Data Request 96:

Please provide a map delineating the contemporary boundary between poor quality water (>1,000 ppm TDS) and high quality (<1, 000 ppm TDS) groundwater.

Response:

Figure 5.17-11 provided in the AFC shows the total dissolved solids (TDS) concentrations in groundwater samples collected between 1953 and 2007. This is a composite map of TDS data from a review of USGS and DWR records that was summarized in Table J.4-1 in Appendix J-4 of the AFC. The figure shows that TDS concentrations have generally remained stable over time.

In response to this data request, separate figures (Figures DR-96a, DR-96b and DR-96c) were prepared showing available TDS data for the period of between 1953 to 1958, 1976 to 1978, and 1999 to 2007. These figures provide a time series of TDS concentrations within the Koehn Sub-basin. The periods were selected to show the most data over the widest geographic area within the sub-basin. The figures show that the most groundwater samples were collected during the period from 1953 to 1958 (i.e., 70 wells sampled), and that during subsequent periods, sampling was conducted in about one half the wells by comparison to the prior period. The data for these figures were taken from the geochemical database provided in Table J.4-1 of the AFC, and are summarized in Tables DR-96a (1953-1958), DR-96b (1976-1978) and DR-96c (1999-2007) attached.

Using a TDS concentration of 1,000 milligrams per liter (mg/L), the data for each of these time frames were contoured to show the distribution between poor and high water quality. As shown from the available data, the water quality has not varied significantly over time. Groundwater samples from wells located southwest of the lake, and in the direction of the Project site have consistently had TDS concentrations reported below 1,000 mg/L. Groundwater samples collected from wells between the Rand Mountains, south of the lake, and the El Paso Mountains, north of the lake, have had concentrations above 1,000 mg/L. There are few wells in these areas and those located north and south of the lake are generally situated at the margins of the lake or on the alluvial fans between strands of the Garlock Fault and Randsburg-Mojave Fault and Koehn Lake.

Data Request 97:

Please provide a map showing the locations of the wells described in Data Response #58.

Response:

Please see Figure DR-97 attached. This figure has been annotated to show township and range grids for the Koehn Sub-basin. In the response to Data Request No. 58, wells were referred in their corresponding township and range. Wells within Township 30 South and Range 38 East and Sections 21, 22, 23, 27, 28, 29, 32, 33 and 34 are located southwest of Koehn Lake, between the lake and the project site. These sections are at the southwestern margin and southwest of Koehn Lake. Groundwater samples from these wells have historically contained TDS concentrations below 1,000 mg/L, as shown on Figures DR-96a through DR-96c.

In addition, the response to Data Request No. 58 (submitted July 18, 2008) indicated groundwater samples from wells Township 30 South, Range 38 East, Sections 3, 4, and 5 and 24, had historically contained TDS concentrations above 1,000 mg/L. These sections are located north and south of the lake. Groundwater samples from wells in these sections have historically contained TDS concentrations above 1,000 mg/L.

Data Request 98:

> Please revise all figures and tables to show source of well construction details (e.g., field verification, written documentation, or Mr. Switzer's recollection).

Response:

The information provided by Mr. Switzer was not from recollection. What he provided was a figure from a prior study at the property which was in the possession of Mr. Switzer. Figure 4, "Fremont Valley Ranch, Groundwater Well Map", is attached for reference. This information was provided to ENSR as part of the Phase I ESA as referenced in the AFC (i.e., Switzer 2007).

The following figures from the AFC have been revised in response to this request are attached:

- Figure 5-17.6 – Site Map Showing Wells on the Project Site
- Figure 5-16.7 – Cone of Depression at the End of the Well No. 63 Pumping Test
- Figure 5-17.8 – Cone of Depression at the End of the Well No. 48 Pumping Test
- Figure 5-17.9 – Cone of Depression at the End of the Well No. 43 Pumping Test
- Figure 5-17.10 – Post-pumping Test Water Level Contour Map (October 2007)
- Figure J.3-2 – Pumping Test Well Nos. 43, 48 and 63
- Figure J.3-5 – Cone of Depression at the End of the Well No. 43 Pumping Test
- Figure J.3-6 – Cone of Depression at the End of the Well No. 48 Pumping Test
- Figure J.3-7 – Cone of Depression at the End of the Well No. 63 Pumping Test

- Appendix J-1, Table J.1-2, Plant Site Well Details
- Appendix J-3, Table J.3-1, Plant Site Well Details

AFC Table 5-17.5 (Well Completion Data for Water Supply Wells on the Plant Site), contained the information requested and was not modified. Figures 5.17-6 through 5.17-10 have been updated, referencing Table 5-17.5 and the well completion details therein, and the sources of information for the well details. Pumping test Figures J.3-5 through J.3-7 have been updated, referencing Table J.3-1 and the well completion details therein, and the sources of information for the well details.

Data Request 99:

Please revise and provide to staff Figure 5.17-8 to represent actual measured conditions. In areas where there is no data to support the interpretation, please indicate by using appropriate symbols.

Response:

All figures associated with the pumping test program (Figures 5-17.7, 5-17.8 and 5-17.9) have been revised as requested to reflect the appropriate uncertainty for the interpretation of drawdown for each pumping test. These figures follow the format of Figure 5-17.10, and have been annotated to show the drawdown for each of the observation and the pumping wells at the end of the test prior to the pump being shut off. Table J.3-5 from Appendix J.3-5 of the AFC contains the data for the water levels used to construct these figures and is provided below.

Table J.3-5 Summary of Drawdown at the End of the Constant Rate Discharge Test

Well name	Saturated[1] Thickness October 2007	Discharge Rate (gpm)	Static Water Level (ft)	Water level at end of pumping test (ft)	Drawdown at end of pumping test (ft)	Drawdown at end of recovery test (ft)	Percent Recovery
Pumping Well 63							
Well 63	1427	2000	313.03	341.26	28.23	1.26	95.5
OB Well 42	246		357.08	357.07	NO RESPONSE		
OB Well 44	288		316.370	323.620	7.250	2.740	62.2
OB Well 45b	--		297.760	298.677	0.917	0.437	52.3%
OB Well 49	500		329.90	6.174	6.174	0.549	91.1%
Pumping Well 48							
Well 48	409	1770	404.10	474.27	70.17	0.42	99.4%
OB Well 41	241		358.80	360.73	1.93	0.17	91.4%
OB Well 42	246		356.62	356.64	NO RESPONSE		
OB Well 47	372		437.70	440.46	2.76	2.01	27.2%
OB Well 49	500		328.76	329.17	0.41	0.07	81.9%
Pumping Well 43							
Well 43	619	2000	245.45	453.87	208.42	9.89	95.3%
OB Well 46	610		209.13	210.17	1.04	1.02	1.7%
OB Well 50	647		256.27	257.12	0.85	NO RESPONSE	
OB Well USGS	--		285.38	297.75	12.37	8.76	29.8%

Notes:

[1] – Saturated thickness based on water level measurements taken in October 2007. Saturated thickness is the distance between the water table and the bottom of the well.

Key:

ft = Feet

gpm = gallons per minute

OB – Observation well

Data Request 100:

Please revise and provide to staff the corresponding sections in the AFC to describe actual measured groundwater conditions.

Response:

The discussion regarding water level measurements is provided in Section 5.17.2.6 "Aquifer Properties", beginning on page 5.17-15 and ending on page 5.17-18. Information regarding the "actual measured groundwater conditions", was provided in Appendix J-1, Table J.1-2, "Plant Site Well Details" and in Appendix J-3, Table J.3-1, "Plant Site Well Details". These tables are attached in partial fulfillment of this data request.

Water level data collected at the end of the pumping test programs prior to the pumps being shutoff were provided in Table J.3-5, "Summary of Water Level Data at the End of the Constant Rate Discharge Test". This table was provided in response to Data Request No. 99 above.

Data Request 101:

Please clarify the extent of the evaluation of offsite wells located north and east across the Cantil Fault to reflect the actual information collected in that area during the pumping test and the statistical support for the applicant's conclusions regarding the hydrogeologic conditions in that area.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 102:

Please revise and provide to staff the figures pertinent to this data request to reflect the information collected during the site specific tests. Where the interpretation uses assumptions based on previous investigators' basin-wide evaluations, please identify those assumptions separately.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 103:

Please explain how hydrographs collected from wells located on both sides of the Cantil Fault are similar, given the assumption that the fault is a barrier to groundwater movement.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 104:

The purpose statement for the groundwater-flow model indicates potential impacts were developed by "superimposing" project pumping on to the calibrated flow model. Please explain whether the calibrated flow model was formally converted to a superposition model. If so, please provide the details describing the conversion. If not, please provide the details documenting the selection of simulated recharge, pumping, and specified-fluxes for the 30-year projection.

Response:

The model did not use superposition to compute drawdown. Rather, the projected pumping rates for each well on the Beacon site were added to the steady state model. The model was then run for 30 years to determine the impact from the proposed pumping.

Data Request 105:

Please provide the complete citation for the following reference: Konikow (1978). It is missing from Section 6.0 (References) of Appendix J.2

Response:

Konikow, L.F., 1978. Calibration of groundwater models, in Proceedings of the Specialty Conferences on Verification of Mathematical and Physical Models in Hydraulic Engineering, College Park, Maryland, August 9-11, 1978.

Data Request 106:

Please provide a map showing locations of the model calibration targets (the well locations reported in Table 4.2).

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 107:

Please provide a map that overlays and compares observed (Figure 3.2) and simulated (Figure 4.6) 1958 groundwater level contours. Figure 4.6 is titled “observed vs. simulated 1958”, but there is only one set of contours and the figure does not identify which set is shown (i.e., observed or simulated).

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 108:

Please provide a map that overlays and compares observed (Figure 3.4) and simulated 1976 groundwater level contours.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 109:

Please provide a map that overlays and compares observed (Figure 5.17-3) and simulated 2007 groundwater level contours.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 110:

For Figures 5.17-3, 5.17-7, 5.17-8, 5.17-9:

a. Please identify how contours were prepared.

b. Please post the values contoured.

c. Please query the contours as appropriate to show where data is lacking and/or assumptions were made in selecting the shape of the contours (i.e., faults assumed to act as partial barriers to flow). (See Figure 5.17-10 as an example of a contour map that more adequately considers data limitations and uncertainty.)

Response:

Please see response to Data Request No. 99 above. The figures have been revised to reflect the appropriate uncertainty and annotated to provide the water level data from which the contouring was completed. They have been prepared in the manner of Figure 5.17-10.

Regarding Figure 5.17-3, available data were posted for water levels collected from 2007. This figure was created with limited available water level data from 13 wells within the Koehn Sub-basin. Information was not available in sufficient density to draw the contours inconsideration of

the faulting that are reported to be barriers to groundwater flow within the basin. As such, contouring was done without this consideration of the condition to provide a general understanding of groundwater flow within the Koehn Sub-basin.

Data Request 111:

Please clarify the ambiguity between the discussions of the two basins.

Response:

From the AFC (page 5.17-12),

> "As a part of the South Lahonton Hydrologic Region, the Fremont Valley Groundwater Basin is divided into six sub-basins: California City (which contains a portion of the linears associated with the Project), Koehn (which includes the plant site), Chaffee, Gloster, Oak Creek, and Willow Springs (Figure 5.17-1). The sub-basins are typically separated by faults that form partial, and in some cases, complete barriers to groundwater movement (Bloyd 1967, Koehler 1977, Saint-Armand 1991)."

The Koehn Sub-basin is a subset of the larger Fremont Valley Groundwater Basin. The Fremont Valley Groundwater Basin and the associated sub-basins are shown on Figure 5.17-1. The numerical groundwater model encompassed the Koehn Sub-basin.

Data Request 112:

Please provide documentation of the specific data sources and calculations used to develop all simulated volumetric water budget components specified in the groundwater model.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 113:

Please provide MODFLOW files* for:

a. The model calibration run (1958 steady-state calibration);

b. The model "verification" run (1958-2007 simulation period); and

c. The two predictive impact assessments (1,600 AFY of continuous pumping for 30 years, and 5-month construction period pumping).

*Note: In order to keep the file size manageable, the binary heads and cell-by-cell flow files are not needed for review at this time.

Response:

The modeling files are provided on the CD that has been provided with this response to CEC Staff Data Requests, Set 2.

Data Request 114:

Please provide a sensitivity analysis for the model that includes the plausible ranges for aquifer parameters, recharge, and pumpage, summarized in a tabular format.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 115:

Based on the sensitivity analysis, please report the magnitude of change in the simulated impacts.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call,

applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 116:

Please explain why evaporation from shallow groundwater beneath Koehn Lake is not explicitly simulated in the model.

Response:

Koehn Lake was simulated as a drain rather than with evapo-transpiration (ET) to keep the model stable. The ultimate effect of a drain is the same as ET. If the water level rises to a certain level, water is extracted. Below that level, water is not extracted. The only difference between using ET and a drain is the linear relationship between the water table surface and depth to water. However, since Koehn Lake does have standing surface water, water will only flow into the lake if the head in the aquifer is above the lake level. In reality then, this water balance acts more like a drain than ET. In addition, the USGS model of the Death Valley flow system also simulated all playa lakes as drains instead of ET.

Data Request 117:

Please provide the simulated volumetric budget for all budget components.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 118:

Please clarify and provide justification for the above discrepancies between simulated and observed conditions.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 119:

Please provide plots comparing observed and simulated water levels for the data locations reported in Table 4.3.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 120:

Please provide the geologic data, analysis, and interpretation required to justify the simulated hydraulic conductivity distribution.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 121:

Please provide hydrographs for additional wells. The number and distribution of wells should encompass as much of the geographic area represented by the model as possible.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 122:

Because recharge and/or pumpage were "changed" in the "verification" run in order to match between observed and simulated groundwater levels, please provide a comparison, using either tables or figures, of estimated and "changed" recharge and pumpage values over the 1958-2007 simulation period.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 123:

Please provide the simulated volumetric budget and compare to previously estimated flow components. Because it is a transient model run, and simulates the period 1958 through 2007, average, annual flow rates will suffice.

Response:

Beacon Solar arranged a conference call on October 7, 2008 to discuss this request with CEC staff to gain a better understanding of the information needed. As a result of the conference call, applicant requests additional time to provide a response. A response to this data request will be provided by October 23, 2008.

Data Request 124:

Please identify the origin of the proposed evaporation pond dilution water.

Response:

Through the majority of the year, wastewater will be discharged to each of the three ponds at an equal rate, but during the months when evaporation significantly exceeds discharge and water levels drop below 1 foot, or if the rate of salt crystallization is observed to increase significantly, all of the wastewater will be routed to one or two of the ponds and the water remaining in the inactive pond(s) will be pumped to the active pond(s). As such, the wastewater flow will be used to dilute the water in the active evaporation ponds and maintain minimum water levels. Dilution therefore will consist of management of the existing wastewater flow, not of the addition of water from a new source. Additional information on this wastewater management strategy is provided in response to Biological Resources Data Request No. 74.

Data Request 125:

Please describe the quality of the water proposed to dilute the evaporation ponds.

Response:

Dilution will be accomplished by management of the existing wastewater flow. No additional water will be added from any new source. A table summarizing the quality of the wastewater discharged to the evaporation ponds is presented below. (Note that this table updates and corrects the information presented in Tables 5.17.4 and 5.17.34 in the AFC. The tables in the AFC contained a spreadsheet error that has been corrected in the attached table. The concentration values are only slightly different, and do not affect our evaluation of evaporation pond water quality or management.)

Table DR-125. Revised Predicted Chemistry of BSEP Wastewater Streams

Constituent	Mean Well Water	Cooling Tower Blow Down	Ion Exchange Regeneration Wastewater	Evaporation Pond Discharge	Units
Calcium (total)	47	70.5	517	330	(mg/L Ca)
Magnesium (total)	11	16.5	121	77	(mg/L Mg)
Sodium (total)	78	117.0	858	548	(mg/L Na)
Potassium (total)	4.1	6.150	45	29	(mg/L K)
Iron (total)	0.047	0.071	0.517	0.33	(mg/L Fe)
Ammonia	0.038	0.057	0.418	0.27	(as N)

Table DR-125. Revised Predicted Chemistry of BSEP Wastewater Streams

Constituent	Mean Well Water	Cooling Tower Blow Down	Ion Exchange Regeneration Wastewater	Evaporation Pond Discharge	Units
Aluminum (total)	0.023	0.035	0.253	0.16	(mg/L Al)
Zinc (total)	0.012	0.018	0.132	0.08	(mg/L Zn)
Boron (total)	0.18	0.270	1.980	1.26	(mg/L B)
Chloride	15.5	23.3	171	109	(mg/L Cl)
Sulfate	118	177.0	1298	829	(mg/L SO_4)
Nitrate	1.183	1.775	13.013	8.3	(mg/L as NO_3)
M-Alkalinity	207	29.97	0	12.54	(mg/L as $CaCO_3$)
HCO_3 (bicarbonate alkalinity)	257	37.23	0	15.57	(mg/L HCO_3)
Fluoride	0.459	0.689	5.049	3.2	(mg/L as F)
Cyanide (total)	0.007	0.011	0.077	0.049	(mg/L as HCN)
Silica	33.3	49.95	366	234	(mg/L as SiO2)
Silicon	15.7	23.550	173	110	(mg/L as Si)
Phosphate (total)	0.019	0.029	0.209	0.13	(mg/L as PO_4)
Phosphorous (total as P)	ND	0.000	0	0.00	(mg/L)
Arsenic (total)	0.0035	0.005	0.039	0.025	(mg/L As)
Strontium (total)	0.78	1.175	8.580	5.5	(mg/L Sr)
Selenium (total)	0.00039	0.0006	0.0043	0.0027	(mg/L Se)
pH	8.00	7.70	6 – 9	6 - 9	pH
Suspended Solids	0	0	0	----	(mg/L)
Total Dissolved Solids	550	1590	8447	5579	(ppm)

Data Request 126:

Please provide an estimate of the volume of water required to adequately dilute the evaporation ponds.

Response:

Dilution will be accomplished by management of the existing wastewater flow. Therefore, the volume of water discharged to the pond system will not change. The division of flow among the ponds will be adjusted as needed to meet the objectives of maintaining a minimum pond depth of 1 foot and inhibiting active salt encrustation at or near the pond surface. In practice, the division of flow among the ponds will be determined by climatic conditions.

Data Request 127:

Please revise the water budget description and diagram to include the use of water to dilute the evaporation ponds.

Response:

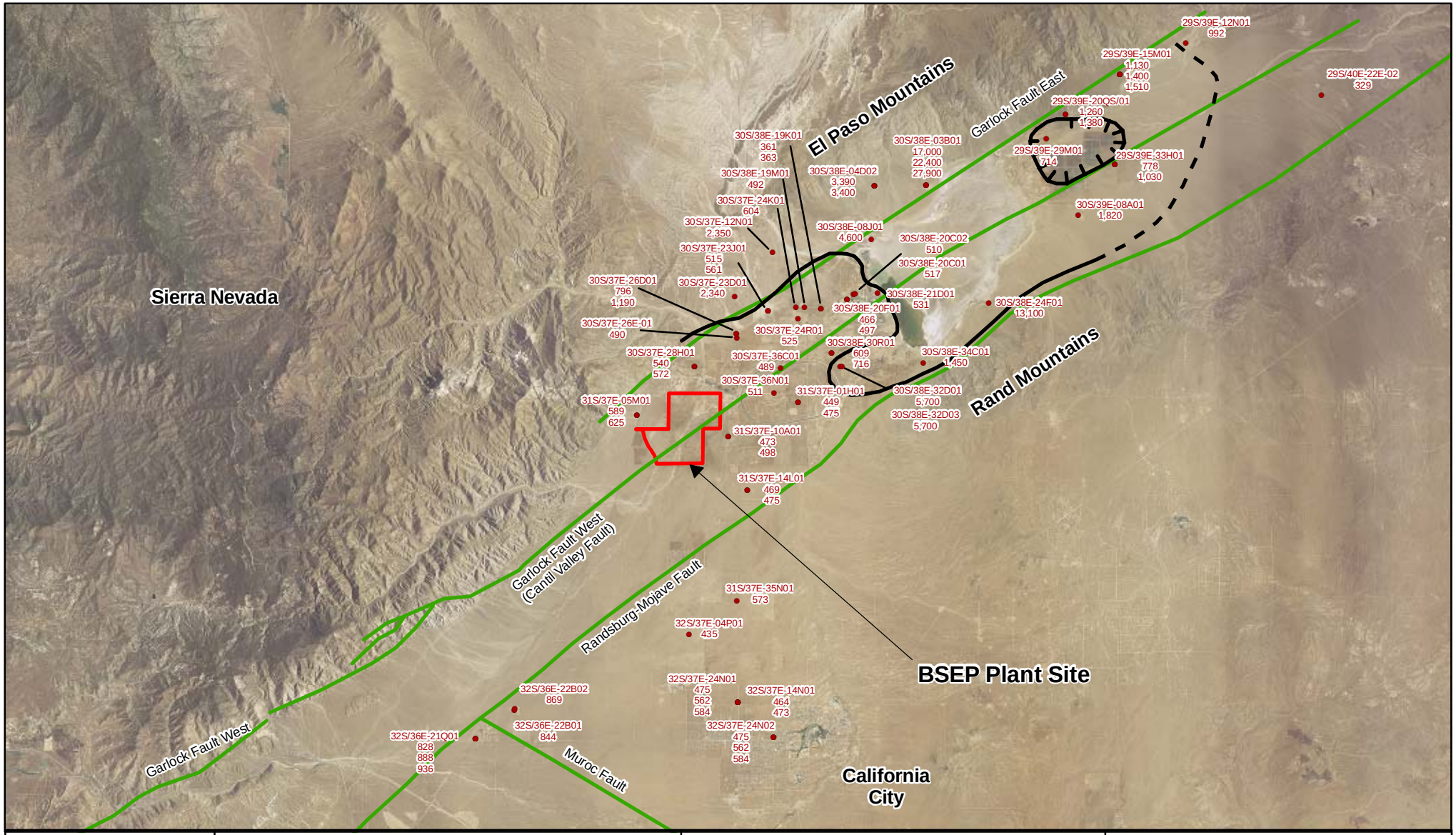
Dilution will be accomplished by management of the existing wastewater flow. No additional water will be added from any new source. Therefore, it is not necessary to revise the water budget description.

Data Request 96

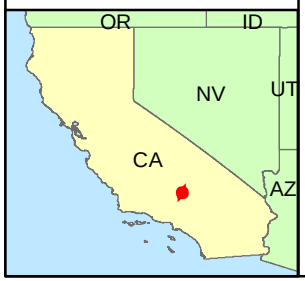
Figures and Tables

Figure DR-96a TDS Concentrations 1953-1958
Figure DR-96b TDS Concentrations 1976-1978
Figure DR-96c TDS Concentrations 1999-2007

Table DR-96a Geochemical Database 1953-1958
Table DR-96b Geochemical Database 1976-1978
Table DR-96c Geochemical Database 1999-2007



Map Location



Legend

32S/36E-21Q01
828
888
936
Well Id and TDS Concentrations

1,000 ppm TDS Contour (1953-1958)
Dashed Where Inferred

BSEP Plant Site Boundary

Fault

Note: Fault locations are approximate

0 2 4 6 8 Miles

1:253,440

N
W E
S

BSEP

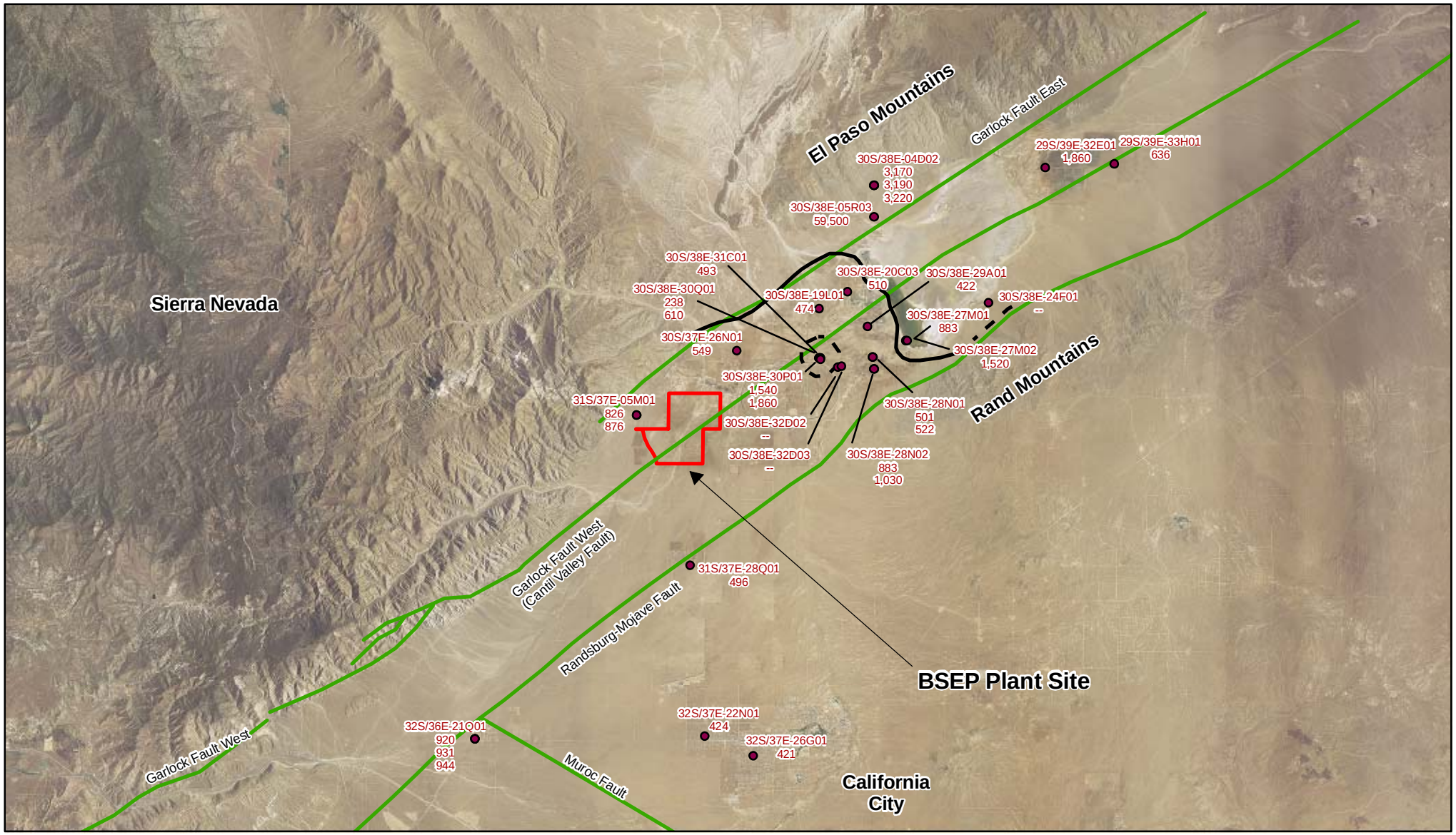
Figure DR-96a
TDS Concentrations
1953-1958

Beacon Solar

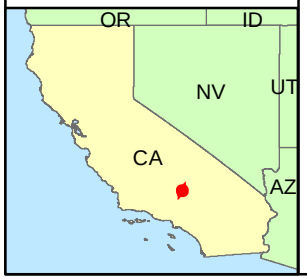
ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSPVAFC Beacon Energy LLC GIS\March 08\Oct-08\Figure DR-96a.mxd



Map Location



Legend

32S/36E-21Q01
920
931
944
Well Id and TDS Concentrations

1,000 ppm TDS Contour (1953-1958)
Dashed Where Inferred

BSEP Plant Site Boundary

Fault

Note: Fault locations are approximate

0 2 4 6 8 Miles

1:253,440

N
W E
S

BSEP

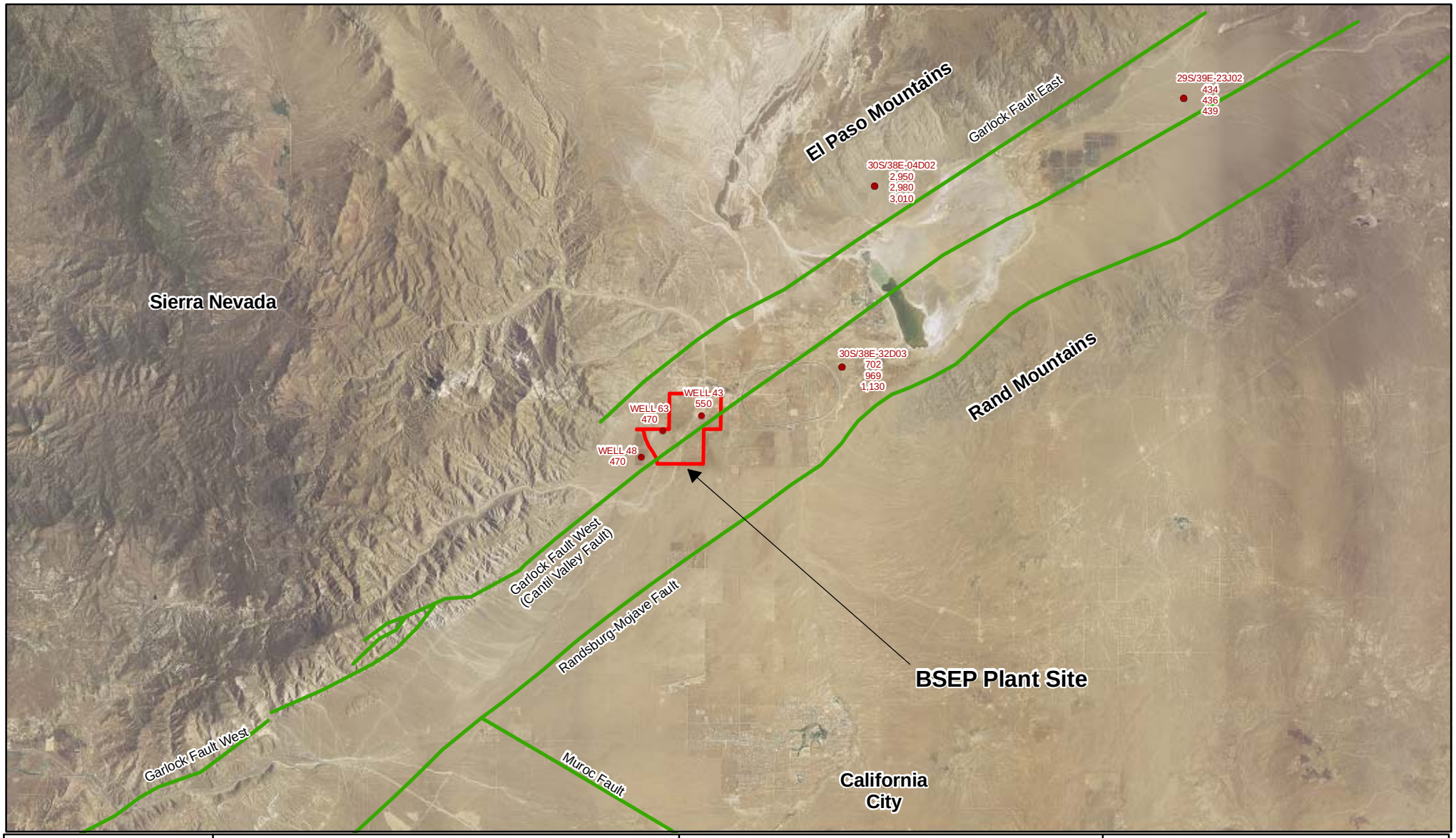
Figure DR-96b
TDS Concentrations
1976 - 1978

Beacon Solar

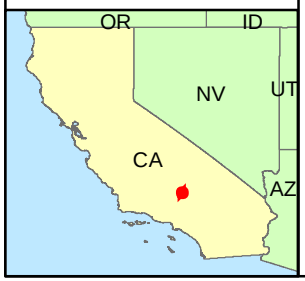
ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSPVAFC Beacon Energy LLC GIS\March 08\Oct-08\Figure DR-96b.mxd



Map Location



Legend

32S/36E-21Q01
828
888
936
Well Id and TDS Concentrations

1,000 ppm TDS Contour (1953-1958)
Dashed Where Inferred

BSEP Plant Site Boundary

Fault

Note: Fault locations are approximate

0 2 4 6 8 Miles

1:253,440

N
W E
S

BSEP

Figure DR-96c
TDS Concentrations
1999 -2007

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSPVAFC Beacon Energy LLC GIS\March 08\Oct-08\Figure DR-96c.mxd

TABLE DR-96a
GEOCHEMICAL DATABASE
1953-1958
BEACON SOLAR ENERGY PROJECT
KERN COUNTY, CALIFORNIA

WELL DATA[1,2]			WATER CHEMISTRY																				
STATE WELL NUMBER (DWR)	LATITUDE	LONGTUDE	Sample Date	Temperature	pH	Total Dissolved Solids (TDS)	Silica	Calcium	Magnesium	Sodium	Potassium	Alkalinity		Sulfate	Chloride	Fluoride	Nitrate and Nitrite (as N)	Nitrate (NO3)	Arsenic	Boron	Iron	Manganese	Hardness (CaCO3)
												Bicarbonate	Carbonate										
	NAD 27	NAD 27	Yr-Mo	Degrees Centigrade	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
29S/40E-22E02	**35°23'54"**	**117°40'57"**	1955-08	--	7.5	329	--	8	2	115	2	165	ND	79	39	0.6	--	2.2	--	0.38	--	--	329
29S/39E-12N01	**35°25'07"**	**117°45'16"**	1955-09	--	7.4	992	--	74	60	143	7.3	302	ND	432	25	0.7	--	7.6	--	0.71	--	--	432
29S/39E-15M01	**35°24'26"**	**117°47'12"**	1953-06	--	8.4	1,400		79	117	182	11	216	4	782	50	0.7	--	3.7	--	0.60	--	--	679
29S/39E-15M01	**35°24'26"**	**117°47'12"**	1957-07	--	8.0	1,510	20	144	102	184	13	ND	ND	810	260	0.4	--	ND	--	0.75	--	--	782
29S/39E-15M01	**35°24'26"**	**117°47'12"**	1958-09	--	8.2	1,130	31	82	91	110	7.2	256	ND	576	20	0.6	--	4.1	--	0.42	--	--	579
29S/39E-20QS01	**--**	**--**	1953-03	--	8.2	1,260	34	95	96	160	4	298	--	698	24	0.5	--	1.0	--	0.90	--	--	632
29S/39E-20QS01	**--**	**--**	1954-01	--	8.0	1,380	--	97	99	160	7.3	298	ND	724	23	0.6	--	ND	--	0.21	--	--	650
29S/39E-29M01	**35°22'48"**	**117°49'29"**	1953-04	--	7.7	714	4	50	37	141	9	227	--	138	187	0.8	--	5.0	--	1.30	--	--	277
29S/39E-29N01	**35°22'32"**	**117°49'28"**	1955-08	--	8.3	739	--	49	53	132	12	285	17	225	100	1.0	--	8.4	--	1.60	--	--	340
29S/39E-29N01	**35°22'32"**	**117°49'28"**	1957-07	--	7.9	759	34	48	38	174	8	235	ND	104	230	1.2	--	3.7	--	2.20	--	--	276
29S/39E-33H01	**35°22'09"**	**117°47'22"**	1955-08	26.0	7.9	1,030	--	47	36	160	0.8	146	ND	74	305	0.2	--	6.9	--	1.00	--	--	270
29S/39E-33H01	**35°22'09"**	**117°47'22"**	1958-09	--	8.5	778	36	51	30	170	6.7	134	14	88	284	ND	--	5.2	--	0.56	--	--	250
30S/37E-12N01	**35°19'55"**	**117°57'58"**	1953-10	--	8.2	2,350	54	53	3.2	734	6	196	--	934	427	8.0	--	2.0	--	0.033	--	--	146
30S/37E-23D01	**35°18'48"**	**117°59'08"**	1953-03	--	7.5	2,340	30	164	4	602	4	102	ND	999	480	4.0	--	0.7	--	1.80	--	--	426
30S/37E-23J01	**35°18'26"**	**117°58'06"**	1955-08	--	8.3	515	--	66	12	102	2.6	256	2	156	42	0.8	--	3.9	--	1.70	--	--	214
30S/37E-23J01	**35°18'26"**	**117°58'06"**	1957-07	--	7.8	561	27	64	16	106	3.5	281	ND	155	43	1.5	--	4.7	--	2.00	--	--	226
30S/37E-24K01	**35°18'32"**	**117°57'14"**	1953-05	--	7.7	604	50	71	7	113	4	275	--	174	44	1.6	--	2.0	--	2.8	--	--	206
30S/37E-24R01	**35°18'14"**	**117°57'10"**	1953-03	--	7.5	525	40	66	19	80	2.6	294	--	135	32	1.6	--	2.5	--	1	--	--	243
30S/37E-26D01	**35°17'52"**	**117°59'05"**	1953-06	--	7.6	1,190	--	164	55	1,170	4.5	454	ND	382	133	0.5	--	52	--	0.70	--	--	636
30S/37E-26D01	**35°17'52"**	**117°59'05"**	1955-08	--	8.0	796	31	56	39	146	4.4	206	ND	290	96	0.5	--	32	--	0.48	--	--	300
30S/37E-26E01	**35°17'45"**	**117°59'04"**	1953-03	--	7.6	490	26	67	21	78	3	315	--	109	26	0.7	--	3.7	--	0.6	--	--	490
30S/37E-28H01	**35°17'01"**	**118°00'22"**	1955-07	--	7.7	540	--	70	34	75	2	305	ND	164	32	0.9	--	11.0	--	0.48	--	--	315
30S/37E-28H01	**35°17'01"**	**118°00'22"**	1958-09	--	7.8	572	23	71	31	84	1	322	ND	158	36	0.5	--	8.0	--	0.40	--	--	305
30S/37E-36C01	**--**	**--**	1953-03	--	7.7	489	40	57	16	82	4	176	--	121	80	0.4	--	0.6	--	0.7	--	--	208
30S/37E-36N01	**35°16'21"**	**117°57'55"**	1953-03	--	7.7	511	31	58	15	89	5	156	--	128	103	0.2	--	3.5	--	1	--	--	206
30S/38E-03B01	**35°21'37"**	**117°53'12"**	1955-04	--	7.7	27,900	--	268	180	10,000	52	372	ND	2,610	14,600	1.2	--	ND	--	28	--	--	493
30S/38E-03B01	**35°21'37"**	**117°53'12"**	1957-07	--	7.4	22,400	33	224	120	8,100	78	342	ND	2,110	11,500	1.8	--	ND	--	28	--	--	1,410
30S/38E-03B01	**35°21'37"**	**117°53'12"**	1958-09	--	7.4	17,000	8	210	95	5,980	52	204	ND	1,570	8,970	0.9	--	11.0	--	20	--	--	1,050
30S/38E-04D02	**35°21'36"**	**117°54'51"**	1953-10	--	7.8	--	65	148	30	653	10	123	--	1,100	501	2.4	--	1.5	--	20	--	--	4,270
30S/38E-04D02	**35°21'36"**	**117°54'51"**	1955-08	--	7.9	3,390	--	167	39	940	30	107	ND	1,150	975	2.5	--	ND	--	18	--	--	578
30S/38E-04D02	**35°21'36"**	**117°54'51"**	1957-07	--	7.6	3,400	34	154	39	918	15	108	ND	1,120	910	2.4	--	ND	--	16	--	--	545
30S/38E-08J01	**35°20'15"**	**117°54'54"**	1953-05	--	7.6	4,600	75	59	14	1,630	14	263	--	535	2,130	1.6	--	5.0	--	2.60	--	--	205
30S/38E-19K01	**35°18'30"**	**117°56'28"**	1955-08	--	8.2	361	--	35	8	86	5	219	ND	66	51	0.8	--	0.7	--	0.25	--	--	120
30S/38E-19K01	**35°18'30"**	**117°56'28"**	1957-07	26.0	7.9	363	--	36	9	84	4	244	ND	28	53	1.2	--	2.0	--	0.35	--	--	127
30S/38E-19M01	**35°18'32"**	**117°56'58"**	1953-05	--	7.7	492	40	68	14	77	2	284	--	122	26	1.6	--	1.3	--	0.40	--	--	227
30S/38E-20C01	**35°18'52"**	**117°55'24"**	1953-03	--	7.9	517	39	69	13	84	6	300	--	122	33	0.8	--	0.7	--	1.10	--	--	226
30S/38E-20C02	**35°18'51"**	**117°55'27"**	1953-05	--	8.1	510	49	60	10	105	5	355		85	28	0.9	--	0.3	--	0.80	--	--	191
30S/38E-20F01	**35°18'44"**	**117°55'39"**	1955-12	--	7.7	466	--	70	11	82	4	308	ND	117	28	1.1	--	1.1	--	0.24	--	--	220
30S/38E-20F01	**35°18'44"**	**117°55'39"**	1957-07	22.0	8.0	497	26	65	11	92	5	322	ND	109	28	2.2	--	ND	--	0.25	--	--	208

TABLE DR-96a
GEOCHEMICAL DATABASE
1953-1958
BEACON SOLAR ENERGY PROJECT
KERN COUNTY, CALIFORNIA

WELL DATA[1,2]			WATER CHEMISTRY																				
STATE WELL NUMBER (DWR)	LATITUDE	LONGTUDE	Sample Date	Temperature	pH	Total Dissolved Solids (TDS)	Silica	Calcium	Magnesium	Sodium	Potassium	Alkalinity		Sulfate	Chloride	Fluoride	Nitrate and Nitrite (as N)	Nitrate (NO3)	Arsenic	Boron	Iron	Manganese	Hardness (CaCO3)
												Bicarbonate	Carbonate										
	NAD 27	NAD 27	Yr-Mo	Degrees Centigrade	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
30S/38E-21D01	**35°18'33"**	**117°54'42"**	1953-05	--	7.6	531	75	67	17	70	7	253	--	134	33	1.6	--	1.5	--	0.15	--	--	237
30S/38E-24F01	**35°16'21"**	**117°57'55"**	1953-05	--	7.9	13,100	--	1,650	36	3,190	36	61	ND	844	7,250	3.2	--	5.0	--	51	--	--	915
30S/38E-30R01	**35°17'22"**	**117°56'08"**	1955-08	--	8.1	609	24	53	45	89	5	142	ND	150	170	0.4	--	2.5	--	0.26	--	--	318
30S/38E-30R01	**35°17'22"**	**117°56'08"**	1957-07	--	8.2	716	19	100	30	98	4	172	ND	163	215	1.4	--	ND	--	0.35	--	--	373
30S/38E-32D01	**35°17'01"**	**117°55'52"**	1953-05	--	7.3	5,700	30	837	370	589	10	155	ND	1,660	2,120	0.4	--	5.0	--	3.00	--	--	3,610
30S/38E-32D03	**35°17'01"**	**117°55'52"**	1953-05	--	7.3	5,700	30	837	370	589	10	155	ND	1,660	2,120	0.4	--	5.0	--	3.00	--	--	3,610
30S/38E-34C01	**35°17'07"**	**117°53'17"**	1953-05	--	7.6	1,450	20	355	10	78	4	107	ND	834	92	0.4	--	3.0	--	0.85	--	--	927
30S/39E-08A01	**35°20'15"**	**117°48'30"**	1953-05	--	7.6	1,820	3	145	36	463	13	151	--	303	778	0.4	--	5.0	--	4.60	--	--	510
31S/37E-01H01	**35°16'07"**	**117°57'10"**	1955-09	--	8.2	449	--	62	14	75	3.9	146	ND	136	81	0.2	--	4.6	--	0.33	--	--	212
31S/37E-01H01	**35°16'07"**	**117°57'10"**	1957-08	--	8.2	475	20	55	17	81	4.2	146	ND	135	85	0.3	--	5.3	--	0.21	--	--	207
31S/37E-05M01	**35°14'49"**	**118°02'20"**	1955-07	24.0	7.7	589	--	43	34	108	4.4	232	ND	240	38	0.7	--	6.0	--	1.20	--	--	247
31S/37E-05M01	**35°14'49"**	**118°02'20**	1958-09	24.6	7.9	625	24	67	16	117	0.7	224	ND	240	42	0.5	--	6.5	--	0.90	--	--	233
31S/37E-10A01	**35°15'15"**	**117°59'20"**	1955-08	27.0	8.2	473		63	12	81	4.7	151	ND	159	73	0.2	--	5.6	--	0.43	--	--	207
31S/37E-10A01	**35°15'15"**	**117°59'20"**	1957-07	27.0	8.1	498	23	52	19	90	4.6	151	ND	149	80	0.3	--	6.2	--	0.32	--	--	208
31S/37E-14L01	**35°13'54"**	**117°58'44"**	1953-03	--	7.6	475	26	62	14	79	4	164	--	119	88	0.1	--	1.0	--	0.80	--	--	212
31S/37E-14L01	**35°13'54"**	**117°58'44"**	1955-07	--	8.4	469		65	16	80	4.3	151	2	126	96	0.3	--	4.7	--	0.38	--	--	228
31S/37E-35N01	**35°11'04"**	**117°59'04"**	1953-03	--	7.9	573	30	62	14	112	3	129	--	123	158	0.3	--	2.9	--	1.00	--	--	212
32S/36E-21Q01	**35°07'33"**	**118°07'08"**	1953-06	--	8.0	888	--	20	63	196	7	342	ND	371	49	0.2	--	12.0	--	2.0	--	--	310
32S/36E-21Q01	**35°07'33"**	**118°07'08"**	1955-07	--	7.8	828	--	55	28	188	6.8	322	ND	375	48	0.5	--	4.5	--	2.4	--	--	250
32S/36E-21Q01	**35°07'33"**	**118°07'08"**	1957-07	--	7.5	936	20	82	30	191	7.4	363	ND	370	49	0.6	--	4.9	--	2.0	--	--	330
32S/36E-22B01	**35°08'17"**	**118°05'56"**	1955-07	--	8.4	844	--	124	38	102	5.9	217	3	393	59	0.3	--	9.9	--	1.7	--	--	470
32S/36E-22B02	**35°08'18"**	**118°05'56"**	1957-07	--	7.8	869	21	109	41	115	6.9	227	ND	391	63	0.2	--	8.3	--	1.8	--	--	440
32S/36E-22N01	**35°07'33"**	**118°06'33"**	1955-07	28.0	8.2	805	--	31	51.0	160	6.8	205	7	372	49	0.8	--	5.0	--	2.67	--	--	205
32S/37E-04P01	**35°10'12"**	**118°00'32"**	1955-07	--	8.3	435	--	48	12	91	3.9	192	ND	104	76	0.3	--	4.8	--	0.48	--	--	169
32S/37E-14N01	**35°08'29"**	**117°59'02"**	1953-03	--	7.9	473	26	29	7	125	4	218	--	93	79	0.9	--	1.0	--	1.30	--	--	101
32S/37E-14N01	**35°08'29"**	**117°59'02"**	1955-07	--	8.4	464	--	30	8	132	3.2	210	3	98	82	0.9	--	3.8	--	0.58	--	--	108
32S/37E-24N01	**35°07'43"**	**117°57'57"**	1953-03	27.0	7.8	562	27	44	15	136	2	218	ND	113	114	0.7	--	2.0	--	1.20	--	--	170
32S/37E-24N01	**35°07'43"**	**117°57'57"**	1955-07	--	8.0	584	--	40	13	140	3.8	183	ND	168	121	0.7	--	5.9	--	1.20	--	--	150
32S/37E-24N01	**35°07'43"**	**117°57'57"**	1957-07	27.0	8.4	475	22	22	7	137	3.5	183	18	91	80	1.8	--	2.6	--	0.32	--	--	84
32S/37E-24N02	**35°07'35"**	**117°57'56"**	1953-03	--	7.8	562	27	44	15	136	2	218		113	114	0.7	--	2.0	--	1.20	--	--	172
32S/37E-24N02	**35°07'35"**	**117°57'56"**	1955-07	--	8.0	584		40	13	140	3.8	183	ND	168	121	0.7	--	5.9	--	1.2	--	--	153
32S/37E-24N02	**35°07'35"**	**117°57'56"**	1957-07	--	8.4	475	22	22	7	137	3.5	183	18	91	80	1.8	--	2.6	--	0.32	--	--	84

NOTES

1 Data as provided in the USGS National Water Information System Database (Kern County) - http://nwis.waterdata.usgs.gov/ and the Department of Water Resources Database and Related pubications.
2 See figure DR-96a for well locations within Kohen Subbasin.

DEFINITIONS

NAD-27 Noath Amearican Datum 1927
mg/L Miligram per liter
-- Data not provided or available in USGS or DWR database.

TABLE DR-96b
GEOCHEMICAL DATABASE
1976-1978
BEACON SOLAR ENERGY PROJECT
KERN COUNTY, CALIFORNIA

WELL DATA[1,2]			WATER CHEMISTRY																				
STATE WELL NUMBER (DWR)	LATITUDE	LONGTUDE	Sample Date	Temperature	pH	Total Dissolved Solids (TDS)	Silica	Calcium	Magnesium	Sodium	Potassium	Alkalinity		Sulfate	Chloride	Fluoride	Nitrate and Nitrite (as N)	Nitrate (NO3)	Arsenic	Boron	Iron	Manganese	Hardness (CaCO3)
												Bicarbonate	Carbonate										
	NAD 27	NAD 27	Yr-Mo	Degrees Centigrade	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
29S/39E-29N01	**35°22'32"**	**117°49'28"**	1976-01	--	--	626	39	39	41	100	7.5	227	--	200	74	0.8	2.8	--	0.003	0.65	<0.10	--	270
29S/39E-32E01	**35°22'04"**	**117°49'30"**	1978-06	29.0	6.9	1,860	76	230	140	200	12	190	ND	420	670	0.5	4.2	--	--	1.1	0.21	--	1,200
29S/39E-33H01	**35°22'09"**	**117°47'22"**	1978-06	31.0	7.4	636	32	42	23	150	7	170	ND	80	210	0.2	1.6	--	--	0.77	0.04	--	200
30S/37E-26N01	**35°17'25"**	**117°59'03"**	1976-01	--	7.7	549	25	77	17	88	3	--	ND	130	63	0.9	--	0.1	--	0.41	--	--	21
30S/38E-03B03	**35°21'32"**	**117°53'13"**	1976-01	--	--	68,800	48	670	210	25,000	180	864	--	5,200	37,000	0.4	0.4	--	0.003	63	0.17	--	2,500
30S/38E-04D02	**35°21'36"**	**117°54'51"**	1976-05	--	7.2	3,190	41	150	30	860	13	109	ND	12,300	810	2.3	0.34	--	--	21	<0.010	--	500
30S/38E-04D02	**35°21'36"**	**117°54'51"**	1977-08	--	7.9	3,220	44	160	30	900	14	100	ND	1,100	900	2.2	--	1.6	--	22	0.24	--	520
30S/38E-04D02	**35°21'36"**	**117°54'51"**	1978-06	--	7.4	3,170	61	150	31	900	15	110	ND	1,100	840	2.2	0.33	--	--	22	0.03	--	500
30S/38E-05R03	**35°20'49"**	**117°54'51"**	1976-01	--	--	59,500	30	12	8.4	22,000	97	1,120	--	6,700	30,000	2.8	0.15	--	0.052	58	0.11	--	65
30S/38E-18H01	**35°19'38"**	**117°56'10"**	1976-01	--	8.1	561	70	68	13	99	8.4	173	ND	130	82	0.5	1.0	--	0.004	0.77	0.02	--	220
30S/38E-19L01	**35°18'29"**	**117°56'30"**	1976-01	--	8.1	474	27	65	12	80	2.8	305	ND	110	25	1.0	0.16	--	0.003	0.32	<0.010	--	210
30S/38E-20C03	**35°18'55"**	**117°55'37"**	1976-01	--	--	510	47	773	9.7	85	6	308	--	100	34	1.1	0.35	--	0.008	0.46	<0.01	--	220
30S/38E-24F01	**35°16'21"**	**117°57'55"**	1976-02	--	7.6	--	8.7	1,200	80	4,000	43	70	ND	--	9,200	3.7	0.03	--	0.001	79	0.03	--	3,300
30S/38E-27M01	**35°17'40"**	**117°53'50"**	1976-02	--	8.7	883	8.5	4.6	1.4	340	5.6	638	ND	110	86	6.1	0.67	--	0.200	2.30	0.66	--	17
30S/38E-27M02	**35°17'40"**	**117°53'50"**	1976-02	--	8.7	1,520	7.9	4.0	0.7	580	8.4	589	ND	180	380	5.1	0.02	--	0.020	2.80	0.23	--	13
30S/38E-28N01	**35°17'15"**	**117°54'51"**	1976-02	--	8.1	501	30	67	13	76	4.6	162	ND	130	98	0.4	0.33	--	0.006	0.43	<0.01	--	220
30S/38E-28N01	**35°17'15"**	**117°54'51"**	1978-06	22.5	7.7	522	33	75	15	84	5.6	200	ND	110	100	0.4	0.09	--	--	0.41	0.04	--	250
30S/38E-28N02	**35°17'15"**	**117°54'51"**	1976-02	--	8.7	883	24	290	39	120	8.5	638	ND	670	170	0.6	0.31	--	0.004	0.5	<0.1	--	880
30S/38E-28N02	**35°17'15"**	**117°54'51"**	1978-06	24.0	7.6	1,030	26	150	43	130	7	150	ND	390	210	0.4	0.1	--	--	0.55	0.07	--	550
30S/38E-29A01	**35°18'02"**	**117°55'00"**	1978-06	23.5	7.8	422	28	38	11	92	5.0	210	ND	100	42	1.0	0.19	--	--	0.42	,0.01	--	140
30S/38E-30P01	**35°17'14"**	**117°56'30"**	1976-01	--	7.6	1,860	25	330	95	160	7.8	122	ND	560	620	0.4	0.14	--	0.0	0.44	<0.1	--	1,200
30S/38E-30P01	**35°17'14"**	**117°56'30"**	1976-04	--	8.1	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	--	0.81	0.72	--
30S/38E-30P01	**35°17'14"**	**117°56'30"**	1978-06	21.5	7.4	1,540	26	340	110	180	8.5	130	ND	380	430	0.3	0.10	--	--	0.40	0.18	--	1,300
30S/38E-30Q01	**35°17'14"**	**117°56'28"**	1976-02	--	8.8	610	3.0	45	10	140	23	175	ND	220	76	0.3	1.3	--	0.002	0.68	0.06	--	150
30S/38E-30Q01	**35°17'14"**	**117°56'28"**	1978-06	20.5	8.5	238	8.3	26	6.1	50	6.7	150	3	57	6.0	0.4	0.0	--	--	0.21	0.02	--	90
30S/38E-31C01	**35°17'12"**	**117°56'28"**	1978-06	25.0	7.7	493	29	69	15	78	5	130	ND	120	110	0.3	0.54	--	--	0.29	<0.10	--	230
30S/38E-32D02	**35°17'00"**	**117°55'55"**	1976-04	--	7.5	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.001	--	0.06	0.64	--
30S/38E-32D03	**35°17'01"**	**117°55'52"**	1976-04	--	7.5	--	--	--	--	--	--	--	--	--	--	--	--	--	0.004	--	<0.010	<0.010	--
31S/37E-04J01	**35°15'48"**	**118°00'16"**	1978-06	27.5	7.5	410	32	49	10	70	4.1	200	ND	130	16	0.5	--	--	--	0.17	<0.010	--	160
31S/37E-05M01	**35°14'49"**	**118°02'20"**	1977-08	34.5	7.6	876	32	71	23	190	6.3	320	ND	340	52	0.7	--	3.7	--	2.90	ND	--	270
31S/37E-05M01	**35°14'49"**	**118°02'20"**	1978-06	31.0	7.3	826	34	57	22	200	6.2	350	ND	280	48	0.7	0.63	--	--	2.90	0.03	--	230
31S/37E-05M02	**35°15'45"**	**118°02'11"**	1976-05	--	7.1	995	30	110	33	170	6.4	290	ND	430	68	0.6	0.33	--	--	2.8	0.02	--	410
31S/37E-08D01	**35°15'18"**	**118°02'13"**	1976-01	--	8.0	566	29	72	23	90	4.4	309	ND	150	29	0.8	3.3	--	0.002	0.35	<0.010	--	270
31S/37E-28Q01	**35°11'58"**	**118°00'30"**	1976-01	--	7.8	496	28	59	11	92	4.4	176	ND	110	99	0.4	1.1	--	0.001	0.51	0.02	--	190
32S/36E-21Q01	**35°07'33"**	**118°07'08"**	1976-05	--	7.0	944	27	883	83	190	7.2	352	ND	380	47	0.4	1.4	--	--	2.2	<0.010	--	320
32S/36E-21Q01	**35°07'33"**	**118°07'08"**	1977-08	28.0	7.5	920	27	86	86	190	7.2	350	ND	370	44	0.4	--	6.2	--	2.2	ND	--	330
32S/36E-21Q01	**35°07'33"**	**118°07'08"**	1978-06	28.0	7.3	931	28	92	92	190	7.6	350	ND	360	44	0.4	1.4	--	--	2.2	<0.010	--	350
32S/37E-22N01	**35°07'37"**	**118°00'03"**	1978-12	--	7.7	424	--	17	5.6	1135	2.3	210	ND	85	69.4	1.4	--	4.4	<0.010	--	--	<0.010	66
32S/37E-26G01	**35°07'07"**	**117°58'33"**	1978-12	--	7.7	421	--	16	5.6	135	2.3	216	ND	83	68.3	1.5	--	3.1	--	--	<0.01	--	63
32S/37E-26M10	**35°06'23"**	**117°59'04"**	1977-08	26.5	7.8	480	26	23	6	140	3	240	ND	90	72	1.4	--	2.0	--	0.40	<0.01	--	82
32S/37E-26M11	**35°06'23"**	**117°59'04"**	1978-06	27.0	7.7	481	26	11	6.1	150	3	240	ND	91	72	1.5	0.46	--	--	0.42	<0.01	--	53

NOTES

1 Data as provided in the USGS National Water Information System Database (Kern County) - http://nwis.waterdata.usgs.gov/ and the Department of Water Resources Database and Related pubications.
2 See figure DR-96b for well locations within Kohen Subbasin.

DEFINITIONS

NAD-27 Noath Amearican Datum 1927
mg/L miligram per liter
-- Data not provided or available in USGS or DWR database.

TABLE DR-96c
GEOCHEMICAL DATABASE
1999-2007
BEACON SOLAR ENERGY PROJECT
KERN COUNTY, CALIFORNIA

WELL DATA[1,2]			WATER CHEMISTRY																				
STATE WELL NUMBER (DWR)	LATITUDE	LONGTUDE	Sample Date	Temperature	pH	Total Dissolved Solids (TDS)	Silica	Calcium	Magnesium	Sodium	Potassium	Alkalinity		Sulfate	Chloride	Fluoride	Nitrate and Nitrite (as N)	Nitrate (NO3)	Arsenic	Boron	Iron	Manganese	Hardness (CaCO3)
												Bicarbonate	Carbonate										
	NAD 27	NAD 27	Yr-Mo	Degrees Centigrade	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
29S/39E-23J02	**35°23'50"**	**117°45'16"**	1996-06	27.0	7.7	439	40	42	13	78	5.9	201		91	51	0.3	4.2	--	--	0.548	<0.003	0.001	150
29S/39E-23J02	**35°23'50"**	**117°45'16"**	1999-07	27.0	7.8	434	40.3	37.6	13.3	79.8	5.96	--	--	90.4	46.9	0.31	4.02			0.555	<0.010	<0.010	150
29S/39E-23J02	**35°23'50"**	**117°45'16"**	2004-08	27.0	7.7	436	38.4	37.9	13.3	84	5.58	197	--	92	48.9	0.35	4.08	--	0.01	0.569	<0.006	<0.006	--
30S/38E-04D02	**35°21'36"**	**117°54'51"**	1996-06	24.5	7.8	2,980	53	160	29	780	13	116	--	1,100	760	2.3	0.68	2.9	--	20.6	0.029	0.016	520
30S/38E-04D02	**35°21'36"**	**117°54'51"**	1999-07	26.0	7.7	3,010	52	151	31	816	12	--	--	1,080	784	2.3	0.28	--	--	22.4	0.053	0.0038	500
30S/38E-04D02	**35°21'36"**	**117°54'51"**	2004-08	24.5	7.6	2,950	52	144	26	789	21	100	--	1,080	775	2.2	0.28	--	0.005	20.5	0.129	0.0068	470
30S/38E-32D03	**35°17'01"**	**117°55'52"**	1996-06	23.5	7.5	1,130	33	190	41	130	5.2	116	--	320	350	0.30	0.84	--	--	0.57	<3	0.001	640
30S/38E-32D03	**35°17'01"**	**117°55'52"**	1999-07	23.0	7.5	969	31.7	148	34.2	120	4.99	--	--	261	287	0.25	--	--	--	0.53	<0.010	--	510
30S/38E-32D03	**35°17'01"**	**117°55'52"**	2004-08	24.5	7.6	702	28.9	99.3	22.3	92.7	4.11	129	--	193	173	0.26	0.74	--	--	0.47	0.043	--	340
31S/37E-01R02	**35°15'34"**	**117°57'00"**	1996-06	27.5	7.7	544	30	72	13	88	3.9	--	--	120	130	0.2	1.2	--	--	0.541	0.005	<0.001	230
31S/37E-01R02	**35°15'34"**	**117°57'00"**	1999-07	27.5	7.7	528	28.9	67	13.7	91.6	4	--	--	115	125	0.25	1.16	--	--	0.558	<0.010	<0.003	220
31S/37E-01R02	**35°15'34"**	**117°57'00"**	2004-08	27.5	7.6	525	28.3	69	13.7	89.9	4	--	--	114	125	0.26	1.17	--	--	0.547	<0.006	,0.008	230
Well No. 43	**--**	**--**	2007-09	--	--	550	--	45	11	74	3.6	210	--	120	18	0.6	1	--	0.004	0.24	0.06	0.057	160
Well No. 48	**--**	**--**	2007-09	--	--	470	--	46	12	84	4.3	360	120	110	14	0.4	1.5	--	0.003	0.16	0.014	0.015	160
Well No. 63	**--**	**--**	2007-09	--	--	470	35.9	50	10	76	4.1	200	--	120	15	0.4	1.1	--	0.003	0.14	0.067	0.047	170

NOTES

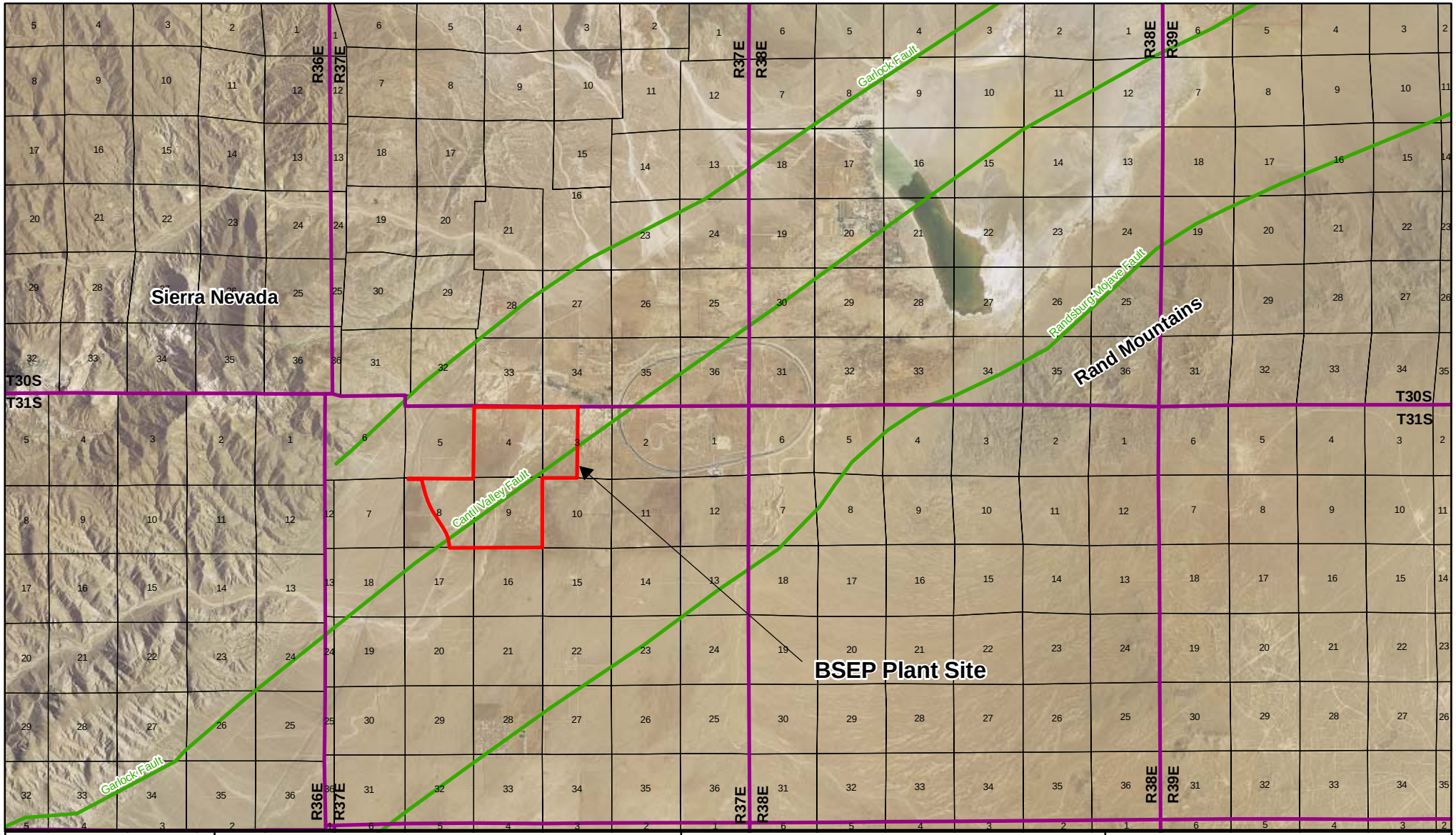
1 Data as provided in the USGS National Water Information System Database (Kern County) - http://nwis.waterdata.usgs.gov/ and the Department of Water Resources Database and Related pubications.
2 See figure DR-96c for well locations within Kohen Subbasin.

DEFINITIONS

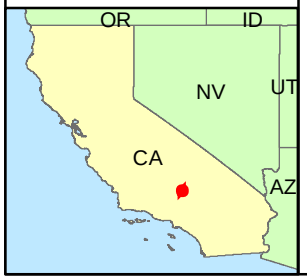
NAD-27 Noath Amearican Datum 1927
mg/L miligram per liter
-- Data not provided or available in USGS or DWR database.

Data Request 97

Figure DR-97 Township and Range in the Koehn Subbasin



Map Location



Legend

- BSEP Plant Site Boundary
- town_range
- plsa

Note: Fault locations are approximate

0 1 2 3 4 Miles

1:126,720

BSEP

Figure DR-97
Township and Range
in the Koehn Lake Subbasin

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSPVAFC Beacon Energy LLC GIS\March 08\Oct-08\township-range.mxd

Data Request 98

Figures and Tables

Figure 4 Freemont Valley Ranch - Groundwater Well Map (Switzer 2007)

Figure 5.17-6 Site Map Showing Wells on the Project Site
Figure 5.17-7 Cone of Depression at the End of the Well No. 63 Pumping Test (Revised October 2008)
Figure 5.17-8 Cone of Depression at the End of the Well No. 48 Pumping Test (Revised October 2008)
Figure 5.17-9 Cone of Depression at the End of the Well No. 43 Pumping Test (Revised October 2008)
Figure 5.17-10 Post Pumping Water Test Level Contour Map (October 2007)

Figure J.3-2 Pumping Test Well Nos. 43, 48, and 63
Figure J.3-5 Cone of Depression at the End of the Well No. 43 Pumping Test (Revised October 2008)
Figure J.3-6 Cone of Depression at the End of the Well No. 48 Pumping Test (Revised October 2008)
Figure J.3-7 Cone of Depression at the End of the Well No. 63 Pumping Test (Revised October 2008)

Table J 1-2 Plant Site Well Details (October 2008)
Table J 3-2 Well Details – Water Supply Wells on the Plant Site (October 2008)

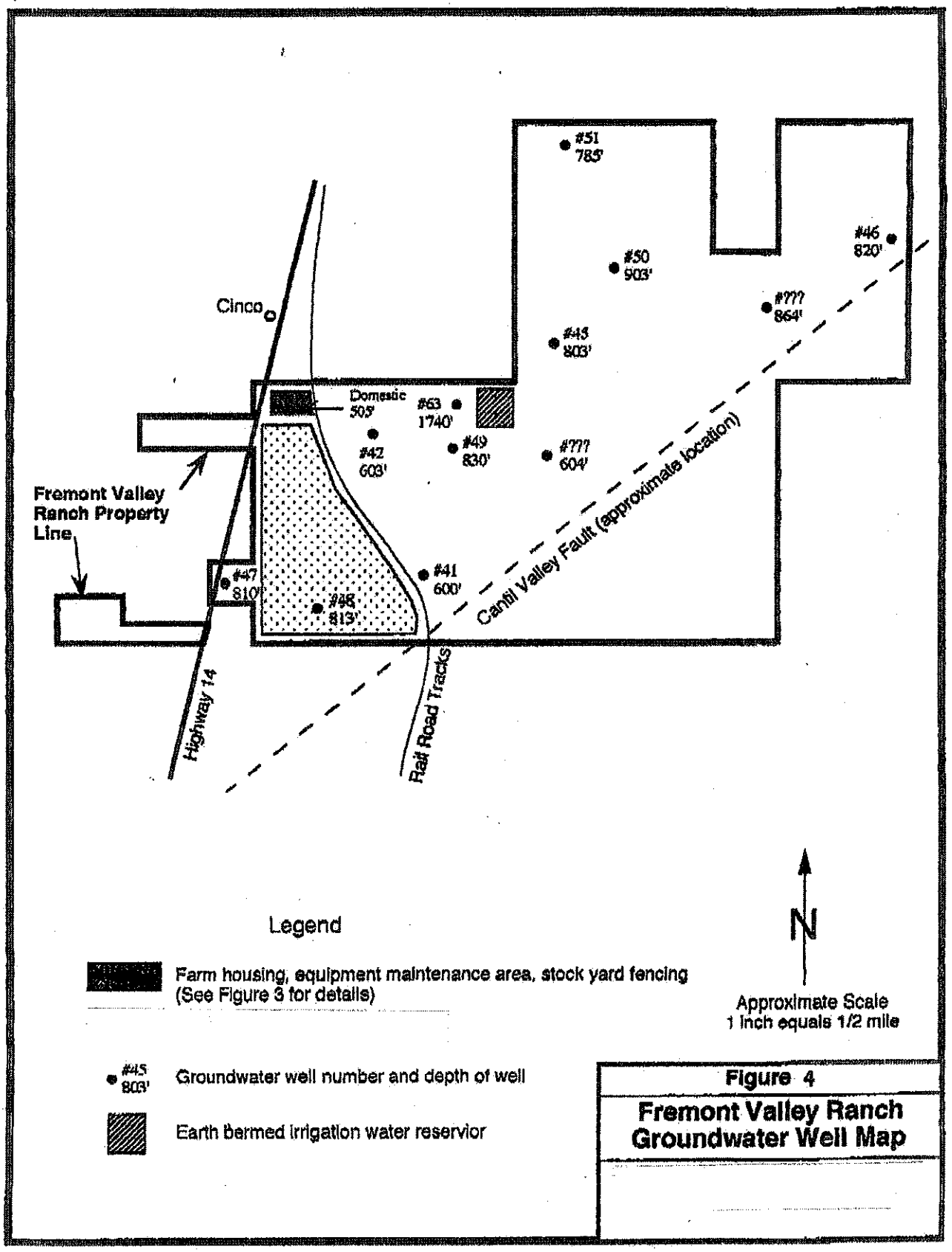
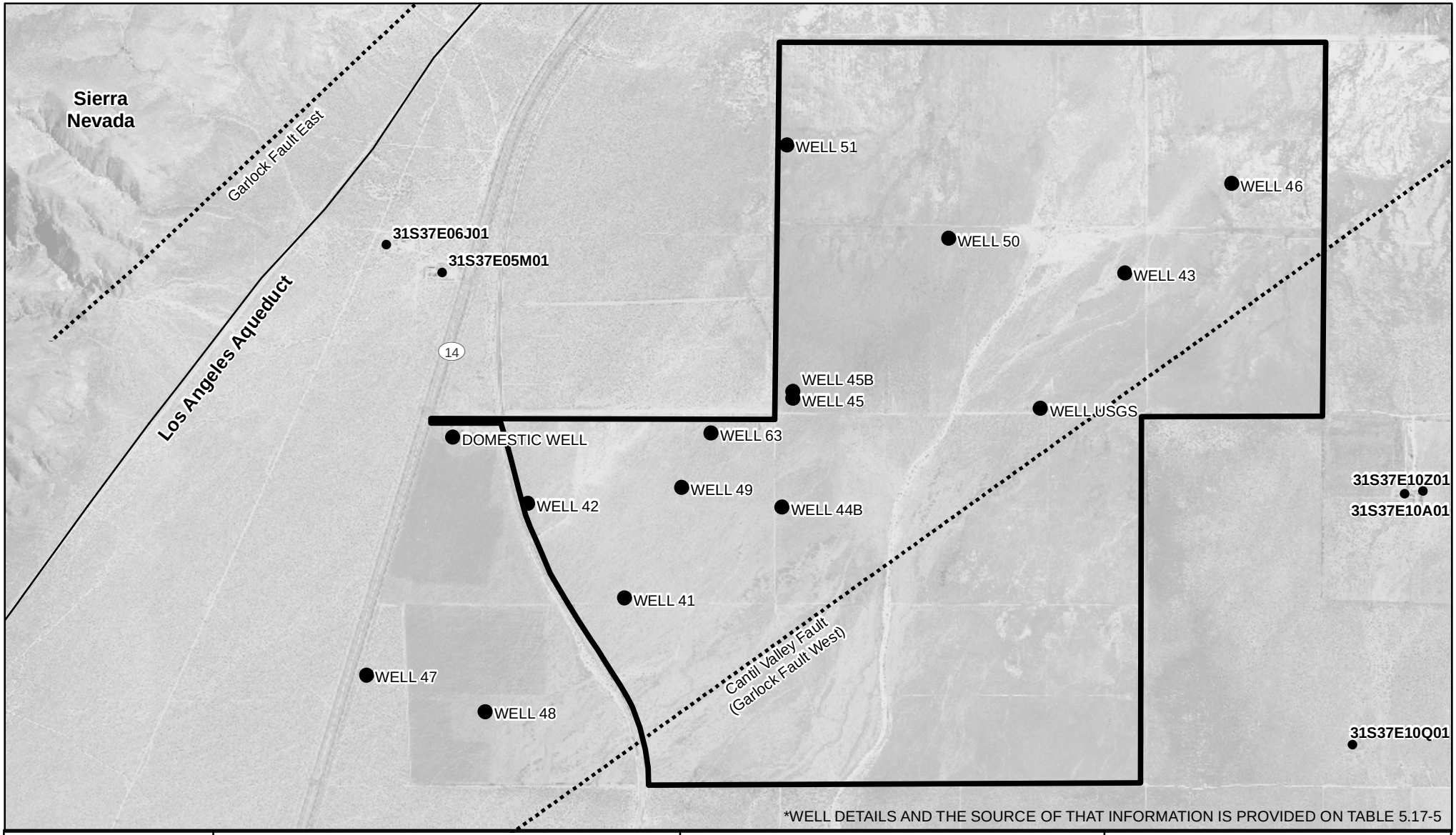
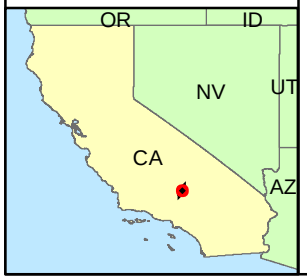


Figure 4

Fremont Valley Ranch Groundwater Well Map



Map Location



Legend

- Groundwater Supply Wells
- Water Supply Well Location
- BSEP Plant Site Boundary
- Fault
- Los Angeles Aqueduct

Note: Appendix J.1 presents well completion data
Fault locations are approximate.

0 1,000 2,000 3,000 4,000 Feet

1:24,000

N W E S

BSEP

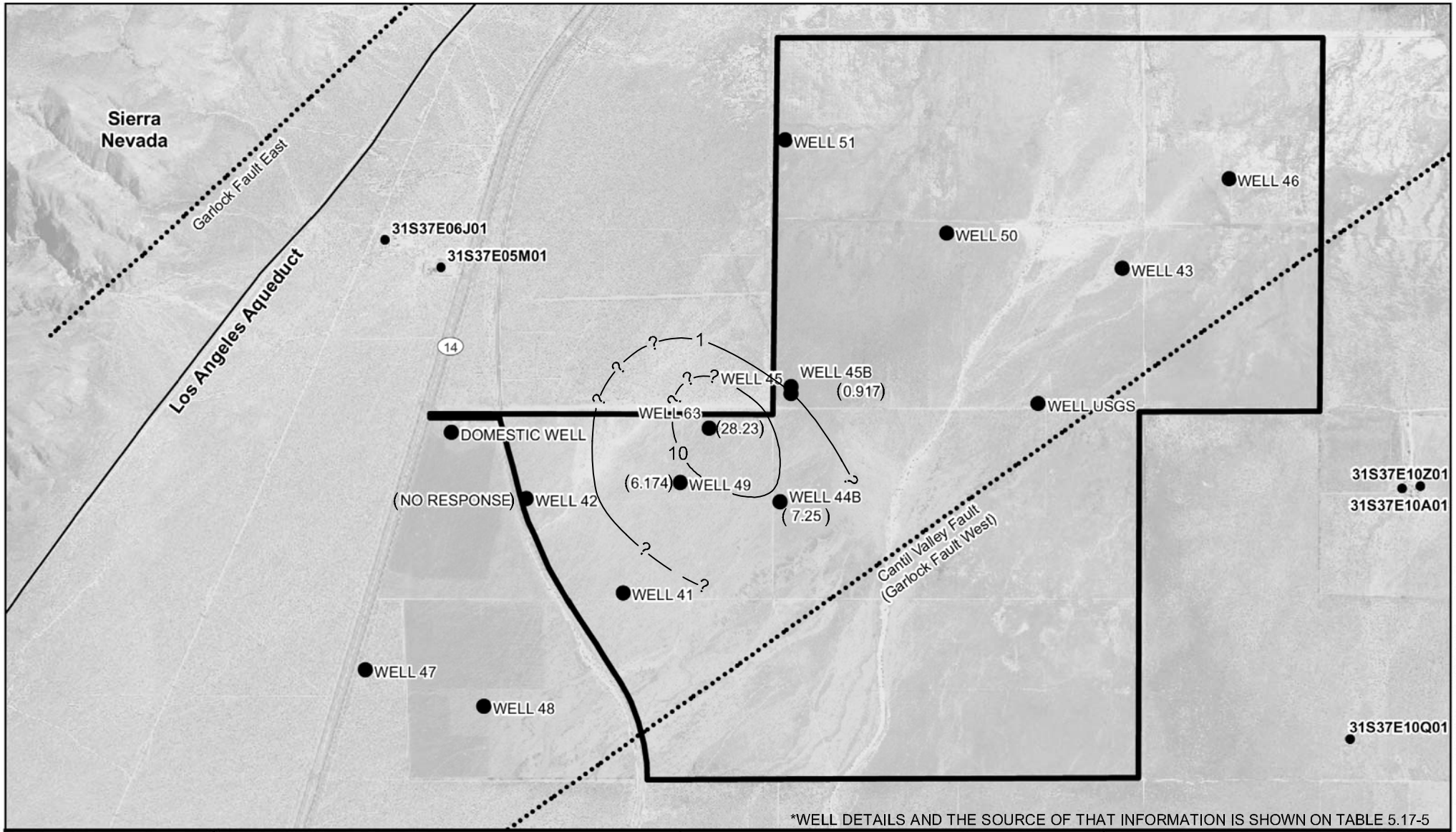
Figure 5.17-6
Site Map Showing Wells on the Project Site

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSP\AFC Beacon Energy LLC GIS\March 08\Figure 5.17-6.mxd



Map Location

Legend

- Groundwater Supply Wells
- Water Supply Well Location
- Los Angeles Aqueduct
- Drawdown Contour (feet) (28.23) Drawdown at the end of the test
- BSEP Plant Site Boundary
- Fault

Note: Appendix J.3 presents pumping test data
Fault locations are approximate

0 1,000 2,000 3,000 4,000 Feet

1:24,000

N W E S

BSEP

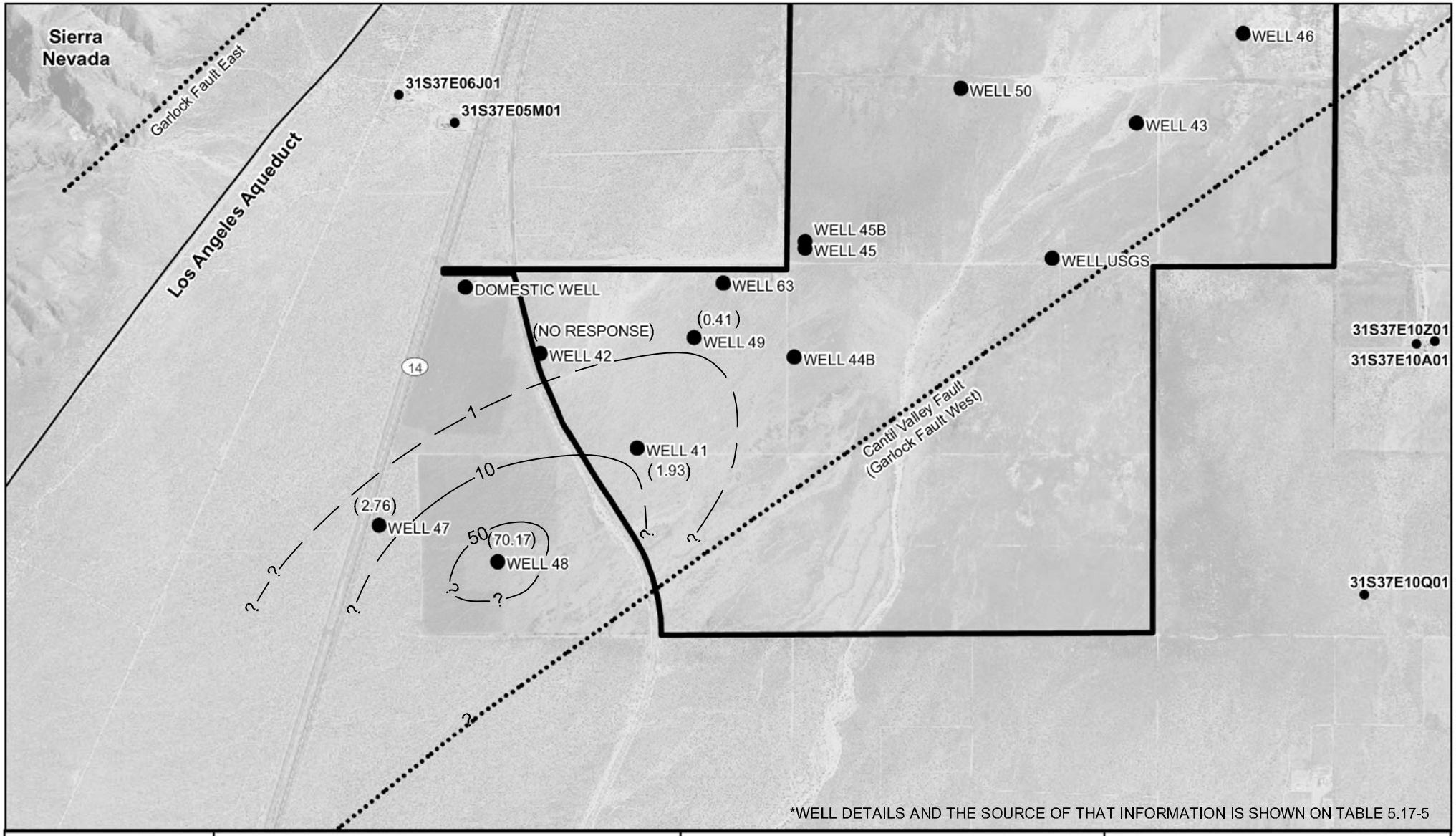
Figure 5.17-7
Cone of Depression at the End of the Well No. 63 Pumping Test
(Revised October 2008)

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSP\AFC Beacon Energy LLC GIS\March 08\Oct-08\Figure 5.17-7.mxd



Map Location

Legend

- Groundwater Supply Wells
- Water Supply Well Location
- Drawdown Contour (feet) (70.17) Drawdown at the end of the test
- BSEP Plant Site Boundary
- Fault
- Los Angeles Aqueduct

Note: Appendix J.3 presents pumping test data
Fault locations are approximate

0 1,000 2,000 3,000 4,000 Feet

1:24,000

N W E S

BSEP

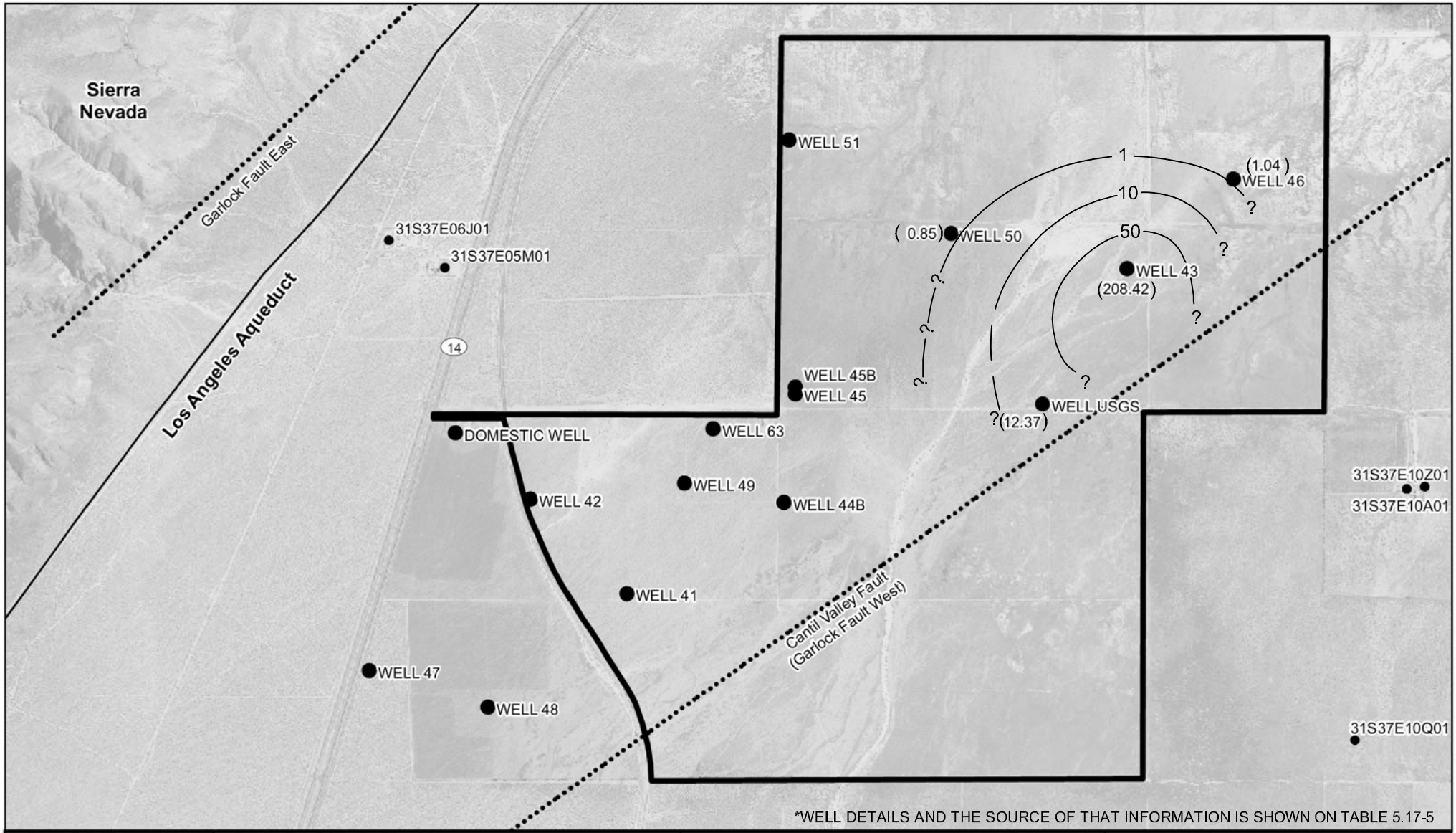
Figure 5.17-8
Cone of Depression at the End of the Well No. 48 Pumping Test
(Revised October 2008)

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSP\AFC Beacon Energy LLC GIS\March 08\Figure 5.17-8.mxd



Map Location

Legend

- Groundwater Supply Wells
- Water Supply Well Location
- Drawdown Contour (feet) (208.42) Drawdown at the end of the test
- BSEP Plant Site Boundary
- Fault
- Los Angeles Aqueduct

Note: Appendix J.3 presents pumping test data
Fault locations are approximate

0 1,000 2,000 3,000 4,000 Feet

1:24,000

N W E S

BSEP

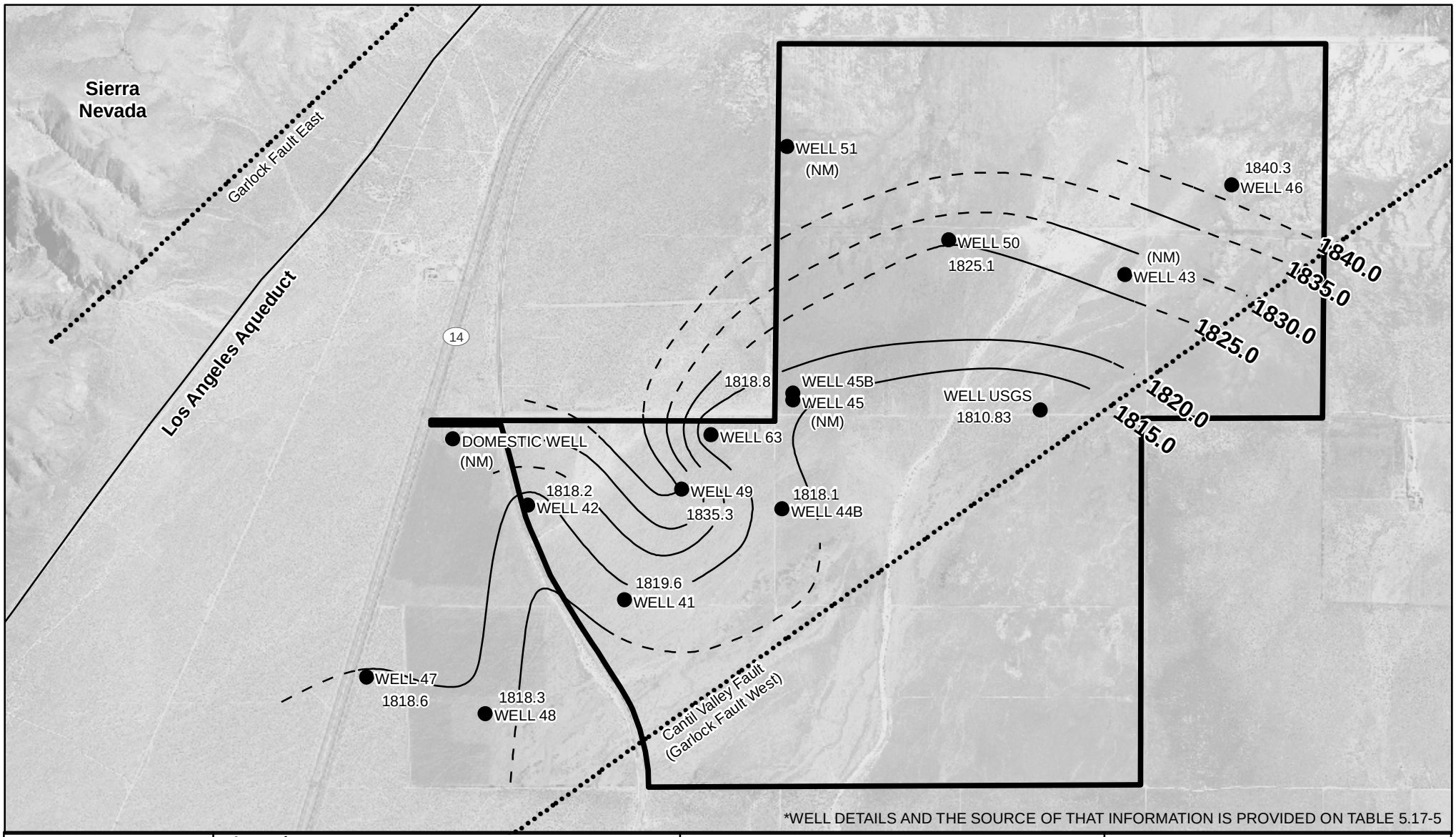
Figure 5.17-9
Cone of Depression at the End of the Well No. 43 Pumping Test
(Revised October 2008)

Beacon Solar

ENSR | AECOM

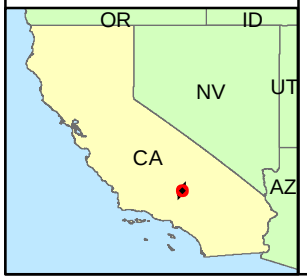
Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSPV\AFC Beacon Energy LLC GIS\March 08\Oct-08\Figure 5.17-9.mxd



*WELL DETAILS AND THE SOURCE OF THAT INFORMATION IS PROVIDED ON TABLE 5.17-5

Map Location



Legend

- Water Supply Well Location
- Groundwater Contour (feet amsl)
- Dashed Where Inferred
- Approximate Site Boundary
- Fault
- Los Angeles Aqueduct

NM = Not Measured - Well abandoned or no access

Note: Fault locations are approximate.

0 1,000 2,000 3,000 4,000 Feet

1:24,000

N W E S

BSEP

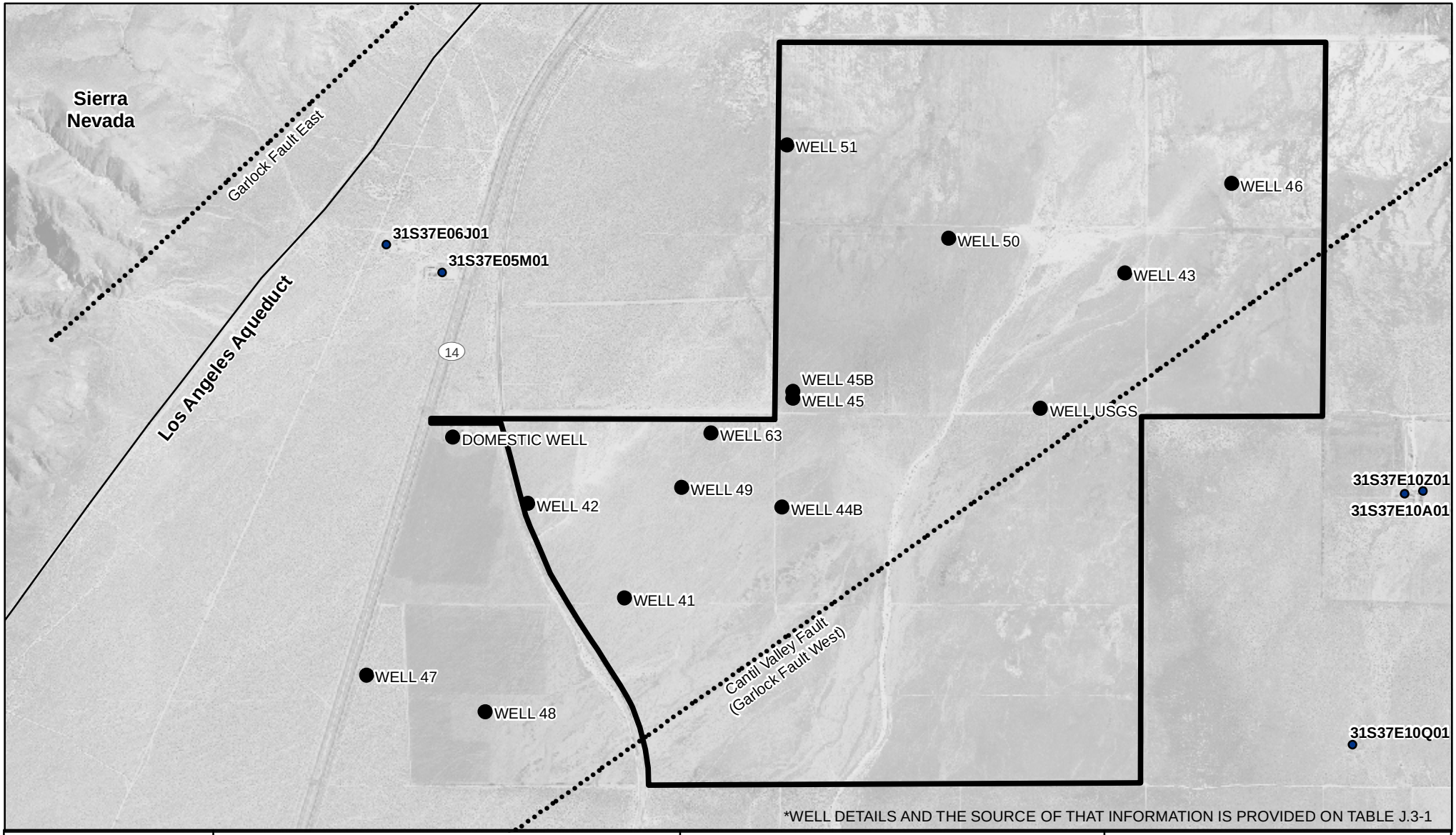
Figure 5.17-10
Post-pumping Test Water Level Contour Map (October 2007)

Beacon Solar

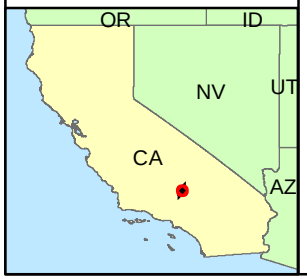
ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSP\AFC Beacon Energy LLC GIS\March 08\Oct-08\Figure 5.17-10.mxd



Map Location



Legend

- Groundwater Supply Wells
- Water Supply Well Location
- BSEP Plant Site Boundary
- Fault
- Los Angeles Aqueduct

Note: Fault locations are approximate.

0 1,000 2,000 3,000 4,000 Feet

1:24,000

N W E S

BSEP

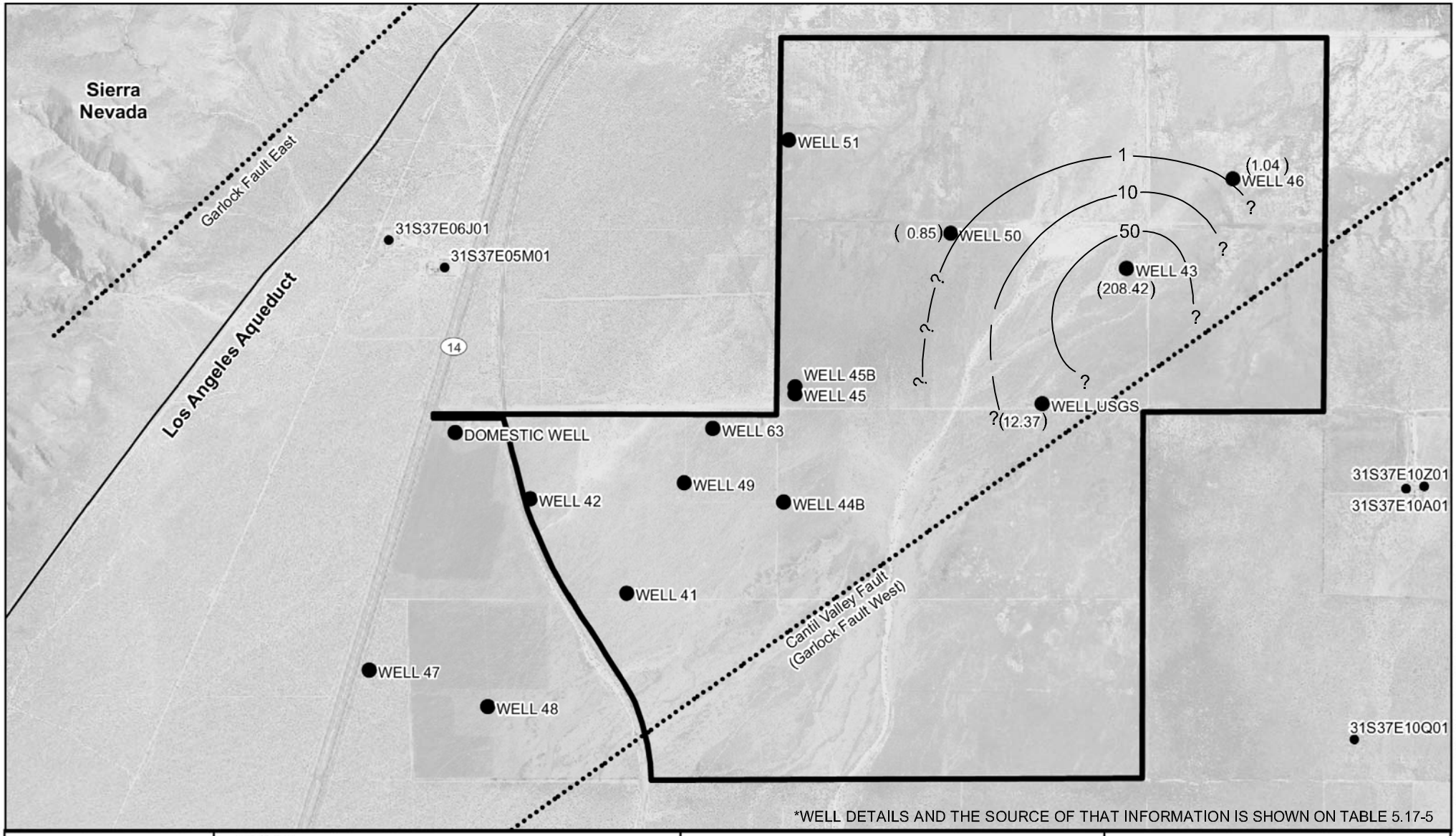
Figure J.3-2
Pumping Test Well
Nos. 43, 48, and 63

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSP\AFC Beacon Energy LLC GIS\March 08\Oct-08\Figure J.3-2.mxd



Map Location

Legend

- Groundwater Supply Wells
- Water Supply Well Location
- Drawdown Contour (feet) (208.42) Drawdown at the end of the test
- BSEP Plant Site Boundary
- Fault
- Los Angeles Aqueduct

Note: Appendix J.3 presents pumping test data
Fault locations are approximate

0 1,000 2,000 3,000 4,000 Feet

1:24,000

BSEP

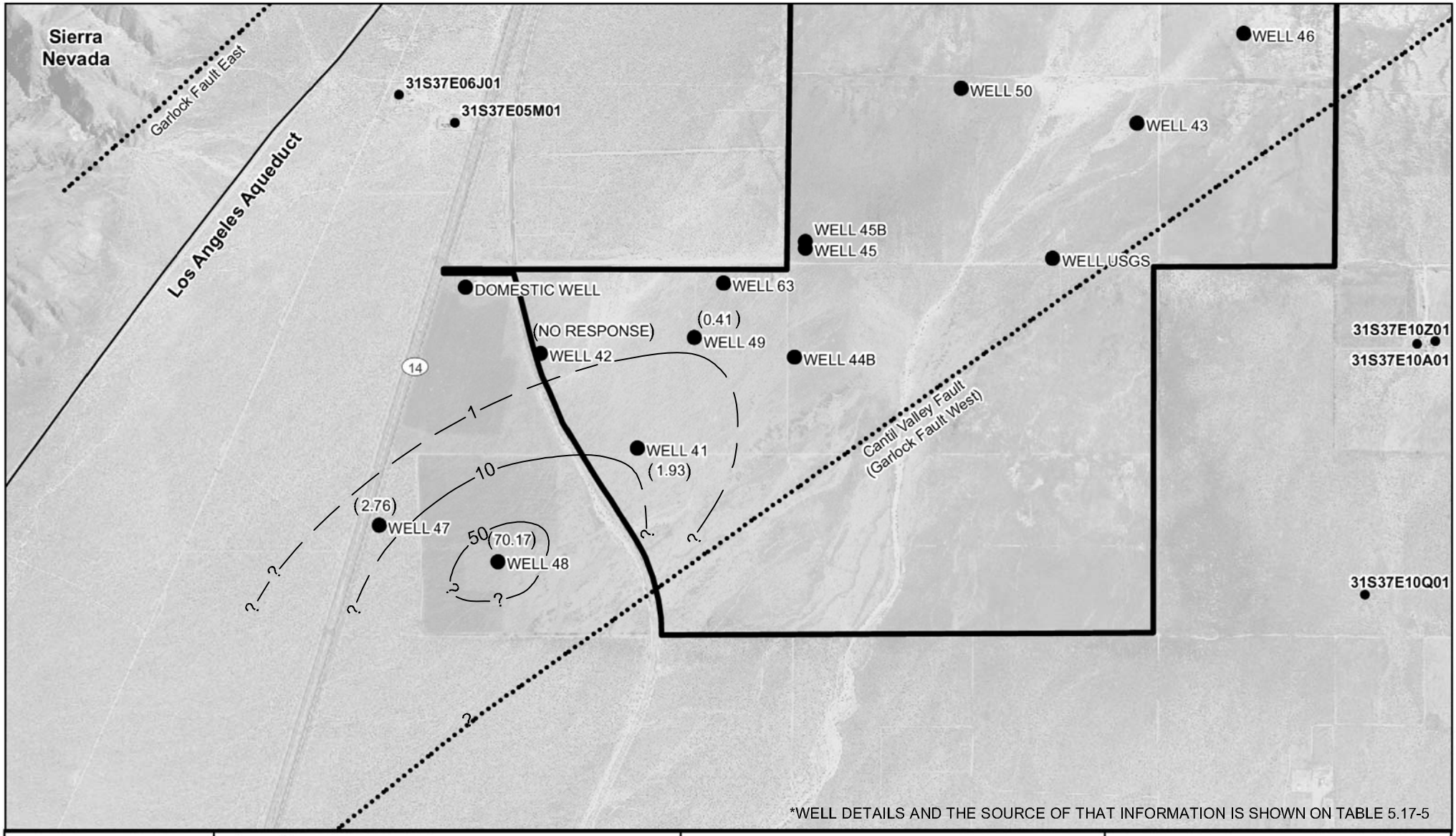
Figure J.3-5
Cone of Depression at the End of the Well No. 43 Pumping Test (Revised October 2008)

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSP\AFC Beacon Energy LLC GIS\March 08\Oct-08\Figure 5.17-9.mxd



Map Location

Legend

- Groundwater Supply Wells
- Water Supply Well Location
- Drawdown Contour (feet) (70.17) Drawdown at the end of the test
- BSEP Plant Site Boundary
- Fault
- Los Angeles Aqueduct

Note: Appendix J.3 presents pumping test data
Fault locations are approximate

0 1,000 2,000 3,000 4,000 Feet

1:24,000

N W E S

BSEP

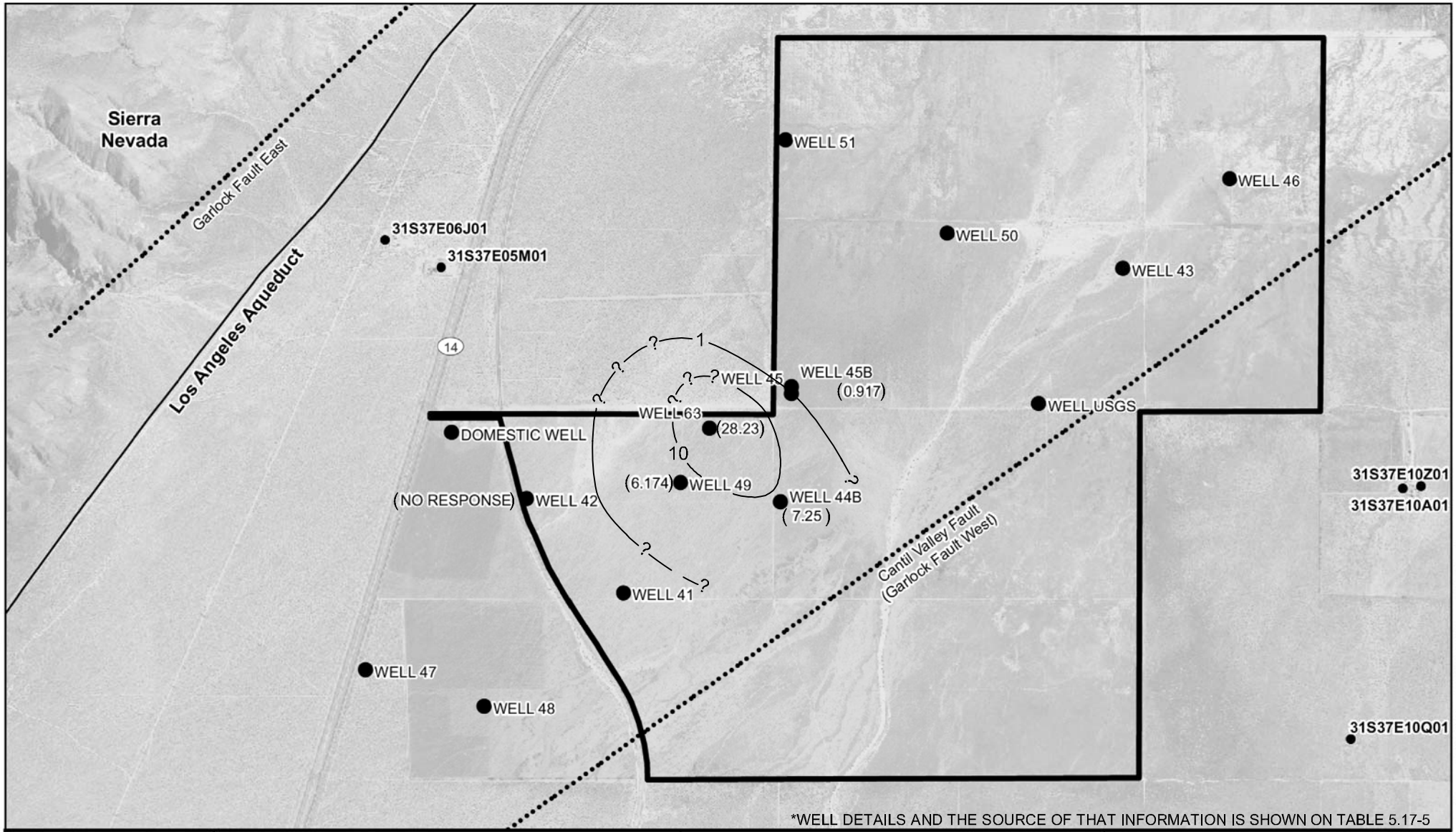
Figure J.3-6
Cone of Depression at the End of the Well No. 48 Pumping Test
(Revised October 2008)

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSPV\AFC Beacon Energy LLC GIS\March 08\Figure 5.17-8.mxd



Map Location

Legend

- Groundwater Supply Wells
- Water Supply Well Location
- Los Angeles Aqueduct
- Drawdown Contour (feet) (28.23) Drawdown at the end of the test
- BSEP Plant Site Boundary
- Fault

Note: Appendix J.3 presents pumping test data
Fault locations are approximate

0 1,000 2,000 3,000 4,000 Feet

1:24,000

BSEP

Figure J.3-7
Cone of Depression at the End of the Well No. 63 Pumping Test
(Revised October 2008)

Beacon Solar

ENSR | AECOM

Project: 10056-014
Date: Oct. 2008

J:\2007 Projects\10056-FPL\014-CCSP\AFC Beacon Energy LLC GIS\March 08\Oct-08\Figure 5.17-7.mxd

Table J.1-2
Plant Site Well Details
(REVISED OCTOBER 2008)
Beacon Solar Energy Project

Well Number[1]	Northing[2]	Easting[2]	Top of Casing[2]	Ground Surface Elevation[2]	Total Depth[3]	Depth to Water[4]		Groundwater Elevation[5]	Pumping Rate[4]	Pumping Water Level[4]	Drawdown[4]	Specific Capacity[6]	Estimate of Transmissivity[7]	Pump[4]
			feet-msl	feet-msl	feet-bgs	Date	feet-bgs		Apr-80 gpm	Apr-80 feet-bgs	Apr-80 feet-bgs	Apr-80 gpm/ft	Apr-80 ft^2/day	Horse Power (Hp)
Domestic	2279600.94	6550585.41	2178.50	2177.72	505	Oct-07	--	--	--	--	--	--	--	5
USGS	2280021.34	6559139.44	2105.14	2104.00	--	Oct-07	294.31	1810.83	--	--	--	--	--	--
41	--	--	--	2160	600	Jan-80	397.3	1762.7	--	--	--	--	--	200
						Apr-80	397.3	1762.7	1693	410.2	12.9	131	26,318	
						Feb-81	410.0	1750.0	--	--	--	--	--	
	2277255.98	6553083.68	2177.33	2175.82		Oct-07	357.78	1819.6	--	--	--	--	--	
42	--	--	--	2175	603	Jan-80	393.5	1781.5	--	--	--	--	--	--
						Apr-80	393.5	1781.5	1391	476.0	82.5	17	3,381	
						Feb-81	409.0	1766.0	--	--	--	--	--	
	2278636.34	6551678.11	2174.16	2172.92		Oct-07	355.91	1818.2	--	--	--	--	--	
43	--	--	--	2060	864	Jan-80	350.0	1710.0	--	--	--	--	--	200
						Apr-80	350.0	1710.0	1568	400.0	50.0	31	6,289	
						Feb-81	313.4	1746.6	--	--	--	--	--	
	2281995.44	6560367.11	2070.73	2069.39		Oct-07	--	--	--	--	--	--	--	Pump Removed
44	--	--	--	2145	604	Jan-80	361.1	1783.9	--	--	--	--	--	200
						Apr-80	361.1	1783.9	1507	383.0	21.9	69	13,799	
						Feb-81	372.0	1773.0	--	--	--	--	--	
	2278583.88	6555376.36	2135.57	2134.38		Oct-07	317.52	1818.1	--	--	--	--	--	
45A	--	--	--	2125	803	Jan-80	344.2	1780.8	--	--	--	--	--	--
						Apr-80	344.2	1780.8	1514	375.0	30.8	49	9,857	
						Feb-81	336.8	1788.2	--	--	--	--	--	
	2280169.10	6555537.87	2117.53	2116.67		--	--	--	--	--	--	--	--	

Table J.1-2
Plant Site Well Details
(REVISED OCTOBER 2008)
Beacon Solar Energy Project

Well Number[1]	Northing[2]	Easting[2]	Top of Casing[2]	Ground Surface Elevation[2]	Total Depth[3]	Depth to Water[4]		Groundwater Elevation[5]	Pumping Rate[4]	Pumping Water Level[4]	Drawdown[4]	Specific Capacity[6]	Estimate of Transmissivity[7]	Pump[4]
			feet-msl	feet-msl	feet-bgs	Date	feet-bgs		Apr-80 gpm	Apr-80 feet-bgs	Apr-80 feet-bgs	Apr-80 gpm/ft	Apr-80 ft^2/day	Horse Power (Hp)
45B	--	--	--	--	--	Jan-80	--	--	--	--	--	--	--	--
						Apr-80	--	--	--	--	--	--	--	--
						Feb-81	--	--	--	--	--	--	--	--
	2280268.84	6555538.15	2116.41	2115.19		Oct-07	298.05	1818.36	--	--	--	--	--	
46	--	--	--	2040	820	Jan-80	350.0	1690.0	--	--	--	--	--	150
						Apr-80	350.0	1690.0	1286	391.0	41.0	31	6,290	
						Feb-81	335.3	1704.7	--	--	--	--	--	
	2283302.96	6561922.49	2050.49	2050.09		Oct-07	210.22	1840.3	--	--	--	--	--	
47	--	--	--	2255	810	Jan-80	470.2	1784.8	--	--	--	--	--	150
						Apr-80	470.2	1784.8	1584	481.0	10.8	147	29,412	
						Feb-81	487.2	1767.8	--	--	--	--	--	
	2276132.32	6549327.05	2254.34	2251.57		Oct-07	435.74	1818.6	--	--	--	--	--	
48	--	--	--	2215	813	Jan-80	441.4	1773.6	--	--	--	--	--	200
						Apr-80	441.4	1773.6	1419	451.6	10.2	139	27,898	
						Feb-81	455.8	1759.2	--	--	--	--	--	
	2275598.60	6551058.74	2223.23	2222.73		Oct-07	404.95	1818.3	--	--	--	--	--	Pump Removed
49	--	--	--	2165	830	Jan-80	371.0	1794.0	--	--	--	--	--	150
						Apr-80	371.0	1794.0	1114	380.0	9.0	124	24,822	
						Feb-81	383.0	1782.0	--	--	--	--	--	
	2278867.08	6553918.23	2146.13	2145.15		Oct-07	310.82	1835.3	--	--	--	--	--	

Table J.1-2
Plant Site Well Details
(REVISED OCTOBER 2008)
Beacon Solar Energy Project

Well Number[1]	Northing[2]	Easting[2]	Top of Casing[2]	Ground Surface Elevation[2]	Total Depth[3]	Depth to Water[4]		Groundwater Elevation[5]	Pumping Rate[4]	Pumping Water Level[4]	Drawdown[4]	Specific Capacity[6]	Estimate of Transmissivity[7]	Pump[4]
			feet-msl	feet-msl	feet-bgs	Date	feet-bgs		Apr-80 gpm	Apr-80 feet-bgs	Apr-80 feet-bgs	Apr-80 gpm/ft	Apr-80 ft^2/day	Horse Power (Hp)
50	--	--	--	2085	903	Jan-80	303.4	1781.6	--	--	--	--	--	125
						Apr-80	303.4	1781.6	500	471.5	168.1	3	596	
						Feb-81	304.2	1780.8	--	--	--	--	--	
	2282504.17	6557805.80	2081.95	2081.20		Oct-07	256.8	1825.1	--	--	--	--	--	
51	--	--	--	2085	785	Jan-80	324.0	1761.0	--	--	--	--	--	150
						Apr-80	324.0	1761.0	965	357.7	33.7	29	5,742	
						Feb-81	301.0	1784.0	--	--	--	--	--	
	2283866.63	6555448.03	2083.24	2082.84		Oct-07	--	--	--	--	--	--	--	
63			--	--	1740	--	--	--	--	--	--	--	--	no pump
	2279660.56	6554343.52	2132.16	2131.00		Oct-07	313.25	1818.9	--	--	--	--	--	
										AVERAGE	**43**	**70**	**14,037**	

NOTES

1 Wells shown on **Figure 5.17-8**.
2 Survey conducted October 2, 2007 to provide coordinates, ground surface elevation and top of casing. Survey conducted by WM Holdings Incorporated (William Meagher, Liscense 5948). Ground surface elevations for January 1980 provided by Switzer (2007). Elevations resurveyed October 2007.
3 Total depth of the well as provided by Switzer (2007). Well depth taken from Figure 4, "Fremont Valley Ranch - Groundwater Well Map". Figure provide by Switzer (2007) as part of the Phase I ESA.
4 Information provided by Switzer (2007) from a pumping test performed by Southern California Edison April 1980
5 January 1980, April 1980 and February 1981 estimated from ground surface elevation data. October 2007 elevations estimated from top of casing elevation that was resurveyed October 2, 2007.
6 Specific Capacity (Q/ds) estimated as the rate of water pumped divided by the drawdown (gpm/ft).
7 Transmissivity estimated after Driscoll (1986, pg. 1021). Q/ds = Transmissivity/1,500 (assuming an unconfined aquifer).

DEFINITIONS

bgs	below ground surface
ft^2/day	feet squared per day
gpm	gallons per minute
gpm/ft	gallons per minute per foot of drawdown
Hp	horse power
msl	mean sea level
--	unknown or information not provided

Table J.3-1
Well Details - Water Supply Wells on The Plant Site
(REVISED OCTOBER 2008)
Beacon Solar Energy Project

Well Number[1]	Northing[2]	Easting[2]	Top of Casing[2]	Ground Surface Elevation[2]	Total Depth[3]	Depth to Water[4]		Groundwater Elevation[5]	Saturated Thickness	Pumping Rate[4]	Pumping Water Level[4]	Drawdown[4]	Specific Capacity[6]	Estimate of Transmissivity[7]	Pump[4]
									feet (Oct-07)	Apr-80	Apr-80	Apr-80	Apr-80	Apr-80	HP
			feet-msl	feet-msl	feet-bgs	Date	feet-bgs			gpm	feet-bgs	feet-bgs	gpm/ft	ft^2/day	
Domestic	2279600.94	6550585.41	2178.50	2177.72	505	Oct-07	--	--	--	--	--	--	--	--	5
USGS	2280021.34	6559139.44	2105.14	2104.00	--	Oct-07	294.31	1810.83	--	--	--	--	--	--	--
41	--	--	--	2160	600	Jan-80	397.3	1762.7	203	--	--	--	--	--	200
						Apr-80	397.3	1762.7	203	1693	410.2	12.9	131	26,318	
						Feb-81	410.0	1750.0	190	--	--	--	--	--	
	2277255.98	6553083.68	2177.33	2175.82		Oct-07	357.78	1819.6	242	--	--	--	--	--	
42	--	--	--	2175	603	Jan-80	393.5	1781.5	210	--	--	--	--	--	--
						Apr-80	393.5	1781.5	210	1391	476.0	82.5	17	3,381	
						Feb-81	409.0	1766.0	194	--	--	--	--	--	
	2278636.34	6551678.11	2174.16	2172.92		Oct-07	355.91	1818.2	247	--	--	--	--	--	
43	--	--	--	2060	864	Jan-80	350.0	1710.0	514	--	--	--	--	--	200
						Apr-80	350.0	1710.0	514	1568	400.0	50.0	31	6,289	
						Feb-81	313.4	1746.6	551	--	--	--	--	--	
	2281995.44	6560367.11	2070.73	2069.39		Oct-07	--	--	--	--	--	--	--	--	Pump Removed
44	--	--	--	2145	604	Jan-80	361.1	1783.9	243	--	--	--	--	--	200
						Apr-80	361.1	1783.9	243	1507	383.0	21.9	69	13,799	
						Feb-81	372.0	1773.0	232	--	--	--	--	--	
	2278583.88	6555376.36	2135.57	2134.38		Oct-07	317.52	1818.1	286	--	--	--	--	--	
45A	--	--	--	2125	803	Jan-80	344.2	1780.8	459	--	--	--	--	--	--
						Apr-80	344.2	1780.8	459	1514	375.0	30.8	49	9,857	
						Feb-81	336.8	1788.2	466	--	--	--	--	--	
	2280169.10	6555537.87	2117.53	2116.67		--	--	--	--	--	--	--	--	--	

Table J.3-1
Well Details - Water Supply Wells on The Plant Site
(REVISED OCTOBER 2008)
Beacon Solar Energy Project

Well Number[1]	Northing[2]	Easting[2]	Top of Casing[2]	Ground Surface Elevation[2]	Total Depth[3]	Depth to Water[4]		Groundwater Elevation[5]	Saturated Thickness	Pumping Rate[4]	Pumping Water Level[4]	Drawdown[4]	Specific Capacity[6]	Estimate of Transmissivity[7]	Pump[4]
									feet (Oct-07)	Apr-80	Apr-80	Apr-80	Apr-80	Apr-80	HP
			feet-msl	feet-msl	feet-bgs	Date	feet-bgs			gpm	feet-bgs	feet-bgs	gpm/ft	ft^2/day	
45B	--	--	--	--	--	Jan-80	--	--	--	--	--	--	--	--	--
						Apr-80	--	--	--	--	--	--	--	--	--
						Feb-81	--	--	--	--	--	--	--	--	--
	2280268.84	6555538.15	2116.41	2115.19		Oct-07	298.05	1818.36	--	--	--	--	--	--	
46	--	--	--	2040	820	Jan-80	350.0	1690.0	470	--	--	--	--	--	150
						Apr-80	350.0	1690.0	470	1286	391.0	41.0	31	6,290	
						Feb-81	335.3	1704.7	485	--	--	--	--	--	
47	2283302.96	6561922.49	2050.49	2050.09		Oct-07	210.22	1840.3	610	--	--	--	--	--	
	--	--	--	2255	810	Jan-80	470.2	1784.8	340	--	--	--	--	--	150
						Apr-80	470.2	1784.8	340	1584	481.0	10.8	147	29,412	
						Feb-81	487.2	1767.8	323	--	--	--	--	--	
	2276132.32	6549327.05	2254.34	2251.57		Oct-07	435.74	1818.6	374	--	--	--	--	--	
48	--	--	--	2215	813	Jan-80	441.4	1773.6	372	--	--	--	--	--	200
						Apr-80	441.4	1773.6	372	1419	451.6	10.2	139	27,898	
						Feb-81	455.8	1759.2	357	--	--	--	--	--	
	2275598.60	6551058.74	2223.23	2222.73		Oct-07	404.95	1818.3	408	--	--	--	--	--	Pump Removed
49	--	--	--	2165	830	Jan-80	371.0	1794.0	459	--	--	--	--	--	150
						Apr-80	371.0	1794.0	459	1114	380.0	9.0	124	24,822	
						Feb-81	383.0	1782.0	447	--	--	--	--	--	
	2278867.08	6553918.23	2146.13	2145.15		Oct-07	310.82	1835.3	519	--	--	--	--	--	

Table J.3-1
Well Details - Water Supply Wells on The Plant Site
(REVISED OCTOBER 2008)
Beacon Solar Energy Project

Well Number[1]	Northing[2]	Easting[2]	Top of Casing[2]	Ground Surface Elevation[2]	Total Depth[3]	Depth to Water[4]		Groundwater Elevation[5]	Saturated Thickness	Pumping Rate[4]	Pumping Water Level[4]	Drawdown[4]	Specific Capacity[6]	Estimate of Transmissivity[7]	Pump[4]
									feet (Oct-07)	Apr-80	Apr-80	Apr-80	Apr-80	Apr-80	HP
			feet-msl	feet-msl	feet-bgs	Date	feet-bgs			gpm	feet-bgs	feet-bgs	gpm/ft	ft^2/day	
50	--	--	--	2085	903	Jan-80	303.4	1781.6	600	--	--	--	--	--	125
						Apr-80	303.4	1781.6	600	500	471.5	168.1	3	596	
						Feb-81	304.2	1780.8	599	--	--	--	--	--	
	2282504.17	6557805.80	2081.95	2081.20		Oct-07	256.8	1825.1	646	--	--	--	--	--	
51	--	--	--	2085	785	Jan-80	324.0	1761.0	461	--	--	--	--	--	150
						Apr-80	324.0	1761.0	461	965	357.7	33.7	29	5,742	
						Feb-81	301.0	1784.0	484	--	--	--	--	--	
	2283866.63	6555448.03	2083.24	2082.84		Oct-07	--	--	--	--	--	--	--	--	
63			--	--	1740	--	--	--	--	--	--	--	--	--	no pump
	2279660.56	6554343.52	2132.16	2131.00		Oct-07	313.25	1818.9	1427	--	--	--	--	--	
											Average	**43**	**70**	**14,037**	

Notes:

1 Wells shown on **Figure 5.17-8**.
2 Survey conducted October 2, 2007 to provide coordinates, ground surface elevation and top of casing. Survey conducted by WM Holdings Incorporated (William Meagher, Liscense 5948). Ground surface elevations for January 1980 provided by Switzer (2007). Elevations resurveyed October 2007.
3 Total depth of the well as provided by Switzer (2007). Well depth taken from Figure 4, "Fremont Valley Ranch - Groundwater Well Map". Figure provide by Switzer (2007) as part of the Phase I I
4 Information provided by Switzer (2007) from a pumping test performed by Southern California Edison April 1980
5 January 1980, April 1980 and February 1981 estimated from ground surface elevation data. October 2007 elevations estimated from top of casing elevation that was resurveyed October 2, 2007
6 Specific Capacity (Q/ds) estimated as the rate of water pumped divided by the drawdown (gpm/ft).
7 Transmissivity estimated after Driscoll (1986, pg. 1021). Q/ds = Transmissivity/1,500 (assuming an unconfined aquifer).

Definitions:

bgs below ground surface
ft^2/day feet squared per day
gpm gallons per minute
gpm/ft gallons per minute per foot of drawdown
Hp horse power
msl mean sea level
-- unknown or information not provided