduled EDR Contact: 07/14/2008
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: 04/11/2008
Date Data Arrived at EDR: 04/24/2008
Date Made Active in Reports: 05/21/2008
Number of Days to Update: 27

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 06/16/2008
Next Scheduled EDR Contact: 09/15/2008
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: 04/11/2008
Date Data Arrived at EDR: 04/24/2008
Date Made Active in Reports: 05/21/2008
Number of Days to Update: 27

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 06/16/2008
Next Scheduled EDR Contact: 09/15/2008
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
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: 12/17/2007
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: 12/31/2006
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/14/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/28/2008
Date Data Arrived at EDR: 03/18/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/14/2008
Next Scheduled EDR Contact: 07/14/2008
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: 12/04/2007
Date Data Arrived at EDR: 02/07/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 39

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 06/20/2008
Next Scheduled EDR Contact: 08/04/2008
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: 04/22/2008
Date Data Arrived at EDR: 05/06/2008
Date Made Active in Reports: 06/09/2008
Number of Days to Update: 34

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/29/2008
Date Data Arrived at EDR: 05/01/2008
Date Made Active in Reports: 05/21/2008
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 05/01/2008
Next Scheduled EDR Contact: 07/28/2008
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: 04/03/2008
Date Data Arrived at EDR: 04/08/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 28

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
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: 12/31/2005
Date Data Arrived at EDR: 03/06/2007
Date Made Active in Reports: 04/13/2007
Number of Days to Update: 38

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/11/2008
Next Scheduled EDR Contact: 09/08/2008
Data Release Frequency: Biennially

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: 05/27/2008
Next Scheduled EDR Contact: 08/25/2008
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: 05/27/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/28/2008
Next Scheduled EDR Contact: 08/25/2008
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
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 04/28/2008
Next Scheduled EDR Contact: 07/28/2008
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory 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: 06/09/2008
Date Data Arrived at EDR: 06/11/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 9

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 06/11/2008
Next Scheduled EDR Contact: 09/08/2008
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
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System

Sites which have been issued waste discharge 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: 06/16/2008
Next Scheduled EDR Contact: 09/15/2008
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 05/29/2001
Date Made Active in Reports: 07/26/2001
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 04/21/2008
Next Scheduled EDR Contact: 07/21/2008
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 04/07/2008
Date Data Arrived at EDR: 04/09/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 27

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 04/09/2008
Next Scheduled EDR Contact: 07/07/2008
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

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: 04/14/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

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: 05/05/2008
Next Scheduled EDR Contact: 08/04/2008
Data Release Frequency: Varies

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. 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: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: No Update Planned

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: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 04/23/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 13

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 04/23/2008
Next Scheduled EDR Contact: 06/30/2008
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

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: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. 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: 05/12/2008
Next Scheduled EDR Contact: 08/11/2008
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

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: 04/07/2008
Next Scheduled EDR Contact: 07/07/2008
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control 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: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 04/08/2008
Date Data Arrived at EDR: 04/09/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 04/09/2008
Next Scheduled EDR Contact: 07/07/2008
Data Release Frequency: Quarterly

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. 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 (7)
Telephone: 760-776-8943
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource 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 Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/08/2008
Date Data Arrived at EDR: 04/09/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 01/09/2008
Next Scheduled EDR Contact: 07/07/2008
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
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: 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: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
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: 04/07/2008
Next Scheduled EDR Contact: 04/07/2008
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
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: 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: 05/12/2008
Next Scheduled EDR Contact: 08/11/2008
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
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: 11/17/2004
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: 04/21/2008
Next Scheduled EDR Contact: 07/21/2008
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
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: 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: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
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: 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: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
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: 09/07/2004
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: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
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
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
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: 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: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
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: 09/10/2007
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: 05/27/2008
Next Scheduled EDR Contact: 08/25/2008
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 04/08/2008
Date Data Arrived at EDR: 04/09/2008
Date Made Active in Reports: 05/01/2008
Number of Days to Update: 22

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 04/09/2008
Next Scheduled EDR Contact: 07/07/2008
Data Release Frequency: Semi-Annually

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/23/2008
Date Data Arrived at EDR: 06/23/2008
Date Made Active in Reports: 07/02/2008
Number of Days to Update: 9

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: Varies

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

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

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 11/01/2007
Date Data Arrived at EDR: 11/27/2007
Date Made Active in Reports: 02/14/2008
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 04/28/2008
Next Scheduled EDR Contact: 07/28/2008
Data Release Frequency: Quarterly

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/05/2008
Date Data Arrived at EDR: 05/06/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 45

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/05/2008
Next Scheduled EDR Contact: 08/04/2008
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 of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number 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

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 05/09/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 05/02/2008
Next Scheduled EDR Contact: 05/19/2008
Data Release Frequency: Varies

NOTIFY 65: Proposition 65 Records

Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 04/14/2008
Next Scheduled EDR Contact: 07/14/2008
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: 04/01/2008
Date Data Arrived at EDR: 04/02/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 12

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
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: 05/27/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/28/2008
Next Scheduled EDR Contact: 08/25/2008
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: 07/31/2007
Date Data Arrived at EDR: 07/31/2007
Date Made Active in Reports: 08/09/2007
Number of Days to Update: 9

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 05/30/2008
Next Scheduled EDR Contact: 08/11/2008
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: 02/26/2008
Date Data Arrived at EDR: 04/23/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 04/23/2008
Next Scheduled EDR Contact: 07/21/2008
Data 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: 12/31/2007
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 14

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/21/2008
Next Scheduled EDR Contact: 07/21/2008
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: 05/27/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/28/2008
Next Scheduled EDR Contact: 08/25/2008
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: 12/31/2006
Date Data Arrived at EDR: 10/04/2007
Date Made Active in Reports: 11/07/2007
Number of Days to Update: 34

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 05/09/2008
Next Scheduled EDR Contact: 08/04/2008
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: 12/31/2005
Date Data Arrived at EDR: 04/17/2007
Date Made Active in Reports: 05/10/2007
Number of Days to Update: 23

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 04/18/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: Varies

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 04/28/2008
Date Data Arrived at EDR: 04/29/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 7

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/08/2008
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: 05/27/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/28/2008
Next Scheduled EDR Contact: 08/25/2008
Data Release Frequency: Quarterly

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: 05/09/2008
Next Scheduled EDR Contact: 08/04/2008
Data Release Frequency: Semi-Annually

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
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/27/2008
Next Scheduled EDR Contact: 08/25/2008
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/21/2008
Date Data Arrived at EDR: 02/26/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 23

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 02/28/2008
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 17

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
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: 02/25/2008
Date Data Arrived at EDR: 02/26/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Quarterly

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: 02/20/2008
Date Data Arrived at EDR: 03/04/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 13

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
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: 03/17/2008
Date Data Arrived at EDR: 03/27/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 40

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
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: 03/17/2008
Date Data Arrived at EDR: 03/27/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 40

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Semi-Annually

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: 03/12/2008
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 6

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
A listing of underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 6

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 03/17/2008
Date Data Arrived at EDR: 03/27/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 40

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 02/21/2008
Date Data Arrived at EDR: 02/26/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 23

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 02/20/2008
Date Data Arrived at EDR: 03/04/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 13

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 02/28/2008
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 17

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 12/21/2007
Date Data Arrived at EDR: 12/21/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 34

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 02/25/2008
Date Data Arrived at EDR: 02/26/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 23

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 06/01/2007
Date Data Arrived at EDR: 06/14/2007
Date Made Active in Reports: 07/05/2007
Number of Days to Update: 21

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/07/2008
Next Scheduled EDR Contact: 07/21/2008
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

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 03/07/2008
Next Scheduled EDR Contact: 07/21/2008
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

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: 01/28/2008
Date Data Arrived at EDR: 01/29/2008
Date Made Active in Reports: 02/14/2008
Number of Days to Update: 16

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 05/05/2008
Next Scheduled EDR Contact: 07/21/2008
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/28/2008
Date Data Arrived at EDR: 01/29/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 10

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 05/05/2008
Next Scheduled EDR Contact: 07/21/2008
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: 06/03/2008
Date Data Arrived at EDR: 06/05/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 15

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 05/27/2008
Next Scheduled EDR Contact: 08/25/2008
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/31/2008
Date Data Arrived at EDR: 04/18/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 18

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 04/18/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 06/02/2008
Date Data Arrived at EDR: 06/03/2008
Date Made Active in Reports: 07/02/2008
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 07/07/1999
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 04/14/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 02/28/2008
Date Data Arrived at EDR: 04/16/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 20

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 05/12/2008
Next Scheduled EDR Contact: 08/11/2008
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 05/12/2008
Date Data Arrived at EDR: 05/27/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 24

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 05/14/2008
Next Scheduled EDR Contact: 08/11/2008
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/01/2008
Date Data Arrived at EDR: 03/20/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 25

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 06/09/2008
Next Scheduled EDR Contact: 09/08/2008
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/14/2008
Date Data Arrived at EDR: 04/10/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 26

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 05/12/2008
Next Scheduled EDR Contact: 08/11/2008
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 05/27/2008
Date Data Arrived at EDR: 06/10/2008
Date Made Active in Reports: 07/02/2008
Number of Days to Update: 22

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 05/27/2008
Next Scheduled EDR Contact: 08/11/2008
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: 05/21/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 02/26/2008
Date Data Arrived at EDR: 02/27/2008
Date Made Active in Reports: 03/14/2008
Number of Days to Update: 16

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 05/27/2008
Next Scheduled EDR Contact: 08/11/2008
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 05/07/2008
Date Data Arrived at EDR: 05/27/2008
Date Made Active in Reports: 07/02/2008
Number of Days to Update: 36

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 04/28/2008
Next Scheduled EDR Contact: 07/28/2008
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: 04/24/2008
Date Data Arrived at EDR: 04/25/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 11

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 06/02/2008
Date Data Arrived at EDR: 06/13/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 7

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 06/04/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 06/02/2008
Date Data Arrived at EDR: 06/16/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 4

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 06/04/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 03/03/2008
Date Data Arrived at EDR: 03/18/2008
Date Made Active in Reports: 04/09/2008
Number of Days to Update: 22

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 06/04/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 07/23/2007
Date Data Arrived at EDR: 07/23/2007
Date Made Active in Reports: 08/09/2007
Number of Days to Update: 17

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 06/16/2008
Next Scheduled EDR Contact: 09/15/2008
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: 08/06/2007
Date Data Arrived at EDR: 08/07/2007
Date Made Active in Reports: 09/26/2007
Number of Days to Update: 50

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 04/14/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 05/13/2008
Date Data Arrived at EDR: 05/15/2008
Date Made Active in Reports: 07/02/2008
Number of Days to Update: 48

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 04/14/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Contaminated Sites

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/06/2008
Date Data Arrived at EDR: 05/08/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 43

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 05/02/2008
Next Scheduled EDR Contact: 07/28/2008
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/06/2008
Date Data Arrived at EDR: 05/08/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 43

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 05/02/2008
Next Scheduled EDR Contact: 07/28/2008
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: 03/18/2008
Date Data Arrived at EDR: 03/19/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 26

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data 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: 05/16/2005
Date Data Arrived at EDR: 05/18/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 29

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 04/02/2008
Next Scheduled EDR Contact: 06/30/2008
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 08/01/2007
Date Data Arrived at EDR: 02/05/2008
Date Made Active in Reports: 02/14/2008
Number of Days to Update: 9

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
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: 01/08/2008
Date Data Arrived at EDR: 05/06/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 45

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 04/23/2008
Next Scheduled EDR Contact: 06/30/2008
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 06/02/2008
Date Data Arrived at EDR: 06/03/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 17

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 03/03/2008
Date Data Arrived at EDR: 03/04/2008
Date Made Active in Reports: 03/14/2008
Number of Days to Update: 10

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
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: 06/12/2008
Date Data Arrived at EDR: 06/13/2008
Date Made Active in Reports: 07/02/2008
Number of Days to Update: 19

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 04/14/2008
Next Scheduled EDR Contact: 07/14/2008
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/18/2008
Date Data Arrived at EDR: 06/18/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 2

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/18/2008
Next Scheduled EDR Contact: 07/07/2008
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 04/10/2008
Date Data Arrived at EDR: 04/11/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 25

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 04/07/2008
Next Scheduled EDR Contact: 07/07/2008
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
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 04/28/2008
Date Data Arrived at EDR: 04/29/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 7

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: Varies

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 06/06/2008
Date Data Arrived at EDR: 06/10/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 10

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
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: 04/04/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 14

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 04/04/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/01/2008
Number of Days to Update: 9

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/23/2008
Next Scheduled EDR Contact: 09/22/2008
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: 04/30/2008
Date Data Arrived at EDR: 05/02/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 49

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 04/21/2008
Next Scheduled EDR Contact: 07/21/2008
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 05/04/2007
Date Data Arrived at EDR: 05/04/2007
Date Made Active in Reports: 05/24/2007
Number of Days to Update: 20

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/30/2008
Next Scheduled EDR Contact: 09/29/2008
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 02/27/2008
Date Data Arrived at EDR: 03/25/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 20

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/11/2008
Next Scheduled EDR Contact: 09/08/2008
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2007
Date Data Arrived at EDR: 08/29/2007
Date Made Active in Reports: 09/26/2007
Number of Days to Update: 28

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/19/2008
Next Scheduled EDR Contact: 08/18/2008
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 02/27/2008
Date Data Arrived at EDR: 03/25/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 20

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/11/2008
Next Scheduled EDR Contact: 09/08/2008
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/26/2008
Date Data Arrived at EDR: 04/09/2008
Date Made Active in Reports: 05/01/2008
Number of Days to Update: 22

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/09/2008
Next Scheduled EDR Contact: 07/07/2008
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 05/13/2008
Date Data Arrived at EDR: 05/30/2008
Date Made Active in Reports: 07/02/2008
Number of Days to Update: 33

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 05/12/2008
Next Scheduled EDR Contact: 07/14/2008
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: 12/31/2005
Date Data Arrived at EDR: 06/15/2007
Date Made Active in Reports: 08/20/2007
Number of Days to Update: 66

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 06/13/2008
Next Scheduled EDR Contact: 09/08/2008
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 09/30/2007
Date Data Arrived at EDR: 12/04/2007
Date Made Active in Reports: 12/31/2007
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/03/2008
Next Scheduled EDR Contact: 06/30/2008
Data Release Frequency: Annually

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: 02/15/2008
Date Data Arrived at EDR: 02/28/2008
Date Made Active in Reports: 04/09/2008
Number of Days to Update: 41

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/29/2008
Next Scheduled EDR Contact: 08/25/2008
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 12/21/2007
Date Made Active in Reports: 01/10/2008
Number of Days to Update: 20

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/09/2008
Next Scheduled EDR Contact: 09/08/2008
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 10/01/2007
Date Data Arrived at EDR: 11/09/2007
Date Made Active in Reports: 01/15/2008
Number of Days to Update: 67

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 06/16/2008
Next Scheduled EDR Contact: 09/15/2008
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 04/27/2007
Date Made Active in Reports: 06/08/2007
Number of Days to Update: 42

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 04/07/2008
Next Scheduled EDR Contact: 07/07/2008
Data Release Frequency: Annually

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 1999 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 C
Qualifications of Environmental Professionals

ENSR | AECOM

Jim K. Fickerson

Senior Project Manager

Years Experience: **15**

Technical Specialties

- Project Management
- Environmental Due Diligence
- Environmental Liability Cost Analysis
- Environmental Permitting
- Integrated Site Closure

Professional History

- ENSR
- Texaco Refining and Marketing, Inc.
- City of Saratoga

Education

- BS (Environmental Studies) San Jose State University

Professional Registrations and Affiliations

- California Registered Environmental Assessor (REA) I, California – REA I - 07745

Summary

Mr. Fickerson is a Senior Project Manager in ENSR Corporation's, Camarillo, California office. Mr. Fickerson is the client steward for two national real estate investment trusts and one national construction rental company. In this capacity, Mr. Fickerson manages all aspects of the clients environmental risk management, including environmental due diligence, agency negotiations, portfolio acquisition strategy, and environmental liability management. Over the last five years Mr. Fickerson has successful managed the environmental assessment, remediation and regulatory site closure of three former petroleum bulk plants and three former retail petroleum sites located in Arizona and California.

As a senior environmental assessor, Mr. Fickerson has coordinated and/or personally performed over 1,000 due diligence projects on commercial and industrial property located throughout the country. In this capacity, Mr. Fickerson has managed numerous subsurface investigations, groundwater studies, risk assessments, remedial feasibility studies, remedial cost evaluations, regulatory agency negotiations, and regulatory site closures throughout the United States including in Arizona, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Illinois, Massachusetts, Maryland, Minnesota, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Maryland, Utah, Washington, and Wisconsin.

Project Experience

Integrated Site Closure

June 2005 to February 2008. Chevron Environmental Management Corporation. Mr. Fickerson managed the environmental assessment and remediation of a former gasoline service station located in Santa Barbara, California. During his two and half years as project manager, he managed various site characterization activities; pilot testing of multi-phase extraction, vapor extraction, and bio-sparging remediation technologies; the completion of a sensitive receptors survey; and the rebuilding of a sense of trust with the regulatory agency. Under Mr. Fickerson direction, a conceptual remedial action plan was developed and preparations were made to install a full scale remediation system.

February 2003 to December 2006. Unocal Corporation. Mr. Fickerson managed the environmental site assessment and remediation of a former bulk fuel terminal in Yuma, Arizona. Non aqueous phase liquids were present both onsite and offsite at thickness ranging between 0.5 and 3 feet. Long term remediation costs using conventional remediation technologies were forecast in excess $2.5M. Due the extent of non aqueous phase liquids (both on and offsite) regulatory site closure was not considered feasible using conventional remedial technologies. In addition, the operation of the existing multi-phase extraction system was costing in excess of $250K/year with marginal hydrocarbon recovery rates. Mr. Fickerson managed the design, execution, and analysis of a steam injection pilot test at this site. Results of a one month pilot test indicated that steam injection increased hydrocarbon recovery by 500 percent. A financial analysis indicated that over $1M would be saved by the site wide implementation of a steam injection based remediation system with regulatory site closure estimated at two years from implementation.

February 2003 to December 2006. Chevron Corporation. Mr. Fickerson managed the environmental assessment and remediation of a former bulk fuel terminal in Phoenix, Arizona under the tight time restriction imposed by an Aquifer Protection Permit. Working closely with Arizona Department of Environmental Quality, Mr. Fickerson coordinated a comprehensive subsurface soil and groundwater assessment including the advancement of 38 borings, six groundwater wells from depth ranging between 15 and 110 feet below ground surface. Mr. Fickerson lead the remediation team that excavated 3,500 tons of petroleum impacted soil from nine onsite areas of concern; the installation of eight multi-zone vapor extraction/bio-venting wells, and the construction and startup of a soil vapor extraction system.

March 2004 to November 2005. Unocal Corporation. Mr. Fickerson managed the regulatory site closure of a former gasoline service station in Phoenix, Arizona. The site was located on the corner of a busy street near downtown Phoenix that had become blighted by years of inactivity. The sale of the site and its redevelopment was being hindered by the presence of 1-2-DCA in groundwater at concentrations that exceeded regulatory cleanup objectives. Complicating issues was a nearby dry cleaner whose release was impacting the groundwater beneath the service station. Working with risk assessment team, Mr. Fickerson was able to convince ADEQ that the remaining 1-2-DCA did not present a risk to human health or the environment, and that regulatory site closure should be issued. The site was subsequently redeveloped for beneficial use.

March 2004 to November 2005. Unocal Corporation. Despite extensive onsite assessment and remediation by others, regulatory site closure of a former bulk plant in Safford, Arizona was hindered by a commingled plume from an nearby gasoline service station. Working with a team of hydrologists, Mr. Fickerson was able to convince ADEQ that the presence of benzene along the sites eastern border was a result of the nearby gasoline service station, rather than from an onsite release. Regulatory site closure was granted allowing the site to be sold and redeveloped for beneficial use.

Due Diligence

July 2006 to Present. Academy of Motion Pictures and Sciences. Phase I and Phase II Environmental Site Assessments. Mr. Fickerson is managing the environmental due diligence and environmental liability analysis associated with the acquisition of one city block located in the middle Hollywood of California. Activities conducted to date include reconnaissance of the site and surrounding neighborhood; a review of various historical resources; an analysis of a regulatory database report, review of local and state regulatory agency files, and researching the physical characteristics of the site. Recognized environmental conditions that were identified included current and former USTs, dry cleaners, and the historical use of chlorinated solvents. These environmental concerns were further evaluated by the implementation of a comprehensive subsurface investigation program including the collection and laboratory analysis of soil, soil vapor, and groundwater samples. Over 10 technical environmental reports were prepared summarizing the results of the numerous investigations. Mr. Fickerson and his project team are currently providing the client with technical guidance regarding vapor intrusion mitigation/ remediation and environmental liability cost analysis/budgeting for future site redevelopment.

February to April 2008. The Amargosa Conservancy. Mr. Fickerson performed a Phase I environmental site assessment of the historic mining town of Death Valley Junction, Inyo County, California. The assessment involved a site and area reconnaissance of 246 acres; a review of over 100 years of historical documents; an analysis of a regulatory database report, review of local and state regulatory agency files, researching the physical characteristics of the site, and preparation of a report. Recognized environmental conditions identified included a former gasoline service station, significant hydrocarbon staining beneath a former diesel-fuel ASTs, and a former onsite landfill/debris field.

December 2007. MeadWestvaco. Mr. Fickerson performed a Phase I environmental site assessment of a 100,000 square-foot envelope manufacturing plant located on approximately 3.5 acre parcel near downtown Los Angeles, California. The assessment involved a site and area reconnaissance; a review of various historical resources; an analysis of a regulatory database report, review of local and state regulatory agency files, researching the physical characteristics of the site, and preparation of a report.

November 2007. Isle of Capri Casinos. Mr. Fickerson managed the environmental due diligence of the former Multnomah Greyhound Park located on 30 acres in the town of Wood Village, Oregon. This project involved the rapid mobilization of an assessor to visit the site, and a comprehensive historical, regulatory, and environmental database review, and preparation of a report all within the span of less than two weeks in order to meet clients real-estate transaction requirements. Potential environmental liabilities associated with the transaction were evaluated and a budgetary cost estimate was prepared to assist the client in negotiating a equitable purchase price for the property.

September 2007. Chevron Corporation. Mr. Fickerson performed a technical cost evaluation of 2005 buy-out negotiations between Unocal and Conoco Phillips to determine reasons why the negotiations were not successful including the methods used to generate the allocation values, and document the lessons learned from the project. Results of the negotiations analysis concluded that the negotiations were not successful due in part to the use of differing unit costs, remediation strategy, closure timing, and scope of work. Lessons learned included the importance of having a well-defined cost allocation methodology, agreement on key assumptions, unit costs, and end point prior to beginning negotiations.

September 2007. Air Liquide. Mr. Fickerson performed and managed the environmental due diligence associated wit the acquisition of a former gasoline fuel blending facility located on 14 acres in San Bernardino, California. Mr. Fickerson designed and implemented a comprehensive soil boring and geophysical survey program to fully evaluate over 30 recognized environmental conditions that were indentified. At the conclusion of the project, a budgetary cost estimate that quantified the environmental liabilities associated with the transaction was prepared.

June 2007. FPL Energy. Mr. Fickerson performed the environmental due diligence of the 2,270 acre Fremont Valley Ranch located near California City, California. This assessment involved an in-depth historical, regulatory, internet, and environmental database report review, in conjunction with a site visit, and interviews with current and former employees of the Ranch. Three recognized environmental conditions were identified including existing underground storage tanks and fueling dispensers. At the conclusion, a budgetary cost estimate was prepared to quantify the potential environmental liability associated with the Ranch.

April 2007. Confidential Client. Mr. Fickerson conducted a Phase I environmental site assessment and limited compliance evaluation of 280,000 square-foot chemical storage facility located in Brisbane, California. The project involved a comprehensive historical, regulatory, and environmental database review; as well as interviews with facility management and workers; a thorough site walk; a lengthy document review of the facilities environmental compliance documentation; and research into the facilities off-site contingent liabilities. The project was conducted under strict client confidentiality that was required by the merger and acquisition of two fortune 500 companies.

July 2006. Public Storage. Project manager for the environmental site screening of 47 self-storage properties located throughout North and South Carolina. The project involved sites visits; historical research; regulatory agency and environmental database review; interviews with facility personal; a review of previously prepared environmental reports; preparation of site-specific summary reports; and a preparation of a comprehensive cost analysis to quantify the environmental liabilities associated with the transaction. This challenging project was completed within a tight two week timeframe.

May 2006. TA Realty Advisors. Project manager for the environmental site assessment of 15 commercial properties located throughout Southern California. This project involved the preparation of 15 Phase I environmental site assessments, five asbestos surveys and a comprehensive cost analysis to quantify the environmental liabilities associated with the transaction.

May 2006. P.S. Business Parks. Mr. Fickerson managed the environmental due diligence associated with three industrial properties located in Signal Hill, California. Recognized environmental conditions identified at the sites included former oil sumps, waste disposal areas, and petroleum production facilities. The environmental concerns associated with each site were further evaluated by the implementation of a comprehensive subsurface soil boring and geophysical program. Identified environmental liabilities were further analyzed and a budgetary cost estimate was prepared to assist the client in their purchase of the sites. The entire project was completed under budget and within the tight time constraints of a real estate transaction.

July to September 2004. Pubic Storage. Project manager for acquisition of 27 self storage sites in Minnesota and Wisconsin. The project involved the performing Phase I environmental site assessments at all 27 sites; asbestos surveys at four sites, subsurface investigations of seven sites; preparation of a comprehensive environmental liability cost estimate; and agency negotiations with Minnesota Pollution Control Agency to obtain letters of “No Association Determination” for four of the 27 sites.

March to August 2005. Nature Conservancy. Mr. Fickerson managed the environmental due diligence of a former worker camp and precious metals mine in Tecopa, California. Recognized environmental conditions identified at the site were further evaluated by the implementation of a comprehensive trenching program. Total metals including cyanide, mercury, lead, and copper were identified in soil at concentrations that exceed hazardous waste criteria. Potential remedial scenarios were evaluated, a preliminary risk assessment was performed, and discussions with the clients legal counsel were conducted. The project team decided that the elevated metals concentrations could be managed in place, thus avoiding costly (in excess of $1M) remediation, and allowing a conservation easement to be placed on this ecologically sensitive property.

August 2003. Teachers Insurance and Annuity Association. Performed a Phase I environmental site assessment of five multi-story office buildings comprising approximately 380,000 square-feet of commercial office space on approximately 15 acres of land located in San Diego, California. This project involved a site visit; interviews with the buildings tenants; historical, regulatory, and environmental database review; and preparation of a comprehensive report.

May 2003. PS Business Parks. Mr. Fickerson performed a Phase I environmental site assessment and managed a subsurface assessment of a business park containing 437,000 square-feet of commercial office/warehouse space on 25 acres in Santa Ana, California. An extensive historical review indicated that the site was formerly occupied by a sugar beet processing plant. The identified recognized environmental conditions were further evaluated by the implementation of a comprehensive soil boring program. Mr. Fickerson prepared a budget cost estimate and assisted the client in obtaining environmental insurance allowing the client to proceed with the purchase of property.

February to April 2003. Northrop/Vought Aircraft Corporation, Comprehensive Soil and Groundwater Assessment, Hawthorne, California. Assistant Project Manager for a comprehensive fence-line to fence-line soil assessment of an 80-acre aerospace manufacturing facility. The assessment involved the drilling and sampling of over 200 soil borings to assess the extent of soil impacted by halogenated solvents, petroleum hydrocarbons, and metals.

April 2002. FleetBoston Financial Group. Performed a Phase I environmental site assessment and environmental liability analysis of the Buena Park Mall and Buena Park Marketplace located in Buena Park, California. Combined the buildings totaled approximately 380,000 square-feet of commercial space on approximately 51 acres. This project involved visits and interviews with over 100 tenants; historical, regulatory, and environmental database review, and preparation of comprehensive report. At the conclusion of the project a comprehensive environmental liability analysis was preformed to quantify potential future environmental costs.

March 2002. Confidential Client. Project manager responsible for a subsurface soil and groundwater assessment of a dry cleaning facility located in Marina Del Rey, California. Despite the presence of chlorinated solvents in groundwater at concentrations that exceed California's maximum contaminant levels, Mr. Fickerson was able to successfully demonstrate that the release was not a risk to human health or the environment and regulatory site closure was granted by the Los Angeles Regional Water Quality Control Board.

November 2001. Shamrock Logistics GP, LLC. Project manager and primary assessor responsible for the technical environmental liability cost evaluation of groundwater impacts associated with the acquisition of 14 tank farms, heating stations, and over 33 miles of connecting pipelines located throughout Southern California.

September 2001. Teachers Insurance Annuity Association. Prepared a phase I environmental site assessments and limited compliance assessment of a shopping center that contained over 270,000 square feet of retail space on 31 acres in San Diego, California. This project involved site visits; interviews with over 50 tenants; compliance documentation review and analysis; historical and, regulatory agency research, environmental database review, and preparation of comprehensive due diligence report.

March 2001. Air Liquide. Prepared phase I environmental site assessments of four compressed gas facilities and one compressed gas terminal located on the islands of Kauai, Maui, Hawaii, and Oahu, Hawaii. This project involved facility visits, historical and regulatory agency research, environmental database review, and preparation of site-specific due diligence reports.

Kirsten G. Bradford

Environmental Analyst

Years Experience: 4

Technical Specialties

- Environmental Site Assessments
- Storm Water Pollution Prevention Planning
- Oil Spill Control and Countermeasure Planning
- Field Sampling

Professional History

- ENSR International
- Lee & Pierce, Inc.
- Environmental Investigation Services, Inc.
- QTL Biosystems, LLC
- New Mexico Department of Health, Scientific Laboratory Division
- New Mexico Institute of Mining and Technology Atmospheric & Environmental Chemistry Research Lab
- New Mexico Bureau of Mining & Mineral Resources, Chemistry Division

Education

- BS (Chemistry) New Mexico Institute of Mining & Technology (New Mexico Tech)

Training

- 40-hour OSHA HAZWOPER
- Refresher &/or Initial General Site Worker Requirements
- Standard First Aid
- CPR - Adult
- Bloodborne Pathogens
- Hydrogen Sulfide Awareness For Exposure In Oil & Gas Prod. Fields & Industrial Facilities
- Environmental Due Diligence
- Effective Scientific and Technical Writing
- Environmental Auditor
- 9th Annual California Certified Unified Program Agency (Cal-CUPA)
- PARCEL eLearning
- Leading an Engaged Workforce

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Representative Project Experience

Compliance

Teachers Insurance & Annuity Association (TIAA), Limited Compliance Assessment and Desktop Review, Ventura County, California. Conducted a limited compliance assessment of two apartment home complexes. On-site improvements and activities were related to office buildings, hydraulic-powered elevators, pool and spa systems, maintenance shops, and storage areas.

Visual inspections of the on-site operations, reviews of facility files and records, reviews of federal and state governmental incident databases and files, and interviews with property personnel and governmental officials to evaluate the relative degree of compliance of on-site operations with key federal and state environmental regulations as they relate to hazardous waste; solid waste and asbestos-containing materials; conventional and toxic air emissions; underground and above ground storage tanks; wastewater discharges including storm water; and PCB management.

Johnson & Johnson, Phase I Environmental Site & Limited Compliance Assessment, Orange County, California. Conducted assessment of a research and development (R&D) company that designs therapeutic health devices. On-site operations included laboratory and machine shop activities.

Limited compliance applied included Hazardous Materials Business Planning and Inventorying principles to comply with California legislation to meet the requirements of Sections 311 and 312 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (SARA Title III); and wastewater discharge permitting principles to comply with local industrial waste program.

BOC Edwards, Phase I Environmental Site Assessment and Compliance Evaluation, Maricopa County, Arizona. Conducted a Phase I ESA of two industrial facilities located in Maricopa County, Arizona that clean and coat parts in support of semiconductor equipment and considered compliance with laws and permits with respect to the following issues as a minimum: Aqueous abstractions and discharges; Atmospheric emissions; Solid and hazardous waste management; Above and below ground tank management; Nuisance; Asbestos; Poly Chlorinated Biphenyls (PCBs). Information provided by the sites was further studied and correlated with existing information to determine findings and to prepare a Phase I ESA report.

Emergency Hazardous Material Spill Response

Nutro Products, Inc., Hazardous Materials Business Response Plan, Victorville County, California. Assessed on-site hazardous chemical storage and operations and prepared completed agency plan forms for a dry dog food manufacturing plant. On-site hazardous materials and wastes inventoried included lubricating oils, insecticide mixture oil concentrate, diesel fuel, product ingredients containing oil, bulk storage of vegetable oil, and bulk storage of poultry fat.

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Environmental Site Assessments

Gibson Dunn & Crutcher, Phase I Environmental Site Assessment, Maricopa County, Arizona. Assessment was conducted of warehouse, repair, and maintenance facilities for heavy-duty trucks and truck parts. Historical setting included on-site fueling operations and remedial action closure activities.

Public Storage, Inc., Environmental Support with File Review, San Diego County, California. Conducted site assessment and file review to establish historical on-site remedial action activities including groundwater monitoring, and current site case status with local regulatory agency. Made recommendations for activities directed toward achieving site case closure, and in complying with State of California Geotracker database requirements.

Teachers Insurance & Annuity Association (TIAA), Phase I Environmental Site Assessment, Maricopa County, Arizona. Conducted assessment of a multi-story corporate office building. On-site improvements assessed included hydraulic-powered elevators, stormwater retention areas and on-site dry wells, a fuel-powered generator, storage areas, and a rooftop cooling plant. Focused assessment was conducted into observing each on-site tenant space. Assessment activities included American Society Testing Materials (ASTM) 1527 additional scope issues including visual observation for evidences of suspect asbestos-containing materials and of water intrusion and mold growth. Additionally, on-site improvements were investigated by conducting file reviews and interviews with government and regulatory agencies.

Weil, Gotshal & Manges LLP, Phase I Environmental Site Assessment, Clackamas & Washington Counties, Oregon. Conducted an assessment of warehouse distribution and office facilities.

On-site retail warehousing activities included an on-site truck wash, a trailer maintenance shop, a fueling island; and fuel-powered generators, hydraulic-powered lifts, and storage areas including for lead-acid (wet-type) batteries to power forklifts.

International Paper Company, Timberlands Environmental Site Assessment, Alabama. Conducted assessment of 215,000 acres of timberland in accordance with American Society for Testing and Materials Standard (ASTM) Practice E 2247-02. Used GIS tracking to record routes and mark specific areas of potential environmental concern including log yards and camps, fuel use and storage, pesticide and herbicide use, burning practices, logging roads, sand and gravel pits, hunting camps and leases, and landfills.

First Industrial Realty Trust, Phase I Environmental Site Assessment, Los Angeles County, California. Conducted assessment of an office/warehouse facility including an ancillary former hazardous materials storage building and truck loading docks. Assessment included review of local government records to identify historical improvements and uses.

Acushnet Company, Phase I Environmental Site Assessment, San Diego County, California. Conducted assessment of agricultural property including historical fuel storage areas.

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General Electric, Phase I Environmental Site Assessments, Santa Barbara County, California. Conducted assessment of tenant spaces located in three office buildings in the City of Santa Barbara. Presented findings on detailed predetermined form format provided by the user/client. Research included a detailed review of building department permit site record history.

Quality Project Management, Phase I Environmental Site Assessment & File Reviews, San Diego County, California. Conducted assessment of two vacant parcels previously developed. Performed 1,500 page file review of site and adjoining sites based on their historically uses as former gasoline service stations, each with historical unauthorized releases affecting groundwater. Analyzed historical soil sampling, remediation activities, and groundwater monitoring data to identify potential environmental impacts to the site from historical uses associated with on-site contamination sources or from off-site contamination sources.

U.S. Filter Operating Services, Phase I Environmental Site Assessment, Kern County, California. Conducted assessment of an equipment and maintenance yard including an outdoor storage area for portable equipment used for petroleum dewatering applications, and including two shop buildings in support of metal fabrication and welding of heavy portable equipment, and oil research and development (R&D) laboratory activities.

Phase I Environmental Site Assessment Portfolio, Los Angeles County, California. Was the lead assessor in a series of seven Phase I ESAs within the Phase I ESA portfolio which included assessment of non-scope ASTM 1527 items, including methane gas.

SunTrust, Phase I Environmental Site Assessments, Florida and South Carolina. Assisted in completing a company-wide environmental due diligence portfolio as a report author of multiple sites located in Florida and South Carolina by using an online database Phase I ESA report collection and preparation tool, PARCEL.

Algonquin Power, Oil Spill Assessment Portfolio, Southern California. Conducted oil spill assessments of landfill gas to energy facilities located in Southern California.

Air Liquide, Phase I Environmental Site Assessment, Salt Lake County, UT and Sweetwater County, WY. Conducted a Phase I ESA of two planned plant location sites. In conducting the Phase I ESA, ENSR assessed the sites for visible signs of possible contamination, researched public records for the sites, and conducted interviews with representatives of regulatory agencies, the client, and those people deemed knowledgeable of the sites. ENSR successfully observed the sites during extreme weather conditions including snow cover and freezing temperatures.

Eagle Burgmann Industries LP, Phase I Environmental Site Assessments, Harris and Brazoria Counties, TX. Conducted two Phase I ESAs of warehouse properties in conformance to the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments (E 1527-05), which meets the requirements of 40 CFR Part 312 and is intended to constitute all appropriate inquiry for purposes of the landowner liability protections (LLPs).

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Public Storage, Inc., Phase I Environmental Site Assessment, Southern, California. Conducted assessments of multiple self storage facilities.

Sargent & Lundy, Phase I Environmental Site Assessment, San Diego County, California. Conducted assessment in support of Environmental Due Diligence study for the purchase of a site being developed for a future gas-fired power plant. Site characteristics included existing biological and archeological conservation easements. Historical on-site activities investigated included cement truck cleanouts, refueling operations, and grading.

T.A. Realty Corporation, Phase I Environmental Site Assessments, Southern and Northern California. Conducted assessments of corporate office buildings (e.g. multi-story, multi-tenant) and distribution warehouses.

On-site improvements assessed have included hydraulic-powered elevators and lifts, loading dock areas, fuel-powered generators, storage areas, and warehouse areas. Focused research was conducted into on-site historical tenant activities. Assessment activities have included American Society Testing Materials (ASTM) 1527 additional scope issues included visual observation for evidences of suspect asbestos-containing materials and of water intrusion and mold growth.

Additionally, off-site potential sources of environmental concern (e.g. abutting CERCLA sites with impacted groundwater from historical site operations) were identified and investigated by conducting regulatory file reviews and interviews with regulatory agencies.

NPDES Permitting

Bendix Commercial Vehicle Systems, LLC, Storm Water Pollution Prevention Plan (SWPPP), Fresno County, California. Prepared a Storm Water Pollution Prevention Plan (SWPPP) for a heavy-vehicle brake manufacturing facility in Fresno County, California while addressing the current National Pollutant Discharge Elimination System (NPDES) regulations, 40 CFR Section 122.26, and complying with California's General Permit. Incorporated recently proposed changes for the storm water program in California, and made every effort to ensure that the SWPPP developed for the facility would comply with the new requirements. Tasks involved included a site visit, a Best Management Practice (BMP) assessment, and preparation of the Plan.

ExxonMobil Oil Corporation, Storm Water Pollution Prevention Plan (SWPPP), Los Angeles County, CA. Supported the completion of a Storm Water Pollution Prevention Plan (SWPPP) for a project site located within a State right-of-way, and the acquisition of an Encroachment Permit from the California Department of Transportation (CalTrans) that is in compliance with requirements of its National Pollutant Discharge Elimination System (NPDES) permit in regards to its submission to the Regional Water Quality Control Board (RWQCB).

ExxonMobil Oil Corporation, Storm Water Pollution Prevention Plan (SWPPP) Training, Los Angeles County, CA. Provided training on how to implement the Storm Water Pollution Prevention Plan (SWPPP) and associated Best Management Practices (BMPs) to client staff and contractors at a pre-construction meeting for the client's proposed project. Tasks included preparation of a PowerPoint presentation as well as attendance at the client's pre-construction meetings.

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Soil Borings

Yardi Systems, Inc., Limited Phase II Environmental Site Assessment, Santa Barbara County, California. Conducted an assessment of a vacant parcel to evaluate soil and groundwater conditions in the area of a former on-site diesel-fuel underground storage tank (UST). Assessment activities included coordination of Geoprobe sampling to a depth of approximately 20 feet below ground surface, and an analysis of laboratory analytical soil and groundwater sample results including total petroleum hydrocarbons in gasoline (TPH-G) and diesel-fuel (TPH-D) and for volatile organic compounds (VOCs).

Becker Industrial Coatings, Limited Phase II Environmental Site Assessment, San Bernardino County, California. Conducted a limited Phase II ESA including eight soil borings at an industrial facility and oversaw a contracted truck mounted, hydraulically operated Geoprobe® sampling system and crew. Attempts to advanced the borings to the proposed depth of 20 feet bgs had to be negotiated as cobbles and/or boulders were encountered at drilling depths. Collected soil samples were screened with a photoionization detector (PID). The collected soil samples were preserved and extracted in accordance with U.S. EPA Method 5035.

Soil Vapor & Air Quality Surveys

Department of Toxic Substances Control, Start-Up Testing of Methane Mitigation System, Ventura County, California. Supported start-up testing of a methane mitigation system by monitoring for methane concentrations in the field using portable hand-held methane-specific instruments such as a flame-ionization detector (FID) and the LANDTEC Gem, 2000 Landfill Gas Indicator or equivalent instruments. Recorded barometric pressure will with a barometer and measured subsurface concentrations of methane, oxygen, and carbon dioxide using a combination of the FID and LGI instruments. Measured indoor vent-riser pipes with the FID and LGI for methane concentrations.

Spill Contingency Plans

County of Ventura, Department of Airports, Spill Prevention Control and Countermeasure Plan (SPCC), Ventura County, California. Assessed on-site petroleum storage facilities and operations and prepared a plan based on SPCC requirements for a general aviation reliever airport. On-site potential petroleum pollutant sources evaluated included an aviation fuel tank farm, diesel fuel aboveground tanks associated with a deluge fire protection system, diesel fuel associated with an emergency backup generator, and used-oil storage.

Nutro Products, Inc., Spill Prevention Control and Countermeasure Plan (SPCC), Victorville County, California. Assessed on-site petroleum storage facilities and operations and prepared a plan based on SPCC requirements for a dry dog food manufacturing plant. On-site potential petroleum pollutant sources evaluated included lubricating oils, insecticide mixture oil concentrate, diesel fuel, product ingredients containing oil, bulk storage of vegetable oil, and bulk storage of poultry fat.

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Southern California Gas Company, Integrated Storm Water/Oil Spill Prevention Control and Countermeasure (SPCC) Plan Updates Portfolio, Southern California. Conducted site reconnaissance and modified original draft documents of a dozen natural gas compression facilities in order to reconcile and update their existing Integrated SWPP (stormwater) and SPCC (oil spill) Plans.

Publications

Detection of Single Nucleotide Mismatches via Fluorescent Polymer Superquenching
Kushon, S.A.; Bradford, K.; Marin, V.; Suhrada, C.; Armitage, B.A.; McBranch, D.; Whitten, D.; Langmuir; (Article); 2003; ASAP Article; DOI: 10.1021/la034323v

Detection of DNA Hybridization via Fluorescent Polymer Superquenching
Kushon, S.A.; Ley, K.D.; Bradford, K.; Jones, R.M.; McBranch, D.; Whitten, D.; Langmuir; (Communication); 2002; 18 (20); 7245-7249. DOI: 10.1021/la026211u

Bateman, Kirsten G.,?K/Fe Ratio in Wood-Smoke?, Sigma-Xi Poster Session, Albuquerque, NM, November 2000.

Brenda Miller, REA I

Senior Project Manager

Years Experience: 20

Technical Specialties

- Conducting/Managing Real Property Due Diligence, including Phase I and Phase II ESAs, and Asbestos Surveys
- Environmental Regulatory Compliance Evaluations
- Hazardous Materials Management and Emergency Response Plans (aka Business Plans)
- California Environmental Quality Act - Initial Studies and Negative Declarations
- Technical Writing/Editing

Professional History

- ENSR

Education

- BA (Theater Arts) University of California, Los Angeles
- Certificate (Hazardous Materials Management) University of California, Santa Barbara

Professional Registrations and Affiliations

- Registered Environmental Assessor I, California

Representative Project Experience

Public Storage, Inc., Phase I ESAs, Throughout United States. Performed approximately 50 environmental due diligence site assessments of self-storage facilities, business parks, restaurants, and current and/or historically industrial facilities (e.g., oil well fields, tanneries, petroleum products distribution facilities, and aerospace manufacturing facilities, etc.) located throughout California, Hawaii, Arizona, Florida, Colorado, Minnesota, Nevada, and Texas. Assessments focused on determining the potential for an environmental liability to be affecting the subject sites due to current or former on-site activities and off-site sources. Tasks involved included site inspection, agency file searches and agency interviews, database review, historical research, and report generation.

Public Storage, Inc., Mini-storage Phase I ESAs, Throughout United States. Responsible for the coordination and management of Phase I ESA research investigations at approximately 200 mini-warehouse properties located throughout the United States. Assessments focused on determining the potential for an environmental liability to be affecting the subject sites due to current or former on-site activities and off-site sources. Historical uses of sites included leather tanning, plating, underground storage tanks; aerospace research, development, and manufacturing; etching, railroad yards, and oil well fields. Responsible for staffing, quality control, and financial management.

Teachers Insurance and Annuity Association, Various Phase I ESA and Compliance Assessments, California, Nevada, Washington, Arizona. Conducted over 30 environmental site assessments and regulatory compliance evaluations of shopping malls, office buildings, industrial business parks, manufacturing facilities, retail/residential complexes, and hotels in Nevada, Washington, and California. Site uses included storage and use of hazardous and acutely hazardous materials and facilities where historical and industrial uses occurred for over 100 years. Conducted site inspection, agency and historical research, audited facility environmental files, evaluated current and historical on-site activities with regard to potential liabilities affecting the site, and prepared written reports.

Foley and Lardner, Phase I ESA and EH&S Compliance Evaluation, Springfield, Oregon. Performed a Phase I environmental site assessment and environmental, health, and safety compliance evaluation of an industrial phenol and formaldehyde resin manufacturing plant, including the manufacture of formaldehyde. Regulatory compliance activities included the evaluation of air, hazardous waste, storm water, industrial wastewater, and hazardous materials management, in addition to select OSHA considerations.

Primary Energy, Phase I Environmental Site Assessment and Regulatory Compliance Review, California, Colorado, and New Jersey. Conducted and/or managed Phase I environmental site assessments and environmental regulatory compliance reviews of five cogeneration plans located in San Diego and Oxnard, California; Greeley, Colorado; and Kenilworth, New Jersey. The three sites in San Diego are located on Department of Defense military bases and involved research and interaction with base staff in addition to other governmental entities. On-site issues included long-term use of the sites for industrial purposes, above and underground storage of chemicals and fuels, former PCB-containing equipment, and releases of hazardous materials.

Public Storage, Inc., Business Park Asbestos O & M Plans, Throughout United States. Responsible for the coordination of O & M Plan preparation of eight self-storage or business park facilities located in California, Texas, Oklahoma, Tennessee, and Georgia. Responsible for client interaction, staffing, and quality control.

Fleet Financial Group, Railroad Yard Phase I ESA, Los Angeles, California. Phase I ESA of the former Union Pacific Railroad Taylor Yard that was in operation for approximately 100 years. Through review of agency documents, historical sources, and previous contamination investigations conducted on-site, evaluated the potential liabilities associated with remaining on-site contamination. Conducted site visit, research, interviews and report generation.

ARCO Pipe Line Company, Pipeline Pump Station Phase I ESAs, Arizona and California. Performed site assessments at pipeline pump stations located in Oatman and Kingman, Arizona, and Danby, California. Assessments focused on determining the potential for an environmental liability to be affecting the subject sites due to current or former on-site activities and off-site sources. Tasks involved included site inspection, agency file searches and agency interviews, historical research, database review, and report generation.

PS Business Parks, Phase I ESA, Signal Hill, California. Phase I ESA of three former oil field sites located in Signal Hill, California. Historical uses at each site included oil well exploration and production activities dating back to the early 1920s. On-site issues involved determination of former oil well locations and associated activities, including former underground storage tanks and piping, and oil well sumps.

Nutro Products, Inc., Phase I ESA, Compliance Evaluation, SPCC, and SWPPP, Tennessee and California. Conducted and/or managed Phase I ESAs with compliance evaluations (including updates) at dog food manufacturing facilities located in Lebanon, Tennessee, and City of Industry, California. Issues identified included the need for Spill Prevention, Control and Countermeasures plans and Storm Water Pollution Prevention Plans at both facilities. Subsequent to the initial Phase I and compliance evaluation, ENSR prepared the SPCC plans and SWPPPs for the two facilities.

Gibson, Dunn & Crutcher, Phase I ESA and Compliance Evaluation, Seattle and Tacoma, Washington. Conducted a Phase I ESA and compliance evaluation of a commercial fleet truck refurbishing/reconditioning facility, including storage and sales/distribution of new and reconditioned truck parts (drive shafts, transmissions, differentials, and brake shoes). Reconditioning/refurbishing operations had been conducted on site for over 30 years and included brake de-shearing, machining, painting, welding. On-site current and historical activities included the use and storage of hazardous materials and the generation of hazardous waste.

Dinsmore & Shohl, Phase I ESAs and Compliance Assessments, Metal Manufacturing/Fabricating Facilities, Compton, California. Managed and/or conducted site investigations and regulatory compliance assessments of metal manufacturing/fabricating facilities located in Compton and Carson, California. Conducted site inspection, agency and historical investigation, audited facility environmental files, and prepared written report. Responsible for quality control, client interaction, and financial management.

Whittaker Corporation, Electronics Manufacturing Phase I ESA and Compliance Assessment, Simi Valley, California. Conducted preliminary site assessment and regulatory compliance evaluation of an electronic cables and connectors manufacturing facility located in Simi Valley, California. Conducted site inspection, agency and historical research, audited facility environmental files, and prepared written report.

Public Storage, Clandestine Drug Lab Cleanups, Oregon and Washington. Managed the assessment, cleanup, and closure of clandestine methamphetamine drug labs discovered at approximately 10 self-storage facilities located in Oregon and Washington. Duties included identifying qualified subcontractors and agency interaction.

Treno, Inc., HVAC Facilities Phase I ESAs, California, Arizona, Utah, and Nevada. Performed site assessment at heating, ventilation, and air conditioning businesses conducting manufacturing, installation, and service operations located near Salt Lake City, Utah; Phoenix, Arizona; Las Vegas, Nevada; and Los Angeles, California. Assessments focused on determining the potential for an environmental liability to be affecting the subject sites due to current or former on-site activities and off-site sources.

General Electric Capital Corporation, Computer Distribution Facilities Phase I ESAs, Maryland and England. Performed site assessments at two computer assembly/warehouse/distribution centers located in Gaithersburg, Maryland, and at five computer assembly/warehouse distribution centers and/or offices throughout England. Assessments focused on determining the potential for an environmental liability to be affecting the subject sites due to current or former on-site activities and off-site sources. Tasks involved included site inspection, agency file searches and interviews, database review, historical research, and report generation.

Heitman Properties, Ltd./Kennedy-Wilson Properties, 52-acre Shopping Center Phase I ESA Update, Portland, Oregon. Performed a due diligence examination (excluding historical research) of a 52-acre shopping center located in Portland, Oregon. Purpose of the update was to document and identify any evidence of hazardous substances or environmental conditions that would affect the economic value or marketability of the property. Tasks involved included site inspection, agency file reviews and agency interviews, database review, and report generation.

Automotive Realty Trust Association, Auto Dealerships Phase I ESAs, Van Nuys, California. Due diligence assessments of three automotive dealership facilities where current and/or historical USTs and LUSTs were located. Project tasks included site inspection, agency and historical research, database review and evaluation, and report generation. Responsible for client interaction and financial management.

InterBank Brenner, Hotel/Resort Complex Phase I ESA, Honolulu, Hawaii. Conducted a Phase I ESA of the Hilton Hawaiian Village resort. Project tasks included review and evaluation of documents regarding historical leaking USTs, asbestos-containing materials, and lead-based paint to determine potential liabilities currently associated with the site. Conducted agency and historical research, database review and evaluation, site inspection, and report generation.

Chase Manhattan Bank, Warehouse/Retail Facility Phase I ESA, Reno, Nevada. Performed a Phase I due diligence assessment of a retail and warehouse facility located in Reno, Nevada. Assessment included a site reconnaissance, research, and interviews with representatives of the public, property management, and regulatory agencies, and report generation.

Data Request 58:

Please provide an explanation why available non potable water was not considered as an alternative water source for power plant cooling needs.

Response:

The question implies that non-potable water is "available", presumably in areas around and below Koehn Lake, at rates and reliable quantities that would support project requirements. There are several hydrologic and administrative requirements for a reliable water supply, including securing a property with water rights, and a property where the underlying aquifer transmissivity and storage are sufficient to support Project water requirements. These along with other issues were evaluated, leading to the exclusion of areas in the vicinity of and below Koehn Lake as an option for Project water supply or consideration as an alternative. An expanded discussion of why water in the area of Koehn Lake was not considered as an available source is provided below.

Available information on the water quality of the Koehn sub-basin is provided in the water resources section and Appendix J of the Application for Certification (AFC). Figure 5.17-11 provided in the AFC plots the available geochemical data from wells around Koehn Lake. The figure shows that poor quality water, defined as having total dissolved solids (TDS) concentrations greater that 1,000 milligrams per liter (mg/L), is located below Koehn Lake. The figure also shows there are some outlying "fringe" areas southwest, south and north of the lake that have poor water quality.

An assessment of the water quality data for wells outside the playa is provided in Appendix Table J-4. The water quality data for wells located southwest of Koehn Lake (T30S, R38E - Sections 21, 22, 23, 27, 28, 29, 32, 33, and 34) reveal that water quality is of good quality, with TDS concentrations generally around or below 500 mg/L. The water quality data for wells southwest of the lake show only one or two wells with historically higher TDS concentrations surrounded by wells with low TDS concentrations. The higher concentrations were generally reported from 1953, and in some cases, more recent sampling showed a significant decrease in concentrations below 1,000 mg/L (i.e. well 30S/38E-32D03). The available water quality information shows that water quality southwest of the lake (i.e. northeast of the BSEP Plant Site) is generally of good quality, and is not significantly different from the water quality in areas west of the lake and below the project site.

Water quality data from wells located north (T30S, R38E - Sections 3, 4 and 5) and south of the lake (T30S, R38E - Section 24) reveal TDS concentrations above 1,000 mg/L indicating there is potentially poor water quality in these areas (Table J-4). The areas of apparent poor water quality are situated between the playa lake sediments and the Garlock or Randsburg-Mojave faults, which mark the northern and southern margins of the groundwater basin. Well

yields within these areas would likely be limited by the low-permeability lake sediments and physical boundaries of the basin. Various authors (Bloyd 1967, Koehler 1977 and Saint-Armand 1991) indicate that faults in the area are barriers, in some cases, complete barriers to groundwater flow. Further, the aquifer thickness in this area would likely be limited due to the proximity to the basin margins and bedrock. The absence of a significant number of water supply wells situated in these areas would tend to suggest that there are limitations in water supply. These issues taken together removed these areas from consideration as a possible water supply.

A potential water source directly below the Koehn Lake playa was not considered since the aquifer is generally composed of clayey materials (Docktor 1979), which would significantly limit well yield. Additionally, placement of water supply wells on the playa would also be problematic, since the lake is periodically inundated, which would cause “drowning” of the well heads.

Another important consideration is the potential impact of groundwater pumping were it to occur in the area of Koehn Lake. If production were to move toward the west side of Koehn Lake, it is probable there would likely be more impact on surrounding single family wells as the density of wells is higher in that area (AFC Figure 5.17-13). It is important to note that the proposed BSEP pumping center is located at a point in the basin where it affects the fewest adjacent water supply wells. Most of the domestic wells are located to the north of the Project site and outside the zone of significant influence. Further, the Project site is located in an area of significant recharge, and as such is in an area that would least affect the groundwater basin in terms drawdown impacts.

Lastly, though water source issues were considered of fundamental importance, if a pipeline were constructed to areas north or south of Koehn Lake, it would be between 10 and 12 miles in length. Environmental impacts associated with this line could be potentially significant, as the pipeline would likely have to travel cross country since there are few roads in the area.

In summary, the exclusion of groundwater in the immediate vicinity of and below Koehn Lake for consideration as an alternative source was based largely on the fact that:

- Groundwater supply from below the playa is problematic since the aquifer is generally composed of clayey materials, and as such, yield would be limited. Placement of water supply wells on the playa could not be accomplished since the lake is periodically inundated, and would cause “drowning” of the well heads.

- While there area areas north and south of the playa with apparent poor water quality, groundwater supply would be expected to be low and yields limited as these areas are near basin margins. Groundwater flow could be restricted by physical boundaries and storage could be limited as aquifer thickness could possibly be thinner in these areas.

- A pumping center on the west side of the lake would cause impact to more wells than the pumping center proposed for the Project. There are more single family wells in the area west of Koehn Lake, than in the vicinity of the Project site.

- A pipeline to "connect" to wells north or south of the playa would be 10-12 miles long. Environmental impacts associated with this line could be potentially significant, as the pipeline would likely have to travel cross country since there are few roads in the area.

References

Bloyd Jr., R.M., 1967. Water Resources of Antelope Valley - East Kern Water Agency Area. (Co-authored by the USGS and Antelope Valley - East Kern Water Agency): United States Geological Survey, Menlo Park, California.

Dockter, R.D., 1979, Preliminary Lithologic and Water Quality Data from Test Wells on Koehn Dry Lake, Kern County, California: Department of the Interior, United States Geological Survey.

Koehler, J.H., 1977, Groundwater in the Koehn Lake Area, Kern County, California, Water-Resources Investigations 77-66 (Prepared in cooperation with the Antelope Valley – East Kern Water Agency): United States Geological Survey, Menlo Park, California.

Saint-Armand, P. and Saint-Armand, D., 1991, Ground-Water Resources of California City, Kern County, California: Saint-Armand Scientific Services.

Data Request 59:

Please explain the methodology and equipment used to measure the water levels in the wells. In the explanation, please indicate where the measuring reference point is located and how that elevation was determined.

Response:

Beacon Solar submitted and obtained approval from CEC Staff for a Work Plan for the BSEP water investigation prior to AFC submittal. As noted in the "Work Plan for the Investigation of Groundwater Resources, dated August 2007", Section 3.3.1 "Water Level Measurements" (page 3-3), ENSR proposed the following procedure:

> "…water level measurements will be collected from each well using a Solinist 101 Flat Tape Water Level Meter or equivalent. Water level will be collected through monitor tubes installed in each well or as possible through the well head and casing as access allows. Water levels will be collected to the nearest 0.01 inch for each well. Where

accessible, ENSR will use an oil-water interface probe (Solinist Interface Meter 122 or equivalent) to evaluate for the presence of oil floating on the water table."

Water level measurements were collected with a Solinist 101 Flat Tape Water Level Meter. Water levels were collected through the monitoring tube or directly through the well casing. The depth to water was measured to the nearest 0.01 inch from a surveyed point notched in the well casing or monitoring tube. All the monitoring points in the casing or monitoring tubes were surveyed by a California licensed surveyor for location and elevation.

A Solinist Interface Meter was not employed for the water level survey as none could be located (i.e., rented) with cables long enough to accommodate the depth to water below the site.

Data Request 60:

Please describe how Switzer determined the screen intervals and the depths of the wells.

Response:

The information provided by Mr. Switzer is from personal experience. He provided the information based on his long experience with the property and its history since operation as an alfalfa farm. We do not believe that Mr. Switzer had any involvement with the installation of the wells. Rather, his information is from recollection and conversation with the former owners. His information was what was available to the Project at the time of AFC preparation. Information on the site's well completions were requested from the property owner, and denied by their legal representative.

Data Request 61:

Please reconcile Switzer's data based on his reporting of the top of screen depths in all wells to be between 300 and 400 when the video logs in 2 of the 3 wells videotaped showed the wells to be 50 feet shallower and 100 feet deeper than what Switzer reported.

Response:

As noted above, the information provided by Mr. Switzer was based on his prior experience and understanding from a long history of site operations.

Data Request 62:

Please explain how the depth to the bottom of the screen in well No. 63 was determined.

Response:

The bottom of well No. 63 was reported by Mr. Switzer to be about 1,700 feet below the ground surface (bgs). Video logging following the pumping test in this well revealed several obstructions, the last of which was unable to be cleared at a depth of about 900 feet bgs. Since this obstruction could not be removed, we were unable to verify the depth of well no. 63.

Data Request 63:

Please provide detail on the 1980 test:

a. describe how each well was used in the test;
b. explain what was measured in each well; and
c. provide the conclusions of the test.

Response:

Information provided by the property owner is attached (Attachment DR-63) for those tests conducted in 1980. The tests conducted at that time were not the traditional "pumping test" used to ascertain aquifer properties. Rather, the tests were performed by Southern California Edison on behalf of Fremont Ranch to establish the pump efficiency and to optimize pump operation and subsequently their cost of operation. Significant information relevant to the Project was summarized in AFC Table 5.17.5 and in Appendix J of the AFC. The testing measured the well flow rate, drawdown and electrical usage. The relevant information from the pump test included pumping rate and drawdown. This information was used to estimate the wells specific capacity, which is a unit measurement of flow per foot of drawdown.

Data Request 64:

Please provide a copy of the report for the 1980 short term pumping test.

Response:

The reports provided by the property owner from the 1980 pumping tests are attached (Attachment DR-63).

Data Request 65:

Please clarify what the correct value is for specific yield of the Koehn Sub-basin.

Response:

The specific yield after Koehler (1977) is 11 percent or 0.11, not 0.11 percent as indicated in the AFC.

Data Request 66:

Given inaccessibility to the wells on the east side of the Cantil Valley Fault, please explain how the elongate cone of depression was determined.

Response:

The elongate cone of depression, as shown on Figures 5.17.8 and 5.17.9 in the AFC, was drawn based on the data from the observation wells, which suggested an elongation parallel to the fault. Published information on the Cantil Fault indicates it is a barrier to groundwater flow. Bloyd (1967), Koehler (1977) and Saint-Armand (1991) indicate that faults in the area are barriers, in some cases, complete barriers to groundwater flow. The groundwater level maps drawn by Koehler (1977) show that water levels are effected by the Cantil Fault. In consideration of the prior interpretation by others, the contouring was done assuming that the fault is a barrier to groundwater flow. This interpretation seemed to be confirmed by the pump tests; although the pumping tests were short in duration, some barrier to flow is suggested by the higher drawdown in wells northeast and southeast of pumping wells No. 43 and 48.

Lastly, the groundwater model constructed for the Project was calibrated to the 1958 water levels, which show the fault as a barrier (Koehler 1977). It is interesting to note that in order to calibrate (i.e., match) the 1958 water levels, the Cantil Fault had to entered into the model as a partial barrier to groundwater flow.

Data Request 67:

Please provide the evidence that was evaluated to arrive at the statement that offsite wells located north and east across the Cantil fault were “likely not affected during the period of the test”.

Response:

See the response to Data Request 66. The Cantil fault is reported to be a barrier to groundwater movement by various authors. Given the short duration of the test, it would be anticipated that the fault, as a barrier to flow, would limit drawdown to the east. Further, as noted above, the elongation of the cone of depression would indicate a barrier to groundwater flow.

Data Request 68:

Please explain why the ground water model identifies a significant boundary to flow across the Cantil fault and how that condition was determined.

Response:

See the above response to Data Request 66. Historic investigation and hydrologic data indicate the Cantil Fault is a barrier to groundwater flow. Though limited in duration, the elongation of the cone of depression as evidenced by the drawdown in observation wells, suggests that the fault forms some barrier to groundwater flow. If recharge to the pumping well were uniformly distributed about the well, a more circular cone of depression would have been observed. The suggested elongation, as indicated by the water level data, indicates that there is some barrier to water flow from the east of the pumping wells.

Data Request 69:

The Project site is located within AVEK service boundaries. Please discuss the potential for AVEK's future use of groundwater in the area.

Response:

AVEK is a water wholesaler whose sole source of supply is the State Water Project (SWP). AVEK provides this imported water to numerous water retailers throughout the Antelope Valley region, including California City. AVEK projects that it will double its SWP deliveries to California City for municipal and industrial purposes between 2004 and 2025 (see AVEK 2005 Urban Water Management Plan 14, Table 7). These increased deliveries would be expected to limit the City's pumping demands on the Koehn sub-basin in the Fremont Valley.

AVEK itself does not pump native groundwater, and it is unlikely that AVEK would begin pumping within the Koehn Subunit or anywhere else in the Fremont Valley. In its recent Draft Environmental Impact Report (EIR) for a proposed groundwater banking project, AVEK rejected the alternative of acquiring additional supplies from anywhere outside of the

neighboring Antelope Valley (AVEK Groundwater Recharge Project Draft EIR, SCN #2007051095 (Oct. 2007) at 4-18 to -19). Under its proposed banking project, AVEK will store excess imported SWP water during wet years in the Lancaster Subunit of the Antelope Valley Groundwater Basin. AVEK will then withdraw the stored water during dry years for delivery to AVEK's customers (*See generally id*.) The project is intended to make imported water supplies more reliable for all of AVEK's customers, including the City, during droughts.

Data Request 70:

> California City is currently in an overdraft condition. Quad Knopf determined that projected growth will require additional water and the installation of additional wells is recommended. Please discuss the project's consumptive use of potable groundwater and the effect this use would have on the adjacent community.

Response:

Groundwater level data provided in the AFC did not focus on the entirety of California City given its geographic extent. Rather, the focus was on the Koehn sub-basin which would be directly affected by project pumping. California City is located in an entirely separate groundwater sub-basin of the Fremont Valley up-gradient of the Koehn sub-basin and project area (AFC Figure 5.17-1). Additional data for the entire city might provide some debate over the notion that California City is in an overdraft condition. To that end the focus of the response is toward how pumping would affect California City, up-gradient of the proposed project.

A response to this question requires reference to the groundwater model constructed for the Project, since it was used to evaluate the impacts from proposed Project pumping. It is important to note that California City pumping wells were not included in the groundwater model domain. The model was constructed at hydrologic boundaries that frame the Koehn sub-basin. A general head boundary was set along the gap between the Muroc Fault and Rand Mountains coincident with the Randsburg-Mojave fault to approximate groundwater flux from the California City area into the Koehn sub-basin. Groundwater flows through this "gap" in a northwesterly direction from California City into the Koehn sub-basin, then north and northeast toward Koehn Lake. The flow across the boundary was set at 1,000 acre-feet per year (AFY). This flux was part of the water balance for the Koehn sub-basin where in the total recharge to the basin was set at 15,000 AFY.

AFC Figures 5.17-19 and 5.17-20 show the influence from the proposed pumping within the Koehn sub-basin predicted from the groundwater model. The figures show that there is not a significant drawdown in the area of the Randsburg-Mojave fault or in the direction of California

City. As such, it is not anticipated that the Project will significantly impact the California City area.

If the flux across the Randsburg-Mojave fault were to change because of increased pumping in the California City area, it might induce a change in the water levels predicted by the groundwater model as there would be a change in the water balance. However, since the modeled flux across the Randsburg-Mojave fault was only 1/15th of the total recharge, the impact of change in drawdown predicted by the model would be expected to be small.

Attachment DR-63

Pumping Efficiency Tests (Freemont Valley) 1980

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 150.0 - PLANT: WELL NO. 46
ACCT: 4-59-86-359-2550

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 04-08-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 70. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	481320.	439385.	41935.
KW INPUT	140.0		
TOTAL COST($)	25561.84	23598.87	1962.97
AVG.COST PER KWH($)	0.053	0.054	
AVG.COST PER ACRE FT.($)	32.74	30.23	2.51
ACRE FT. PER YEAR	780.7	780.7	
OVERALL PLANT EFF.(%)	64.	70.	
KWH PER ACRE FT.	616.5	562.8	53.7

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT P. RAWLINSON, 375-1552.

D. C. PENDERSON
DISTRICT MANAGER

RECEIVED

MAY 2

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CAMIL, CA 93510

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 46
ACCT: 4-50-RC-359-2550
HOT PLANT E-6
DATE OF TEST: APRIL 8, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: L&R NO: 28107
MOTOR: GE 150.0 HP NO: 6328275RC
METER: P229-423

TEST RESULTS

DISCHARGE PRESSURE, PSI	-2.8
STANDING WATER LEVEL, FT	350.0
DRAWDOWN, FT	41.6
DISCHARGE HEAD, FT	-6.5
PUMPING WATER LEVEL, FT	391.6
TOTAL HEAD, FT	385.1
CAPACITY, GPM	1286.0
GPM PER FT DRAWDOWN	30.9
ACRE FT PUMPED IN 24 HRS	5.684
KW INPUT TO MOTOR	146.0
HP INPUT TO MOTOR	105.8
MOTOR LOAD(%)	120.1
MEASURED SPEED OF PUMP, RPM	1770.0
KWH PER ACRE FT	617.
OVERALL PLANT EFFICIENCY(%)	53.9

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CARTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 75.0 - PLANT: PLT 46 BST
ACCT: 4-50-86-359-2600

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 04-08-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 70. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	188570.	162072.	6498.
KW INPUT	65.9		
TOTAL COST($)	10645.71	10341.55	304.16
AVG.COST PER KWH($)	0.056	0.057	
AVG.COST PER ACRE FT.($)	15.71	15.26	0.45
ACRE FT. PER YEAR	677.6	677.6	
OVERALL PLANT EFF.(%)	68.	70.	
KWH PER ACRE FT.	278.3	268.7	9.6

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 325-1552.

D. C. HENDERSON
DISTRICT MANAGER

RECEIVED

MAY 2

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - PLT 46 BST
ACCT: 4-59-86-359-2600
1101 PLANT E-6
DATE OF TEST: APRIL 8, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR CENTRIFUGAL BOOSTER PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: N/A NO: N/A
MOTOR: LINC 75.0 HP NO: 1229655
METER: 232-5283

TEST RESULTS

DISCHARGE PRESSURE, PSI	76.8
DISCHARGE HEAD, FT	177.4
SUCTION LIFT, FT	6.5
TOTAL HEAD, FT	183.9
CAPACITY, GPM	1256.0
ACRE FT PUMPED IN 24 HRS	5.684
KW INPUT TO MOTOR	65.9
HP INPUT TO MOTOR	88.4
MOTOR LOAD(%)	106.0
MEASURED SPEED OF PUMP, RPM	1775.0
KWH PER ACRE FT	278.
OVERALL PLANT EFFICIENCY(%)	67.6

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 125.0 - PLANT: WELL NO. 50
ACCT: 4-50-86-350-2350

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 04-08-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 71. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	456200.	380690.	75510.
KW INPUT	104.1		
TOTAL COST($)	24385.97	20851.36	3534.62
AVG.COST PER KWH($)	0.053	0.055	
AVG.COST PER ACRE FT.($)	53.96	46.14	7.82
ACRE FT. PER YEAR	451.9	451.9	
OVERALL PLANT EFF.(%)	59.	71.	
KWH PER ACRE FT.	1009.5	842.4	167.1

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. McCORKSON
DISTRICT MANAGER

RECEIVED
MAY 2

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 50
ACCT: 4-59-80-359-2350
TIOT PLANT E-6
DATE OF TEST: APRIL 8, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: 19008
MOTOR: US 125.0 HP NO: D-709/8059
METER: P29-4879

TEST RESULTS

DISCHARGE PRESSURE,PSI	49.0
STANDING WATER LEVEL,FT	303.4
DRAWDOWN,FT	168.1
DISCHARGE HEAD,FT	113.2
PUMPING WATER LEVEL,FT	471.5
TOTAL HEAD,FT	584.7
CAPACITY,GPM	560.0
GPM PER FT DRAWDOWN	3.3
ACRE FT PUMPED IN 24 HRS	2.475
KW INPUT TO MOTOR	104.1
HP INPUT TO MOTOR	139.6
MOTOR LOAD(%)	101.0
MEASURED SPEED OF PUMP,RPM	1770.0
KWH PER ACRE FT	1010.
OVERALL PLANT EFFICIENCY(%)	59.2

O. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANILL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 150.0 - PLANT: WELL NO. 51
ACCT: 4-59-86-359-2300

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 04-08-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 71. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	550000.	453607.	96393.
KW INPUT	104.3		
TOTAL COST($)	30073.39	25313.19	4760.19
AVG.COST PER KWH($)	0.055	0.056	
AVG.COST PER ACRE FT.($)	32.10	27.02	5.08
ACRE FT. PER YEAR	937.0	937.0	
OVERALL PLANT EFF.(%)	59.	71.	
KWH PER ACRE FT.	587.0	484.1	102.9

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 51
ACCT: 4-[illegible]-80-352-2300
HOT PLANT E-6
DATE OF TEST: APRIL 8, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: 201701
MOTOR: US 150.0 HP NO: 28990
METER: P329-816

TEST RESULTS

DISCHARGE PRESSURE,PSI	-0.4
STANDING WATER LEVEL,FT	324.0
DRAWDOWN,FT	33.7
DISCHARGE HEAD,FT	-21.7
PUMPING WATER LEVEL,FT	357.7
TOTAL HEAD,FT	336.0
CAPACITY,GPM	965.0
GPM PER FT DRAWDOWN	28.6
ACRE FT PUMPED IN 24 HRS	4.265
KW INPUT TO MOTOR	104.3
HP INPUT TO MOTOR	139.8
MOTOR LOAD(%)	85.8
MEASURED SPEED OF PUMP,RPM	1780.0
KWH PER ACRE FT	587.
OVERALL PLANT EFFICIENCY(%)	58.5

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 100.0 - PLANT# PLT 51 BST
ACCT: 4-50-86-359-2300

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 04-06-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 70. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	220440.	166391.	54049.
KW INPUT	48.6		
TOTAL COST($)	11012.68	8352.03	2660.65
AVG.COST PER KWH($)	0.050	0.050	
AVG.COST PER ACRE FT.($)	13.68	10.37	3.30
ACRE FT. PER YEAR	805.1	805.1	
OVERALL PLANT EFF.(%)	53.	70.	
KWH PER ACRE FT.	273.8	206.7	67.1

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

RECEIVED
MAY 2

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 21, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - PLT 51 BST
ACCT: 4-59-86-359-2300
1101 PLANT E-6
DATE OF TEST: APRIL 8,1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR CENTRIFUGAL BOOSTER PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PACIF NO: ASB54495
MOTOR: US 100.0 HP NO: C944701175
METER: P320-816

TEST RESULTS

DISCHARGE PRESSURE,PSI	51.8
DISCHARGE HEAD,FT	119.7
SUCTION LIFT,FT	21.8
TOTAL HEAD,FT	141.4
CAPACITY,GPM	964.0
ACRE FT PUMPED IN 24 HRS	4.261
KW INPUT TO MOTOR	48.6
HP INPUT TO MOTOR	65.2
MOTOR LOAD(%)	59.3
MEASURED SPEED OF PUMP,RPM	1775.0
KWH PER ACRE FT	274.
OVERALL PLANT EFFICIENCY(%)	52.8

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 125.0 - PLANT: PLT 42 BST
ACCT: 4-59-86-359-1950

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-18-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 71. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	351080.	227151.	123929.
KW INPUT	61.2		
TOTAL COST($)	19465.31	13595.65	5869.65
AVG.COST PER KWH($)	0.055	0.060	
AVG.COST PER ACRE FT.($)	13.25	9.25	3.99
ACRE FT. PER YEAR	1469.3	1469.3	
OVERALL PLANT EFF.(%)	46.	71.	
KWH PER ACRE FT.	238.9	154.6	84.3

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - PLT 42 RST
ACCT: 4-50-86-359-1050
1101 PLANT E-7
DATE OF TEST: MARCH 18, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR CENTRIFUGAL BOOSTER PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PFERL NO: BSB54496
MOTOR: MARA125.0 HP NO: BH96627232
METER: P131-406

TEST RESULTS

DISCHARGE PRESSURE, PSI	41.2
DISCHARGE HEAD, FT	95.2
SUCTION LIFT, FT	12.1
TOTAL HEAD, FT	107.3
CAPACITY, GPM	1391.0
ACRE FT PUMPED IN 24 HRS	5.148
KW INPUT TO MOTOR	61.2
HP INPUT TO MOTOR	82.1
MOTOR LOAD(%)	59.7
MEASURED SPEED OF PUMP, RPM	1775.0
KWH PER ACRE FT	239.
OVERALL PLANT EFFICIENCY(%)	45.9

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 200.0 - PLANT: WELL NO. 41
ACCT: 4-59-86-359-2000

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-18-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 73. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	753720.	741576.	12144.
KW INPUT	176.7		
TOTAL COST($)	40131.64	39563.16	568.48
AVG.COST PER KWH($)	0.053	0.053	
AVG.COST PER ACRE FT.($)	30.18	29.75	0.43
ACRE FT. PER YEAR	1329.7	1329.7	
OVERALL PLANT EFF.(%)	72.	73.	
KWH PER ACRE FT.	566.8	557.7	9.1

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 41
ACCT: 4-59-86-359-2000
1101 PLANT E-7
DATE OF TEST: MARCH 18, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: 19907
MOTOR: US 200.0 HP NO: DC-7005526
METER: R29-4874

TEST RESULTS

DISCHARGE PRESSURE, PSI	-5.3
STANDING WATER LEVEL, FT	397.3
DRAWDOWN, FT	12.9
DISCHARGE HEAD, FT	-12.2
PUMPING WATER LEVEL, FT	410.2
TOTAL HEAD, FT	398.0
CAPACITY, GPM	1693.0
GPM PER FT DRAWDOWN	131.2
ACRE-FT PUMPED IN 24 HRS	7.483
KW INPUT TO MOTOR	176.7
HP INPUT TO MOTOR	237.0
MOTOR LOAD(%)	109.0
MEASURED SPEED OF PUMP, RPM	1770.0
KWH PER ACRE FT	567.
OVERALL PLANT EFFICIENCY(%)	71.8

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 150.0 - PLANT: PLT 41 BST
ACCT: 4-59-86-359-2050

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-18-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 71. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	381800.	193855.	187945.
KW INPUT	61.3		
TOTAL COST($)	21509.56	12393.43	9116.13
AVG.COST PER KWH($)	0.056	0.064	
AVG.COST PER ACRE FT.($)	11.08	6.38	4.70
ACRE FT. PER YEAR	1941.6	1941.6	
OVERALL PLANT EFF.(%)	36.	71.	
KWH PER ACRE FT.	196.6	99.8	96.8

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. HAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - PLT 41 RST
ACCT: 4-59-R6-359-2050
1101 PLANT E-7
DATE OF TEST:MARCH 18,1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR CENTRIFUGAL BOOSTER PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: 8SR64498
MOTOR: MARA150.0 HP NO: AC9075314
METER: P329-749

TEST RESULTS

DISCHARGE PRESSURE,PSI	24.7
DISCHARGE HEAD,FT	57.1
SUCTION LIFT,FT	12.2
TOTAL HEAD,FT	69.3
CAPACITY,GPM	1693.0
ACRE FT PUMPED IN 24 HRS	7.483
KW INPUT TO MOTOR	61.3
HP INPUT TO MOTOR	82.2
MOTOR LOAD(%)	50.4
MEASURED SPEED OF PUMP,RPM	1780.0
KWH PER ACRE FT	197.
OVERALL PLANT EFFICIENCY(%)	36.0

D. C. HENDERSON
DISTRICT MANAG

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1545
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 200.0 - PLANT: WELL NO. 48
ACCT: 4-59-86-359-1800

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-17-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 73. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	828320.	809295.	19025.
KW INPUT	161.8		
TOTAL COST($)	43623.66	42733.12	890.54
AVG.COST PER KWH($)	0.053	0.053	
AVG.COST PER ACRE FT.($)	32.61	31.95	0.67
ACRE FT. PER YEAR	1337.6	1337.6	
OVERALL PLANT EFF.(%)	71.	73.	
KWH PER ACRE FT.	619.2	605.0	14.2

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, **375-1552**.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1545
LANCASTER, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 48
ACCT: 4-50-86-359-1800
1101 PLANT D-7
DATE OF TEST: MARCH 17, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: JOHNS NO: JC-5610
MOTOR: US 200.0 HP NO: 1385685
METER: P29-4822

TEST RESULTS

DISCHARGE PRESSURE,PSI	-8.6
STANDING WATER LEVEL,FT	441.4
DRAWDOWN,FT	10.2
DISCHARGE HEAD,FT	-19.9
PUMPING WATER LEVEL,FT	451.6
TOTAL HEAD,FT	431.7
CAPACITY,GPM	1419.0
GPM PER FT DRAWDOWN	139.1
ACRE FT PUMPED IN 24 HRS	6.272
KW INPUT TO MOTOR	161.8
HP INPUT TO MOTOR	217.0
MOTOR LOAD(%)	99.8
MEASURED SPEED OF PUMP,RPM	1770.0
KWH PER ACRE FT	619.
OVERALL PLANT EFFICIENCY(%)	71.3

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 100.0 - PLANT: PLI 48 BST
ACCT: 4-59-86-359-1850

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-17-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 71. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	400000.	202273.	197727.
KW INPUT	53.8		
TOTAL COST($)	21149.00	11893.41	9255.59
AVG.COST PER KWH($)	0.053	0.059	
AVG.COST PER ACRE FT.($)	10.89	6.12	4.76
ACRE FT. PER YEAR	1942.7	1942.7	
OVERALL PLANT EFF.(%)	36.	71.	
KWH PER ACRE FT.	205.9	104.1	101.8

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - PLT 48 BST
ACCT: 4-59-86-359-1850
1101 PLANT D-7
DATE OF TEST: MARCH 17, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR CENTRIFUGAL BOOSTER PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PACIF NO: 29-60161
MOTOR: LINC100.0 HP NO: 1282797
METER: 135-5031

TEST RESULTS

DISCHARGE PRESSURE, PSI	22.7
DISCHARGE HEAD, FT	52.4
SUCTION LIFT, FT	19.8
TOTAL HEAD, FT	72.3
CAPACITY, GPM	1419.0
ACRE FT PUMPED IN 24 HRS	6.272
KW INPUT TO MOTOR	53.8
HP INPUT TO MOTOR	72.1
MOTOR LOAD(%)	65.7
MEASURED SPEED OF PUMP, RPM	1780.0
KWH PER ACRE FT	206.
OVERALL PLANT EFFICIENCY(%)	35.9

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 150.0 - PLANT: WELL NO. 47
ACCT: 4-59-86-359-1700

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-17-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 75. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY	IMPROVED PUMP EFFICIENCY	
	PA-1 CURRENT RATE	PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	807480.	792232.	15248.
KW INPUT	186.8		
TOTAL COST($)	42109.79	41396.03	713.76
AVG.COST PER KWH($)	0.052	0.052	
AVG.COST PER ACRE FT.($)	33.40	32.83	0.57
ACRE FT. PER YEAR	1260.8	1260.8	
OVERALL PLANT EFF.(%)	74.	75.	
KWH PER ACRE FT.	640.5	628.4	12.1

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 47
ACCT: 4-59-86-359-1700
1101 PLANT D-7
DATE OF TEST: MARCH 17, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: F9648
MOTOR: US 150.0 HP NO: 951859
METER: P29-4795

TEST RESULTS

DISCHARGE PRESSURE, PSI	-8.8
STANDING WATER LEVEL, FT	470.2
DRAWDOWN, FT	10.8
DISCHARGE HEAD, FT	-20.3
PUMPING WATER LEVEL, FT	481.0
TOTAL HEAD, FT	460.7
CAPACITY, GPM	1584.0
GPM PER FT DRAWDOWN	146.7
ACRE FT PUMPED IN 24 HRS	7.001
KW INPUT TO MOTOR	186.8
HP INPUT TO MOTOR	250.5
MOTOR LOAD(%)	153.6
MEASURED SPEED OF PUMP, RPM	1770.0
KWH PER ACRE FT	640.
OVERALL PLANT EFFICIENCY(%)	73.6

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 100.0 - PLANT: PLT 47 BST
ACCT: 4-59-86-359-1760

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-17-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 71. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	358280.	216250.	142030.
KW INPUT	56.5		
TOTAL COST($)	19196.09	12547.64	6648.45
AVG.COST PER KWH($)	0.054	0.058	
AVG.COST PER ACRE FT.($)	10.38	6.78	3.59
ACRE FT. PER YEAR	1849.5	1849.5	
OVERALL PLANT EFF.(%)	43.	71.	
KWH PER ACRE FT.	193.7	116.9	76.8

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 200.0 - PLANT: WELL NO. 44
ACCT: 4-59-86-359-2100

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-25-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 71. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	851640.	767326.	84314.
KW INPUT	163.5		
TOTAL COST($)	43502.77	39556.03	3946.74
AVG.COST PER KWH($)	0.051	0.052	
AVG.COST PER ACRE FT.($)	30.10	27.37	2.73
ACRE FT. PER YEAR	1445.4	1445.4	
OVERALL PLANT EFF.(%)	64.	71.	
KWH PER ACRE FT.	589.2	530.9	58.3

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 44
ACCT: 4-59-86-359-2100
1101 PLANT E-7
DATE OF TEST: MARCH 25, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: 19010
MOTOR: US 200.0 HP NO: 884580
METER: P131-579

TEST RESULTS

DISCHARGE PRESSURE, PSI	-6.3
STANDING WATER LEVEL, FT	367.1
DRAWDOWN, FT	15.9
DISCHARGE HEAD, FT	-14.6
PUMPING WATER LEVEL, FT	383.0
TOTAL HEAD, FT	368.4
CAPACITY, GPM	1507.0
GPM PER FT DRAWDOWN	94.8
ACRE FT PUMPED IN 24 HRS	6.661
KW INPUT TO MOTOR	163.5
HP INPUT TO MOTOR	219.3
MOTOR LOAD(%)	100.9
MEASURED SPEED OF PUMP, RPM	1770.0
KWH PER ACRE FT	589.
OVERALL PLANT EFFICIENCY(%)	64.0

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 150.0 - PLANT: PLT 44 BST
ACCT: 4-59-86-359-2150

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-25-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 70. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	476400.	280182.	196218.
KW INPUT	58.9		
TOTAL COST($)	25937.70	16693.36	9244.43
AVG.COST PER KWH($)	0.054	0.060	
AVG.COST PER ACRE FT.($)	11.56	7.44	4.12
ACRE FT. PER YEAR	2244.4	2244.4	
OVERALL PLANT EFF.(%)	41.	70.	
KWH PER ACRE FT.	212.3	124.8	87.4

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - PLT 44 BST
ACCT: 4-59-86-359-2150
1101 PLANT E-7
DATE OF TEST: MARCH 25, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR CENTRIFUGAL BOOSTER PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: BSR54499
MOTOR: MARA150.0 HP NO: 9J96033325
METER: P131-464

TEST RESULTS

DISCHARGE PRESSURE,PSI	30.7
DISCHARGE HEAD,FT	70.9
SUCTION LIFT,FT	14.5
TOTAL HEAD,FT	85.4
CAPACITY,GPM	1507.0
ACRE FT PUMPED IN 24 HRS	6.661
KW INPUT TO MOTOR	58.9
HP INPUT TO MOTOR	79.0
MOTOR LOAD(%)	48.4
MEASURED SPEED OF PUMP,RPM	1780.0
KWH PER ACRE FT	212.
OVERALL PLANT EFFICIENCY(%)	41.2

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 46
ACCT: 4-59-86-359-5311
FREMONT VLY RANCH
DATE OF TEST: MARCH 25, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: 19011
MOTOR: NEWM200.0 HP NO: S1256502
METER: P131-670

TEST RESULTS

	TEST 1	TEST 2
DISCHARGE PRESSURE, PSI	38.7	51.7
STANDING WATER LEVEL, FT	344.2	344.2
DRAWDOWN, FT	30.8	29.7
DISCHARGE HEAD, FT	89.4	119.4
PUMPING WATER LEVEL, FT	375.0	373.9
TOTAL HEAD, FT	464.4	493.3
CAPACITY, GPM	1514.0	1440.0
GPM PER FT DRAWDOWN	49.2	
ACRE FT PUMPED IN 24 HRS	6.692	6.365
KW INPUT TO MOTOR	184.3	183.4
HP INPUT TO MOTOR	247.1	245.9
MOTOR LOAD(%)	113.7	113.1
MEASURED SPEED OF PUMP, RPM	1775.	
KWH PER ACRE FT	661.	692.
OVERALL PLANT EFFICIENCY(%)	71.8	72.9

TEST 1 IS THE NORMAL OPERATION OF THIS PUMP AT THE TIME OF THE ABOVE TEST/TESTS. THE OTHER RESULTS WERE OBTAINED BY THROTTLING THE DISCHARGE.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 200.0 - PLANT: WELL NO. 43
ACCT: 4-59-86-359-2400

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-25-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 70. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	698960.	631315.	67645.
KW INPUT	181.9		
TOTAL COST($)	37568.32	34401.87	3166.45
AVG.COST PER KWH($)	0.054	0.054	
AVG.COST PER ACRE FT.($)	33.86	31.01	2.85
ACRE FT. PER YEAR	1109.4	1109.4	
OVERALL PLANT EFF.(%)	63.	70.	
KWH PER ACRE FT.	630.0	569.0	61.0

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 43
ACCT: 4-50-80-350-2400
1101 PLANT E-6
DATE OF TEST: MARCH 25, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: FM NO: F3329052
MOTOR: NEWM200.0 HP NO: S1256002
METER: P20-4880

TEST RESULTS

DISCHARGE PRESSURE, PSI	-4.6
STANDING WATER LEVEL, FT	350.9
DRAWDOWN, FT	49.1
DISCHARGE HEAD, FT	-10.6
PUMPING WATER LEVEL, FT	400.0
TOTAL HEAD, FT	389.4
CAPACITY, GPM	1568.0
GPM PER FT DRAWDOWN	31.9
ACRE FT PUMPED IN 24 HRS	6.931
KW INPUT TO MOTOR	181.9
HP INPUT TO MOTOR	243.9
MOTOR LOAD(%)	112.2
MEASURED SPEED OF PUMP, RPM	1775.0
KWH PER ACRE FT	630.
OVERALL PLANT EFFICIENCY(%)	63.7

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 150.0 - PLANT: PLT 43 BST
ACCT: 4-59-86-359-2450

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-25-80. AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 70. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	364280.	282374.	81906.
KW INPUT	63.2		
TOTAL COST($)	20689.45	16802.55	3886.89
AVG.COST PER KWH($)	0.057	0.060	
AVG.COST PER ACRE FT.($)	12.43	10.10	2.34
ACRE FT. PER YEAR	1664.2	1664.2	
OVERALL PLANT EFF.(%)	54.	70.	
KWH PER ACRE FT.	218.9	169.7	49.2

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - PLT 43 BST
ACCT# 4-59-86-359-2450
1101 PLANT E-6
DATE OF TEST: MARCH 25, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR CENTRIFUGAL BOOSTER PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PEERL NO: BSB54497
MOTOR: US 150.0 HP NO: C1007395
METER: P229-396

TEST RESULTS

DISCHARGE PRESSURE, PSI	45.7
DISCHARGE HEAD, FT	105.6
SUCTION LIFT, FT	10.5
TOTAL HEAD, FT	116.1
CAPACITY, GPM	1568.0
ACRE FT PUMPED IN 24 HRS	6.931
KW INPUT TO MOTOR	63.2
HP INPUT TO MOTOR	84.8
MOTOR LOAD(%)	52.0
MEASURED SPEED OF PUMP, RPM	1780.0
KWH PER ACRE FT	219.
OVERALL PLANT EFFICIENCY(%)	54.2

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - WELL NO. 49
ACCT: 4-59-86-359-2250
1101 PLANT E-7
DATE OF TEST: MARCH 24, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR TURBINE WELL PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: L&B NO: 16974
MOTOR: N/A 200.0 HP NO: N/A
METER: B29-4415

TEST RESULTS

DISCHARGE PRESSURE, PSI	-8.2
STANDING WATER LEVEL, FT	371.0
DRAWDOWN, FT	9.5
DISCHARGE HEAD, FT	-18.9
PUMPING WATER LEVEL, FT	380.5
TOTAL HEAD, FT	361.6
CAPACITY, GPM	1114.0
GPM PER FT DRAWDOWN	117.3
ACRE FT PUMPED IN 24 HRS	4.924
KW INPUT TO MOTOR	0.0
HP INPUT TO MOTOR	0.0
MOTOR LOAD(%)	0.0
MEASURED SPEED OF PUMP, RPM	1770.0
KWH PER ACRE FT	0.
OVERALL PLANT EFFICIENCY(%)	*******

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: PUMPING COST ANALYSIS
HP: 150.0 - PLANT: PLT 49 BST
ACCT: 4-59-86-359-2210

THE FOLLOWING PUMPING COST ANALYSIS IS PRESENTED AS AN AID TO YOUR COST ACCOUNTING AND A METHOD OF SAVING KILOWATT HOURS. THE ANALYSIS IS AN ESTIMATE, PREPARED FROM OPERATING CRITERIA SUPPLIED FROM THE EDISON PUMP TEST PERFORMED 03-24-80, AND BILLING HISTORY FOR THE LAST YEAR.

IT IS ASSUMED THAT:

1. OVERALL PLANT EFFICIENCY CAN BE IMPROVED TO 70. PERCENT.
2. WATER REQUIREMENTS WILL BE THE SAME AS FOR THE PAST YEAR.
3. ALL OPERATING CONDITIONS (ANNUAL HOURS OF OPERATION, HEAD ABOVE, AND WATER PUMPING LEVEL) WILL REMAIN THE SAME AS THEY WERE AT THE TIME OF THE PUMP TEST.

	EXISTING PUMP EFFICIENCY PA-1 CURRENT RATE	IMPROVED PUMP EFFICIENCY PA-1 CURRENT RATE	SAVINGS
TOTAL KWH	503640.	321110.	182530.
KW INPUT	49.3		
TOTAL COST($)	27212.89	18668.65	8544.24
AVG.COST PER KWH($)	0.054	0.058	
AVG.COST PER ACRE FT.($)	12.99	8.91	4.08
ACRE FT. PER YEAR	2095.5	2095.5	
OVERALL PLANT EFF.(%)	45.	70.	
KWH PER ACRE FT.	240.3	153.2	87.1

IT IS SINCERELY HOPED THIS INFORMATION WILL PROVE HELPFUL TO YOU. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT D. RAWLINSON, 375-1552.

D. C. HENDERSON
DISTRICT MANAGER

SOUTHERN CALIFORNIA EDISON COMPANY

APRIL 17, 1980

FREMONT VALLEY RANCH
P. O. BOX 1525
CANTIL, CA 93519

SUBJECT: HYDRAULIC TEST RESULTS - PLT 49 BST
ACCT: 4-59-86-359-2210
1101 PLANT E-7
DATE OF TEST: MARCH 24, 1980

IN ACCORDANCE WITH YOUR REQUEST, A TEST WAS MADE ON YOUR CENTRIFUGAL BOOSTER PUMP ON THE DATE LISTED ABOVE. IF YOU HAVE ANY QUESTIONS REGARDING THE TEST RESULTS WHICH FOLLOW, PLEASE CONTACT D. RAWLINSON, 375-1552.

EQUIPMENT

PUMP: PACI NO: ASR54494
MOTOR: LINC150.0 HP NO: 1426076
METER: P29-4460

TEST RESULTS

DISCHARGE PRESSURE, PSI	37.2
DISCHARGE HEAD, FT	85.9
SUCTION LIFT, FT	18.9
TOTAL HEAD, FT	104.9
CAPACITY, GPM	1114.0
ACRE FT PUMPED IN 24 HRS	4.924
KW INPUT TO MOTOR	49.3
HP INPUT TO MOTOR	66.1
MOTOR LOAD(%)	40.5
MEASURED SPEED OF PUMP, RPM	1780.0
KWH PER ACRE FT	240.
OVERALL PLANT EFFICIENCY(%)	44.6

D. C. HENDERSON
DISTRICT MANAGER