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2018 FIRST SEMIANNUAL
GROUNDWATER QUALITY MONITORING REPORT
Genesis Solar Energy Project

Riverside County, California

COC S&W-20

June 26, 2018

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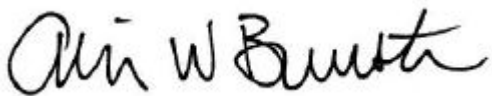
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2018 FIRST SEMIANNUAL GROUNDWATER QUALITY MONITORING REPORT

RIVERSIDE COUNTY, CALIFORNIA

PROFESSIONAL STATEMENT

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Arlin W. Brewster

Professional Geologist 9207

June 26, 2018

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1.0 INTRODUCTION

Northstar Environmental Remediation (Northstar) has prepared this 2018 First Semiannual Groundwater Quality Monitoring Report on behalf of Genesis Solar, LLC (Genesis). This report details groundwater quality monitoring performed in December 2017 at the Genesis Solar Energy Project (GSEP). The GSEP lies roughly 25 miles west of the city of Blythe, California in eastern Riverside County on lands managed by the Bureau of Land Management (BLM) (**Figure 1**). The GSEP consist of two independent concentrated solar electric generating facilities with a nominal net electric output of 125 megawatts (MW) each (a total net electrical output of 250 MW).

Northstar conducts groundwater quality monitoring in accordance with Condition of Certification Soil & Water 20 (COC S&W-20) as presented in the California Energy Commission (CEC) Final Decision document dated October 12, 2010 (CEC, 2010). The COC S&W-20 requires compliance with Waste Discharge Requirements (WDR) and Monitoring and Reporting Program (MRP) Board Order No. R7-2013-0005, issued by the California Regional Water Quality Control Board, Colorado River Basin Region (CRWQCB).

1.1 Background

Genesis filed an updated Plan of Development (POD) for the GSEP to the BLM in September 2010 (Genesis Solar, LLC, 2010), and an Application for Certification (AFC) to the California Energy Commission (CEC) in August 2009 (Genesis Solar, LLC, 2009). The CEC issued its Final Decision on the GSEP on October 12, 2010 (CEC, 2010). The BLM issued the Final Environmental Impact Statement (FEIS) for the GSEP for public comment on August 27, 2010. The Final Decision and the FEIS adopted COC S&W-20 to monitor groundwater quality within a 10-mile radius of the GSEP.

GSEP uses dry cooling technology and relies on groundwater as a water source during operation. Three groundwater production wells were installed within the GSEP site boundary between July and October, 2011. These production wells are permitted to pump groundwater at an average rate of 202 acre-feet per year (afy) (up to 1,348 afy during construction).

Two evaporation ponds, licensed as Class II Surface Impoundments, located between Solar Fields 1 and 2 accept wastewater generated during operation of the GSEP. Three detection monitoring wells (DM-1, DM-2, and DM-3) were installed, per the Final Decision, along the west, east, and south perimeter of the evaporation ponds in February 2012. Groundwater samples were collected for four quarterly events prior to GSEP operation to establish baseline conditions. Semiannual sampling will be conducted to comply with the requirements of COC S&W-6 and the WDR and MRP documents.

1.2 Geographic Setting

The GSEP is located between the communities of Blythe and Desert Center, California (**Figure 1**). Land use is predominantly open space and conservation and wilderness areas occupied by a community of low creosote and bursage vegetation. Chuckwalla and Ironwood State Prisons are located roughly 6 miles to the southeast.

The GSEP lies on a broad, relatively flat topography sloping north to south at elevations between 400 and 370 feet above mean sea level (amsl). The surface is underlain by alluvial deposits derived from the Palen Mountains to the north-northwest, and the McCoy Mountains to the northeast (**Figure 1**).

The deposits immediately adjacent the mountains have formed alluvial fans from multiple identifiable sources. The multiple fan surfaces have coalesced into a single bajada surface that wraps around each of these mountain fronts. Between the bajada surfaces lies a broad valley-axial drainage that extends southward between the mountains and drains to the Ford Dry Lake playa, located about 1 mile south of the GSEP facility (DWR, 1963).

Climatic data collected from Weather Station Blythe Riverside Airport (33.61°N, -114.71°W, at an elevation of about 387 feet amsl) indicate that the average maximum temperature in the airport vicinity is approximately 87.8°F (31.0°C). Average rainfall is reported to be approximately 3.83 inches (97.3 mm). These data were received from National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information 1981-2010 Normals.

1.3 Hydrogeologic Setting

The GSEP lies within the Chuckwalla Valley Groundwater Basin (Chuckwalla Basin) which has a surface area of approximately 940 mi² (2,435 km²) underlying Chuckwalla Valley. It is bounded up gradient by three groundwater basins including the eastern part of the Orocopia Valley and Pinto Valley Groundwater Basins and the southern part of the Cadiz Valley Groundwater Basin; and, down gradient by the Palo Verde Mesa Groundwater Basin (Palo Verde Basin) (U.S. Bureau of Reclamation, 1972). Groundwater occurs at depths of about 80 to 130 feet below ground surface (bgs), and flow direction is southeast to eastward from the Chuckwalla Basin into the Palo Verde Basin (**Figure 2**).

Sources of groundwater recharge to the Chuckwalla Basin include precipitation, inflow from the Orocopia Valley and Pinto Valley Groundwater Basins, and return flows from agricultural sources and treated wastewater effluent. Groundwater is the only available water resource in Chuckwalla Valley, with extraction to meet local demand the primary source of groundwater outflow. Other minor sources of outflow include underflow to the Palo Verde Basin and evapotranspiration in portions of Palen Dry Lake (where shallow groundwater is present).

Calculations of the Chuckwalla Basin groundwater budget before GSEP operations indicate a stable surplus of 2,600 afy (CEC, 2010). Current operational demand, based on calendar year 2017 extraction data, is approximately 116 afy.

The region of the Chuckwalla Basin occupied by the GSEP and associated groundwater monitoring wells is underlain by four geological units. The shallowest unit is the unconsolidated Holocene-aged Alluvium, consisting of geologically recent lake, river, and wind deposits (DWR, 1963). Beneath the alluvium is the unconsolidated Pleistocene-aged Pinto Formation consisting of coarse alluvial fan deposits (known as fanglomerate), interspersed with clays and basalt (DWR, 1963). Beneath the Pinto Formation lies the unconsolidated to partially consolidated Pliocene-aged Bouse Formation, consisting of coarse alluvium and fanglomerate deposits (Wilson and Owen-Joyce, 1994). The Bouse Formation is underlain by bedrock consisting of metamorphic rocks and intrusive igneous basalts (DWR, 1963).

Groundwater in the GSEP monitoring region occurs in two aquifers: the shallower Alluvium aquifer, extending to a maximum approximate depth of 250 feet bgs; and, the deeper Bouse Formation aquifer, extending between approximately 250 to 6,500 feet bgs (Wilson and Owen-Joyce, 1994). The Pinto Formation exists only on the eastern fringe of the Chuckwalla Basin and is not encountered by the GSEP monitoring wells. Monitoring data indicate a downward vertical hydraulic gradient of groundwater flow from the Alluvium to the Bouse Formation aquifer.

Based on recent monitoring data, the depth to groundwater in the Bouse Formation ranges from approximately 86.61 feet bgs (300.79 feet amsl) in TW-1, located upgradient of the site, to 136.60 feet bgs (255.50 feet amsl) in Well 23a, located downgradient of the site. Perched water exists at the Chuckwalla State Prison but is unlikely to occur within the GSEP boundaries as there is no irrigation.

1.4 Monitoring Program Objectives

Northstar performs groundwater quality monitoring in accordance with COC S&W-20 as described in the CEC's Final Decision. Monitoring is completed semiannually during the Second and Fourth Quarter of each year. The primary objectives of groundwater quality monitoring are:

- to identify potential changes in the existing water quality of the water supply resulting from GSEP pumping in compliance with COC S&W-20;
- to establish groundwater quality data within a 10-mile radius of the GSEP; and,
- to provide a mechanism for early warning to help avoid, minimize, or mitigate significant impacts to groundwater quality.

2.0 GROUNDWATER MONITORING PROGRAM

2.1 Monitoring Well Network

The following provides a summary of the monitoring well network for the GSEP required under COC S&W-20. Well locations are illustrated in **Figure 3** and summarized in **Table 1**.

- Offsite wells installed for the project include deep test wells TW-1 and TW-2, shallow observation well OBS-1, and buried-transducer well OBS-2 (currently inoperative).
- Existing and functional offsite wells located within two miles of the GSEP and project right-of-way include CalTrans water supply well 23a and Sempra Energy wells 24-1, 24-2, and 24-3.
- Well 14, a water supply well located along Chuckwalla Valley Road south of I-10, was added to the program at the request of CEC staff.
- Three groundwater extraction wells, PW-0, PW-1, and PW-2, were installed on the GSEP facility to provide water for construction and operations. Currently, PW-0 pumps water intermittently; PW-1 is sealed with a metal plate; and PW-2 pumps regularly. All three wells are equipped with pressure transducers and totalizers are installed on PW-0 and PW-2.
- Three groundwater monitoring wells, DM-1, DM-2, and DM-3, were installed adjacent the evaporation ponds and serve to monitor the surrounding groundwater for signs of releases.
- Other water wells within 10 miles of GSEP for which water level data are available from the National Water Information System (NWIS) database maintained by the U.S. Geological Survey (USGS). Data reported for these wells has been inconsistent but is used for general groundwater contouring if data exists within the most recent year.

2.2 Groundwater Quality Monitoring Activities

Groundwater quality monitoring includes the following scope of work:

- Field staff collect groundwater level measurements in the monitoring well network;
- Purging and sampling of wells;
- Analysis of the groundwater samples for general minerals, major anions and cations, deuterium and oxygen-18, oil & grease, heat transfer fluid, and general parameters;
- Compilation of water level and water quality data for wells located in the Chuckwalla Basin within 10 miles of the GSEP for which data is available from public sources;
- Evaluation of water quality data, including appropriate statistical and graphical methods;
- Evaluation of stable isotope data for potential water sources; and,
- Evaluation of water level data and preparation of a potentiometric surface map.

3.0 FIELD METHODS

Northstar performed groundwater quality monitoring at the GSEP on May 30 and June 1, 2018. A description of the field methods used is provided below.

3.1 Manual Water Level Measurements

Northstar measured depth to groundwater in each well using a Solinst interface probe (Solinst) as quickly as practical to best represent the potentiometric surface across the GSEP at a given time. Field staff recorded depth to water to the nearest hundredth (0.01) foot below a surveyed measuring mark located on the north side of the top of casing (toc) on a groundwater level measurement form (**Appendix A**).

Table 2 provides a summary of current and historical groundwater level measurements and calculated groundwater elevations for wells included in the monitoring well network, and additional wells in the Chuckwalla Basin located within 10 miles of the GSEP. Groundwater elevation contours and flow direction are illustrated in **Figure 4**. Hydrographs are included in the *Groundwater Level Monitoring Report* produced by Northstar.

3.2 Electronic Water Level Measurements

In past monitoring events, field staff used a Geokon Model 800 data logger to retrieve groundwater level data from an array of four Geokon Model 4500S vibrating wire pressure transducers installed in OBS-2 (**Table 2**). The transducers were placed at depths of 270, 315, 370, and 400 feet below ground surface. Data from the transducers became irretrievable in 2014 due to calibration issues and are currently not monitored.

Solinst Levellogger pressure transducers are currently installed in OBS-1, TW-1, PW-0, PW-1, and PW-2. The transducers record the feet of water above the sensor at 6-hour intervals. In addition, a Solinst Barologger installed in Well OBS-1 above the water table records changes in barometric pressure. Using Solinst software, the Levellogger data is calibrated to the manual groundwater elevation measurements and adjusted for changes in barometric pressure using the Barologger data. Data is used to assess seasonal and diurnal trends in the shallower Alluvium aquifer (OBS-1) and the deeper Bouse Formation aquifer (TW-1). Transducer data is included in the *Groundwater Level Monitoring Report* produced by Northstar.

3.3 Groundwater Sampling

Northstar collected groundwater samples from offsite monitoring wells 23a, TW-1, TW-2, and OBS-1 using disposable bailers. Field data sheets are included in **Appendix A**.

Detection monitoring wells DM-1, DM-2, and DM-3 are equipped with a dedicated 1.66-inch diameter Geotech® submersible bladder pump with water intakes set at the middle of wetted screen (approximately 115 feet btoc). Field staff collected samples from these wells using the low-flow purging method in accordance with the guidelines established in the EPA document *Low-Flow (Minimal*

Drawdown) Groundwater Sampling Procedures (Puls and Barcelona, 1996). Field data sheets are included in **Appendix A**.

Groundwater extraction wells PW-0 and PW-2 are equipped with dedicated water production pumps. Pumps may intermittently be turned online or offline depending on the needs of the facility. Groundwater samples are collected from wells that are online via the well head spigot. At the time of sampling well PW-0 was offline and PW-2 was online. Northstar is working to coordinate with the station operators to temporarily bring well PW-0 online in to obtain groundwater samples in future events. Field data sheets are included in **Appendix A**.

Field staff measured groundwater parameters with a Horiba U-52 field instrument equipped with a flow-through cell (Horiba). Staff calibrated the Horiba at the beginning of each day and decontaminated the instrument prior to use and between wells. Measurements of field parameters (pH, electrical conductivity (EC), temperature, turbidity, and oxidation-reduction potential (ORP)) were taken periodically and at the time of sampling as part of the low flow purge method of sampling. An equipment blank was not collected from the instrument because it is disconnected prior to sampling.

Staff purged each detection monitoring well until water quality parameters stabilized over three successive readings (+/- 0.2 for pH, +/- 10% for EC, ORP and turbidity). Northstar staff recorded the sampling methods, volume of water purged, pumping rate, field parameter measurements, and observations of water turbidity and odor on the groundwater sampling field form (**Appendix A**).

Groundwater purged from the GSEP wells was temporarily contained in a sealed 5-gallon bucket and then disposed in the evaporation ponds as directed in the MRP. The measured field parameters documented at the end of purging are included in **Table 3**.

3.4 Equipment Decontamination

Northstar decontaminated reusable/non-dedicated equipment (e.g., water level probe and flow-through cell) before use at each well. Decontamination of reusable equipment consisted of washing with a laboratory-grade non-phosphate detergent (Liquinox, Alconox, or equivalent) and potable water solution followed by a double rinse with demineralized water.

3.5 Collection of Groundwater Samples

Groundwater samples were collected using standard field procedures. The sampler wore new nitrile gloves while collecting groundwater samples. Samples were collected directly from the pump discharge tube, extraction well sampling port, or sampling bailer into laboratory-prepared bottles. Where directed by the laboratory, samples were passed through a new, disposable 0.45 micrometer filter utilizing a peristaltic pump. The purpose of the filter is to remove particulates larger than 0.45 micrometers before being placed in bottles. Prior to sampling, the tubing is disconnected from the flow-through cell and the flow rate reduced as low as feasible to minimize volatilization.

3.6 Laboratory Analytical

Laboratory samples are submitted to SunStar Laboratories, Inc. (SunStar) of Lake Forest, California. SunStar subcontracts the heat transfer fluid analysis to TestAmerica Laboratories, Inc. (TestAmerica) of Irvine, California. They also subcontract the oxygen-18 and deuterium analysis to Isotech Laboratories, Inc. of Champaign, Illinois. All laboratories are state and federally certified and analyze the samples by the following methods, as detailed in the Final Decision, WDR, and MRP documents:

- Chloride, Sulfate, and Nitrate by EPA Method 300.0;
- Mercury by Standard Method 7470A;
- Total Dissolved Solids by Standard Method 2540C;
- pH by Standard Method 4500H;
- Specific Conductance by Standard Method 2510B;
- Heat Transfer Fluid (HTF) by EPA Method 8015B;
- Heavy Metals by EPA Method 200.7 and 200.8;
- Oil & Grease by EPA Method 1664A; and,
- Oxygen-18 and Deuterium by Isotope Geochemistry.

3.7 Sample Handling

Field staff labeled sample containers before sampling and placed them into an ice cooled chest immediately after sample collection. Glass bottles were sealed in protective packing sleeves for transport. Exposure to dust, direct sunlight, high temperature, adverse weather conditions and possible cross-contamination were avoided.

Standard chain of custody (COC) protocols were followed for the groundwater samples. Northstar delivered the samples under proper chain of custody protocol to SunStar which signed as receiver of the samples. SunStar sent the subcontract samples under proper COC protocols.

3.8 Quality Assurance / Quality Control

The laboratory conducted standard Quality Assurance/Quality Control (QA/QC) to assure analytical accuracy and precision. This included preparation and analysis of method blanks, surrogate spikes, matrix spike/matrix spike duplicate (MS/MSD) pairs and laboratory control samples (LCS).

Northstar collects a duplicate sample once per sampling event from a single well and submits it to the laboratory without identifiers including date and time. During this event, a duplicate sample was collected from well PW-2. Analytical results for the duplicate sample are included in **Table 4** immediately below the regular sample for this well.

A set of quality control blank samples (including a field and trip blank) was collected and put on hold at the laboratory pending analysis of the groundwater samples. The field blank bottle set is filled with demineralized water and set adjacent to the work area with the lids off during the work day and is intended to screen out constituents in ambient air. The trip blank bottle set is prepared at the laboratory and is sealed throughout the groundwater sampling event. It is stored inside the sample coolers and is intended to screen out constituents in the coolers. The quality control blank samples are only analyzed if there is anomalous data present for the groundwater sampling results.

4.0 RESULTS OF LABORATORY ANALYSES

All laboratory analytical reports are included in **Appendix D**. Results are tabulated for the monitoring network in **Table 4** and for wells outside the monitoring network (but still within the Chuckwalla Groundwater Basin) in **Table 5**.

4.1 General Inorganic Chemical Analysis

This section presents results of inorganic chemical analyses (major cations and anions, mineral constituents, and general parameters) performed on groundwater samples collected in the monitoring well network. Time series plots for each inorganic constituent are included as Charts 1 to 24 in **Appendix B**. Remarks about each chart are as follows:

- Chart 1: **Chloride** – Concentrations are generally the same or lower than baseline results. A single anomalous spike appeared in well DM-1 in the fourth quarter of 2017, which returned to normal the following event.
- Chart 2: **Sulfate** – Concentrations are generally the same or lower than baseline results.
- Chart 3: **Nitrate** – Appears in low concentrations mostly in shallow monitoring wells, including upgradient OBS-1. Concentrations appear to be increasing but the data set is limited.
- Chart 4: **Calcium** - Concentrations are generally the same or lower than baseline results. A single anomalous spike appeared in well DM-2 in the fourth quarter of 2012, which returned to normal the following event.
- Chart 5: **Copper** – Occurs in only a few wells at low concentrations. There are no apparent trends.
- Chart 6: **Sodium** – Concentrations are generally the same or lower than baseline results. A significant decrease in sodium was observed in the fourth quarter of 2017 in all wells but 23a which correlated to a very large precipitation event. Results returned to normal by the following event.
- Chart 7: **Potassium** – Concentrations were consistent until the second quarter of 2017, after which concentrations appear to be rising in all wells.
- Chart 8: **Iron** – Occurs above the detection limits sporadically; no trends are apparent.
- Chart 9: **Magnesium** - Concentrations are generally the same or lower than baseline results.
- Chart 10: **Antimony** – There have been no detections to date.
- Chart 11: **Arsenic** – Appears in all regularly monitored wells since the second quarter of 2014. Concentrations are generally stable.
- Chart 12: **Barium** - Appears in all regularly monitored wells since the second quarter of 2014. Concentrations are generally stable but have been decreasing in well DM-2.
- Chart 13: **Cadmium** – There have been no detections to date.
- Chart 14: **Chromium (Total)** – There have only been three detections to date – one in DM-1 (fourth quarter 2017) and two in DM-2 (fourth quarter 2017 and second quarter 2018).
- Chart 15: **Cobalt** – There have been no detections to date.
- Chart 16: **Lead** – There have only been two detections to date – one in TW-1 (fourth quarter 2017) and in 23a (second quarter 2016).
- Chart 17: **Manganese** – Occurs in very low concentrations in most wells but punctuated by two larger detections in 23a (fourth quarter 2010) and TW-1 (second quarter 2016).

- Chart 18: **Nickel** – There have only been two detections to date at very low concentrations – one in DM-3 (second quarter 2014) and PW-2 (fourth quarter 2017).
- Chart 19: **Selenium** – Occurs sporadically in several wells but has appeared consistently in shallow upgradient well OBS-1 since second quarter 2014. There are no apparent trends.
- Chart 20: **Zinc** – Occurs only in well 23a from fourth quarter 2014, but in several other wells since fourth quarter 2017, a result of lower detection limits.
- Chart 21: **Mercury** – Has occurred only once at a very low concentration in well DM-1 (second quarter 2015).
- Chart 22: **Total Dissolved Solids** – Relatively stable with some fluctuation in upgradient shallow well OBS-1.
- Chart 23: **Specific Conductance** - Relatively stable with some fluctuation in upgradient shallow well OBS-1.
- Chart 24: **pH** – Relatively stable. These results are produced outside the 15-minute sample hold time.

4.2 Organic Chemical Analysis

This section presents results of organic chemical analyses (oil & grease and heat transfer fluid) performed on groundwater samples collected in the monitoring well network. Time series plots for each organic constituent are included as Charts 25 and 26 in **Appendix B**. Remarks about each chart are as follows:

- Chart 25: **Oil & Grease** – Appears only sporadically in wells TW-2, OBS-1, and PW-2. There are no apparent trends.
- Chart 26: **Heat Transfer Fluid** – There have been no detections to date.

4.3 Stable Isotope Analysis

Oxygen-18 and deuterium are naturally occurring stable isotopes of oxygen and hydrogen that occur at varying concentrations in all water. Concentrations of these heavier isotopes varies in precipitation depending on latitude, elevation and climate (Froehlich and Yurtsever, 1995; Izbicki, Martin and Michel, 1995; Kendall and Coplen, 2001). Precipitation falling at higher elevations, higher latitudes, or cooler climates tend to be depleted in these heavier isotopes. The isotope depletion relative to Vienna Standard Mean Ocean Water (VSMOW) is expressed in delta notation as parts per thousand (‰). The ratio of oxygen-18 to deuterium has been well established around the world as falling on a straight line called the Global Meteoric Water Line (GMWL). This relationship between oxygen-18 and deuterium is useful for determining the source and history of a water sample. Departures from the GMWL can occur due to evaporation, which tends to leave the remaining water enriched in heavier isotopes (less depleted), due to mixing with waters from other origins, or due to chemical reactions with surrounding materials or the atmosphere (Domenico and Schwartz, 1998).

Table 4 provides the oxygen-18 and deuterium content of the water samples collected to date. A time series plot of the stable isotopes are presented in Chart 27 and 28, and a graph of the oxygen-18 and deuterium relative to the GMWL is presented as Chart 29 in **Appendix B**. The data indicates several environmental conditions, as follows:

- Groundwater in the shallow Alluvium aquifer is less depleted than the deeper Bouse Formation aquifer, indicating that it is closer to the point of origin of groundwater recharge (ie, it is recharged by precipitation that occurs locally).
- Both aquifers are more depleted downgradient, indicating they are closer to the source of precipitation or groundwater recharge upgradient.
- Upgradient groundwater in both aquifers display a greater depletion compared to the GMWL, indicating that the groundwater is becoming more enriched in oxygen-18 and deuterium in the downgradient direction, which may be a function of evapotranspiration.

The 2018 first semiannual monitoring event show results that are consistent with historical data.

4.4 Statistical Analysis

In addition to the graphical representation of concentration trends, the results were analyzed using the Mann-Kendall (M-K), non-parametric statistical test to evaluate trends as directed in COC S&W-20, Part E. The M-K test compares the most recent round of groundwater data with the results of historical rounds. The statistical analysis tests whether the trend in the data set is increasing, decreasing, or stable/has no determined trend. The M-K test typically requires a minimum data set of between 4 to 10 values, and M-K tests performed on data sets within this range may not necessarily yield reliable results. The M-K test results are also subject to seasonal variations when there is a limited data set.

For this reporting period, the Mann-Kendall statistical analysis was applied to wells 23a, TW-1, TW-2, OBS-1, DM-1, DM-2, DM-3, PW-0, PW-1, and PW-2. A summary of the results is included in **Appendix C**. The analysis was run for arsenic, barium, calcium, chloride, selenium, sulfate, specific conductance, and total dissolved solids for each well and trend direction is reported at the 95% confidence interval. Additional constituents that are projected to be present in the wastewater discharge in the evaporation ponds, as identified in the WDR (CRWQCB, 2013b), either lack sufficient data to be statistically analyzed (chromium, copper, lead, mercury, nickel, and zinc) or have not been detected above reporting limits to date (antimony, cadmium, and cobalt). The M-K statistical analysis will be applied to these constituents once enough data points are available. Below is a summary of the M-K statistical analysis for this reporting period:

- TW-1: No increasing trends identified.
- TW-2: No increasing trends identified.
- OBS-1: No increasing trends identified.
- 23a: No increasing trends identified.
- DM-1: No increasing trends identified.
- DM-2: No increasing trends identified.
- DM-3: An increasing trend was identified only for calcium.
- PW-2: No increasing trends identified.

4.5 Quality Assurance/Quality Control

As documented in the attached laboratory reports (**Appendix D**), groundwater samples collected from network wells during the reporting period were received by the laboratory in good condition, within the temperature limits required, and analyzed within the required holding times using the specified methods (with the exception of pH, which has a 15-minute hold time).

None of the analytes were detected in the laboratory method blank samples. Matrix spike/matrix spike duplicate (MS/MSD) and laboratory control sample (LCS) recoveries for each method and analytical batch were within the laboratory's established control limits for the final report.

5.0 ANNUAL SUMMARY

The 2018 Annual Summary will be included as part of the *2018 Second Semiannual and Annual Groundwater Quality Monitoring Report*, due by January 15, 2019 and produced by Northstar.

6.0 CONCLUSIONS

Based on the available data, it does not appear the GSEP has negatively impacted the groundwater quality in the Chuckwalla Basin or within a 10-mile radius of the GSEP facility to date. All available groundwater quality data is generally stable and consistent with historical data.

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FIGURES



-  GSEP Footprint
-  Prisons
-  Wilderness Area

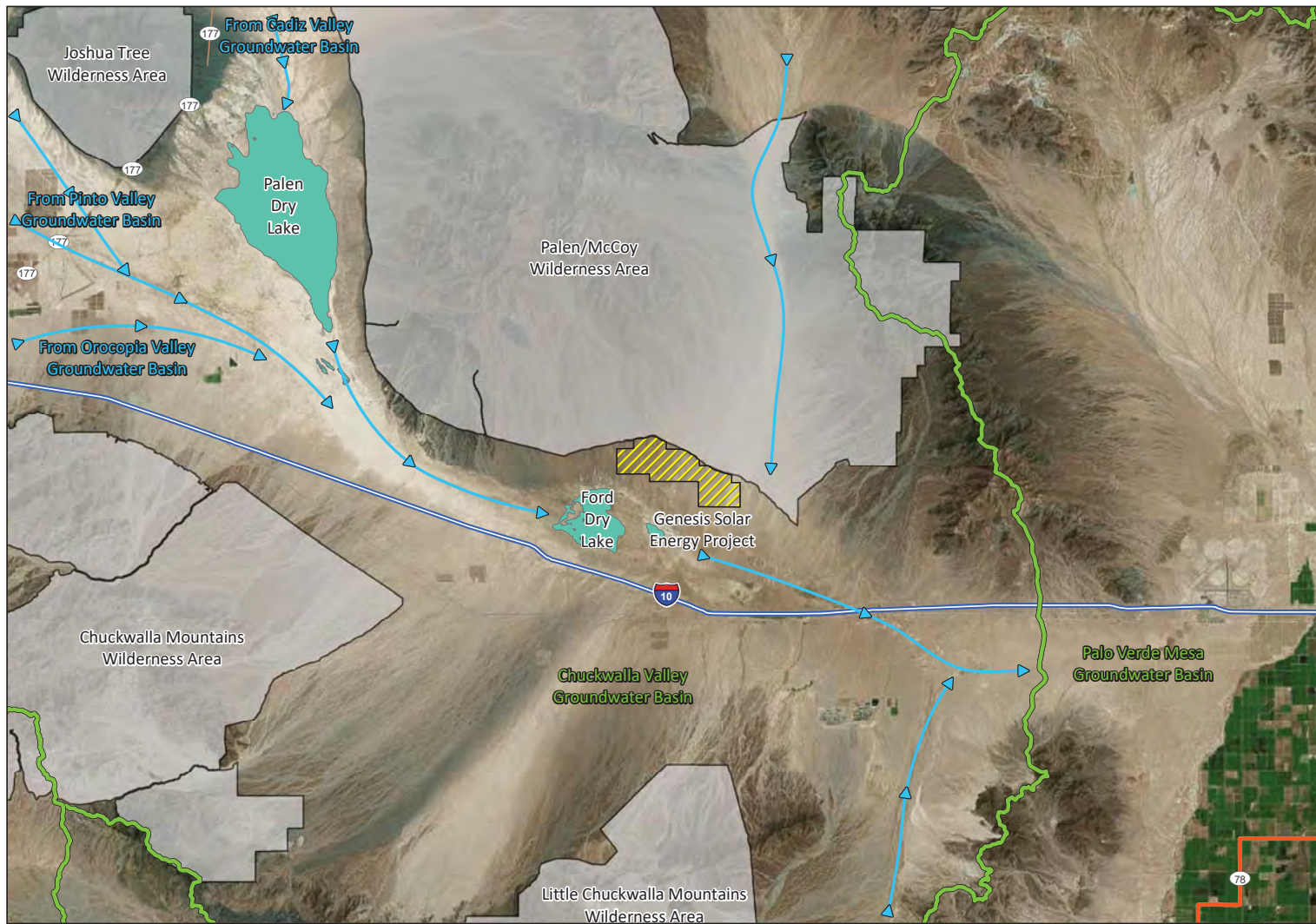







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Lake Forest, California 92630
(949) 580-2800

Project Number:
196-004-06

Genesis Solar Energy Project
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Figure 1
Site Vicinity Map



-  GSEP Footprint
-  Watershed Boundary
-  Lake
-  Wilderness Area
-  Water Flow Direction

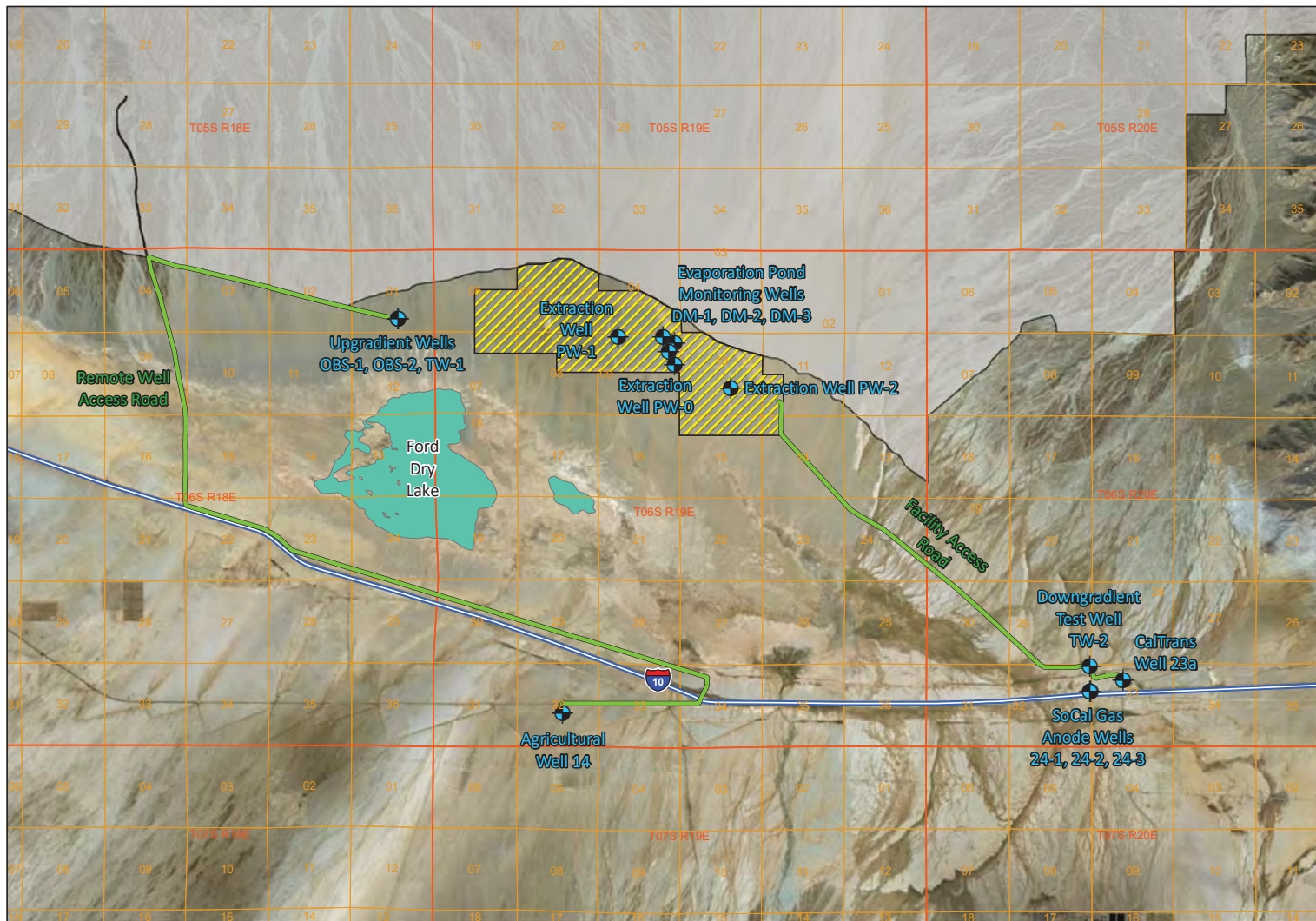







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Figure 2
Hydrogeologic Setting



-  GSEP Footprint
-  Active Monitoring Wells
-  Lake
-  Wilderness Area
-  Access Road

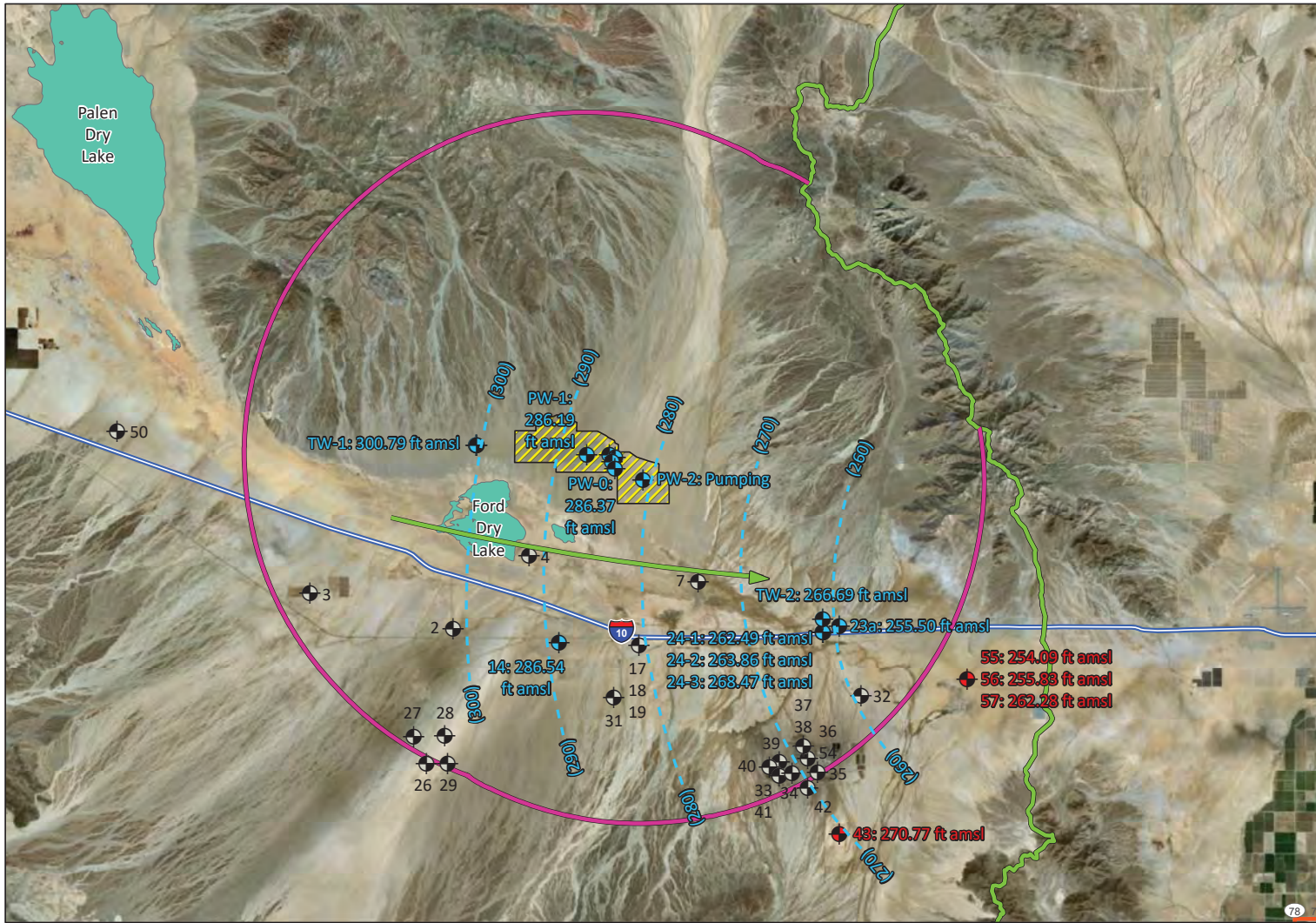


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Figure 3
Groundwater Monitoring Area
and Well Locations



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(949) 580-2800

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Figure 4
Bouse Formation Groundwater
Elevation Contour Map

- GSEP Footprint
- Watershed Boundary
- 10 Mile Boundary
- Groundwater Elevation Contour
- Groundwater Gradient Direction
- Active Monitoring Wells
- NWIS Active Wells
- NWIS Inactive Wells



TABLES

TABLE 1
INVENTORY OF WELLS IN THE GROUNDWATER MONITORING AREA
 Genesis Solar Energy Project, Riverside County, California

Well ID	State Well Number	Other Name	Owner	Installation Date	Use/Status	Well Casing Diameter (inches)	Approximate Ground Surface Elevation (feet amsl)	Top Of Casing Elevation (feet amsl)	Well Depth (feet bgs)	Screened Interval (feet bgs)	Geologic Unit
WELLS INCLUDED IN THE GROUNDWATER MONITORING PROGRAM											
OBS-1 ¹	--	Shallow Observation Well 1	Genesis Solar, LLC	5/9/2009	Monitoring / Active	5	385.857	388.3	160	100 to 150	Alluvium
OBS-2-270 ^{1,2}	--	Nested Observation Well 2	Genesis Solar, LLC	7/2/2009	Buried Transducer / Active	--	385.617	388.14	270	265 to 275	Bouse Formation
OBS-2-315 ^{1,2}	--	Nested Observation Well 2	Genesis Solar, LLC	7/2/2009	Buried Transducer / Active	--	385.617	388.14	315	304 to 327	Bouse Formation
OBS-2-370 ^{1,2}	--	Nested Observation Well 2	Genesis Solar, LLC	7/2/2009	Buried Transducer / Active	--	385.617	388.14	370	359 to 374	Bouse Formation
OBS-2-400 ^{1,2}	--	Nested Observation Well 2	Genesis Solar, LLC	7/2/2009	Buried Transducer / Active	--	385.617	388.14	400	387 to 418	Bouse Formation
TW-1 ¹	--	Test Well 1	Genesis Solar, LLC	5/22/2009	Monitoring / Active	5	385.91	387.4	565	340 to 564	Bouse Formation
TW-2 ¹	--	Test Well 2	Genesis Solar, LLC	12/9/2009	Monitoring and Dust Control / Active	5	390.003	393.47	1,841	793-873, 1042-1123, 1439-1601, 1739-1820	Bouse Formation / Fanglomerate
PW-0	--	Production Well 0	Genesis Solar, LLC	7/9/2011	Production Well	10	--	--	1,251	882-1002, 1226-1251	Bouse Formation / Fanglomerate
PW-1	--	Production Well 1	Genesis Solar, LLC	8/14/2011	Production Well	10	--	--	1,360	930-950, 990-1000, 1040-1100, 1120-1140, 1160-1200, 1260-1360	Bouse Formation / Fanglomerate
PW-2	--	Production Well 2	Genesis Solar, LLC	9/15/2011	Production Well	10	--	--	1,125	770-930, 980-1120	Bouse Formation
DM-1	--	Detection Monitoring Well 1	Genesis Solar, LLC	2/22/2012	Monitoring / Active	4	--	391.49	120	100 to 120	Alluvium
DM-2	--	Detection Monitoring Well 2	Genesis Solar, LLC	2/21/2012	Monitoring / Active	4	--	391.32	120	100 to 120	Alluvium
DM-3	--	Detection Monitoring Well 3	Genesis Solar, LLC	2/20/2012	Monitoring / Active	4	--	388.34	120	100 to 120	Alluvium
14 ^{1,3}	6S/19E-32	--	Lorne Froats (AZCA Drilling)	5/1/1991	Domestic/ Irrigation/ Dust Control	12 to 10	393.548	388.14	982 (obstructed at 450)	890 to 940	Fanglomerate
23a ^{1,4}	6S/20E-33C1	CalTrans Well @ WWRS	CalTrans	Unknown	Water Supply / Inactive	8	397.28	392.1	1,825	1800-1825	Fanglomerate
24-1 ^{1,5}	6S/20E-33	SCG Anode Well	So Cal Gas	4/29/1989	Anode / Inactive	2	389.3	389.4	435	235 to 435	Alluvium/Bouse Formation
24-2 ⁵	6S/20E-33	SCG Anode Well	So Cal Gas	Unknown	Anode / Inactive	1	389.09	388.86	Obstructed at 373 feet	235 to 435	Alluvium/Bouse Formation
24-3 ⁵	6S/20E-33	SCG Anode Well	So Cal Gas	Unknown	Anode / Inactive	1	388.2	392.04	Unknown	--	Alluvium/Bouse Formation
ADDITIONAL WELLS IN THE CHUCKWALLA VALLEY GROUNDWATER BASIN WITHIN 10 MILES OF THE SITE FOR WHICH MONITORING DATA IS AVAILABLE											
2	6S/18E-36E1	--	CA Jojoba Research and Development	12/18/1981	Irrigation	10 to 6	424	--	940	250 to 290 770 to 810	Alluvium/Bouse Formation
3	6S/18E-29	Siddall Well	Agra Energy Corp.	2/26/1982	Irrigation	20 to 8	498	--	957	560 to 940	Bouse Formation
4	6S/19E-1911	--	--	--	Unused	12	354	--	--	--	--
9	6S/19E-28R1	--	--	--	Unused	--	354	--	--	--	--
15	6S/19E-32K1	--	--	--	--	12.5	390.2	--	Obstructed at 526 feet	--	Bouse Formation
16	6S/19E-32K2	--	--	--	--	10.5	390	--	Obstructed at 297 feet	--	Bouse Formation
22	6S/20E-33L1	--	--	--	Unknown / Destroyed	--	--	--	--	--	Bouse Formation
23	6S/20E-33C1	--	--	--	Unknown / Destroyed	10	392	--	400	--	--
26	7S/18E-14F1	--	U.S. AgriResearch and Development	12/26/1982	Irrigation	16 to 10	562.58	--	1,000 (obstructed at 952 feet)	410 to 630 750 to 770 810 to 870	Alluvium/Bouse Formation
27	7S/18E-11N1	--	--	--	Unused	16	555	--	486.4	--	Bouse Formation
28	7S/18E-11R1	--	--	--	Unused	16	520	--	779.4	--	Bouse Formation
29	7S/18E-14H1	--	U.S. AgriResearch and Development	1/16/1983	Irrigation	10	545.91	--	985 (obstructed at 950 feet)	420 to 460, 500 to 520, 540 to 580, 620-820, 840-990	Bouse Formation
31	7S/19E-4R1	Teaque Well	--	--	Unused	12	423.89	--	242.2	--	Alluvium
32	7S/20E-4R1	Vada McBride	--	--	Unused	16	418	--	315.7	--	Bouse Formation
33	7S/20E-16M1	--	CA Department of Corrections	--	--	30 to 16	456.02	--	1,200	690 to 1190	Bouse Formation / Fanglomerate
34	7S/20E-17L1	WP-4	CA Department of Corrections	9/8/1992	Public Water Supply	24	458.3	--	1,200	690 to 1190	Bouse Formation / Fanglomerate
35	7S/20E-17K1	--	CA Department of Corrections	12/20/1989	--	30 to 16	456.48	--	1,200	690 to 1190	Bouse Formation / Fanglomerate
36 ⁶	7S/20E-17G1	--	CA Department of Corrections	12/30/1987	Industrial	30 to 16 to 10	443.5	--	1,200	690 to 1190	Bouse Formation / Fanglomerate
37 ⁶	7S/20E-17C1	78, North Well	CA Department of Corrections	7/28/1981	Irrigation	14-10	433.09	--	1,050	750 to 1,050	Bouse Formation / Fanglomerate
39	7S/20E-18H1	--	CA Department of Corrections	--	--	--	442.9	--	1,139	--	Bouse Formation / Fanglomerate
40	7S/20E-18K1	WP-6	CA Department of Corrections	11/4/1992	Public Water Supply	15 to 10	449.4	--	1,200	690 to 1,200	Bouse Formation / Fanglomerate
41	7S/20E-18R1	WP-5	CA Department of Corrections	10/24/1992	Public Water Supply	13.5 to 10	453.6	--	1,160	--	Fanglomerate
42	7S/20E-20B1	79 / Observation Well 3	--	6/4/1905	Irrigation	16 to 12	470	--	1,100	738 to 1,100	Bouse Formation / Fanglomerate
43	7S/20E-28C1	7S/20E-28F1/80	Jojoba Inc.	3/15/1982	Irrigation	10 to 8	505.6	--	830	510 to 600 and 680 to 780	Bouse Formation
44	7S/20E-28C2	--	Jojoba Southwest	11/30/1989	Irrigation	16 to 12	505.3	--	1,100	700 to 1,100	Bouse Formation / Fanglomerate
47	8S/20E-10N2	60	--	1984	--	4	621	--	872	500 to 580, 620 to 640, 710 to 850	Bouse Formation
50	6S/17E-3M1	--	--	--	--	--	566	--	818	--	Bouse Formation
54	8S/20E-28N1	--	--	--	--	--	654.5	--	500	--	Bouse Formation
55	7S/20E-1M1	CWV1#1	USGS	1/23/2012	Exploratory	2	415.4	--	993	973 to 993	Bouse Formation
56	7S/20E-1M2	CWV1#2	USGS	1/23/2012	Exploratory	2	415.4	--	505	485 to 505	Pinto Formation
57	7S/20E-1M3	CWV1#3	USGS	1/23/2012	Exploratory	2	415.4	--	230	210 to 230	Alluvium

TABLE 1
INVENTORY OF WELLS IN THE GROUNDWATER MONITORING AREA
 Genesis Solar Energy Project, Riverside County, California

Well ID	State Well Number	Other Name	Owner	Installation Date	Use/Status	Well Casing Diameter (inches)	Approximate Ground Surface Elevation (feet amsl)	Top Of Casing Elevation (feet amsl)	Well Depth (feet bgs)	Screened Interval (feet bgs)	Geologic Unit
ADDITIONAL WELLS IN THE CHUCKWALLA VALLEY GROUNDWATER BASIN WITHIN 10 MILES OF THE SITE FOR WHICH MONITORING DATA ARE NOT AVAILABLE											
1	5S/20E-16M1	McCoy Spring and DWR-17	--	--	Unused	--	889	--	--	--	--
5	6S/19E-25P1	--	--	--	Unknown / Destroyed	10	360	--	85.7	--	Alluvium
6	6S/19E-25R1	--	--	--	Unknown / Destroyed	10	360	--	61.9	--	Alluvium
7	6S/19E-25	Boreholes 1A, 1B, 1C	USGS	1978	Exploratory Borehole / Abandoned	--	358	--	--	--	--
8	6S/19E-26Z1	--	--	--	Unknown / Destroyed	--	--	--	--	--	--
10	6S/19E-29E1	--	--	--	Destroyed / Collapsed	6	377	--	Obstructed at 19.7	--	--
11	6S/19E-30H1	--	--	--	Destroyed	6	370	--	28.7	--	Alluvium
12	6S/19E-31Z1	--	--	--	Destroyed	--	--	--	--	--	--
13	6S/19E-32	--	Jacado Agri Corp.	6/27/1982	Destroyed	22 to 18 to 12	392	--	732	307 to 327 365 to 732	Bouse Formation
17	6S/19E-33A1	Hopkins Well and DWR-33X1	--	1911	Destroyed	12 to 8	361	--	1,200 (obstructed at 267 feet)	1,175 to 1,200	Fanglomerate
18	6S/19E-34	--	So Cal Gas	4/29/1989	Anode	1	368	--	400	200 to 400	Alluvium/Bouse
19	6S/19E-34	--	So Cal Gas	7/15/1981	Other	--	369	--	274	0 to 274	Alluvium/Bouse
20	6S/19E-36A1	--	--	--	Destroyed	10	365	--	64.8	--	Alluvium
21	6S/20E-30Z1	Ford Well	--	--	Stock / Destroyed	10	--	--	--	--	--
25	6S/20E-33	--	So Cal Gas	7/20/1981	Monitoring / Presumed Destroyed	1	397	--	278	0 to 278	Alluvium/Bouse Formation
30	7S/18E-14H1	--	--	--	Destroyed	6	546	--	123.9	--	Alluvium
38	7/20E-17C2	Observation Well 1	CA Department of Corrections	6/20/1986	Monitoring / Presumed Destroyed	1 1/4	433	--	1,040	795 to 815 and 995 to 1,015	Bouse Formation/ Fanglomerate
45	7S/20E-28	--	Chuckwalla Jojoba inc Great American Securities	6/6/1989	Test Hole/Abandoned	--	505	--	825	--	--
46	7S/20E-27L1	--	--	--	Destroyed	8	517	--	53.6	--	Alluvium

Notes:

-- = information not available or unknown

amsl = above mean sea level

bgs = below ground surface

1. Wells were surveyed on February 8 & 9, 2011. Ground surface elevation survey measurement taken at top of concrete pad.

2. Nested pressure transducer buried in place.

3. Well is obstructed at 450 feet and therefore not suitable for groundwater quality monitoring. Used for groundwater level monitoring only.

4. Well completion and screened interval determined by video log performed on 11/09/2010

5. Anode well completed with Coke Breeze and not considered to be suitable for water quality sampling and used for groundwater level monitoring program only.

6. No access port for groundwater level monitoring; used for groundwater quality monitoring only.

TABLE 2
GROUNDWATER LEVEL MEASUREMENTS
 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
WELLS INCLUDED IN THE GROUNDWATER LEVEL MONITORING PROGRAM						
TW-1	5/23/2009	WorleyParsons	387.40	89.75	297.65	Monitoring
TW-1	11/10/2010	WorleyParsons	387.40	86.65	300.75	Monitoring
TW-1	2/8/2011	WorleyParsons	387.40	86.67	300.73	Monitoring
TW-1	6/8/2011	WorleyParsons	387.40	86.58	300.82	Monitoring
TW-1	9/25/2011	WorleyParsons	387.40	86.48	300.92	Monitoring
TW-1	12/13/2011	WorleyParsons	387.40	86.25	301.15	Monitoring
TW-1	2/21/2012	WorleyParsons	387.40	86.58	300.82	Monitoring
TW-1	5/23/2012	WorleyParsons	387.40	86.43	300.97	Monitoring
TW-1	7/26/2012	WorleyParsons	387.40	86.47	300.93	Monitoring
TW-1	10/23/2012	WorleyParsons	387.40	86.43	300.97	Monitoring
TW-1	3/29/2013	WorleyParsons	387.40	86.46	300.94	Monitoring
TW-1	6/20/2013	WorleyParsons	387.40	86.43	300.97	Monitoring
TW-1	8/13/2013	WorleyParsons	387.40	86.43	300.97	Monitoring
TW-1	11/14/2013	WorleyParsons	387.40	86.53	300.87	Monitoring
TW-1	2/26/2014	WorleyParsons	387.40	86.49	300.91	Monitoring
TW-1	5/20/2014	Northstar	387.40	86.47	300.93	Monitoring
TW-1	8/8/2014	Northstar	387.40	86.46	300.94	Monitoring
TW-1	12/4/2014	Northstar	387.40	86.50	300.90	Monitoring
TW-1	3/26/2015	Northstar	387.40	86.56	300.84	Monitoring
TW-1	6/11/2015	Northstar	387.40	86.50	300.90	Monitoring
TW-1	12/10/2015	Northstar	387.40	86.56	300.84	Monitoring
TW-1	6/2/2016	Northstar	387.40	86.58	300.82	Monitoring
TW-1	11/30/2016	Northstar	387.40	86.70	300.70	Monitoring
TW-1	6/1/2017	Northstar	387.40	86.60	300.80	Monitoring
TW-1	12/5/2017	Northstar	387.40	86.70	300.70	Monitoring
TW-1	6/1/2018	Northstar	387.40	86.61	300.79	Monitoring
TW-2	1/5/2010	WorleyParsons	393.47	132.37	261.10	Monitoring
TW-2	11/9/2010	WorleyParsons	393.47	127.09	266.38	Monitoring
TW-2	1/19/2011	WorleyParsons	393.47	125.68	267.79	Monitoring
TW-2	2/8/2011	WorleyParsons	393.47	Pumping		Pumping
TW-2	6/9/2011	WorleyParsons	393.47	126.46	267.01	Monitoring
TW-2	9/26/2011	WorleyParsons	393.47	128.04	265.43	Monitoring
TW-2	12/14/2011	WorleyParsons	393.47	127.75	265.72	Monitoring
TW-2	2/21/2012	WorleyParsons	393.47	127.85	265.62	Monitoring
TW-2	5/24/2012	WorleyParsons	393.47	127.88	265.59	Monitoring
TW-2	7/26/2012	WorleyParsons	393.47	128.09	265.38	Monitoring
TW-2	10/23/2012	WorleyParsons	393.47	127.87	265.60	Monitoring
TW-2	3/28/2013	WorleyParsons	393.47	127.22	266.25	Monitoring
TW-2	6/20/2013	WorleyParsons	393.47	127.52	265.95	Monitoring
TW-2	8/13/2013	WorleyParsons	393.47	127.88	265.59	Monitoring
TW-2	11/12/2013	WorleyParsons	393.47	128.07	265.40	Monitoring
TW-2	2/26/2014	WorleyParsons	393.47	127.00	266.47	Monitoring
TW-2	5/20/2014	Northstar	393.47	127.18	266.29	Monitoring
TW-2	8/8/2014	Northstar	393.47	127.40	266.07	Monitoring
TW-2	12/4/2014	Northstar	393.47	127.22	266.25	Monitoring
TW-2	3/26/2015	Northstar	393.47	127.08	266.39	Monitoring
TW-2	6/11/2015	Northstar	393.47	127.00	266.47	Monitoring
TW-2	12/10/2015	Northstar	393.47	126.71	266.76	Monitoring
TW-2	6/2/2016	Northstar	393.47	126.60	266.87	Monitoring
TW-2	11/30/2016	Northstar	393.47	126.86	266.61	Monitoring
TW-2	6/1/2017	Northstar	393.47	126.60	266.87	Monitoring
TW-2	12/5/2017	Northstar	393.47	126.75	266.72	Monitoring
TW-2	6/1/2018	Northstar	393.47	126.78	266.69	Monitoring
OBS-1	5/25/2009	WorleyParsons	388.30	79.22	309.08	Monitoring
OBS-1	11/10/2010	WorleyParsons	388.30	77.67	310.63	Monitoring
OBS-1	2/8/2011	WorleyParsons	388.30	77.98	310.32	Monitoring
OBS-1	6/8/2011	WorleyParsons	388.30	77.99	310.31	Monitoring
OBS-1	9/25/2011	WorleyParsons	388.30	78.08	310.22	Monitoring
OBS-1	12/13/2011	WorleyParsons	388.30	78.29	310.01	Monitoring
OBS-1	2/21/2012	WorleyParsons	388.30	78.17	310.13	Monitoring
OBS-1	5/23/2012	WorleyParsons	388.30	78.14	310.16	Monitoring
OBS-1	7/26/2012	WorleyParsons	388.30	78.15	310.15	Monitoring
OBS-1	10/23/2012	WorleyParsons	388.30	78.09	310.21	Monitoring
OBS-1	3/29/2013	WorleyParsons	388.30	78.06	310.24	Monitoring
OBS-1	6/20/2013	WorleyParsons	388.30	78.05	310.25	Monitoring
OBS-1	8/13/2013	WorleyParsons	388.30	78.07	310.23	Monitoring
OBS-1	11/14/2013	WorleyParsons	388.30	78.15	310.15	Monitoring

TABLE 2
GROUNDWATER LEVEL MEASUREMENTS
 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
OBS-1	2/26/2014	WorleyParsons	388.30	78.12	310.18	Monitoring
OBS-1	5/20/2014	Northstar	388.30	78.06	310.24	Monitoring
OBS-1	8/8/2014	Northstar	388.30	78.05	310.25	Monitoring
OBS-1	12/4/2014	Northstar	388.30	78.10	310.20	Monitoring
OBS-1	3/26/2015	Northstar	388.30	78.15	310.15	Monitoring
OBS-1	6/11/2015	Northstar	388.30	78.10	310.20	Monitoring
OBS-1	12/10/2015	Northstar	388.30	78.20	310.10	Monitoring
OBS-1	6/2/2016	Northstar	388.30	78.14	310.16	Monitoring
OBS-1	11/30/2016	Northstar	388.30	78.20	310.10	Monitoring
OBS-1	6/1/2017	Northstar	388.30	78.13	310.17	Monitoring
OBS-1	12/5/2017	Northstar	388.30	78.18	310.12	Monitoring
OBS-1	6/1/2018	Northstar	388.30	78.10	310.20	Monitoring
OBS-2-270 ⁶	7/9/2009	WorleyParsons	388.14	78.75	309.39	Monitoring
OBS-2-270 ⁶	11/10/2010	WorleyParsons	388.14	80.56	307.58	Monitoring
OBS-2-270 ⁶	2/8/2011	WorleyParsons	388.14	80.61	307.53	Monitoring
OBS-2-270 ⁶	2/8/2011	WorleyParsons	388.14	80.68	307.46	Monitoring
OBS-2-270 ⁶	9/25/2011	WorleyParsons	388.14	80.77	307.37	Monitoring
OBS-2-270 ⁶	12/14/2011	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-270 ⁶	2/21/2012	WorleyParsons	388.14	80.47	307.67	Monitoring
OBS-2-270 ⁶	5/25/2012	WorleyParsons	388.14	81.28	306.86	Monitoring
OBS-2-270 ⁶	7/26/2012	WorleyParsons	388.14	81.00	307.14	Monitoring
OBS-2-270 ⁶	10/23/2012	WorleyParsons	388.14	81.01	307.13	Monitoring
OBS-2-270 ⁶	3/29/2013	WorleyParsons	388.14	80.99	307.15	Monitoring
OBS-2-270 ⁶	6/20/2013	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-270 ⁶	8/13/2013	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-270 ⁶	11/12/2013	WorleyParsons	388.14	81.24	306.90	Monitoring
OBS-2-270 ⁶	2/26/2014	WorleyParsons	388.14	81.48	306.66	Monitoring
OBS-2-315 ⁶	7/9/2009	WorleyParsons	388.14	80.89	307.25	Monitoring
OBS-2-315 ⁶	11/10/2010	WorleyParsons	388.14	82.51	305.63	Monitoring
OBS-2-315 ⁶	2/8/2011	WorleyParsons	388.14	82.61	305.53	Monitoring
OBS-2-315 ⁶	2/8/2011	WorleyParsons	388.14	82.83	305.31	Monitoring
OBS-2-315 ⁶	9/25/2011	WorleyParsons	388.14	83.03	305.11	Monitoring
OBS-2-315 ⁶	12/14/2011	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-315 ⁶	2/21/2012	WorleyParsons	388.14	82.81	305.33	Monitoring
OBS-2-315 ⁶	5/25/2012	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-315 ⁶	7/26/2012	WorleyParsons	388.14	83.38	304.76	Monitoring
OBS-2-315 ⁶	10/23/2012	WorleyParsons	388.14	83.43	304.71	Monitoring
OBS-2-315 ⁶	3/29/2013	WorleyParsons	388.14	83.45	304.69	Monitoring
OBS-2-315 ⁶	6/20/2013	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-315 ⁶	8/13/2013	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-315 ⁶	11/12/2013	WorleyParsons	388.14	83.74	304.40	Monitoring
OBS-2-315 ⁶	2/26/2014	WorleyParsons	388.14	83.96	304.18	Monitoring
OBS-2-370 ⁶	7/9/2009	WorleyParsons	388.14	82.46	305.68	Monitoring
OBS-2-370 ⁶	11/10/2010	WorleyParsons	388.14	84.60	303.54	Monitoring
OBS-2-370 ⁶	2/8/2011	WorleyParsons	388.14	85.01	303.13	Monitoring
OBS-2-370 ⁶	9/25/2011	WorleyParsons	388.14	85.24	302.90	Monitoring
OBS-2-370 ⁶	12/14/2011	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-370 ⁶	2/21/2012	WorleyParsons	388.14	85.05	303.09	Monitoring
OBS-2-370 ⁶	5/25/2012	WorleyParsons	388.14	85.84	302.30	Monitoring
OBS-2-370 ⁶	7/26/2012	WorleyParsons	388.14	85.64	302.50	Monitoring
OBS-2-370 ⁶	10/23/2012	WorleyParsons	388.14	85.70	302.44	Monitoring
OBS-2-370 ⁶	3/29/2013	WorleyParsons	388.14	85.75	302.39	Monitoring
OBS-2-370 ⁶	6/20/2013	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-370 ⁶	8/13/2013	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-370 ⁶	11/12/2013	WorleyParsons	388.14	86.05	302.09	Monitoring
OBS-2-370 ⁶	2/26/2014	WorleyParsons	388.14	86.27	301.87	Monitoring
OBS-2-400 ⁶	7/9/2009	WorleyParsons	388.14	86.26	301.88	Monitoring
OBS-2-400 ⁶	11/10/2010	WorleyParsons	388.14	87.34	300.80	Monitoring
OBS-2-400 ⁶	2/8/2011	WorleyParsons	388.14	87.41	300.73	Monitoring
OBS-2-400 ⁶	2/8/2011	WorleyParsons	388.14	87.57	300.57	Monitoring

TABLE 2
GROUNDWATER LEVEL MEASUREMENTS
 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
OBS-2-400 ⁶	9/25/2011	WorleyParsons	388.14	87.73	300.41	Monitoring
OBS-2-400 ⁶	12/14/2011	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-400 ⁶	2/21/2012	WorleyParsons	388.14	87.47	300.67	Monitoring
OBS-2-400 ⁶	5/25/2012	WorleyParsons	388.14	88.20	299.94	Monitoring
OBS-2-400 ⁶	7/26/2012	WorleyParsons	388.14	87.96	300.18	Monitoring
OBS-2-400 ⁶	10/23/2012	WorleyParsons	388.14	87.97	300.17	Monitoring
OBS-2-400 ⁶	3/29/2013	WorleyParsons	388.14	88.20	299.94	Monitoring
OBS-2-400 ⁶	6/20/2013	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-400 ⁶	8/13/2013	WorleyParsons	388.14	NM ²		Monitoring
OBS-2-400 ⁶	11/12/2013	WorleyParsons	388.14	88.12	300.02	Monitoring
OBS-2-400 ⁶	2/26/2014	WorleyParsons	388.14	88.31	299.83	Monitoring
14	6/8/2011	WorleyParsons	388.14	100.98	287.16	Monitoring
14	9/26/2011	WorleyParsons	388.14	100.65	287.49	Monitoring
14	12/14/2011	WorleyParsons	388.14	100.87	287.27	Monitoring
14	2/21/2012	WorleyParsons	388.14	100.85	287.29	Monitoring
14	5/24/2012	WorleyParsons	388.14	100.70	287.44	Monitoring
14	7/26/2012	WorleyParsons	388.14	100.72	287.42	Monitoring
14	10/23/2012	WorleyParsons	388.14	100.66	287.48	Monitoring
14	3/28/2013	WorleyParsons	388.14	100.49	287.65	Monitoring
14	6/20/2013	WorleyParsons	388.14	100.46	287.68	Monitoring
14	8/13/2013	WorleyParsons	388.14	100.46	287.68	Monitoring
14	11/12/2013	WorleyParsons	388.14	NM ⁴		Monitoring
14	2/26/2014	WorleyParsons	388.14	100.39	287.75	Monitoring
14	5/20/2014	Northstar	388.14	100.35	287.79	Monitoring
14	8/8/2014	Northstar	388.14	100.26	287.88	Monitoring
14	12/4/2014	Northstar	388.14	100.25	287.89	Monitoring
14	3/26/2015	Northstar	388.14	100.25	287.89	Monitoring
14	6/11/2015	Northstar	388.14	100.15	287.99	Monitoring
14	12/10/2015	Northstar	388.14	100.12	288.02	Monitoring
14	6/2/2016	Northstar	388.14	100.08	288.06	Monitoring
14	11/30/2016	Northstar	388.14	100.10	288.04	Monitoring
14	6/2/2017	Northstar	388.14	100.13	288.01	Monitoring
14 ⁸	12/5/2017	Northstar	388.14	128.75		Monitoring
14	6/1/2018	Northstar	388.14	100.60	287.54	Monitoring
23a	11/11/2010	WorleyParsons	392.10	138.05	254.05	Monitoring
23a	2/8/2011	WorleyParsons	392.10	137.12	254.98	Monitoring
23a	6/7/2011	WorleyParsons	392.10	137.58	254.52	Monitoring
23a	9/26/2011	WorleyParsons	392.10	138.01	254.09	Monitoring
23a	12/14/2011	WorleyParsons	392.10	138.88	253.22	Monitoring
23a	2/22/2012	WorleyParsons	392.10	137.70	254.40	Monitoring
23a	5/24/2012	WorleyParsons	392.10	137.74	254.36	Monitoring
23a	7/26/2012	WorleyParsons	392.10	137.76	254.34	Monitoring
23a	10/23/2012	WorleyParsons	392.10	137.94	254.16	Monitoring
23a	3/28/2013	WorleyParsons	392.10	137.27	254.83	Monitoring
23a	6/20/2013	WorleyParsons	392.10	137.77	254.33	Monitoring
23a	8/13/2013	WorleyParsons	392.10	137.81	254.29	Monitoring
23a	11/12/2013	WorleyParsons	392.10	138.01	254.09	Monitoring
23a	2/25/2014	WorleyParsons	392.10	136.90	255.20	Monitoring
23a	5/20/2014	Northstar	392.10	137.15	254.95	Monitoring
23a	8/8/2014	Northstar	392.10	137.31	254.79	Monitoring
23a	12/4/2014	Northstar	392.10	137.18	254.92	Monitoring
23a	3/26/2015	Northstar	392.10	NM ⁷		Monitoring
23a	6/11/2015	Northstar	392.10	NM ⁷		Monitoring
23a	12/10/2015	Northstar	392.10	136.60	255.50	Monitoring
23a	6/2/2016	Northstar	392.10	136.55	255.55	Monitoring
23a	11/30/2016	Northstar	392.10	136.75	255.35	Monitoring
23a	6/1/2017	Northstar	392.10	136.40	255.70	Monitoring
23a	12/5/2017	Northstar	392.10	136.70	255.40	Monitoring
23a	6/1/2018	Northstar	392.10	136.60	255.50	Monitoring
24-1	2/8/2011	WorleyParsons	389.40	123.66	265.74	Monitoring
24-1	6/8/2011	WorleyParsons	389.40	126.71	262.69	Monitoring
24-1	9/26/2011	WorleyParsons	389.40	127.15	262.25	Monitoring
24-1	12/13/2011	WorleyParsons	389.40	126.98	262.42	Monitoring
24-1	2/22/2012	WorleyParsons	389.40	127.20	262.20	Monitoring
24-1	5/23/2012	WorleyParsons	389.40	127.14	262.26	Monitoring

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 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
24-1	7/26/2012	WorleyParsons	389.40	127.31	262.09	Monitoring
24-1	10/23/2012	WorleyParsons	389.40	127.21	262.19	Monitoring
24-1	3/28/2013	WorleyParsons	389.40	126.73	262.67	Monitoring
24-1	6/19/2013	WorleyParsons	389.40	127.95	261.45	Monitoring
24-1	8/14/2013	WorleyParsons	389.40	127.18	262.22	Monitoring
24-1	11/13/2013	WorleyParsons	389.40	127.31	262.09	Monitoring
24-1	2/25/2014	WorleyParsons	389.40	125.70	263.70	Monitoring
24-1	5/22/2014	Northstar	389.40	126.84	262.56	Monitoring
24-1	8/8/2014	Northstar	389.40	126.91	262.49	Monitoring
24-1	12/5/2014	Northstar	389.40	126.91	262.49	Monitoring
24-1	3/26/2015	Northstar	389.40	127.10	262.30	Monitoring
24-1	6/11/2015	Northstar	389.40	127.02	262.38	Monitoring
24-1	12/11/2015	Northstar	389.40	126.80	262.60	Monitoring
24-1	6/3/2016	Northstar	389.40	126.79	262.61	Monitoring
24-1	11/30/2016	Northstar	389.40	126.93	262.47	Monitoring
24-1	6/2/2017	Northstar	389.40	126.88	262.52	Monitoring
24-1	12/5/2017	Northstar	389.40	126.95	262.45	Monitoring
24-1	6/1/2018	Northstar	389.40	126.91	262.49	Monitoring
24-2	2/8/2011	WorleyParsons	388.86	124.91	263.95	Monitoring
24-2	10/23/2011	WorleyParsons	388.86	125.69	263.17	Monitoring
24-2	6/19/2013	WorleyParsons	388.86	125.40	263.46	Monitoring
24-2	8/14/2013	WorleyParsons	388.86	126.60	262.26	Monitoring
24-2	5/22/2014	Northstar	388.86	125.82	263.04	Monitoring
24-2	8/8/2014	Northstar	388.86	125.33	263.53	Monitoring
24-2	12/5/2014	Northstar	388.86	125.95	262.91	Monitoring
24-2	3/26/2015	Northstar	388.86	125.20	263.66	Monitoring
24-2	6/11/2015	Northstar	388.86	125.15	263.71	Monitoring
24-2	12/11/2015	Northstar	388.86	124.90	263.96	Monitoring
24-2	6/3/2016	Northstar	388.86	124.90	263.96	Monitoring
24-2	11/30/2016	Northstar	388.86	125.08	263.78	Monitoring
24-2	6/2/2017	Northstar	388.86	125.00	263.86	Monitoring
24-2	12/5/2017	Northstar	388.86	125.05	263.81	Monitoring
24-2	6/1/2018	Northstar	388.86	125.00	263.86	Monitoring
24-3	2/8/2011	WorleyParsons	392.04	126.45	265.59	Monitoring
24-3	10/23/2011	WorleyParsons	392.04	124.48	267.56	Monitoring
24-3	6/19/2013	WorleyParsons	392.04	124.15	267.89	Monitoring
24-3	8/14/2013	WorleyParsons	392.04	124.44	267.60	Monitoring
24-3	5/22/2014	Northstar	392.04	124.00	268.04	Monitoring
24-3	8/8/2014	Northstar	392.04	124.07	267.97	Monitoring
24-3	12/5/2014	Northstar	392.04	124.05	267.99	Monitoring
24-3	3/26/2015	Northstar	392.04	123.90	268.14	Monitoring
24-3	6/11/2015	Northstar	392.04	123.85	268.19	Monitoring
24-3	12/11/2015	Northstar	392.04	123.55	268.49	Monitoring
24-3	6/3/2016	Northstar	392.04	123.48	268.56	Monitoring
24-3	11/30/2016	Northstar	392.04	123.65	268.39	Monitoring
24-3	6/2/2017	Northstar	392.04	123.55	268.49	Monitoring
24-3	12/5/2017	Northstar	392.04	123.65	268.39	Monitoring
24-3	6/1/2018	Northstar	392.04	123.57	268.47	Monitoring
PW-0	12/14/2011	WorleyParsons	385.64	NM ³		Production/Monitoring
PW-0	2/23/2012	WorleyParsons	385.64	NM ³		Production/Monitoring
PW-0	5/23/2012	WorleyParsons	385.64	NM ³		Production/Monitoring
PW-0	7/26/2012	WorleyParsons	385.64	NM ³		Production/Monitoring
PW-0	10/23/2012	WorleyParsons	385.64	Pumping		Production/Monitoring
PW-0	3/28/2013	WorleyParsons	385.64	67.71	317.93	Production/Monitoring
PW-0	6/19/2013	WorleyParsons	385.64	Pumping		Production/Monitoring
PW-0	8/13/2013	WorleyParsons	385.64	100.49	285.15	Production/Monitoring
PW-0	11/13/2013	WorleyParsons	385.64	118.10	267.54	Production/Monitoring
PW-0	2/26/2014	WorleyParsons	385.64	98.46	287.18	Production/Monitoring
PW-0	5/20/2014	Northstar	385.64	99.60	286.04	Production/Monitoring
PW-0	8/8/2014	Northstar	385.64	99.06	286.58	Production/Monitoring
PW-0	12/4/2014	Northstar	385.64	99.65	285.99	Production/Monitoring
PW-0	3/26/2015	Northstar	385.64	99.62	286.02	Production/Monitoring
PW-0	6/11/2015	Northstar	385.64	98.00	287.64	Production/Monitoring
PW-0	12/10/2015	Northstar	385.64	99.55	286.09	Production/Monitoring
PW-0	6/3/2016	Northstar	385.64	99.78	285.86	Production/Monitoring
PW-0	11/30/2016	Northstar	385.64	99.50	286.14	Production/Monitoring

TABLE 2
GROUNDWATER LEVEL MEASUREMENTS
 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
PW-0	6/1/2017	Northstar	385.64	99.32	286.32	Production/Monitoring
PW-0	12/5/2017	Northstar	385.64	98.00	287.64	Production/Monitoring
PW-0	5/30/2018	Northstar	385.64	99.27	286.37	Production/Monitoring
PW-1	12/14/2011	WorleyParsons	384.43	Pumping		Production/Monitoring
PW-1	2/23/2012	WorleyParsons	384.43	100.84	283.59	Production/Monitoring
PW-1	5/23/2012	WorleyParsons	384.43	Pumping		Production/Monitoring
PW-1	7/26/2012	WorleyParsons	384.43	101.09		Production/Monitoring
PW-1	10/23/2012	WorleyParsons	384.43	100.89	283.54	Production/Monitoring
PW-1	3/28/2013	WorleyParsons	384.43	100.60	283.83	Production/Monitoring
PW-1	6/19/2013	WorleyParsons	384.43	Pumping		Production/Monitoring
PW-1	8/13/2013	WorleyParsons	384.43	109.35	275.08	Production/Monitoring
PW-1	11/13/2013	WorleyParsons	384.43	99.89	284.54	Production/Monitoring
PW-1	2/26/2014	WorleyParsons	384.43	98.49	285.94	Production/Monitoring
PW-1	5/20/2014	Northstar	384.43	NM ⁵		Production/Monitoring
PW-1	8/8/2014	Northstar	384.43	NM ⁵		Production/Monitoring
PW-1	12/4/2014	Northstar	384.43	NM ⁵		Production/Monitoring
PW-1	3/26/2015	Northstar	384.43	NM ⁵		Production/Monitoring
PW-1	6/11/2015	Northstar	384.43	NM ⁵		Production/Monitoring
PW-1	12/10/2015	Northstar	384.43	NM ⁵		Production/Monitoring
PW-1	6/2/2016	Northstar	384.43	NM ⁵		Production/Monitoring
PW-1	11/30/2016	Northstar	384.43	NM ⁵		Production/Monitoring
PW-1	6/1/2017	Northstar	384.43	98.20	286.23	Production/Monitoring
PW-1	12/5/2017	Northstar	384.43	98.30	286.13	Production/Monitoring
PW-1	5/30/2018	Northstar	384.43	98.24	286.19	Production/Monitoring
PW-2	12/14/2011	WorleyParsons	385.15	Pumping		Production/Monitoring
PW-2	2/23/2012	WorleyParsons	385.15	Pumping		Production/Monitoring
PW-2	5/23/2012	WorleyParsons	385.15	Pumping		Production/Monitoring
PW-2	7/26/2012	WorleyParsons	385.15	101.30	283.85	Production/Monitoring
PW-2	10/23/2012	WorleyParsons	385.15	Pumping		Production/Monitoring
PW-2	3/28/2013	WorleyParsons	385.15	Pumping		Production/Monitoring
PW-2	6/19/2013	WorleyParsons	385.15	Pumping		Production/Monitoring
PW-2	8/13/2013	WorleyParsons	385.15	101.75	283.40	Production/Monitoring
PW-2	11/12/2013	WorleyParsons	385.15	102.69	282.46	Production/Monitoring
PW-2	2/26/2014	WorleyParsons	385.15	100.52	284.63	Production/Monitoring
PW-2	5/20/2014	Northstar	385.15	Pumping		Production/Monitoring
PW-2	8/8/2014	Northstar	385.15	Pumping		Production/Monitoring
PW-2	12/4/2014	Northstar	385.15	Pumping		Production/Monitoring
PW-2	3/26/2015	Northstar	385.15	Pumping		Production/Monitoring
PW-2	6/11/2015	Northstar	385.15	Pumping		Production/Monitoring
PW-2	12/10/2015	Northstar	385.15	Pumping		Production/Monitoring
PW-2	6/2/2016	Northstar	385.15	Pumping		Production/Monitoring
PW-2	11/30/2016	Northstar	385.15	Pumping		Production/Monitoring
PW-2	6/1/2017	Northstar	385.15	Pumping		Production/Monitoring
PW-2	12/5/2017	Northstar	385.15	Pumping		Production/Monitoring
PW-2	5/30/2018	Northstar	385.15	105.69	279.46	Production/Monitoring
DM-1	2/27/2012	WorleyParsons	391.49	106.63	284.86	Monitoring
DM-1	5/24/2012	WorleyParsons	391.49	107.11	284.38	Monitoring
DM-1	7/26/2012	WorleyParsons	391.49	107.10	284.39	Monitoring
DM-1	11/14/2012	WorleyParsons	391.49	108.15	283.34	Monitoring
DM-1	3/29/2013	WorleyParsons	391.49	107.34	284.15	Monitoring
DM-1	6/19/2013	WorleyParsons	391.49	107.19	284.30	Monitoring
DM-1	8/13/2013	WorleyParsons	391.49	107.07	284.42	Monitoring
DM-1	11/12/2013	WorleyParsons	391.49	107.22	284.27	Monitoring
DM-1	2/26/2014	WorleyParsons	391.49	107.13	284.36	Monitoring
DM-1	5/22/2014	Northstar	391.49	107.05	284.44	Monitoring
DM-1	8/8/2014	Northstar	391.49	107.11	284.38	Monitoring
DM-1	12/4/2014	Northstar	391.49	107.03	284.46	Monitoring
DM-1	3/26/2015	Northstar	391.49	107.22	284.27	Monitoring
DM-1	6/11/2015	Northstar	391.49	107.01	284.48	Monitoring
DM-1	12/10/2015	Northstar	391.49	106.98	284.51	Monitoring
DM-1	6/2/2016	Northstar	391.49	107.18	284.31	Monitoring
DM-1	11/30/2016	Northstar	391.49	107.27	284.22	Monitoring
DM-1	6/1/2017	Northstar	391.49	107.12	284.37	Monitoring
DM-1	12/5/2017	Northstar	391.49	107.38	284.11	Monitoring
DM-1	5/30/2018	Northstar	391.49	107.10	284.39	Monitoring

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 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
DM-2	2/27/2012	WorleyParsons	391.32	106.92	284.40	Monitoring
DM-2	5/24/2012	WorleyParsons	391.32	107.37	283.95	Monitoring
DM-2	7/26/2012	WorleyParsons	391.32	107.33	283.99	Monitoring
DM-2	11/14/2012	WorleyParsons	391.32	108.33	282.99	Monitoring
DM-2	3/29/2013	WorleyParsons	391.32	107.59	283.73	Monitoring
DM-2	6/19/2013	WorleyParsons	391.32	107.41	283.91	Monitoring
DM-2	8/13/2013	WorleyParsons	391.32	107.31	284.01	Monitoring
DM-2	11/12/2013	WorleyParsons	391.32	107.63	283.69	Monitoring
DM-2	2/26/2014	WorleyParsons	391.32	107.40	283.92	Monitoring
DM-2	5/22/2014	Northstar	391.32	107.28	284.04	Monitoring
DM-2	8/8/2014	Northstar	391.32	107.28	284.04	Monitoring
DM-2	12/4/2014	Northstar	391.32	107.43	283.89	Monitoring
DM-2	3/26/2015	Northstar	391.32	107.61	283.71	Monitoring
DM-2	6/11/2015	Northstar	391.32	107.40	283.92	Monitoring
DM-2	12/10/2015	Northstar	391.32	107.30	284.02	Monitoring
DM-2	6/2/2016	Northstar	391.32	107.38	283.94	Monitoring
DM-2	11/30/2016	Northstar	391.32	107.52	283.80	Monitoring
DM-2	6/1/2017	Northstar	391.32	107.47	283.85	Monitoring
DM-2	12/5/2017	Northstar	391.32	107.78	283.54	Monitoring
DM-2	5/30/2018	Northstar	391.32	107.45	283.87	Monitoring
DM-3	2/27/2012	WorleyParsons	388.34	103.85	284.49	Monitoring
DM-3	5/24/2012	WorleyParsons	388.34	104.35	283.99	Monitoring
DM-3	7/26/2012	WorleyParsons	388.34	104.28	284.06	Monitoring
DM-3	11/14/2012	WorleyParsons	388.34	105.25	283.09	Monitoring
DM-3	3/29/2013	WorleyParsons	388.34	104.35	283.99	Monitoring
DM-3	6/19/2013	WorleyParsons	388.34	104.20	284.14	Monitoring
DM-3	8/13/2013	WorleyParsons	388.34	104.31	284.03	Monitoring
DM-3	11/12/2013	WorleyParsons	388.34	104.43	283.91	Monitoring
DM-3	2/26/2014	WorleyParsons	388.34	104.31	284.03	Monitoring
DM-3	5/22/2014	Northstar	388.34	104.20	284.14	Monitoring
DM-3	8/8/2014	Northstar	388.34	104.21	284.13	Monitoring
DM-3	12/4/2014	Northstar	388.34	104.39	283.95	Monitoring
DM-3	3/26/2015	Northstar	388.34	104.59	283.75	Monitoring
DM-3	6/12/2015	Northstar	388.34	104.18	284.16	Monitoring
DM-3	12/11/2015	Northstar	388.34	103.96	284.38	Monitoring
DM-3	6/3/2016	Northstar	388.34	104.38	283.96	Monitoring
DM-3	12/2/2016	Northstar	388.34	104.28	284.06	Monitoring
DM-3	6/1/2017	Northstar	388.34	104.25	284.09	Monitoring
DM-3	12/5/2017	Northstar	388.34	104.62	283.72	Monitoring
DM-3	5/30/2018	Northstar	388.34	104.27	284.07	Monitoring
ADDITIONAL WELLS IN THE CHUCKWALLA VALLEY GROUNDWATER BASIN WITHIN 10 MILES OF THE SITE FOR WHICH GROUNDWATER LEVEL DATA IS AVAILABLE						
2	5/19/1961	DWR, 1963	424	140.00	284.00	Irrigation
3	2/26/1982	DWRWell Records	498	180.00	318.00	Irrigation
4	7/24/1961	DWR, 1963	354	60.05	293.95	Unused
9	9/16/1990	USGS-NWIS	354	81.36	272.64	Unknown
9	9/24/1990	USGS-NWIS	354	81.56	272.44	Unknown
9	2/13/1992	USGS-NWIS	354	81.20	272.80	Unknown
15	2/17/1992	USGS-NWIS	390.2	104.36	285.84	Unknown
15	3/15/2000	USGS-NWIS	390.2	97.36	292.84	Unknown
15	9/23/2009	WorleyParsons	390.2	97.00	293.20	Unknown
16	2/17/1992	USGS-NWIS	390	110.39	279.61	Unknown
16	9/23/2009	WorleyParsons	390	103.00	287.00	Unknown
22	2/4/2002	USGS-NWIS	387.6	125.29	262.31	Unknown
23	9/26/1990	USGS-NWIS	392.1	134.10	258.00	Unknown
23	2/10/1992	USGS-NWIS	392.1	134.80	257.30	Unknown
26	12/26/1982	USGS-NWIS	562.6	300.00	262.60	Irrigation
26	2/13/1992	USGS-NWIS	562.6	270.28	292.32	Irrigation
26	3/15/2000	USGS-NWIS	562.6	269.85	292.75	Irrigation
26	9/23/2009	WorleyParsons	562.6	282.00	280.60	Irrigation
27	6/19/1961	DWR, 1963	555	258.83	296.17	Unused
28	6/19/1961	DWR, 1963	520	21.65	498.35	Unused
29	1/16/1983	USGS-NWIS	545.9	270.00	275.90	Irrigation
29	2/13/1992	USGS-NWIS	545.9	257.61	288.29	Irrigation
29	3/15/2000	USGS-NWIS	545.9	257.22	288.68	Irrigation
29	9/23/2009	WorleyParsons	545.9	250.00	295.90	Irrigation
29	4/28/2011	USGS-NWIS	545.9	257.83	288.07	Irrigation
31	9/16/1990	USGS-NWIS	423.9	144.25	279.65	Unused
31	3/29/2000	USGS-NWIS	423.9	144.41	279.49	Unused

TABLE 2
GROUNDWATER LEVEL MEASUREMENTS
 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
32	6/12/1961	USGS-NWIS	418	151.83	266.17	Unused
32	10/10/1961	USGS-NWIS	418	151.09	266.91	Unused
32	11/8/1961	USGS-NWIS	418	151.03	266.97	Unused
32	1/10/1962	USGS-NWIS	418	151.04	266.96	Unused
32	3/8/1962	USGS-NWIS	418	150.89	267.11	Unused
32	4/9/1962	USGS-NWIS	418	150.73	267.27	Unused
32	5/7/1962	USGS-NWIS	418	150.83	267.17	Unused
32	10/31/1962	USGS-NWIS	418	150.90	267.10	Unused
32	3/13/1963	USGS-NWIS	418	150.84	267.16	Unused
32	10/31/1963	USGS-NWIS	418	150.91	267.09	Unused
32	3/19/1964	USGS-NWIS	418	150.77	267.23	Unused
32	11/25/1964	USGS-NWIS	418	151.13	266.87	Unused
32	3/18/1965	USGS-NWIS	418	151.21	266.79	Unused
32	11/18/1965	USGS-NWIS	418	151.40	266.60	Unused
32	3/2/1966	USGS-NWIS	418	150.66	267.34	Unused
32	10/27/1966	USGS-NWIS	418	150.89	267.11	Unused
32	3/16/1967	USGS-NWIS	418	150.92	267.08	Unused
32	10/25/1967	USGS-NWIS	418	150.86	267.14	Unused
32	10/23/1969	USGS-NWIS	418	150.89	267.11	Unused
32	4/30/1970	USGS-NWIS	418	150.95	267.05	Unused
33	1987	USGS-NWIS	457.5	202.25	255.25	Unknown
33	9/17/1990	USGS-NWIS	457.5	205.62	251.88	Unknown
33	2/10/1992	USGS-NWIS	457.5	206.70	250.80	Unknown
33	2/11/1992	USGS-NWIS	457.5	206.27	251.23	Unknown
34	10/8/1992	USGS-NWIS	458.3	213.00	245.30	Public Water Supply
35	12/1987	USGS-NWIS	456.5	205.00	251.50	Unknown
35	2/10/1992	USGS-NWIS	456.5	200.50	256.00	Unknown
35	2/11/1992	USGS-NWIS	456.5	199.07	257.43	Unknown
35	2/11/1992	USGS-NWIS	456.5	199.60	256.90	Unknown
36	12/1987	USGS-NWIS	443.5	203.00	240.50	Public Water Supply
36	9/17/1990	USGS-NWIS	443.5	189.05	254.45	Public Water Supply
36	2/10/1992	USGS-NWIS	443.5	187.70	255.80	Public Water Supply
36	2/10/1992	USGS-NWIS	443.5	186.20	257.30	Public Water Supply
36	3/16/2000	USGS-NWIS	443.5	199.24	244.26	Public Water Supply
37	7/1/1981	Kennedy/Jenks/Chilton	433.09	163.00	270.09	Irrigation (abandoned)
37	2/11/1992	USGS-NWIS	433.09	174.47	258.62	Irrigation (abandoned)
39	4/5/1961	USGS-NWIS	442.9	168.37	274.53	Irrigation
39	4/30/1970	USGS-NWIS	442.9	171.81	271.09	Irrigation
39	7/31/1979	USGS-NWIS	442.9	173.48	269.42	Irrigation
39	7/24/1980	USGS-NWIS	442.9	169.06	273.84	Irrigation
39	1/23/1981	USGS-NWIS	442.9	169.22	273.68	Irrigation
39	9/23/1981	USGS-NWIS	442.9	169.23	273.67	Irrigation
39	3/3/1982	USGS-NWIS	442.9	170.26	272.64	Irrigation
39	1/28/1983	USGS-NWIS	442.9	170.54	272.36	Irrigation
39	7/31/1984	USGS-NWIS	442.9	170.65	272.25	Irrigation
39	2/27/1985	USGS-NWIS	442.9	171.10	271.80	Irrigation
39	6/12/1985	USGS-NWIS	442.9	172.90	270.00	Irrigation
39	2/9/1992	USGS-NWIS	442.9	183.46	259.44	Irrigation
40	10/30/1992	USGS-NWIS	449.4	193.00	256.40	Public Water Supply
41	10/19/1992	USGS-NWIS	453.6	202.00	251.60	Public Water Supply
42	1/1/1982	Kennedy/Jenks/Chilton	470	197.00	273.00	Irrigation
43	3/15/1982	USGS-NWIS	505.6	248.00	257.60	Irrigation
43	2/13/1992	USGS-NWIS	505.6	232.35	273.25	Irrigation
43	3/29/2000	USGS-NWIS	505.6	234.50	271.10	Irrigation
43	10/5/2000	USGS-NWIS	505.6	234.84	270.76	Irrigation
43	1/10/2001	USGS-NWIS	505.6	234.89	270.71	Irrigation
43	2/23/2001	USGS-NWIS	505.6	234.45	271.15	Irrigation
43	4/16/2001	USGS-NWIS	505.6	234.82	270.78	Irrigation
43	4/16/2001	USGS-NWIS	505.6	234.82	270.78	Irrigation
43	7/10/2001	USGS-NWIS	505.6	235.40	270.20	Irrigation
43	11/7/2001	USGS-NWIS	505.6	235.66	269.94	Irrigation
43	11/7/2001	USGS-NWIS	505.6	235.69	269.91	Irrigation
43	4/3/2002	USGS-NWIS	505.6	234.69	270.91	Irrigation
43	4/3/2002	USGS-NWIS	505.6	234.69	270.91	Irrigation
43	10/2/2002	USGS-NWIS	505.6	236.04	269.56	Irrigation
43	10/2/2002	USGS-NWIS	505.6	236.16	269.44	Irrigation
43	6/3/2003	USGS-NWIS	505.6	235.59	270.01	Irrigation
43	6/3/2003	USGS-NWIS	505.6	235.61	269.99	Irrigation
43	11/5/2003	USGS-NWIS	505.6	236.46	269.14	Irrigation
43	11/5/2003	USGS-NWIS	505.6	236.45	269.15	Irrigation

TABLE 2
GROUNDWATER LEVEL MEASUREMENTS
 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
43	3/2/2004	USGS-NWIS	505.6	235.65	269.95	Irrigation
43	3/2/2004	USGS-NWIS	505.6	235.63	269.97	Irrigation
43	8/4/2004	USGS-NWIS	505.6	235.85	269.75	Irrigation
43	12/8/2004	USGS-NWIS	505.6	235.78	269.82	Irrigation
43	4/15/2005	USGS-NWIS	505.6	235.28	270.32	Irrigation
43	8/31/2005	USGS-NWIS	505.6	235.89	269.71	Irrigation
43	8/31/2005	USGS-NWIS	505.6	235.84	269.76	Irrigation
43	2/14/2006	USGS-NWIS	505.6	235.78	269.82	Irrigation
43	2/14/2006	USGS-NWIS	505.6	235.79	269.81	Irrigation
43	5/5/2006	USGS-NWIS	505.6	236.38	269.22	Irrigation
43	5/5/2006	USGS-NWIS	505.6	236.39	269.21	Irrigation
43	8/10/2006	USGS-NWIS	505.6	236.66	268.94	Irrigation
43	8/10/2006	USGS-NWIS	505.6	236.66	268.94	Irrigation
43	12/8/2006	USGS-NWIS	505.6	236.57	269.03	Irrigation
43	12/8/2006	USGS-NWIS	505.6	236.57	269.03	Irrigation
43	2/7/2007	USGS-NWIS	505.6	236.16	269.44	Irrigation
43	2/7/2007	USGS-NWIS	505.6	236.16	269.44	Irrigation
43	5/17/2007	USGS-NWIS	505.6	236.55	269.05	Irrigation
43	5/17/2007	USGS-NWIS	505.6	236.56	269.04	Irrigation
43	9/5/2007	USGS-NWIS	505.6	236.91	268.69	Irrigation
43	9/5/2007	USGS-NWIS	505.6	236.91	268.69	Irrigation
43	9/5/2007	USGS-NWIS	505.6	236.91	268.69	Irrigation
43	12/13/2007	USGS-NWIS	505.6	236.55	269.05	Irrigation
43	12/13/2007	USGS-NWIS	505.6	236.54	269.06	Irrigation
43	3/19/2008	USGS-NWIS	505.6	235.65	269.95	Irrigation
43	3/19/2008	USGS-NWIS	505.6	235.64	269.96	Irrigation
43	3/19/2008	USGS-NWIS	505.6	235.67	269.93	Irrigation
43	6/25/2008	USGS-NWIS	505.6	235.62	269.98	Irrigation
43	6/25/2008	USGS-NWIS	505.6	235.60	270.00	Irrigation
43	9/24/2008	USGS-NWIS	505.6	235.73	269.87	Irrigation
43	9/24/2008	USGS-NWIS	505.6	235.73	269.87	Irrigation
43	9/24/2008	USGS-NWIS	505.6	235.72	269.88	Irrigation
43	1/14/2009	USGS-NWIS	505.6	235.25	270.35	Irrigation
43	1/14/2009	USGS-NWIS	505.6	235.26	270.34	Irrigation
43	4/16/2009	USGS-NWIS	505.6	235.28	270.32	Irrigation
43	4/16/2009	USGS-NWIS	505.6	235.29	270.31	Irrigation
43	7/30/2009	USGS-NWIS	505.6	235.80	269.80	Irrigation
43	7/30/2009	USGS-NWIS	505.6	235.79	269.81	Irrigation
43	10/29/2009	USGS-NWIS	505.6	235.61	269.99	Irrigation
43	10/29/2009	USGS-NWIS	505.6	235.60	270.00	Irrigation
43	1/20/2010	USGS-NWIS	505.6	235.98	269.62	Irrigation
43	1/20/2010	USGS-NWIS	505.6	235.99	269.61	Irrigation
43	4/23/2010	USGS-NWIS	505.6	235.26	270.34	Irrigation
43	4/23/2010	USGS-NWIS	505.6	235.26	270.34	Irrigation
43	7/22/2010	USGS-NWIS	505.6	235.67	269.93	Irrigation
43	11/4/2010	USGS-NWIS	505.6	235.71	269.89	Irrigation
43	11/4/2010	USGS-NWIS	505.6	235.73	269.87	Irrigation
43	1/13/2011	USGS-NWIS	505.6	235.27	270.33	Irrigation
43	4/28/2011	USGS-NWIS	505.6	235.12	270.48	Irrigation
43	10/18/2011	USGS-NWIS	505.6	235.48	270.12	Irrigation
43	5/9/2012	USGS-NWIS	505.6	235.25	270.35	Irrigation
43	5/11/2012	USGS-NWIS	505.6	235.24	270.36	Irrigation
43	10/5/2012	USGS-NWIS	505.6	235.65	269.95	Irrigation
43	2/12/2013	USGS-NWIS	505.6	235.36	270.24	Irrigation
43	8/29/2013	USGS-NWIS	505.6	235.62	269.98	Irrigation
43	11/21/2013	USGS-NWIS	505.6	235.36	270.24	Irrigation
43	5/7/2014	USGS-NWIS	505.6	235.08	270.52	Irrigation
43	12/19/2014	USGS-NWIS	505.6	235.35	270.25	Irrigation
43	4/7/2015	USGS-NWIS	505.6	235.17	270.43	Irrigation
43	9/2/2015	USGS-NWIS	505.6	235.12	270.48	Irrigation
43	1/26/2016	USGS-NWIS	505.6	234.89	270.71	Irrigation
43	3/23/2016	USGS-NWIS	505.6	234.76	270.84	Irrigation
43	6/15/2016	USGS-NWIS	505.6	234.74	270.86	Irrigation
43	10/19/2016	USGS-NWIS	505.6	234.94	270.66	Irrigation
43	1/24/2017	USGS-NWIS	505.6	234.63	270.97	Irrigation
43	5/23/2017	USGS-NWIS	505.6	234.67	270.93	Irrigation
43	8/22/2017	USGS-NWIS	505.6	235.13	270.47	Irrigation
43	12/5/2017	USGS-NWIS	505.6	234.99	270.61	Irrigation
43	3/14/2018	USGS-NWIS	505.6	234.59	271.01	Irrigation
43	5/29/2018	USGS-NWIS	505.6	234.83	270.77	Irrigation

TABLE 2
GROUNDWATER LEVEL MEASUREMENTS
 Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl) ¹	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Comments / Use
44	11/29/1989	USGS-NWIS	505.3	234.00	271.30	Irrigation
47	2/14/1984	USGS-NWIS	580.90	300.00	280.90	Unknown
47	9/28/1990	USGS-NWIS	580.90	299.61	281.29	Unknown
47	2/9/1992	USGS-NWIS	580.90	299.69	281.21	Unknown
47	3/30/2000	USGS-NWIS	580.90	300.05	280.85	Unknown
50	4/7/1961	USGS-NWIS	566	189.85	376.15	Unknown
50	4/20/1961	USGS-NWIS	566	189.98	376.02	Unknown
54	5/1/1985	USGS-NWIS	654.5	360.00	294.50	Unknown
54	9/28/1990	USGS-NWIS	654.5	369.19	285.31	Unknown
54	2/10/1992	USGS-NWIS	654.5	369.15	285.35	Unknown
54	3/30/2000	USGS-NWIS	654.5	369.08	285.42	Unknown
55	1/23/2012	USGS-NWIS	415.4	162.60	252.80	Exploratory
55	5/9/2012	USGS-NWIS	415.4	162.57	252.83	Exploratory
55	9/2/2015	USGS-NWIS	415.4	161.88	253.52	Exploratory
55	1/26/2016	USGS-NWIS	415.4	161.42	253.98	Exploratory
55	3/23/2016	USGS-NWIS	415.4	161.43	253.97	Exploratory
55	6/15/2016	USGS-NWIS	415.4	161.37	254.03	Exploratory
55	10/19/2016	USGS-NWIS	415.4	161.63	253.77	Exploratory
55	1/24/2017	USGS-NWIS	415.4	161.31	254.09	Exploratory
55	5/23/2017	USGS-NWIS	415.4	161.37	254.03	Exploratory
55	8/22/2017	USGS-NWIS	415.4	161.89	253.51	Exploratory
56	1/23/2012	USGS-NWIS	415.4	159.69	255.71	Exploratory
56	5/9/2012	USGS-NWIS	415.4	159.89	255.51	Exploratory
56	1/26/2016	USGS-NWIS	415.4	159.71	255.69	Exploratory
56	3/23/2016	USGS-NWIS	415.4	159.63	255.77	Exploratory
56	6/15/2016	USGS-NWIS	415.4	159.58	255.82	Exploratory
56	10/19/2016	USGS-NWIS	415.4	159.57	255.83	Exploratory
56	1/24/2017	USGS-NWIS	415.4	159.57	255.83	Exploratory
56	5/23/2017	USGS-NWIS	415.4	159.38	256.02	Exploratory
56	8/22/2017	USGS-NWIS	415.4	159.53	255.87	Exploratory
57	1/23/2012	USGS-NWIS	415.4	154.20	261.20	Exploratory
57	5/9/2012	USGS-NWIS	415.4	154.28	261.12	Exploratory
57	9/2/2015	USGS-NWIS	415.4	153.39	262.01	Exploratory
57	3/23/2016	USGS-NWIS	415.4	153.29	262.11	Exploratory
57	6/15/2016	USGS-NWIS	415.4	153.15	262.25	Exploratory
57	10/19/2016	USGS-NWIS	415.4	153.08	262.32	Exploratory
57	1/24/2017	USGS-NWIS	415.4	153.12	262.28	Exploratory
57	5/23/2017	USGS-NWIS	415.4	152.78	262.62	Exploratory
57	8/22/2017	USGS-NWIS	415.4	152.73	262.67	Exploratory

Notes:

amsl = above mean sea level

TOC = top of casing

1. Wells were surveyed on February 8 & 9, 2011. Top of Casing elevation for all other wells are approximate.
2. No data was collected due to equipment or software malfunction
3. Sounding tube is blocked with concrete
4. Well not accessible - Unknown lock on well
5. Well not accessible - Steel plate welded over well
6. Due to loss of configuration file and calibration data following the 1st Quarter 2014 monitoring event, the OBS-2 buried transducers are no longer accessible.
7. Well not accessible - Access agreement issue
8. Well pumped by others on 10/10/17 at 250-300 gpm; water level at time of monitoring was 128.75 ft bgs / 259.39 ft amsl.

TABLE 3
MOST RECENT GROUNDWATER QUALITY MONITORING DATA
 Genesis Solar Energy Project, Riverside, California

Well ID	Date	Groundwater Purging			Field Parameters					
		Rate of Groundwater Discharge (mL/min)	Purging Method	Total Volume Purged (mL)	pH	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Temperature (°C)	ORP (mV)
23a	6/1/2018	N/A	Bailer	7,570	8.22	2.47	19.0	2.03	29.11	+174
OBS-1	6/1/2018	N/A	Bailer	7,570	8.08	40.1	0.0	3.69	29.50	+123
TW-1	6/1/2018	N/A	Bailer	7,570	10.23	23.1	22.3	1.79	28.11	-143
TW-2	6/1/2018	N/A	Bailer	7,570	9.78	5.57	68	1.58	28.61	-172
PW-0	6/1/2018	N/A	Production Pump	N/A ²	--	--	--	--	--	--
PW-1	6/1/2018	N/A	N/A	N/A ³	--	--	--	--	--	--
PW-2	6/1/2018	N/A	Production Pump	N/A ⁴	8.11	3.71	11.1	3.41	45.83	+11
DM-1	5/30/2018	188	Bladder Pump	6,254	8.17	17.8	7.9	4.61	23.14	+66
DM-2	5/30/2018	112	Bladder Pump	5,646	7.71	18.4	78.3	2.52	23.43	+100
DM-3	5/30/2018	121	Bladder Pump	5,718	7.71	18.1	5.3	4.16	23.22	+120

NOTES:

mL = milliLiters

mL/min = milliLiters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Units

DO = Dissolved Oxygen

mg/L = milligrams per Liter

°C = degrees Celsius

mV = milliVolts

N/A = Not Applicable or Not Available

-- = Not Measured

1. Sampled using a HydraSleeve, a disposable, no-purge, groundwater grab sampler.
2. Pump offline - not sampled (inaccessible)
3. Wellhead sealed with welded steel plate - not sampled (inaccessible)
4. Well was sampled during continuous production pumping and therefore purging was not necessary.

TABLE 4
SUMMARY OF LABORATORY ANALYTICAL RESULTS
 Genesis Solar Energy Project

Well ID	Date Sampled	Sampling Method	Chloride (mg/L)	Sulfate (SO4) (mg/L)	Nitrate (NO3)-N (mg/L)	Calcium (mg/L)	Copper (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Antimony (ug/L)	Arsenic (ug/L)	Barium (ug/L)	Cadmium (ug/L)	Chromium (Total) (ug/L)	Cobalt (ug/L)	Lead (ug/L)	Manganese (ug/L)	Nickel (ug/L)	Selenium (ug/L)	Zinc (ug/L)	Mercury (ug/L)	Total Dissolved Solids (mg/L)	Specific Conductance (us/cm)	pH (std. Units)	Oil & Grease / HEM (mg/L)	HTF ¹ (mg/L)	Deuterium (% relative to VSMOW)	Oxygen-18 (% relative to VSMOW)		
																															EPA Method 300.0	
TW-1	6/5/2009	Low Flow	5,600	1,500	<0.25	160	<0.010	4,500	30	1.4	38	-	-	-	-	-	-	-	65	-	-	-	-	9,500	19,000	7.9	-	-	-	-	-	-
TW-1	7/9/2009	Low Flow	5,300	1,400	-	-	<0.010	4,000	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10,000	19,000	7.9	-	-	-	-	-	
TW-1	7/13/2009	Low Flow	6,400	1,800	-	-	<0.010	3,600	24	-	-	-	-	-	-	-	-	-	-	-	-	-	9,500	18,000	7.9	-	-	-	-	-	-	
TW-1	7/16/2009	Low Flow	4,700	1,200	<0.25	-	<0.010	3,600	25	-	-	-	-	-	-	-	-	-	-	-	-	-	8,900	18,000	7.8	-	-	-	-	-	-	
TW-1	11/10/2010	Low Flow	6,200	1,600	<0.25	170	<0.010	4,000	23	1.7	35	-	-	-	-	-	-	-	79	-	-	-	11,000	18,000	8.0	-	-	-	-69.9	-8.61		
TW-1	11/10/2010	Low Flow	6,100	1,600	<0.25	170	<0.010	4,100	22	1.6	34	-	-	-	-	-	-	-	77	-	-	-	9,900	18,000	8.0	-	-	-	-69.3	-8.56		
TW-1	6/8/2011	Low Flow	5,100	1,600	<0.25	170	<0.010	3,300	24	5.1	30	-	-	-	-	-	-	-	73	-	-	-	10,000	20,000	8.0	-	-	-	-67.0	-8.24		
TW-1	12/13/2011	Low Flow	3,900	1,300	<1.1	82	<0.010	3,400	23	9.5	25	-	-	-	-	-	-	-	-	-	-	-	9,100	9,800	9.0	-	-	-	-63.7	-8.2		
TW-1	12/13/2011	Hydrasleeve	3,900	1,300	<1.1	75	0.0052	3,100	21	30	24	-	-	-	-	-	-	-	-	-	-	-	9,200	15,000	9.0	-	-	-	-64.2	-8.2		
TW-1	5/23/2012	Hydrasleeve	4,400	1,700	<2.2	81	<0.010	3,000	20	<0.040	21	-	-	-	-	-	-	-	-	-	-	-	8,800	17,000	9.2	-	-	-	-66.3	-8.2		
TW-1	10/23/2012	Hydrasleeve	4,100	1,700	<2.2	71	<0.010	3,100	19	<0.040	23	-	-	-	-	-	-	-	-	-	-	-	9,000	15,000	9.2	-	-	-	-66.0	-8.0		
TW-1	5/20/2014	Hydrasleeve	3,900	1,400	-	81	<0.010	3,000	20	0.29	12	<10	2.5 ¹	17	<5.0	<10	<5.0	<5.0	9.6	2.9 ¹	<10	<100	<0.20	8,900	15,000	9.7	<4.7	-	-	-63.74	-7.83	
TW-1	12/4/2014	Hydrasleeve	3,900	1,200	<2.2	86	<0.050	3,200	21	0.057 ¹	11	<10	3.8 ¹	17	<5.0	<10	<5.0	<5.0	8.6	4.4 ¹	<10	<100	<0.20	8,500	15,000	9.9	<4.7	<0.095	-	-65.2	-8.12	
TW-1	6/11/2015	Hydrasleeve	4,100	1,400	<2.2	73	<0.10	3,000	19	<0.40	8.5	<10	4.2 ¹	17	<5.0	<10	<5.0	<5.0	6.6	<10	<100	<0.20	8,800	15,000	9.9	<4.7	<0.10	-	-62.5	-8.18		
TW-1	12/10/2015	Hydrasleeve	4,200	1,500	<5.5	82	<0.010	3,000	21	<0.040	7.6	4.3 ¹	4.2 ¹	22	<5.0	<10	<5.0	<5.0	5.2	3.4 ¹	2.8 ¹	<100	<0.20	9,400	16,000	9.9	1.7 ¹	<0.094	-	-63.4	-8.08	
TW-1	6/2/2016	Hydrasleeve	3,600	1,300	6.5	71	<0.10	3,000	17	51	11	<2.0	6.0	16	<1.0	<2.0	<1.0	<1.0	310	<2.0	1.0 ¹	11 ¹	<0.20	8,500	18,000	9.6	<4.8	<0.094	-	-63.67	-8.11	
TW-1	11/30/2016	Hydrasleeve	4,000	1,400	<5.5	72	<0.010	3,000	21	0.51	5.9	<10	3.1 ¹	13	<5.0	<10	<5.0	<5.0	8.4	<10	9.0 ¹	<100	<0.20	8,600	13,000	9.6	<4.7	<0.095	-	-64.00	-8.04	
TW-1	6/1/2017	Hydrasleeve	3,600	1,300	<5.5	79	<0.10	3,400	20	<1.0	6.1	<10	8.2	15	<5.0	<10	<5.0	<5.0	4.0 ¹	92	<100	<0.20	8,700	12,000	9.7	<5.2	<0.095	-	-63.50	-7.97		
TW-1	12/5/2017	Hydrasleeve	3,510	1,130	<0.500	80	<0.025	1,000	33	0.43 ¹	6.4	<1.0	13	14	<1.0	<1.0	<1.0	2.5	<1.0	<1.0	<1.0	<0.50	7,800	13,900	10	<5.0	<0.10	-	-62.35	-8.38		
TW-1	6/1/2018	Bailer	4,130	1,390	<10	74	0.11 ¹	3,100	53	<10	5.0	<0.50	6.0	5.9	<0.50	<0.50	<0.50	<0.50	-	<0.50	<5.0	<5.0	<0.50	9,300	14,000	10	1.70 ¹	<0.12	-	-62.80	-7.93	
TW-2	1/8/2010	Low Flow	1,500	460	<0.25	98	<0.010	860	18	<0.3	1.9	-	-	-	-	-	-	-	80	-	-	-	3,100	5,500	8.2	-	-	-	-	-	-	
TW-2	1/8/2010	Low Flow	1,400	500	<0.25	100	<0.010	1,000	18	0.5	3.8	-	-	-	-	-	-	-	5	-	-	-	3,000	5,500	8.0	-	-	-	-	-	-	
TW-2	1/21/2010	Low Flow	1,500	500	<0.25	120	<0.010	1,000	21	0.73	3.4	-	-	-	-	-	-	-	93	-	-	-	3,100	5,400	8.0	-	-	-	-	-	-	
TW-2	11/9/2010	Low Flow	1,500	520	<0.25	110	<0.010	1,000	19	2.9	4.2	-	-	-	-	-	-	-	140	-	-	-	3,300	5,800	8.4	-	-	-	-78.5	-10.13		
TW-2	6/7/2011	Low Flow	1,600	520	<0.25	120	<0.010	870	20	0.38	3.1	-	-	-	-	-	-	-	94	-	-	-	3,200	5,700	8.1	-	-	-	-79.5	-10.25		
TW-2	6/7/2011	Low Flow	1,500	510	<0.25	120	<0.010	880	20	0.42	3.1	-	-	-	-	-	-	-	95	-	-	-	3,100	5,500	8.0	-	-	-	-78.3	-10.14		
TW-2	12/14/2011	Hydrasleeve	1,500	460	<0.55	100	0.0076	1,100	23	24	4.1	-	-	-	-	-	-	-	-	-	-	-	3,400	4,100	8.3	-	-	-	-76.0	-10.2		
TW-2	5/24/2012	Hydrasleeve	1,400	500	<1.1	78	<0.010	1,000	19	<0.040	1.5	-	-	-	-	-	-	-	-	-	-	-	3,000	6,200	8.8	-	-	-	-77.8	-10.2		
TW-2	10/23/2012	Hydrasleeve	1,400	500	<1.1	96	<0.010	870	21	<0.040	3.1	-	-	-	-	-	-	-	-	-	-	-	3,500	5,500	8.6	-	-	-	-78.0	-10.1		
TW-2	5/20/2014	Hydrasleeve	1,600	430	-	64	<0.010	1,000	22	0.022 ¹	0.093	<2.0	2.9	30	<1.0	<2.0	<1.0	<1.0	4.1	0.91 ¹	<2.0	<20	<0.20	3,300	5,700	9.9	<4.7	-	-	-76.18	-10.17	
TW-2	12/4/2014	Hydrasleeve	1,500	420	<1.1	67	<0.020	1,000	21	0.041 ¹	0.11	<2.0	4.4	36	<1.0	<2.0	<1.0	<1.0	3.4	1.8 ¹	<2.0	2.9 ¹	<0.20	2,900	5,800	9.7	<4.7	<0.096	-	-77.2	-10.12	
TW-2	6/11/2015	Hydrasleeve	1,700	490	<0.55	69	<0.10	1,000	23	<0.40	<0.20	<2.0	5.8	35	<1.0	<2.0	<1.0	<1.0	2.8	0.68 ¹	<2.0	<20	<0.20	3,200	5,900	9.9	1.6 ¹	<0.10	-	-75.0	-10.16	
TW-2	12/10/2015	Hydrasleeve	1,600	430	<1.1	72	<0.010	1,000	20	0.030 ¹	0.13	<10	6.9	41	<5.0	<10	<5.0	<5.0	7.8	<10	4.0 ¹	<100	<0.20	3,900	5,900	9.8	<5.0	<0.095	-	-75.6	-10.15	
TW-2	6/2/2016	Hydrasleeve	1,300	350	0.88	71	<0.10	1,100	20	<0.40	0.22	<2.0	4.4	38	<1.0	<2.0	<1.0	<1.0	7.6	<2.0	1.9 ¹	<20	<0.20	2,900	5,600	9.5	<4.7	<0.095	-	-75.11	-10.15	
TW-2	11/30/2016	Hydrasleeve	850	450	<0.55	74	<0.010	1,000	23	0.12	0.39	<10	6.0	39	<5.0	<10	<5.0	<5.0	8.7	<10	45	<100	<0.20	3,200	5,500	9.3	<4.7	<0.097	-	-76.10	-10.01	
TW-2	6/1/2017	Hydrasleeve	1,600	430	<1.1	82	<0.050	1,100	23	<0.50	0.28	<10	9.1	42	<5.0	<10	<5.0	<5.0	5.5	<10	270	<100	<0.20	3,200	5,400	9.4	<5.4	<0.096	-	-75.80	-10.01	
TW-2	12/5/2017	Hydrasleeve	1,180	315	<0.50	82	<0.025	370	30	1.7	<0.50	<0.50	5.3	34	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	100	<0.50	3,200	5,490	9.6	6.5	<0.10	-	-73.97	-10.38		
TW-2	6/1/2018	Bailer	1,540	439	<5.0	83	0.089 ¹	650	44	5.4 ¹	<5.0	<0.50	6.3	23	<0.50	<0.50	<0.50	<0.50	-	<5.0	<5.0	76	<0.50	2,800	5,590	9.6	<5.0	<0.11	-	-75.40	-10.00	
OBS-1	11/10/2010	Low Flow	8,300	9,400	0.78	450	0.036	6,500	25	2.4	110	-	-																			

TABLE 4
SUMMARY OF LABORATORY ANALYTICAL RESULTS
 Genesis Solar Energy Project

		Sampling	Chloride (mg/L)	Sulfate (SO4) (mg/L)	Nitrate (NO3)-N (mg/L)	Calcium (mg/L)	Copper (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Antimony (ug/L)	Arsenic (ug/L)	Barium (ug/L)	Cadmium (ug/L)	Chromium (Total) (ug/L)	Cobalt (ug/L)	Lead (ug/L)	Manganese (ug/L)	Nickel (ug/L)	Selenium (ug/L)	Zinc (ug/L)	Mercury (ug/L)	Total Dissolved Solids (mg/L)	Specific Conductance (us/cm)	pH (std. Units)	Oil & Grease / HEM (mg/L)	HTF [†] (mg/L)	Deuterium (% relative to VSMOW)	Oxygen-18 (% relative to VSMOW)	
DM-1	6/2/2016	Low Flow	4,700	1,800	7.8	230	<0.10	3,800	18	<0.40	57	<2.0	5.1	31	<1.0	1.9 [†]	<1.0	<1.0	0.99 [†]	1.1 [†]	3.3	2.5 [†]	<0.20	11,000	20,000	7.9	<4.7	<0.094	-69.87	-8.83	
DM-1	11/30/2016	Low Flow	5,200	2,000	<5.5	230	<0.10	3,700	23	<0.040	59	<2.0	6.7 [†]	31	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	13 [†]	<200	<0.20	11,000	17,000	7.8	<4.7	<0.094	-70.70	-8.68	
DM-1	6/1/2017	Low Flow	4,600	1,900	4.2 [†]	250	<0.10	4,100	21	<1.0	62	<1.0	4.8 [†]	28	<5.0	5.9 [†]	<5.0	<5.0	<5.0	7.6 [†]	6.9 [†]	<100	<0.20	11,000	16,000	7.9	<5.1	<0.094	-70.30	-8.57	
DM-1	12/5/2017	Low Flow	7,130	2,770	12.8	230	0.025 [†]	1,100	30	<1.0	59	<1.0	6.2	28	<2.5	3.1	<2.5	<2.5	-	<2.5	5.1	6.6	<0.50	10,000	17,200	7.8	<5.0	<0.10	-69.14	-8.90	
DM-1	5/30/2018	Low Flow	5,190	2,030	14.7	270	0.096 [†]	5,200	63	0.78 [†]	64	<0.50	5.0	30	<0.50	<5.0	<0.50	<5.0	-	<5.0	5.9	9.5	<0.50	11,000	17,300	7.9	<5.0	<0.10	-71.10	-8.57	
DM-2	5/24/2012	Low Flow	4,500	2,000	2.9	290	<0.10	3,500	25.0	<0.40	59	-	-	-	-	-	-	-	-	-	-	-	-	13,000	16,000	7.8	-	-	-71.7	-8.8	
DM-2	10/23/2012	Low Flow	4,800	2,000	<1.1	470	<0.010	2,600	27.0	<0.040	54	-	-	-	-	-	-	-	110	-	-	-	-	9,900	16,000	7.7	-	-	-70.9	-8.9	
DM-2	5/22/2014	Low Flow	5,100	2,000	-	320	<0.020	3,500	23	0.022 [†]	54	<1.0	4.7 [†]	97	<5.0	<1.0	<5.0	<5.0	59	4.1 [†]	3.3 [†]	<100	<0.20	11,000	18,000	7.8	<5.1	-	-69.95	-8.72	
DM-2	12/4/2014	Low Flow	4,400	1,600	3.0	300	<0.050	3,100	20	0.082 [†]	55	<1.0	5.7	140	<5.0	<1.0	<5.0	<5.0	90	8.4 [†]	<10	<100	<0.20	9,900	17,000	7.9	<4.7	<0.095	-68.9	-8.42	
DM-2	6/11/2015	Low Flow	4,500	2,000	3.8 [†]	290	<0.10	3,500	22	<0.40	55	<1.0	4.1 [†]	110	<5.0	2.9 [†]	<5.0	<5.0	40	4.9 [†]	<10	<100	<0.20	9,600	18,000	7.9	<4.7	<0.10	-68.2	-8.52	
DM-2	12/10/2015	Low Flow	5,400	2,200	<5.5	290	<0.10	3,600	21	0.062 [†]	61	<1.0	5.9	85	<5.0	<1.0	<5.0	<5.0	88	<10	5.5 [†]	<100	<0.20	12,000	18,000	7.9	<5.0	<0.096	-69.4	-8.43	
DM-2	6/2/2016	Low Flow	4,800	1,900	8.0	280	<0.10	3,800	20	0.27 [†]	60	0.51 [†]	4.7	62	<1.0	1.5 [†]	<1.0	<1.0	62	1.1 [†]	3.5	<20	<0.20	12,000	22,000	8.0	<4.9	<0.097	-69.53	-8.63	
DM-2	11/30/2016	Low Flow	5,300	2,200	2.8 [†]	290	<0.10	4,200	28	<0.040	61	<2.0	5.9 [†]	56	<1.0	<2.0	<1.0	<1.0	40	<20	18 [†]	<200	<0.20	11,000	17,000	7.8	<4.7	<0.097	-70.20	-8.37	
DM-2	6/1/2017	Low Flow	4,800	1,900	3.1 [†]	280	<0.10	4,100	21	<1.0	62	<1.0	4.4 [†]	52	<5.0	<1.0	<5.0	<5.0	17	5.2 [†]	5.6 [†]	<100	<0.20	12,000	16,000	7.9	<5.2	<0.097	-70.10	-8.51	
DM-2	12/5/2017	Low Flow	4,930	1,960	13.4	250	<0.025 [†]	1,400	34	<1.0	62	<1.0	5.5	69	<2.5	3.7	<2.5	<2.5	<2.5	-	<2.5	5.7	4.5	<0.50	11,000	17,200	7.8	<5.0	<0.10	-67.66	-8.63
DM-2	5/30/2018	Low Flow	6,000	2,280	17.5	300	0.11 [†]	4,800	68	<1.0	67	<5.0	5.1	51	<0.50	5.0	<0.50	<0.50	-	<0.50	6.3	<5.0	<0.50	9,900	17,000	7.9	<5.0	<0.11	-69.20	-8.39	
DM-3	5/24/2012	Low Flow	4,600	2,000	<2.2	220	<0.10	3,500	20.0	<0.40	51	-	-	-	-	-	-	-	-	-	-	-	-	12,000	16,000	7.8	-	-	-71.4	-8.9	
DM-3	10/23/2012	Low Flow	5,100	2,100	<2.2	210	<0.010	3,000	20.0	<0.040	52	-	-	-	-	-	-	-	<1.0	-	-	-	-	11,000	18,000	7.8	-	-	-72.6	-8.7	
DM-3	5/22/2014	Low Flow	5,400	2,100	-	230	<0.010	3,600	21	<0.040	51	<1.0	13	18	<5.0	<1.0	<5.0	<5.0	<5.0	10	<10	<100	<0.20	11,000	19,000	7.7	<4.9	-	-68.86	-8.52	
DM-3	12/5/2014	Low Flow	4,900	1,800	1.8 [†]	230	<0.050	3,600	20	<0.20	56	<1.0	16	18	<5.0	<1.0	<5.0	<5.0	<5.0	9.6 [†]	<10	<100	<0.20	11,000	18,000	7.8	<4.7	<0.099	-72.4	-8.82	
DM-3	6/12/2015	Low Flow	4,400	1,900	<5.5	220	<0.10	3,600	18	<0.40	50	<1.0	14	17	<5.0	<1.0	<5.0	<5.0	<5.0	4.5 [†]	<10	<100	<0.20	9,800	18,000	7.8	<4.9	<0.10	-69.6	-8.90	
DM-3	12/11/2015	Low Flow	5,100	2,200	<5.5	250	0.0057 [†]	3,500	19	<0.040	51	<1.0	17	21	<5.0	<1.0	<5.0	<5.0	<5.0	<10	3.1 [†]	<100	<0.20	11,000	18,000	7.8	<5.0	<0.094	-70.6	-8.73	
DM-3	6/3/2016	Low Flow	4,700	1,900	7.1	220	<0.10	3,700	17	<0.40	53	<2.0	14	16	<1.0	0.66 [†]	<1.0	<1.0	0.64 [†]	0.88 [†]	1.0 [†]	5.1 [†]	<0.20	11,000	20,000	7.9	<4.7	<0.093	-69.29	-8.75	
DM-3	12/2/2016	Low Flow	4,900	2,100	<5.5	240	0.0052 [†]	4,100	23	<0.040	56	<1.0	16	18	<5.0	<1.0	<5.0	<5.0	<5.0	<10	5.6 [†]	<100	<0.20	11,000	17,000	7.8	<4.8	<0.097	-72.20	-8.75	
DM-3	6/1/2017	Low Flow	4,800	2,000	<5.5	240	<0.10	3,900	19	<1.0	55	<1.0	15	18	<5.0	<1.0	<5.0	<5.0	<5.0	3.9 [†]	2.7 [†]	<100	<0.20	11,000	16,000	7.9	<5.1	<0.095	-70.80	-8.71	
DM-3	12/5/2017	Low Flow	4,880	2,020	2.77	230	0.027 [†]	1,200	31	0.073 [†]	59	<2.5	15	15	<2.5	<2.5	<2.5	<2.5	-	<2.5	<2.5	5.6	<0.50	13,000	17,000	7.8	<5.0	<0.10	-69.57	-8.87	
DM-3	5/30/2018	Low Flow	6,350	2,600	10.7	260	0.11 [†]	4,100	61	<1.0	61	<0.50	14	15	<0.50	<5.0	<0.50	<0.50	-	<0.50	<5.0	<5.0	<0.50	12,000	17,100	7.9	<5.0	<0.11	-70.60	-8.67	
PW-0	5/23/2012	Spigot	1,100	480	<0.55	66	<0.010	610	8.8	0.015	2.0	-	-	-	-	-	-	-	-	-	-	-	-	2,500	4,600	8.0	-	-	-78.9	-10.40	
PW-0	10/23/2012	Spigot	780	450	<0.55	55	<0.010	530	7.9	0.015 [†]	2.1	-	-	-	-	-	-	-	-	-	-	-	-	2,100	3,400	8.0	-	-	-79.4	-10.40	
PW-1	12/14/2011	Spigot	1,300	470	<0.55	100	<0.010	1,100	7	0.11	6.9	-	-	-	-	-	-	-	-	-	-	-	-	3,000	3,800	8.0	-	-	-78.1	-10.3	
PW-1	5/23/2012	Spigot	1,100	510	<0.55	92	<0.010	850	8.2	<0.040	6.8	-	-	-	-	-	-	-	-	-	-	-	-	2,100	5,100	8.1	-	-	-79.6	-10.40	
PW-1	10/23/2012	Spigot	1,300	540	<1.1	90	<0.010	850	8.2	0.018 [†]	7.5	-	-	-	-	-	-	-	-	-	-	-	-	3,200	5,000	8.0	-	-	-79.1	-10.20	
PW-2	12/14/2011	Spigot	890	440	<0.22	63	0.0062	740	6.7	1.7	6.1	-	-	-	-	-	-	-	-	-	-	-	-	2,200	2,900	8.1	-	-	-77.7	-10.4	
PW-2	5/23/2012	Spigot	810	450	<0.55	53	<0.010	700	5.5	<0.040	4.7	-	-	-	-	-	-	-	-	-	-	-	-	2,200	4,100	8.1	-	-	-79.6	-10.40	
PW-2	10/23/2012	Spigot	880	530	<0.55	48	<0.010	560	5.0	<0.040	4.8	-	-	-	-	-	-	-	-	-	-	-	-	2,300	3,800	8.0	-	-	-80.0	-10.30	
PW-2	5/20/2014	Spigot	570	290	-	50	<0.010	700	5.1	0.030 [†]	4.1	<1.0	27	39	<5.0	<1.0	<5.0	<5.0	19	<10	<10	<100	<0.20	2,100	3,800	8.2	1.5 [†]	-	-76.65	-10.08	
PW-2	12/4/2014	Spigot	900	440	<0.55	52	<0.010	670	5.6	0.075	4.3	<1.0	28	40	<5.0	<1.0	<5.0	<5.0	22	<10	<10	<100	<0.20	2,100	3,900	8.1	<4.7	<0.095	-79.4	-10.44	
PW-2	12/4/2014 ¹	Spigot	840	440	<0.55	52	<0.010	670	5.7	0.072	4.4	<1.0	28	38	<5.0	<1.0	<5.0	<5.0	23	2.7 [†]	<10	<100	<0.20	2,100	3,900	8.1	<4.8	<0.096	-80.2	-10.39	
PW-2	6/11/2015	Spigot	800	420	<0.22	49	<0.10	710	5.6	0.12 [†]	4.0	<1.0	28	39	<5.0	<1.0	<5.0	<5.0	19	<10	<10	<100	<0.20	2,200	4,000	8.1	16	<0.10	-76.7	-10.41	
PW-2	6/11/2015 ¹	Spigot	790	420	<0.22	49	<0.10	710	8.4	0.22 [†]	4.2	<1.0	28	38	<5.0	<1.0	<5.0	<5.0	18	<10	<10	<100	<0.20	2,200	4,000	8.1	<4.8	<0.10	-76.9	-10.55	
PW-2	12/10/2015	Spigot	910	450	<0.22	59	<0.010	770	5.6	0.16	4.1	<4.0	30	43	<2.0	<4.0	<2.0	<2.0	23	<4.0	<4.0	<40	<0.20	2,100	3,800	8.1	<5.1	<0.098	-77.7	-10.28	
PW-2	12/10/2015 ¹	Spigot	910	480	<0.55	53	<0.010	700	6.5	0.079	4.1	<4.0	29	41</																	

TABLE 5
AVAILABLE HISTORICAL ANALYTICAL DATA FOR ADDITIONAL WELLS IN CHUCKWALLA VALLEY GROUNDWATER BASIN WITHIN 10 MILES OF THE SITE
Genesis Solar Energy Project, Riverside, California

Well ID	Date Sampled	Data Source	Sample Depth (ft amsl)	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (SO4) (mg/L)	Sodium (mg/L)	Silica (Total) (mg/L)	Potassium (mg/L)	Magnesium (mg/L)	Calcium (mg/L)	Total Hardness (as CaCO3) (mg/L)	Total Dissolved Solids (mg/L)
1	5/19/1961	DWR, 1963	--	--	656	--	--	--	--	--	--	--	1,760
3	4/20/2009	Azca Drilling and Pump	560 to 940	--	--	--	--	--	--	--	--	--	910
	9/3/2009	WorleyParsons	560 to 940	--	--	--	--	--	--	--	--	--	970
5	10/10/1961	DWR, 1963	--to 85.7	--	1,770	--	--	--	--	--	--	--	5,730
14	6/25/1991	DWR Well Records	890 to 940	--	--	--	--	--	--	--	--	--	2,400
	7/29/2009	WorleyParsons	--	--	3,400	--	--	--	--	--	--	--	6,600
15	9/16/2009	WorleyParsons	200.0	--	--	--	--	--	--	--	--	--	19,000
			500.0	--	--	--	--	--	--	--	--	--	26,000
16	9/16/2009	WorleyParsons	247.00	--	--	--	--	--	--	--	--	--	3,100
17	1959	DWR, 1963	1,175 to 1,200	--	986	--	--	--	--	--	--	--	2,150
	9/17/2009	WorleyParsons	247	--	--	--	--	--	--	--	--	--	20,000
21	10/17/1917	DWR, 1963	--	--	865	--	--	--	--	--	--	--	3,820
23	4/19/1979	NWIS	--	6.3	950	450	800	38	16	0.6	67	170	2,350
26	9/16/2009	WorleyParsons	760.00	--	--	--	--	--	--	--	--	--	1,100
27	10/10/1961	DWR, 1963	-- to 486.4	--	718	--	--	--	--	--	--	--	2,210
28	10/10/1961	DWR, 1963	-- to 779.4	--	273	--	--	--	--	--	--	--	1,470
29	9/16/2009	WorleyParsons	720	--	--	--	--	--	--	--	--	--	1,100
31	10/10/1961	DWR, 1963	-- to 242.2	--	734	--	--	--	--	--	--	--	2,560
32	10/10/1961	DWR, 1963	-- to 315.7	--	3,250	--	--	--	--	--	--	--	8,150
37	6/4/1990	Engineering-Science, 1990	750 to 1,050	--	214	--	--	--	--	--	--	--	752
38	6/20/1986	Woodward-Clyde Consultants, 1986	275 to 815	--	519	--	--	--	--	--	--	--	1,313
			835 to 1,015	--	267	--	--	--	--	--	--	--	719
39	1/1986 (TDS)	CH2M Hill and Boyle Engineering, 1995/DWR, 1963	853 to 1,083	--	216	--	--	--	--	--	--	--	786
	6/12/1961 (Chloride)												
42	5/1/1988 (TDS) 8/24/83 (Chloride)	CH2M Hill and Boyle Engineering, 1995/Woodward-Clyde	738 to 1,100	--	199	--	--	--	--	--	--	--	765
43	Jan-86	Kennedy/Jenks/Chilton, 1986	510 to 780	--	460	--	--	--	--	--	--	--	1,150
47	Jan-86	Woodward-Clyde Consultants, 1986	500 to 850	--	520	--	--	--	--	--	--	--	1,350
	1/4/1984		490	--	550	--	--	--	--	--	--	--	2,090
	1/5/1984		590	--	586	--	--	--	--	--	--	--	1,740
	2/7/1984		850	--	570	--	--	--	--	--	--	--	1,380
50	1959	DWR, 1963	-- to 818	--	131	--	--	--	--	--	--	--	

Notes:

amsl = above mean sea level

mg/L =milligrams per liter

-- = Information not available or not applicable

Sources:

DWR, 1963. Data on Water Wells and Springs in the Chuckwalla Valley Area. DWR Bulletin 91-7 .

Kennedy/Jenks/Chilton, 1986. Final Report Sampling and Analysis in the Wiley's Well Area. Dated March 19.

CH2M Hill and Boyle Engineering, 1995. Technical Memorandum, Water Treatment Plant Evaluation -Phase I. Dated March 30 .

Woodward-Clyde Consultants, 1986. Final Report, Groundwater Quality Investigation, Wiley Well Area. Dated March 13.

Engineering Science, 1990. Water and Wastewater Facilities Engineering Study, California State Prison -Chuckwalla Valley. Dated September.

APPENDIX A

FIELD DATA SHEETS



GROUNDWATER LEVEL MEASUREMENT FORM

Event: 2018 First Semiannual	Site: Genesis Solar Energy Project	Project No: 196-004-06
Project: Groundwater Level Monitoring Program		PM: AWB
Measurement Method/Device: Solinst Interface Probe		Technicians: AWB/RCD

Weather: Hot, windy

Well No.	Date	TOC Reference Elevation (ft)	Depth to Water (ft)	Corrected Water Level Elevation (ft)	Comments
TW-1	6/1/2018	387.40	86.61	300.79	Solinst Levellogger Transducer
TW-2	6/1/2018	393.47	126.78	266.69	Manual Measurement
OBS-1	6/1/2018	388.30	78.10	310.20	Solinst Levellogger Transducer
OBS-2-270	6/1/2018	388.14	N/A	N/A	Buried Transducer Cable
OBS-2-315	6/1/2018	388.14	N/A	N/A	Buried Transducer Cable
OBS-2-370	6/1/2018	388.14	N/A	N/A	Buried Transducer Cable
OBS-2-400	6/1/2018	388.14	N/A	N/A	Buried Transducer Cable
14	6/1/2018	388.14	100.60	287.54	Manual Measurement
23a	6/1/2018	392.10	136.60	255.50	Manual Measurement
24-1	6/1/2018	389.40	126.91	262.49	Manual Measurement
24-2	6/1/2018	388.86	125.00	263.86	Manual Measurement
24-3	6/1/2018	392.04	123.57	268.47	Manual Measurement
PW-0	5/30/2018	385.64	99.27	286.37	Manual Measurement
PW-1	5/30/2018	384.43	98.24	286.19	Manual Measurement
PW-2	5/30/2018	385.15	105.69	279.46	Manual Measurement
DM-1	5/30/2018	391.49	107.10	284.39	Manual Measurement
DM-2	5/30/2018	391.32	107.45	283.87	Manual Measurement
DM-3	5/30/2018	388.34	104.27	284.07	Manual Measurement

Additional Notes:

Note on Well 14 lid: "Oct 10 17: Water level 105', pumping 250-300 gpm"



GROUNDWATER SAMPLING FIELD FORM

Event: 2018 1st Semiannual	Site: Genesis Solar Energy Project	Project No: 196-004-06
Project: Groundwater Quality Monitoring Program		Project Manager: AWB
Technicians: RCD/AWB		Weather: Hot, windy
Sampling Method: Bailer Grab Sample		

Well No.	23a	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	8.0	29.11	8.22	2.47	19.0	+174	2.03
Total Depth (ft btoc)	1,825						
Screened Interval (ft btoc)	1800 - 1825						
Depth to Water (ft btoc)	136.60						
Sample Date	6/1/2018						
Sample Time	5:35						

General Well Location: CalTrans Rest Stop at Wiley's Well Road (10 days notice to CalTrans required)

COMMENTS:

Well No.	OBS-1	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	5.0	29.50	8.08	40.1	0	+123	3.69
Total Depth (ft btoc)	160						
Screened Interval (ft btoc)	100 - 150						
Depth to Water (ft btoc)	78.10						
Sample Date	6/1/2018						
Sample Time	11:00						

General Well Location: Approximately 1 mile west of property boundary; access via Ford Dry Lake service road

COMMENTS:

Well No.	TW-1	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	5.0	28.11	10.23	23.1	22.3	-143	1.79
Total Depth (ft btoc)	565						
Screened Interval (ft btoc)	340 - 564						
Depth to Water (ft btoc)	86.61						
Sample Date	6/1/2018						
Sample Time	11:10						

General Well Location: Approximately 1 mile west of property boundary; access via Ford Dry Lake service road

COMMENTS:

Well No.	TW-2	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	5.0	28.61	9.78	5.57	67.7	-172	1.58
Total Depth (ft btoc)	1,841						
Screened Interval (ft btoc)	Multiple						
Depth to Water (ft btoc)	126.78						
Sample Date	6/1/2018						
Sample Time	6:30						

General Well Location: NE corner of Section 32 (Township 7S, Range 20E); near bend in site access road

COMMENTS:



GROUNDWATER SAMPLING FIELD FORM

Event: 2018 1st Semiannual	Site: Genesis Solar Energy Project	Project No: 196-004-06
Project: Groundwater Quality Monitoring Program		Project Manager: AWB
Technicians: RCD/AWB		Weather: Hot, windy
Sampling Method: Production Well Effluent Grab Sample		

Well No.	PW-0	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	10.0						
Total Depth (ft btoc)	1,251						
Screened Interval (ft btoc)	Multiple						
Depth to Water (ft btoc)	99.27						
Sample Date	6/1/2018						
Sample Time	N/A						

General Well Location: Between Solar Field #1 and #2, near main road

COMMENTS: Not sampled - no access

Well No.	PW-1	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	10.0						
Total Depth (ft btoc)	1,360						
Screened Interval (ft btoc)	Multiple						
Depth to Water (ft btoc)	98.24						
Sample Date	6/1/2018						
Sample Time	N/A						

General Well Location: NE corner of Solar Field 1 cooling/processing facility, between Block 6 & Block 7

COMMENTS: Not sampled - no access

Well No.	PW-2	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	10.0	45.83	8.11	3.71	11.1	+11	3.41
Total Depth (ft btoc)	1,125						
Screened Interval (ft btoc)	Multiple						
Depth to Water (ft btoc)	105.69						
Sample Date	6/1/2018						
Sample Time	9:15						

General Well Location: NW corner of Solar Field 2 cooling/processing facility, between Block 7 & Block 8

COMMENTS: Collected duplicate sample

Well No.		Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)							
Total Depth (ft btoc)							
Screened Interval (ft btoc)							
Depth to Water (ft btoc)							
Sample Date							
Sample Time							

General Well Location:

COMMENTS:



GROUNDWATER SAMPLING FIELD FORM

Event: 2018 1st Semiannual Site: Genesis Solar Energy Project Project No: 196-004-06

Project: Groundwater Quality Monitoring Program Project Manager: AWB

Technicians: RCD/AWB Weather: Hot, windy

Sampling Method: Geotech Submersible Bladder Pump - Low Flow Purge (< 250 mL/minute); Flow-Through Cell;

Parameters Stable Once Within 10%

Well No.	DM-1	Time	Water Level (ft btoc)	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	4.0	16:24	107.11	23.10	8.16	17.9	8.1	+62	4.60
Total Depth (ft btoc)	120	16:26	107.11	23.12	8.18	17.8	7.9	+64	4.60
Screened Interval (ft btoc)	100 - 120	16:28	107.11	23.14	8.17	17.8	7.9	+66	4.61
Depth to Water (ft btoc)	107.10								
Depth of Inlet (ft btoc)	115.00								
Discharge Time (sec)	25								
Fill Time (sec)	15								
Cycles per Minute	1.5								
Volume per Cycle (mL)	125								
Pump Rate (mL/min)	188								
Sample Date	5/30/2018								
Sample Time	16:30								

General Well Location: West side of settlement ponds

COMMENTS:

Well No.	DM-2	Time	Water Level (ft btoc)	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	4.0	17:24	107.55	23.40	7.70	18.3	78.1	+100	2.50
Total Depth (ft btoc)	120	17:26	107.55	23.42	7.71	18.3	78.1	+101	2.51
Screened Interval (ft btoc)	100 - 120	17:28	107.55	23.43	7.71	18.4	78.3	+100	2.52
Depth to Water (ft btoc)	107.45								
Depth of Inlet (ft btoc)	115.00								
Discharge Time (sec)	27								
Fill Time (sec)	40								
Cycles per Minute	0.9								
Volume per Cycle (mL)	125								
Pump Rate (mL/min)	112								
Sample Date	5/30/2018								
Sample Time	17:30								

General Well Location: East side of settlement ponds

COMMENTS:

Well No.	DM-3	Time	Water Level (ft btoc)	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	4.0	18:24	104.33	23.23	7.70	18.1	5.1	+120	4.15
Total Depth (ft btoc)	120	18:26	104.33	23.22	7.70	18.2	5.3	+121	4.16
Screened Interval (ft btoc)	100 - 120	18:28	104.33	23.22	7.71	18.1	5.3	+120	4.16
Depth to Water (ft btoc)	104.27								
Depth of Inlet (ft btoc)	115.00								
Discharge Time (sec)	27								
Fill Time (sec)	35								
Cycles per Minute	0.97								
Volume per Cycle (mL)	125								
Pump Rate (mL/min)	121								
Sample Date	5/30/2018								
Sample Time	18:30								

General Well Location: South side of settlement ponds

COMMENTS:

APPENDIX B

CHARTS 1 - 29

Chart 1: Chloride

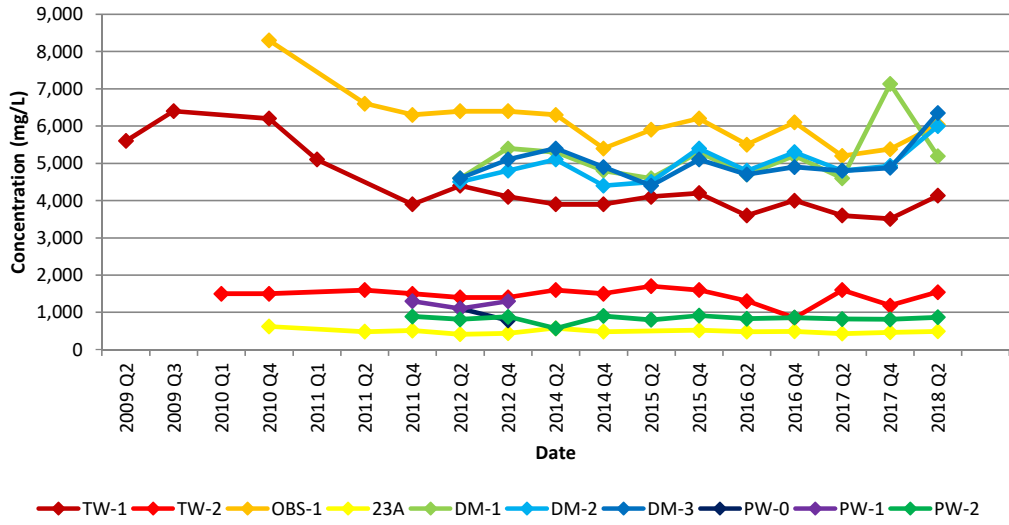


Chart 2: Sulfate (SO₄)

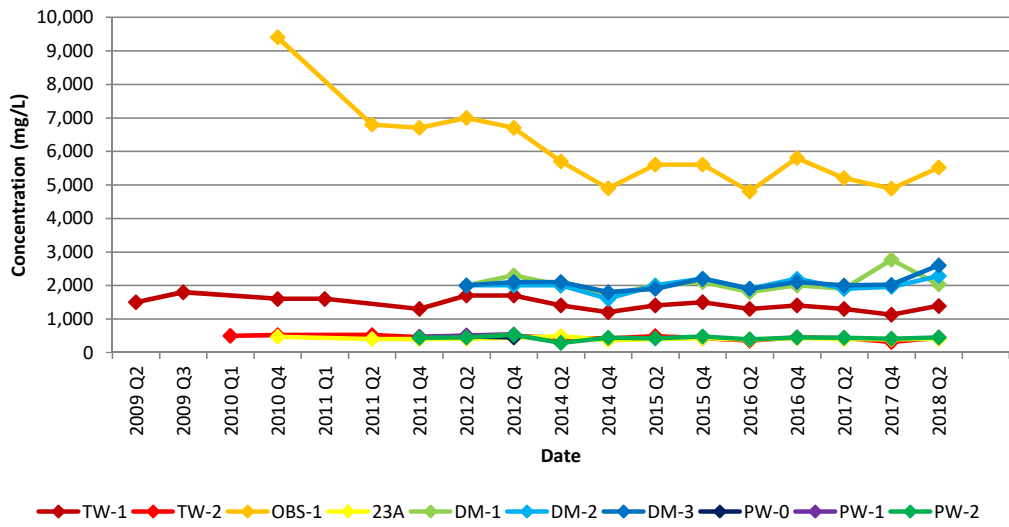


Chart 3: Nitrate (NO₃)

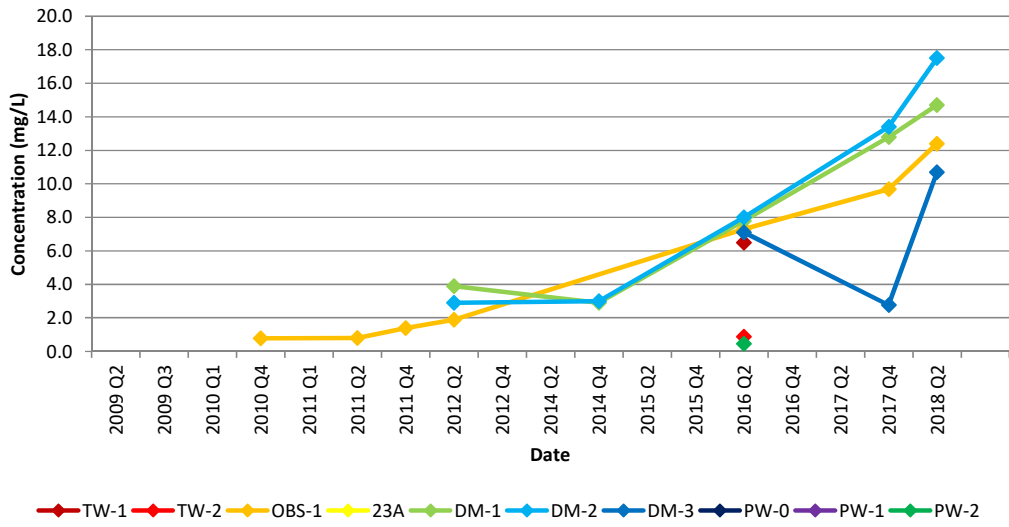


Chart 4: Calcium

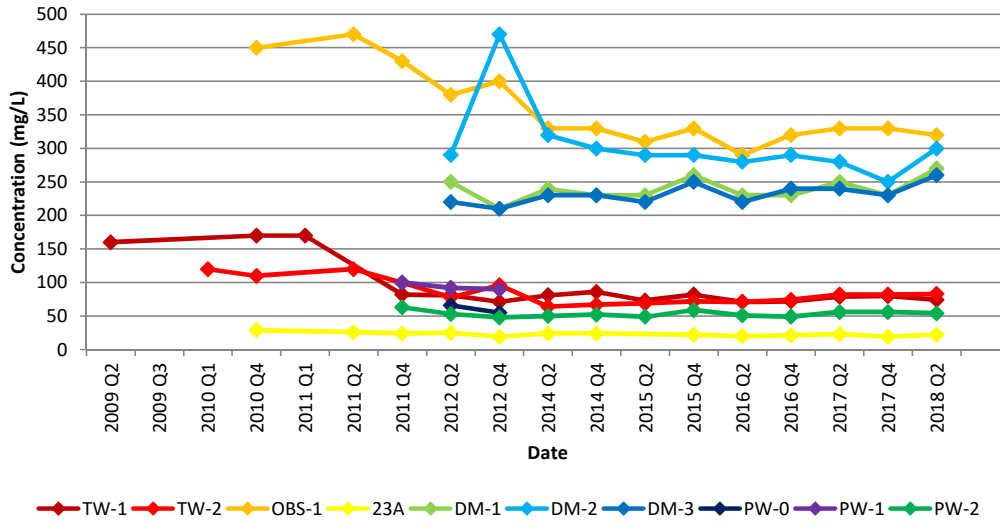


Chart 5: Copper

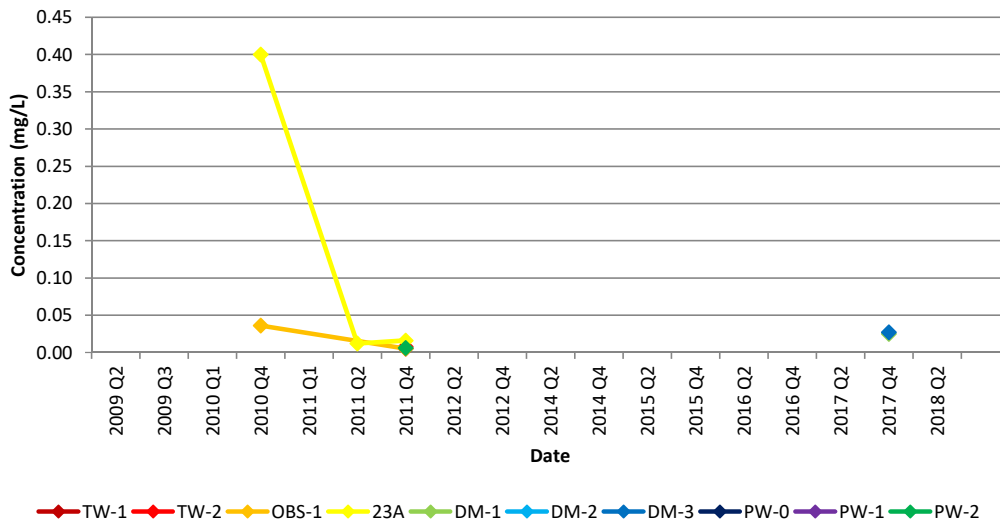


Chart 6: Sodium

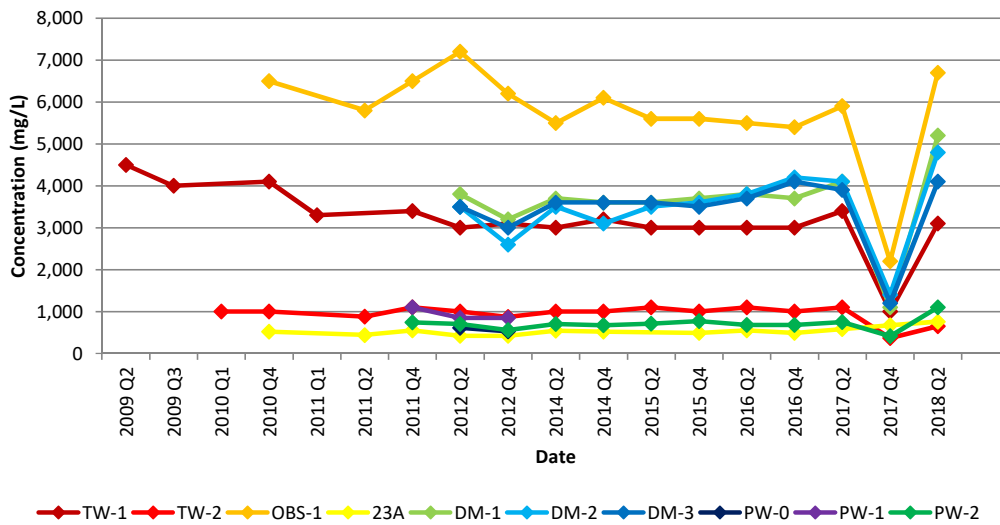


Chart 7: Potassium

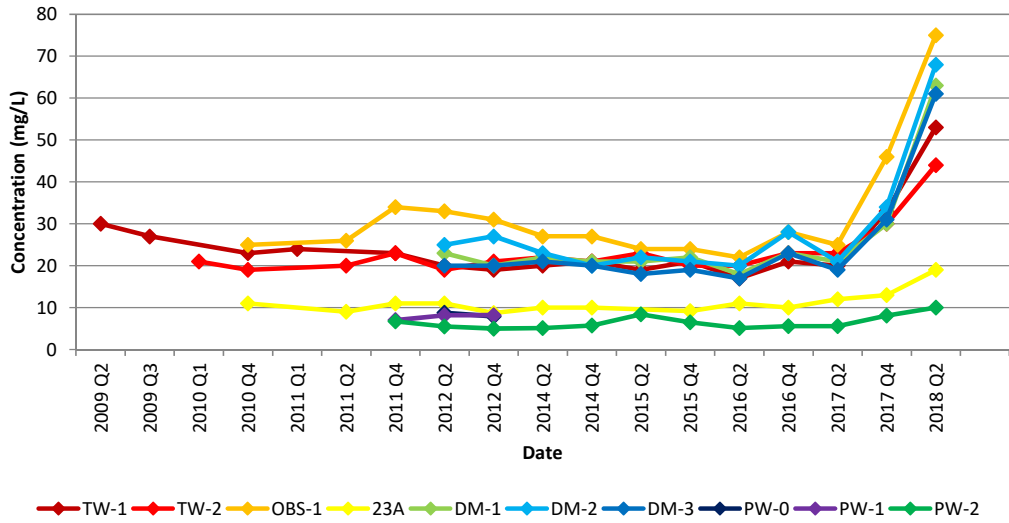


Chart 8: Iron

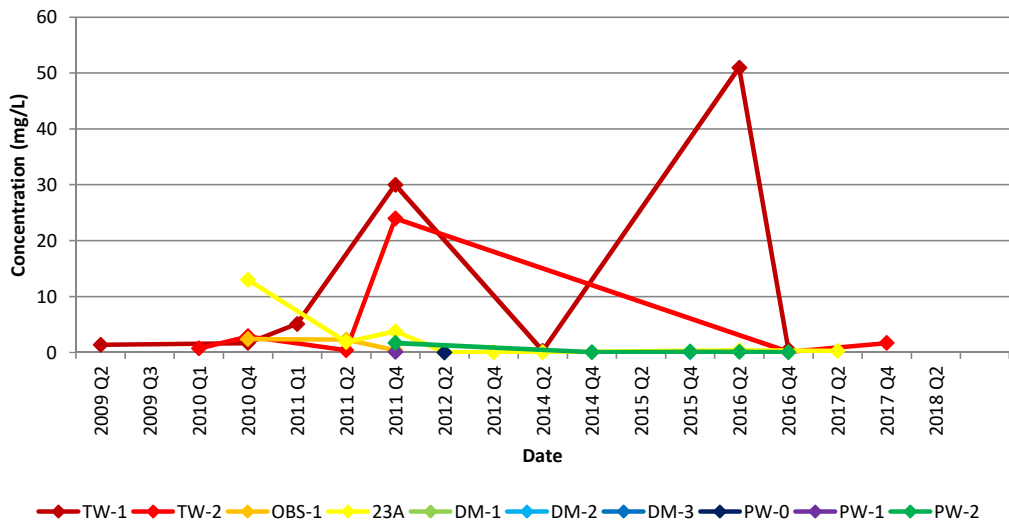


Chart 9: Magnesium

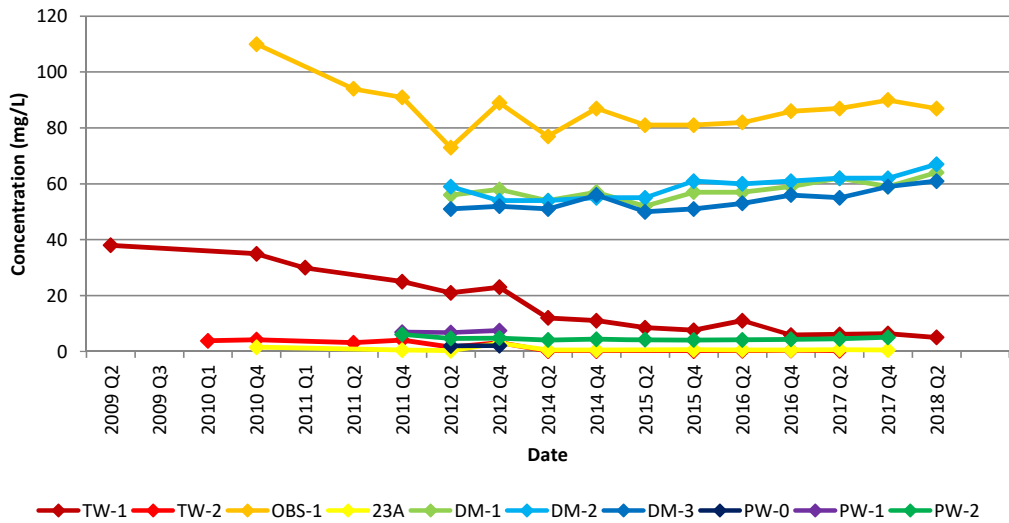


Chart 10: Antimony

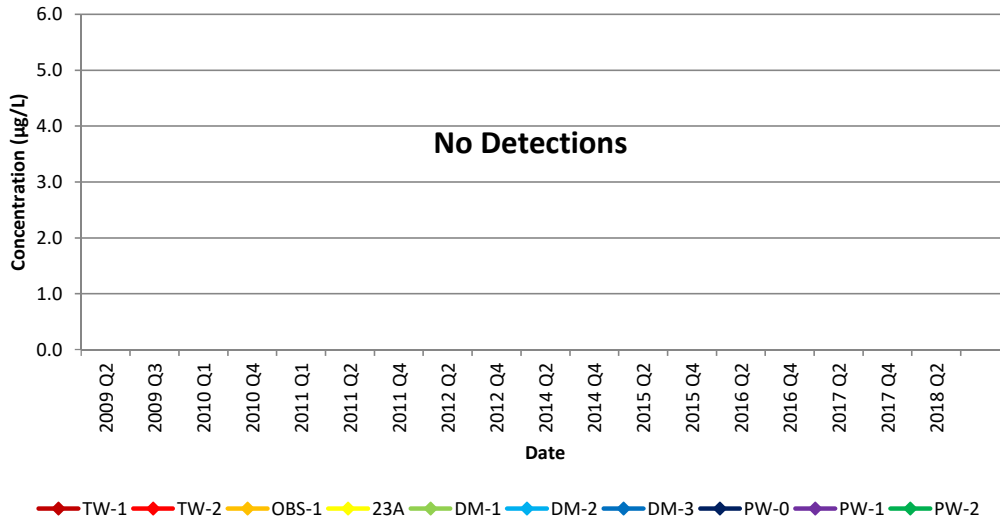


Chart 11: Arsenic

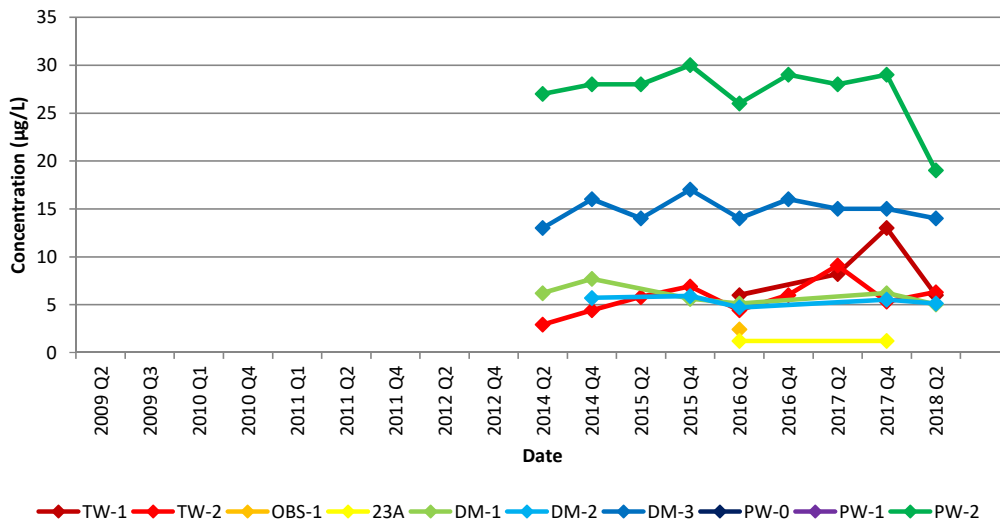


Chart 12: Barium

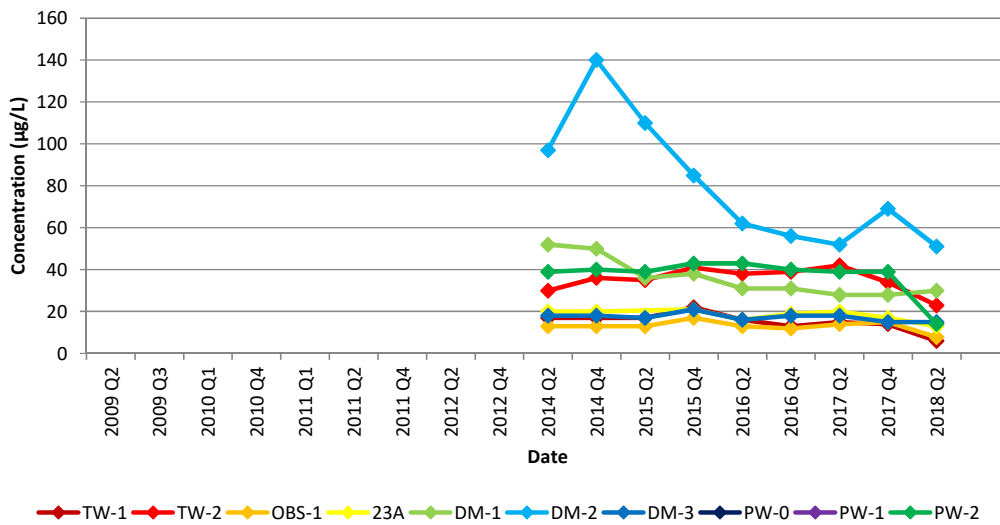


Chart 19: Selenium

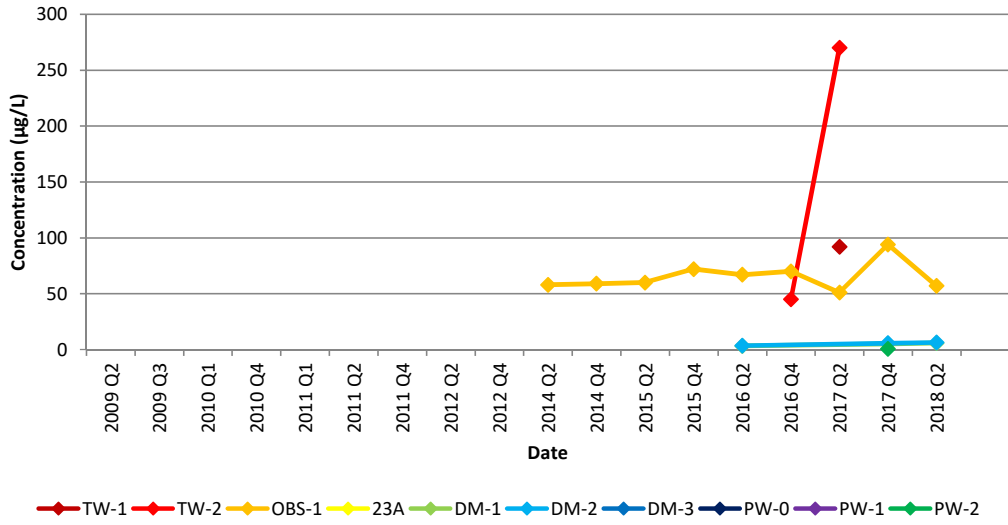


Chart 20: Zinc

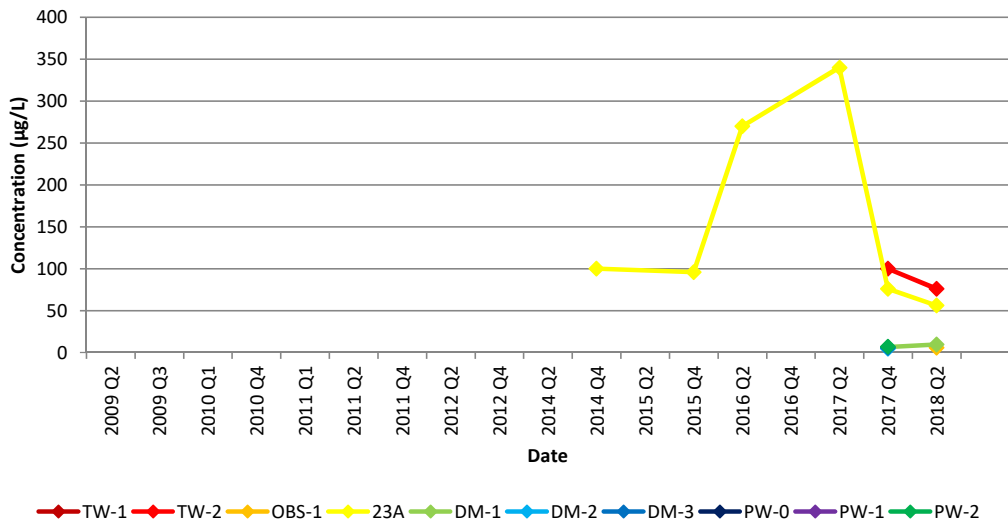


Chart 21: Mercury

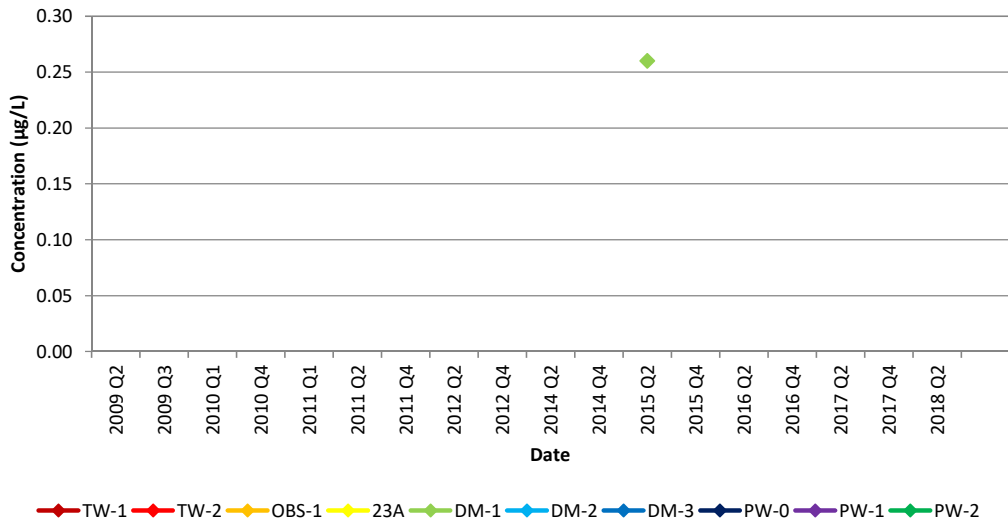


Chart 27: Deuterium

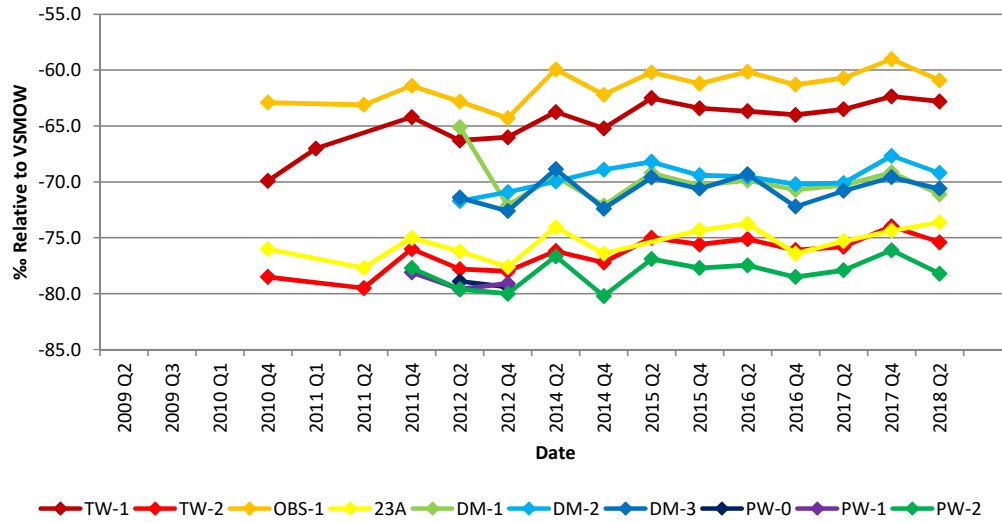


Chart 28: Oxygen-18

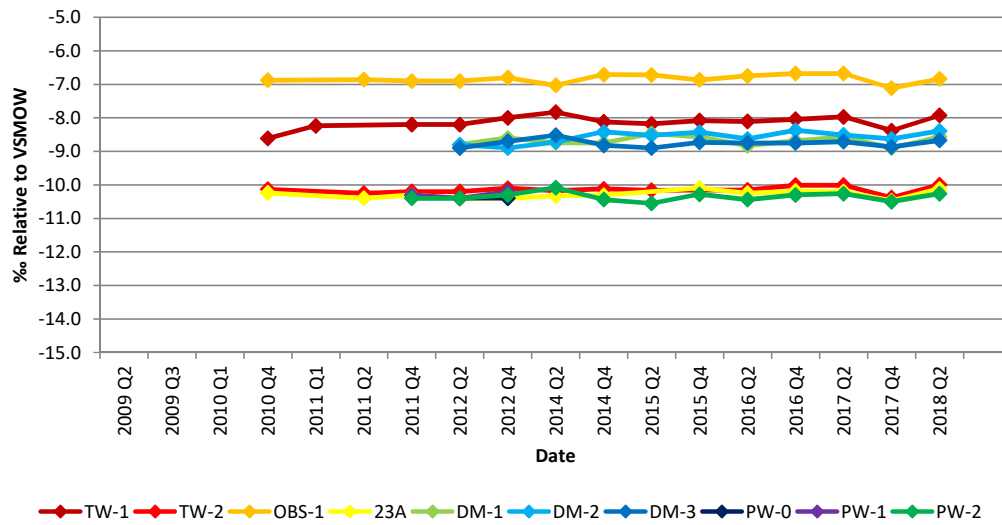
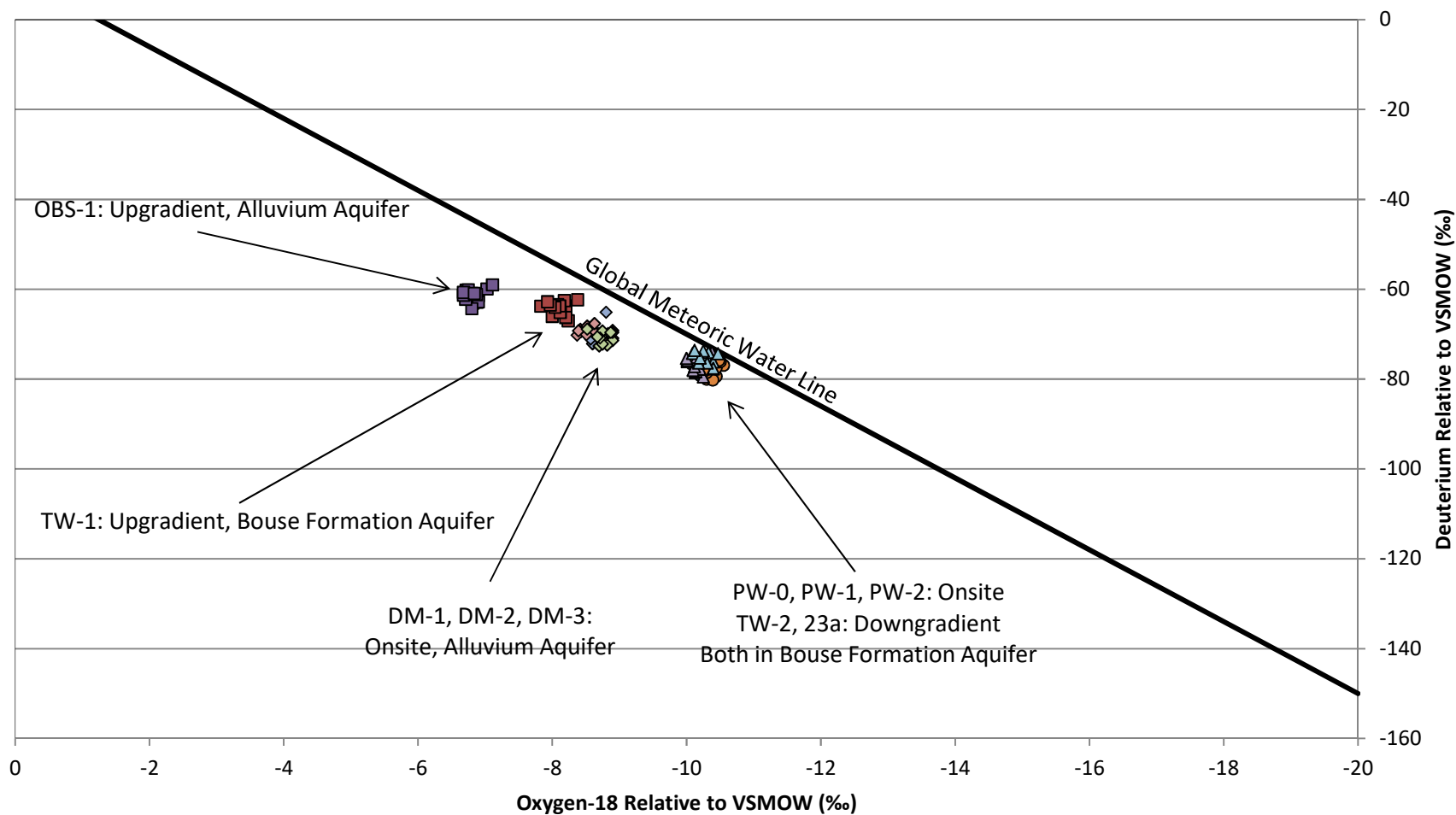


Chart 29: Deuterium vs. Oxygen-18 Concentrations Relative to Vienna Standard Mean Oceanic Water



Global Meteoric Water Line
 TW-1
 OBS-1
 PW-0
 PW-1
 PW-2
 DM-1
 DM-2
 DM-3
 TW-2
 23a

APPENDIX C

MANN-KENDALL TREND ANALYSIS

Appendix C
2018 First Semiannual Summary of Mann-Kendall Test for Trend
Genesis Solar Energy Project, Blythe, CA

Well ID	Constituent	Minimum	Maximum	Mean	Kendall Tau Value	2-Sided p-Value	Trend Direction at 95% Confidence Interval
TW-1	Arsenic	N/A	N/A	N/A	N/A	N/A	N/A
	Barium	6	22	15	-0.667	0.01924	Decreasing Trend
	Calcium	71	170	95	-0.456	0.02216	Decreasing Trend
	Chloride	3,510	6,400	4,474	-0.598	0.00071	Decreasing Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	12,000	20,000	16,161	-0.624	0.00059	Decreasing Trend
	Sulfate	1,130	1,800	1,434	-0.328	0.07163	No Statistical Trend
Total Dissolved Solids	7,800	10,000	9,072	-0.505	0.00436	Decreasing Trend	
TW-2	Arsenic	2.9	9.1	5.7	0.479	0.09349	No Statistical Trend
	Barium	23	42	35	0.056	0.91697	No Statistical Trend
	Calcium	64	120	87	-0.279	0.14842	No Statistical Trend
	Chloride	850	1,700	1,454	-0.099	0.64355	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	4,100	6,200	5,568	-0.043	0.85597	No Statistical Trend
	Sulfate	315	520	453	-0.574	0.00301	Decreasing Trend
Total Dissolved Solids	2,800	3,900	3,200	-0.115	0.58138	No Statistical Trend	
OBS-1	Arsenic	N/A	N/A	N/A	N/A	N/A	N/A
	Barium	8	17	13	-0.061	0.91277	No Statistical Trend
	Calcium	290	470	359	-0.633	0.00287	Decreasing Trend
	Chloride	5,200	8,300	6,144	-0.656	0.00145	Decreasing Trend
	Selenium	51	94	65	0.167	0.60217	No Statistical Trend
	Specific Conductivity	21,000	36,000	28,057	-0.339	0.10932	No Statistical Trend
	Sulfate	4,800	9,400	6,044	-0.633	0.00211	Decreasing Trend
Total Dissolved Solids	16,000	21,000	18,571	-0.445	0.04354	Decreasing Trend	
23a	Arsenic	N/A	N/A	N/A	N/A	N/A	N/A
	Barium	13	21	18	-0.491	0.12648	No Statistical Trend
	Calcium	19	29	23	-0.570	0.00960	Decreasing Trend
	Chloride	410	620	491	-0.144	0.53902	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	2,400	3,100	2,676	0.105	0.66699	No Statistical Trend
	Sulfate	370	490	417	-0.158	0.49840	No Statistical Trend
Total Dissolved Solids	1,300	1,700	1,508	-0.449	0.05396	No Statistical Trend	
DM-1	Arsenic	5.0	7.7	6.1	-0.390	0.28761	No Statistical Trend
	Barium	28	52	36	-0.800	0.00443	Decreasing Trend
	Calcium	210	270	239	0.203	0.45841	No Statistical Trend
	Chloride	4,600	7,130	5,165	0.019	1.00000	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	16,000	20,000	17,955	-0.039	0.93605	No Statistical Trend
	Sulfate	1,700	2,770	2,055	0.096	0.74903	No Statistical Trend
Total Dissolved Solids	10,000	12,000	11,000	-0.334	0.23272	No Statistical Trend	
DM-2	Arsenic	4.7	5.9	5.5	-0.276	0.56609	No Statistical Trend
	Barium	51	140	80	-0.722	0.00915	Decreasing Trend
	Calcium	250	470	305	-0.492	0.05337	No Statistical Trend
	Chloride	4,400	6,000	4,957	0.434	0.08231	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	16,000	22,000	17,473	0.119	0.68701	No Statistical Trend
	Sulfate	1,600	2,280	2,004	0.138	0.62912	No Statistical Trend
Total Dissolved Solids	9,600	13,000	11,027	-0.080	0.80898	No Statistical Trend	
DM-3	Arsenic	13	17	15	0.030	1.00000	No Statistical Trend
	Barium	15	21	17	-0.464	0.12285	No Statistical Trend
	Calcium	210	260	232	0.506	0.04579	Increasing Trend
	Chloride	4,400	6,350	5,012	0.093	0.75405	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	16,000	20,000	17,645	-0.177	0.51960	No Statistical Trend
	Sulfate	1,800	2,600	2,065	0.229	0.38351	No Statistical Trend
Total Dissolved Solids	9,800	13,000	11,255	0.211	0.46459	No Statistical Trend	
PW-0	Arsenic	N/A	N/A	N/A	N/A	N/A	N/A
	Barium	N/A	N/A	N/A	N/A	N/A	N/A
	Calcium	N/A	N/A	N/A	N/A	N/A	N/A
	Chloride	N/A	N/A	N/A	N/A	N/A	N/A
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	N/A	N/A	N/A	N/A	N/A	N/A
	Sulfate	N/A	N/A	N/A	N/A	N/A	N/A
Total Dissolved Solids	N/A	N/A	N/A	N/A	N/A	N/A	
PW-1	Arsenic	N/A	N/A	N/A	N/A	N/A	N/A
	Barium	N/A	N/A	N/A	N/A	N/A	N/A
	Calcium	N/A	N/A	N/A	N/A	N/A	N/A
	Chloride	N/A	N/A	N/A	N/A	N/A	N/A
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	N/A	N/A	N/A	N/A	N/A	N/A
	Sulfate	N/A	N/A	N/A	N/A	N/A	N/A
Total Dissolved Solids	N/A	N/A	N/A	N/A	N/A	N/A	
PW-2	Arsenic	12	30	26	-0.177	0.59263	No Statistical Trend
	Barium	7.3	43	36	-0.329	0.28182	No Statistical Trend
	Calcium	48	63	53	0.173	0.48703	No Statistical Trend
	Chloride	570	910	817	-0.076	0.78336	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	2,900	4,100	3,725	-0.188	0.44563	No Statistical Trend
	Sulfate	290	530	426	-0.154	0.53521	No Statistical Trend
Total Dissolved Solids	2,000	2,300	2,133	-0.615	0.01275	Decreasing Trend	

N/A - Not Applicable; not enough data to calculate trend

APPENDIX D

LABORATORY REPORTS



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14 June 2018

Arlin Brewster
Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest, CA 92630
RE: Genesis Solar Groundwater

Enclosed are the results of analyses for samples received by the laboratory on 06/01/18 15:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rose Fasheh
Project Manager



25712 Commercentre Drive
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Northstar Environmental Remediation
 26225 Enterprise Court
 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
23a	T181813-01	Water	06/01/18 05:35	06/01/18 15:50
OBS-1	T181813-02	Water	06/01/18 11:00	06/01/18 15:50
TW-1	T181813-03	Water	06/01/18 11:10	06/01/18 15:50
TW-2	T181813-04	Water	06/01/18 06:30	06/01/18 15:50
PW-2	T181813-05	Water	06/01/18 09:15	06/01/18 15:50
DM-1	T181813-06	Water	05/30/18 16:30	06/01/18 15:50
DM-2	T181813-07	Water	05/30/18 17:30	06/01/18 15:50
DM-3	T181813-08	Water	05/30/18 18:30	06/01/18 15:50
DUP	T181813-09	Water	05/30/18 00:00	06/01/18 15:50

Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest CA, 92630

Project: Genesis Solar Groundwater
Project Number: 196-004-06
Project Manager: Arlin Brewster

Reported:
06/14/18 16:43

DETECTIONS SUMMARY

Sample ID: 23a

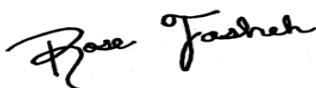
Laboratory ID: T181813-01

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Sodium	760	5.0	mg/l	EPA 200.7	FILT
Potassium	19	5.0	mg/l	EPA 200.7	FILT
Barium	13	5.0	ug/l	200.8	FILT
Copper	0.082	0.25	mg/l	EPA 200.7	FILT, J
Zinc	56	5.0	ug/l	200.8	FILT
Calcium	22	5.0	mg/l	EPA 200.7	FILT
pH	8.4	0.10	pH Units	SM4500	
Total Dissolved Solids	1300	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	2640	10.0	umhos/cm	SM2510b mod.	
Chloride	491	5.00	mg/l	EPA 300.0	
Sulfate as SO4	415	5.00	mg/l	EPA 300.0	

Sample ID: OBS-1

Laboratory ID: T181813-02

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Sodium	6700	50	mg/l	EPA 200.7	FILT
Potassium	75	5.0	mg/l	EPA 200.7	FILT
Barium	7.8	5.0	ug/l	200.8	FILT
Copper	0.10	0.25	mg/l	EPA 200.7	FILT, J
Selenium	57	5.0	ug/l	200.8	FILT
Zinc	5.8	5.0	ug/l	200.8	FILT
Calcium	320	5.0	mg/l	EPA 200.7	FILT
Magnesium	87	5.0	mg/l	EPA 200.7	FILT
pH	8.0	0.10	pH Units	SM4500	
Total Dissolved Solids	16000	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	23600	10.0	umhos/cm	SM2510b mod.	
Chloride	6040	100	mg/l	EPA 300.0	
Sulfate as SO4	5520	100	mg/l	EPA 300.0	
Nitrate as NO3	12.4	10.0	mg/l	EPA 300.0	HLD-1



Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest CA, 92630

Project: Genesis Solar Groundwater
Project Number: 196-004-06
Project Manager: Arlin Brewster

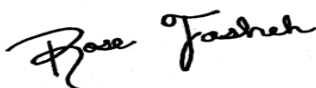
Reported:
06/14/18 16:43

Sample ID: PW-2 **Laboratory ID:** T181813-05

Analyte	Result	Reporting		Method	Notes
		Limit	Units		
Sodium	1000	5.0	mg/l	EPA 200.7	FILT
Arsenic	19	5.0	ug/l	200.8	FILT
Barium	14	5.0	ug/l	200.8	FILT
Copper	0.099	0.25	mg/l	EPA 200.7	FILT, J
Calcium	51	5.0	mg/l	EPA 200.7	FILT
Magnesium	4.1	5.0	mg/l	EPA 200.7	FILT, J
Total Dissolved Solids	2000	55	mg/l	TDS by SM2540C	
pH	8.5	0.10	pH Units	SM4500	
Specific Conductance (EC)	3620	10.0	umhos/cm	SM2510b mod.	
Fluoride	1.40	2.50	mg/l	EPA 300.0	J
Chloride	865	25.0	mg/l	EPA 300.0	
Sulfate as SO4	449	25.0	mg/l	EPA 300.0	

Sample ID: DM-1 **Laboratory ID:** T181813-06

Analyte	Result	Reporting		Method	Notes
		Limit	Units		
Sodium	5200	50	mg/l	EPA 200.7	FILT
Potassium	63	5.0	mg/l	EPA 200.7	FILT
Arsenic	5.0	5.0	ug/l	200.8	FILT
Barium	30	5.0	ug/l	200.8	FILT
Copper	0.096	0.25	mg/l	EPA 200.7	FILT, J
Selenium	5.9	5.0	ug/l	200.8	FILT
Zinc	9.5	5.0	ug/l	200.8	FILT
Calcium	270	5.0	mg/l	EPA 200.7	FILT
Iron	0.78	10	mg/l	EPA 200.7	FILT, J
Magnesium	64	5.0	mg/l	EPA 200.7	FILT
pH	7.9	0.10	pH Units	SM4500	O-09
Total Dissolved Solids	11000	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	17300	10.0	umhos/cm	SM2510b mod.	
Chloride	5190	100	mg/l	EPA 300.0	
Sulfate as SO4	2030	100	mg/l	EPA 300.0	
Nitrate as NO3	14.7	10.0	mg/l	EPA 300.0	HLD-1





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Northstar Environmental Remediation
 26225 Enterprise Court
 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

Sample ID: DUP

Laboratory ID: T181813-09

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Potassium	10	5.0	mg/l	EPA 200.7	FILT
Sodium	1100	5.0	mg/l	EPA 200.7	FILT
Arsenic	12	5.0	ug/l	200.8	FILT
Barium	7.3	5.0	ug/l	200.8	FILT
Copper	0.11	0.25	mg/l	EPA 200.7	FILT, J
Calcium	54	5.0	mg/l	EPA 200.7	FILT
Magnesium	4.2	5.0	mg/l	EPA 200.7	FILT, J
pH	8.2	0.10	pH Units	SM4500	O-04
Total Dissolved Solids	2000	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	3630	10.0	umhos/cm	SM2510b mod.	
Chloride	857	25.0	mg/l	EPA 300.0	
Sulfate as SO4	445	25.0	mg/l	EPA 300.0	



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Northstar Environmental Remediation 26225 Enterprise Court Lake Forest CA, 92630	Project: Genesis Solar Groundwater Project Number: 196-004-06 Project Manager: Arlin Brewster	Reported: 06/14/18 16:43
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23a
T181813-01(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

Potassium	19		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	760		5.0	"	"	"	"	"	"	FILT
Copper	0.082	0.015	0.25	"	"	"	"	"	"	FILT, J
Calcium	22	5.0	5.0	"	"	"	"	"	"	FILT
Iron	ND	0.35	10	"	"	"	"	"	"	FILT, R-07
Magnesium	ND	3.6	5.0	"	"	"	"	"	"	FILT, R-07
Antimony	ND		0.50	ug/l	1	8060521	06/05/18	06/07/18	200.8	FILT
Arsenic	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Barium	13		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	ND		0.50	"	"	"	"	"	"	FILT
Cobalt	ND		0.50	"	"	"	"	"	"	FILT
Lead	ND		0.50	"	"	"	"	"	"	FILT
Nickel	ND		0.50	"	"	"	"	"	"	FILT
Selenium	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Zinc	56		5.0	"	"	"	"	"	"	FILT

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	ND	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	
Specific Conductance (EC)	2640		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	8.4		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	
Total Dissolved Solids	1300	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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Northstar Environmental Remediation
 26225 Enterprise Court
 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

23a

T181813-01(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Chloride	491	0.0635	5.00	mg/l	1	8060127	06/01/18	06/01/18	EPA 300.0	
Sulfate as SO4	415	0.327	5.00	"	"	"	"	"	"	
Nitrate as NO3	ND	0.0302	0.500	"	"	"	"	"	"	



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Northstar Environmental Remediation 26225 Enterprise Court Lake Forest CA, 92630	Project: Genesis Solar Groundwater Project Number: 196-004-06 Project Manager: Arlin Brewster	Reported: 06/14/18 16:43
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OBS-1
T181813-02(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

Potassium	75		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	6700		50	"	100	"	"	06/07/18	"	FILT
Copper	0.10	0.015	0.25	"	10	"	"	06/07/18	"	FILT, J
Calcium	320	5.0	5.0	"	"	"	"	06/07/18	"	FILT
Iron	ND	0.35	10	"	"	"	"	"	"	FILT, R-07
Magnesium	87	3.6	5.0	"	"	"	"	"	"	FILT
Antimony	ND		0.50	ug/l	1	8060521	06/05/18	06/07/18	200.8	FILT
Arsenic	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Barium	7.8		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	ND		0.50	"	"	"	"	"	"	FILT
Cobalt	ND		0.50	"	"	"	"	"	"	FILT
Lead	ND		0.50	"	"	"	"	"	"	FILT
Nickel	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Selenium	57		5.0	"	"	"	"	"	"	FILT
Zinc	5.8		5.0	"	"	"	"	"	"	FILT

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	ND	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	
Specific Conductance (EC)	23600		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	8.0		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	
Total Dissolved Solids	16000	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	

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OBS-1
T181813-02(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Chloride	6040	1.27	100	mg/l	20	8060127	06/01/18	06/04/18	EPA 300.0	
Sulfate as SO4	5520	6.55	100	"	"	"	"	"	"	
Nitrate as NO3	12.4	0.604	10.0	"	"	"	"	"	"	HLD-1

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Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

TW-1
T181813-03(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

Potassium	53		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	3100		50	"	100	"	"	06/07/18	"	FILT
Copper	0.11	0.015	0.25	"	10	"	"	06/07/18	"	FILT, J
Calcium	74	5.0	5.0	"	"	"	"	"	"	FILT
Iron	ND	0.35	10	"	"	"	"	"	"	FILT, R-07
Magnesium	5.0	3.6	5.0	"	"	"	"	"	"	FILT
Antimony	ND		0.50	ug/l	1	8060521	06/05/18	06/07/18	200.8	FILT
Arsenic	6.0		5.0	"	10	"	"	06/08/18	"	FILT
Barium	5.9		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	ND		0.50	"	"	"	"	"	"	FILT
Cobalt	ND		0.50	"	"	"	"	"	"	FILT
Lead	ND		0.50	"	"	"	"	"	"	FILT
Nickel	ND		0.50	"	"	"	"	"	"	FILT
Selenium	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Zinc	ND		5.0	"	"	"	"	"	"	FILT, R-07

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	1.70	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	J
Specific Conductance (EC)	14000		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	10		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	
Total Dissolved Solids	9300	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	

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TW-1
T181813-03(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Chloride	4130	1.27	100	mg/l	20	8060127	06/01/18	06/04/18	EPA 300.0	
Sulfate as SO4	1390	6.55	100	"	"	"	"	"	"	
Nitrate as NO3	ND	0.604	10.0	"	"	"	"	"	"	HLD-1, R-07



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TW-2
T181813-04(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

Potassium	44		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	650		50	"	100	"	"	06/07/18	"	FILT
Copper	0.089	0.015	0.25	"	10	"	"	06/07/18	"	FILT, J
Calcium	83	5.0	5.0	"	"	"	"	"	"	FILT
Iron	5.4	0.35	10	"	"	"	"	"	"	FILT, R-07, J
Magnesium	ND	3.6	5.0	"	"	"	"	"	"	FILT, R-07
Antimony	ND		0.50	ug/l	1	8060521	06/05/18	06/07/18	200.8	FILT
Arsenic	6.3		5.0	"	10	"	"	06/08/18	"	FILT
Barium	23		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	ND		0.50	"	"	"	"	"	"	FILT
Cobalt	ND		0.50	"	"	"	"	"	"	FILT
Lead	ND		0.50	"	"	"	"	"	"	FILT
Nickel	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Selenium	ND		5.0	"	"	"	"	"	"	FILT, R-07
Zinc	76		5.0	"	"	"	"	"	"	FILT

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	ND	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	
Specific Conductance (EC)	5590		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	9.6		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	
Total Dissolved Solids	2800	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	

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TW-2
T181813-04(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Chloride	1540	0.635	50.0	mg/l	10	8060127	06/01/18	06/04/18	EPA 300.0	
Sulfate as SO4	439	3.27	50.0	"	"	"	"	"	"	
Nitrate as NO3	ND	0.302	5.00	"	"	"	"	"	"	HLD-1, R-07



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 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

PW-2
T181813-05(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

Potassium	9.8		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	1000		5.0	"	"	"	"	"	"	FILT
Copper	0.099	0.015	0.25	"	"	"	"	"	"	FILT, J
Calcium	51	5.0	5.0	"	"	"	"	06/07/18	"	FILT
Iron	ND	0.35	10	"	"	"	"	"	"	FILT, R-07
Magnesium	4.1	3.6	5.0	"	"	"	"	"	"	FILT, J
Antimony	ND		0.50	ug/l	1	8060521	06/05/18	06/07/18	200.8	FILT
Arsenic	19		5.0	"	10	"	"	06/08/18	"	FILT
Barium	14		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	ND		0.50	"	"	"	"	"	"	FILT
Cobalt	ND		0.50	"	"	"	"	"	"	FILT
Lead	ND		0.50	"	"	"	"	"	"	FILT
Nickel	ND		0.50	"	"	"	"	"	"	FILT
Selenium	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Zinc	ND		5.0	"	"	"	"	"	"	FILT, R-07

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	ND	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	
Specific Conductance (EC)	3620		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	8.5		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	
Total Dissolved Solids	2000	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	

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PW-2
T181813-05(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Fluoride	1.40	0.126	2.50	mg/l	5	8060127	06/01/18	06/04/18	EPA 300.0	J
Chloride	865	0.318	25.0	"	"	"	"	"	"	
Sulfate as SO4	449	1.64	25.0	"	"	"	"	"	"	
Nitrate as NO3	ND	0.151	2.50	"	"	"	"	"	"	HLD-1, R-07



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DM-1
T181813-06(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

Potassium	63		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	5200		50	"	100	"	"	06/07/18	"	FILT
Copper	0.096	0.015	0.25	"	10	"	"	06/07/18	"	FILT, J
Calcium	270	5.0	5.0	"	"	"	"	"	"	FILT
Iron	0.78	0.35	10	"	"	"	"	"	"	FILT, J
Magnesium	64	3.6	5.0	"	"	"	"	"	"	FILT
Antimony	ND		0.50	ug/l	1	8060521	06/05/18	06/07/18	200.8	FILT
Arsenic	5.0		5.0	"	10	"	"	06/08/18	"	FILT
Barium	30		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Cobalt	ND		0.50	"	1	"	"	06/07/18	"	FILT
Lead	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Nickel	ND		5.0	"	"	"	"	"	"	FILT, R-07
Selenium	5.9		5.0	"	"	"	"	"	"	FILT
Zinc	9.5		5.0	"	"	"	"	"	"	FILT

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	ND	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	
Specific Conductance (EC)	17300		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	7.9		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	O-09
Total Dissolved Solids	11000	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	

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DM-1
T181813-06(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Chloride	5190	1.27	100	mg/l	20	8060127	06/01/18	06/04/18	EPA 300.0	
Sulfate as SO4	2030	6.55	100	"	"	"	"	"	"	
Nitrate as NO3	14.7	0.604	10.0	"	"	"	"	"	"	HLD-1

Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest CA, 92630

Project: Genesis Solar Groundwater
Project Number: 196-004-06
Project Manager: Arlin Brewster

Reported:
06/14/18 16:43

DM-2
T181813-07(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

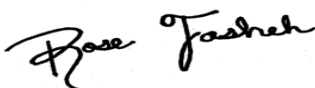
Potassium	68		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	4800		50	"	100	"	"	06/07/18	"	FILT
Copper	0.11	0.015	0.25	"	10	"	"	06/07/18	"	FILT, J
Calcium	300	5.0	5.0	"	"	"	"	"	"	FILT
Iron	ND	0.35	10	"	"	"	"	"	"	FILT, R-07
Magnesium	67	3.6	5.0	"	"	"	"	"	"	FILT
Antimony	ND		5.0	ug/l	"	8060521	06/05/18	06/08/18	200.8	FILT, R-07
Arsenic	5.1		5.0	"	"	"	"	"	"	FILT
Barium	51		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	5.0		5.0	"	10	"	"	06/08/18	"	FILT
Cobalt	ND		0.50	"	1	"	"	06/07/18	"	FILT
Lead	ND		0.50	"	"	"	"	"	"	FILT
Nickel	ND		0.50	"	"	"	"	"	"	FILT
Selenium	6.3		5.0	"	10	"	"	06/08/18	"	FILT
Zinc	ND		5.0	"	"	"	"	"	"	FILT, R-07

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	ND	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	
Specific Conductance (EC)	17000		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	7.9		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	O-09
Total Dissolved Solids	9900	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	





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DM-2
T181813-07(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Chloride	6000	1.27	100	mg/l	20	8060127	06/01/18	06/04/18	EPA 300.0	
Sulfate as SO4	2280	6.55	100	"	"	"	"	"	"	
Nitrate as NO3	17.5	0.604	10.0	"	"	"	"	"	"	HLD-1



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DM-3
T181813-08(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

Potassium	61		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	4100		50	"	100	"	"	06/07/18	"	FILT
Copper	0.11	0.015	0.25	"	10	"	"	06/07/18	"	FILT, J
Calcium	260	5.0	5.0	"	"	"	"	06/07/18	"	FILT
Iron	ND	0.35	10	"	"	"	"	"	"	FILT, R-07
Magnesium	61	3.6	5.0	"	"	"	"	"	"	FILT
Antimony	ND		0.50	ug/l	1	8060521	06/05/18	06/07/18	200.8	FILT
Arsenic	14		5.0	"	10	"	"	06/08/18	"	FILT
Barium	15		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Cobalt	ND		0.50	"	1	"	"	06/07/18	"	FILT
Lead	ND		0.50	"	"	"	"	"	"	FILT
Nickel	ND		0.50	"	"	"	"	"	"	FILT
Selenium	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Zinc	ND		5.0	"	"	"	"	"	"	FILT, R-07

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	ND	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	
Specific Conductance (EC)	17100		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	7.9		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	O-09
Total Dissolved Solids	12000	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	

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 Lake Forest, California 92630
 949.297.5020 Phone
 949.297.5027 Fax

Northstar Environmental Remediation 26225 Enterprise Court Lake Forest CA, 92630	Project: Genesis Solar Groundwater Project Number: 196-004-06 Project Manager: Arlin Brewster	Reported: 06/14/18 16:43
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DM-3
T181813-08(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Chloride	6350	1.27	100	mg/l	20	8060127	06/01/18	06/04/18	EPA 300.0	
Sulfate as SO4	2600	6.55	100	"	"	"	"	"	"	
Nitrate as NO3	10.7	0.604	10.0	"	"	"	"	"	"	HLD-1



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Northstar Environmental Remediation
 26225 Enterprise Court
 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

DUP
T181813-09(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 200 Series Methods

Potassium	10		5.0	mg/l	10	8060520	06/05/18	06/07/18	EPA 200.7	FILT
Sodium	1100		5.0	"	"	"	"	"	"	FILT
Copper	0.11	0.015	0.25	"	"	"	"	"	"	FILT, J
Calcium	54	5.0	5.0	"	"	"	"	"	"	FILT
Iron	ND	0.35	10	"	"	"	"	"	"	FILT, R-07
Magnesium	4.2	3.6	5.0	"	"	"	"	"	"	FILT, J
Antimony	ND		0.50	ug/l	1	8060521	06/05/18	06/07/18	200.8	FILT
Arsenic	12		5.0	"	10	"	"	06/08/18	"	FILT
Barium	7.3		5.0	"	"	"	"	"	"	FILT
Cadmium	ND		0.50	"	1	"	"	06/07/18	"	FILT
Chromium	ND		0.50	"	"	"	"	"	"	FILT
Cobalt	ND		0.50	"	"	"	"	"	"	FILT
Lead	ND		0.50	"	"	"	"	"	"	FILT
Nickel	ND		0.50	"	"	"	"	"	"	FILT
Selenium	ND		5.0	"	10	"	"	06/08/18	"	FILT, R-07
Zinc	ND		5.0	"	"	"	"	"	"	FILT, R-07

Cold Vapor Extraction EPA 7470/7471

Mercury	ND	0.000022	0.00050	mg/l	1	8060438	06/04/18	06/05/18	EPA 7470A Water	
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods

Oil & Grease	ND	1.40	5.00	mg/l	1	8060425	06/04/18	06/05/18	EPA 1664B	
Specific Conductance (EC)	3630		10.0	umhos/cm	"	8060126	06/01/18	06/04/18	SM2510b mod.	
pH	8.2		0.10	pH Units	"	8060125	06/01/18	06/01/18	SM4500	O-04
Total Dissolved Solids	2000	36	55	mg/l	"	8060423	06/04/18	06/04/18	TDS by SM2540C	

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Northstar Environmental Remediation 26225 Enterprise Court Lake Forest CA, 92630	Project: Genesis Solar Groundwater Project Number: 196-004-06 Project Manager: Arlin Brewster	Reported: 06/14/18 16:43
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DUP
T181813-09(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Chloride	857	0.318	25.0	mg/l	5	8060127	06/01/18	06/04/18	EPA 300.0	
Sulfate as SO4	445	1.64	25.0	"	"	"	"	"	"	
Nitrate as NO3	ND	0.151	2.50	"	"	"	"	"	"	HLD-1, R-07



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Northstar Environmental Remediation
 26225 Enterprise Court
 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

Metals by EPA 200 Series Methods - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8060520 - EPA 3010A

Blank (8060520-BLK1) Prepared: 06/05/18 Analyzed: 06/07/18

Potassium	ND		0.50	mg/l							FILT
Sodium	ND		0.50	"							FILT
Copper	ND	0.002	0.025	"							FILT
Calcium	ND	0.50	0.50	"							FILT
Iron	ND	0.035	1.0	"							FILT
Magnesium	ND	0.36	0.50	"							FILT

LCS (8060520-BS1) Prepared: 06/05/18 Analyzed: 06/07/18

Copper	0.121	0.002	0.025	mg/l	0.100		121	75-125			FILT
Iron	0.090	0.035	1.0	"	0.100		90.3	75-125			FILT, J

Matrix Spike (8060520-MS1) Source: T181813-01 Prepared: 06/05/18 Analyzed: 06/07/18

Copper	0.215	0.015	0.25	mg/l	0.100	0.082	133	65-135			FILT, J
Iron	ND	0.35	10	"	0.100	ND		65-135			FILT, QM-01

Matrix Spike Dup (8060520-MSD1) Source: T181813-01 Prepared: 06/05/18 Analyzed: 06/07/18

Copper	0.212	0.015	0.25	mg/l	0.100	0.082	130	65-135	1.34	30	FILT, J
Iron	ND	0.35	10	"	0.100	ND		65-135		30	FILT, QM-01

Batch 8060521 - EPA 3010A

Blank (8060521-BLK1) Prepared: 06/05/18 Analyzed: 06/07/18

Antimony	ND		0.50	ug/l							FILT
Arsenic	ND		0.50	"							FILT
Barium	ND		0.50	"							FILT
Cadmium	ND		0.50	"							FILT
Chromium	ND		0.50	"							FILT
Cobalt	ND		0.50	"							FILT
Lead	ND		0.50	"							FILT
Nickel	ND		0.50	"							FILT
Selenium	ND		0.50	"							FILT

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Rose Jashah



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Northstar Environmental Remediation
 26225 Enterprise Court
 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

Metals by EPA 200 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8060521 - EPA 3010A

Blank (8060521-BLK1)

Prepared: 06/05/18 Analyzed: 06/07/18

Zinc	ND		0.50	ug/l							FILT
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LCS (8060521-BS1)

Prepared: 06/05/18 Analyzed: 06/07/18

Arsenic	53.9		0.50	ug/l	50.0		108	75-125			FILT
Barium	47.0		0.50	"	50.0		94.1	75-125			FILT
Cadmium	51.7		0.50	"	50.0		103	75-125			FILT
Chromium	51.2		0.50	"	50.0		102	75-125			FILT
Lead	44.8		0.50	"	50.0		89.7	75-125			FILT

Matrix Spike (8060521-MS1)

Source: T181813-01

Prepared: 06/05/18 Analyzed: 06/07/18

Arsenic	53.8		0.50	ug/l	50.0	1.36	105	75-125			FILT
Barium	63.0		0.50	"	50.0	12.5	101	75-125			FILT
Cadmium	44.2		0.50	"	50.0	0.0956	88.2	75-125			FILT
Chromium	61.2		0.50	"	50.0	0.0744	122	75-125			FILT
Lead	49.5		0.50	"	50.0	0.178	98.6	75-125			FILT

Matrix Spike Dup (8060521-MSD1)

Source: T181813-01

Prepared: 06/05/18 Analyzed: 06/07/18

Arsenic	55.4		0.50	ug/l	50.0	1.36	108	75-125	2.90	20	FILT
Barium	63.9		0.50	"	50.0	12.5	103	75-125	1.47	20	FILT
Cadmium	45.3		0.50	"	50.0	0.0956	90.4	75-125	2.49	20	FILT
Chromium	62.9		0.50	"	50.0	0.0744	126	75-125	2.62	20	FILT, QR-04
Lead	49.2		0.50	"	50.0	0.178	98.1	75-125	0.532	20	FILT

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Northstar Environmental Remediation 26225 Enterprise Court Lake Forest CA, 92630	Project: Genesis Solar Groundwater Project Number: 196-004-06 Project Manager: Arlin Brewster	Reported: 06/14/18 16:43
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Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8060438 - EPA 7470A Water											
Blank (8060438-BLK1)											
						Prepared: 06/04/18 Analyzed: 06/05/18					
Mercury	ND	0.000022	0.00050	mg/l							
LCS (8060438-BS1)											
						Prepared: 06/04/18 Analyzed: 06/05/18					
Mercury	0.00483	0.000022	0.00050	mg/l	0.00500	ND	96.6	80-120			
Matrix Spike (8060438-MS1)											
						Source: T181813-01 Prepared: 06/04/18 Analyzed: 06/05/18					
Mercury	0.00464	0.000022	0.00050	mg/l	0.00500	ND	92.9	75-125			
Matrix Spike Dup (8060438-MSD1)											
						Source: T181813-01 Prepared: 06/04/18 Analyzed: 06/05/18					
Mercury	0.00441	0.000022	0.00050	mg/l	0.00500	ND	88.2	75-125	5.20	20	



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 26225 Enterprise Court
 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8060125 - General Preparation

Duplicate (8060125-DUP1)		Source: T181813-01			Prepared & Analyzed: 06/01/18						
pH	8.74		0.10	pH Units		8.36			4.44	20	

Batch 8060126 - General Preparation

Duplicate (8060126-DUP1)		Source: T181813-01			Prepared: 06/01/18 Analyzed: 06/04/18						
Specific Conductance (EC)	2620		10.0	umhos/cm		2640			0.760	15	

Batch 8060423 - General Preparation

Blank (8060423-BLK1)		Prepared & Analyzed: 06/04/18									
Total Dissolved Solids	ND	36	55	mg/l							

LCS (8060423-BS1)		Prepared & Analyzed: 06/04/18									
Total Dissolved Solids	490	36	55	mg/l	500		98.0	80-120			

Duplicate (8060423-DUP1)		Source: T181813-01			Prepared & Analyzed: 06/04/18						
Total Dissolved Solids	1320	36	55	mg/l		1320			0.303	5	

Batch 8060425 - General Preparation

Blank (8060425-BLK1)		Prepared: 06/04/18 Analyzed: 06/05/18									
Oil & Grease	ND	1.40	5.00	mg/l							

LCS (8060425-BS1)		Prepared: 06/04/18 Analyzed: 06/05/18									
Oil & Grease	33.4	1.40	5.00	mg/l	40.0		83.5	83-101			

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Northstar Environmental Remediation 26225 Enterprise Court Lake Forest CA, 92630	Project: Genesis Solar Groundwater Project Number: 196-004-06 Project Manager: Arlin Brewster	Reported: 06/14/18 16:43
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Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8060425 - General Preparation

LCS Dup (8060425-BSD1)

Prepared: 06/04/18 Analyzed: 06/05/18

Oil & Grease	34.4	1.40	5.00	mg/l	40.0		86.0	83-101	2.95	11	
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Northstar Environmental Remediation
 26225 Enterprise Court
 Lake Forest CA, 92630

Project: Genesis Solar Groundwater
 Project Number: 196-004-06
 Project Manager: Arlin Brewster

Reported:
 06/14/18 16:43

Anions by EPA Method 300.0 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 8060127 - General Preparation

Blank (8060127-BLK1)

Prepared & Analyzed: 06/01/18

Nitrate as NO3 ND 0.0302 0.500 mg/l

LCS (8060127-BS1)

Prepared & Analyzed: 06/01/18

Chloride 26.0 0.0635 5.00 mg/l 25.0 104 75-125
 Sulfate as SO4 26.1 0.327 5.00 " 25.0 104 75-125
 Nitrate as NO3 26.1 0.0302 0.500 " 25.0 104 75-125

Matrix Spike (8060127-MS1)

Source: T181813-02

Prepared: 06/01/18 Analyzed: 06/04/18

Chloride 6910 1.27 100 mg/l 25.0 6040 NR 75-125 QM-02
 Sulfate as SO4 6300 6.55 100 " 25.0 5520 NR 75-125 QM-02
 Nitrate as NO3 30.8 0.0302 0.500 " 25.0 12.4 73.6 75-125 QM-05

Matrix Spike Dup (8060127-MSD1)

Source: T181813-02

Prepared: 06/01/18 Analyzed: 06/04/18

Chloride 7230 1.27 100 mg/l 25.0 6040 NR 75-125 4.63 20 QM-02
 Sulfate as SO4 6600 6.55 100 " 25.0 5520 NR 75-125 4.53 20 QM-02
 Nitrate as NO3 28.9 0.0302 0.500 " 25.0 12.4 65.9 75-125 6.45 20 QM-05

SunStar Laboratories, Inc.

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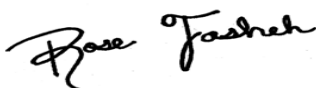
Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest CA, 92630

Project: Genesis Solar Groundwater
Project Number: 196-004-06
Project Manager: Arlin Brewster

Reported:
06/14/18 16:43

Notes and Definitions

- R-07 Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
- QR-04 The percent recovery and/or RPD was outside acceptance criteria. Results accepted based upon percent recovery results in duplicate QC sample and the CCV and CCB results.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
- QM-02 The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- QM-01 The % recovery is outside of established control limits due to matrix interference and/or sample dilution due to matrix effect. The batch was accepted based on acceptable LCS recovery.
- O-09 The sample was analyzed outside the EPA recommended holding time of 24 hours.
- O-04 This sample was received and analyzed outside the EPA recommended holding time.
- J Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- HLD-1 Sample was originally analyzed within EPA recommended holding time. However, subsequent re-analysis due to QC failure, occurred outside EPA recommended holding time.
- FILT The sample was filtered prior to analysis.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the Method Detection Limit (MDL)
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference





WORK ORDER

T181813

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater

Project Manager: Rose Fasheh
Project Number: 196-004-06

Report To:

Northstar Environmental Remediation
 Arlin Brewster
 26225 Enterprise Court
 Lake Forest, CA 92630

Date Due: 06/08/18 17:00 (5 day TAT)

Received By: Dan Marteski

Date Received: 06/01/18 15:50

Logged In By: Sunny Lounethone

Date Logged In: 06/01/18 16:35

Samples Received at: **5.1°C**

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir Yes

Analysis	Due	TAT	Expires	Comments
T181813-01 23a [Water] Sampled 06/01/18 05:35 (GMT-08:00) Pacific Time (US &				
1664	06/08/18 15:00	5	06/29/18 05:35	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/28/18 05:35	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/28/18 05:35	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/29/18 05:35	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/03/18 05:35	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/30/18 05:35	MDL
Conductivity	06/08/18 15:00	5	06/29/18 05:35	
pH water 9040	06/08/18 15:00	5	06/02/18 05:35	
TDS-160.1	06/08/18 15:00	5	06/08/18 05:35	

T181813-02 OBS-1 [Water] Sampled 06/01/18 11:00 (GMT-08:00) Pacific Time (US &

1664	06/08/18 15:00	5	06/29/18 11:00	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/28/18 11:00	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/28/18 11:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/29/18 11:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/03/18 11:00	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/30/18 11:00	MDL
Conductivity	06/08/18 15:00	5	06/29/18 11:00	
pH water 9040	06/08/18 15:00	5	06/02/18 11:00	
TDS-160.1	06/08/18 15:00	5	06/08/18 11:00	

WORK ORDER

T181813

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater

Project Manager: Rose Fasheh
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T181813-03 TW-1 [Water] Sampled 06/01/18 11:10 (GMT-08:00) Pacific Time (US &				
1664	06/08/18 15:00	5	06/29/18 11:10	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/28/18 11:10	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/28/18 11:10	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/29/18 11:10	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/03/18 11:10	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/30/18 11:10	MDL
Conductivity	06/08/18 15:00	5	06/29/18 11:10	
pH water 9040	06/08/18 15:00	5	06/02/18 11:10	
TDS-160.1	06/08/18 15:00	5	06/08/18 11:10	
T181813-04 TW-2 [Water] Sampled 06/01/18 06:30 (GMT-08:00) Pacific Time (US &				
1664	06/08/18 15:00	5	06/29/18 06:30	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/28/18 06:30	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/28/18 06:30	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/29/18 06:30	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/03/18 06:30	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/30/18 06:30	MDL
Conductivity	06/08/18 15:00	5	06/29/18 06:30	
pH water 9040	06/08/18 15:00	5	06/02/18 06:30	
TDS-160.1	06/08/18 15:00	5	06/08/18 06:30	
T181813-05 PW-2 [Water] Sampled 06/01/18 09:15 (GMT-08:00) Pacific Time (US &				
Fluoride added per client request (Arlin, 6/1)				
1664	06/08/18 15:00	5	06/29/18 09:15	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/28/18 09:15	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/28/18 09:15	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/29/18 09:15	Chloride,Sulfate, Fluoride only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/03/18 09:15	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/30/18 09:15	MDL
Conductivity	06/08/18 15:00	5	06/29/18 09:15	
pH water 9040	06/08/18 15:00	5	06/02/18 09:15	
TDS-160.1	06/08/18 15:00	5	06/08/18 09:15	

WORK ORDER

T181813

Client: Northstar Environmental Remediation	Project Manager: Rose Fasheh
Project: Genesis Solar Groundwater	Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T181813-06 DM-1 [Water] Sampled 05/30/18 16:30 (GMT-08:00) Pacific Time (US &				
1664	06/08/18 15:00	5	06/27/18 16:30	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/26/18 16:30	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/26/18 16:30	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/27/18 16:30	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/01/18 16:30	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/28/18 16:30	MDL
Conductivity	06/08/18 15:00	5	06/27/18 16:30	
pH water 9040	06/08/18 15:00	5	05/31/18 16:30	
TDS-160.1	06/08/18 15:00	5	06/06/18 16:30	

T181813-07 DM-2 [Water] Sampled 05/30/18 17:30 (GMT-08:00) Pacific Time (US &				
1664	06/08/18 15:00	5	06/27/18 17:30	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/26/18 17:30	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/26/18 17:30	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/27/18 17:30	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/01/18 17:30	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/28/18 17:30	MDL
Conductivity	06/08/18 15:00	5	06/27/18 17:30	
pH water 9040	06/08/18 15:00	5	05/31/18 17:30	
TDS-160.1	06/08/18 15:00	5	06/06/18 17:30	

T181813-08 DM-3 [Water] Sampled 05/30/18 18:30 (GMT-08:00) Pacific Time (US &				
1664	06/08/18 15:00	5	06/27/18 18:30	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/26/18 18:30	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/26/18 18:30	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/27/18 18:30	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/01/18 18:30	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/28/18 18:30	MDL
Conductivity	06/08/18 15:00	5	06/27/18 18:30	
pH water 9040	06/08/18 15:00	5	05/31/18 18:30	
TDS-160.1	06/08/18 15:00	5	06/06/18 18:30	

WORK ORDER

T181813

Client: Northstar Environmental Remediation	Project Manager: Rose Fasheh
Project: Genesis Solar Groundwater	Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T181813-09 DUP [Water] Sampled 05/30/18 00:00 (GMT-08:00) Pacific Time (US &				
1664	06/08/18 15:00	5	06/27/18 00:00	Oil & Grease; MDL
200.7	06/08/18 15:00	5	11/26/18 00:00	Ca,Cu,Na,K,Fe,Mg; MDL (Field Filtered)
200.8	06/08/18 15:00	5	11/26/18 00:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/08/18 15:00	5	06/27/18 00:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/08/18 15:00	5	06/01/18 00:00	Nitrate
7470/71 Hg	06/08/18 15:00	5	08/28/18 00:00	MDL
Conductivity	06/08/18 15:00	5	06/27/18 00:00	
pH water 9040	06/08/18 15:00	5	05/31/18 00:00	
TDS-160.1	06/08/18 15:00	5	06/06/18 00:00	

T181813-10 Field Blank [Water] Sampled 05/30/18 00:00 (GMT-08:00) Pacific Time (US & [NO ANALYSES]

T181813-11 Trip Blank [Water] Sampled 05/30/18 00:00 (GMT-08:00) Pacific Time (US & [NO ANALYSES]

Isotech Laboratories, Inc.

T181813-01 23a [Water] Sampled 06/01/18 05:35 (GMT-08:00) Pacific Time (US &

Misc Water Testing #2	06/08/18 15:00	5	11/28/18 05:35	Deuterium,Oxygen-18
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T181813-02 OBS-1 [Water] Sampled 06/01/18 11:00 (GMT-08:00) Pacific Time (US &

Misc Water Testing #2	06/08/18 15:00	5	11/28/18 11:00	Deuterium,Oxygen-18
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T181813-03 TW-1 [Water] Sampled 06/01/18 11:10 (GMT-08:00) Pacific Time (US &

Misc Water Testing #2	06/08/18 15:00	5	11/28/18 11:10	Deuterium,Oxygen-18
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T181813-04 TW-2 [Water] Sampled 06/01/18 06:30 (GMT-08:00) Pacific Time (US &

Misc Water Testing #2	06/08/18 15:00	5	11/28/18 06:30	Deuterium,Oxygen-18
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T181813-05 PW-2 [Water] Sampled 06/01/18 09:15 (GMT-08:00) Pacific Time (US & Fluoride added per client request (Arlin, 6/1)

Misc Water Testing #2	06/08/18 15:00	5	11/28/18 09:15	Deuterium,Oxygen-18
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WORK ORDER

T181813

Client: Northstar Environmental Remediation	Project Manager: Rose Fasheh
Project: Genesis Solar Groundwater	Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
Isotech Laboratories, Inc.				
T181813-06 DM-1 [Water] Sampled 05/30/18 16:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	06/08/18 15:00	5	11/26/18 16:30	Deuterium,Oxygen-18
T181813-07 DM-2 [Water] Sampled 05/30/18 17:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	06/08/18 15:00	5	11/26/18 17:30	Deuterium,Oxygen-18
T181813-08 DM-3 [Water] Sampled 05/30/18 18:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	06/08/18 15:00	5	11/26/18 18:30	Deuterium,Oxygen-18
T181813-09 DUP [Water] Sampled 05/30/18 00:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	06/08/18 15:00	5	11/26/18 00:00	Deuterium,Oxygen-18
Test America Inc.				
T181813-01 23a [Water] Sampled 06/01/18 05:35 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/28/18 05:35	8015M- Therminol
T181813-02 OBS-1 [Water] Sampled 06/01/18 11:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/28/18 11:00	8015M- Therminol
T181813-03 TW-1 [Water] Sampled 06/01/18 11:10 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/28/18 11:10	8015M- Therminol
T181813-04 TW-2 [Water] Sampled 06/01/18 06:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/28/18 06:30	8015M- Therminol
T181813-05 PW-2 [Water] Sampled 06/01/18 09:15 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/28/18 09:15	8015M- Therminol Fluoride added per client request (Arlin, 6/1)
T181813-06 DM-1 [Water] Sampled 05/30/18 16:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/26/18 16:30	8015M- Therminol

WORK ORDER

T181813

Client: Northstar Environmental Remediation	Project Manager: Rose Fasheh
Project: Genesis Solar Groundwater	Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
Test America Inc.				
T181813-07 DM-2 [Water] Sampled 05/30/18 17:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/26/18 17:30	8015M- Therminol
T181813-08 DM-3 [Water] Sampled 05/30/18 18:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/26/18 18:30	8015M- Therminol
T181813-09 DUP [Water] Sampled 05/30/18 00:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/08/18 15:00	5	11/26/18 00:00	8015M- Therminol



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-213039-1

Client Project/Site: T181813

For:

SunStar Laboratories Inc

25712 Commercentre Drive

Lake Forest, California 92630

Attn: Rose Fasheh



Authorized for release by:

6/11/2018 11:45:03 AM

Danielle Roberts, Senior Project Manager

(949)261-1022

danielle.roberts@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-213039-1	T181813-01	Water	06/01/18 05:35	06/07/18 14:00
440-213039-2	T181813-02	Water	06/01/18 11:00	06/07/18 14:00
440-213039-3	T181813-03	Water	06/01/18 11:10	06/07/18 14:00
440-213039-4	T181813-04	Water	06/01/18 06:30	06/07/18 14:00
440-213039-5	T181813-05	Water	06/01/18 09:15	06/07/18 14:00
440-213039-6	T181813-06	Water	05/30/18 16:30	06/07/18 14:00
440-213039-7	T181813-07	Water	05/30/18 17:30	06/07/18 14:00
440-213039-8	T181813-08	Water	05/30/18 18:30	06/07/18 14:00
440-213039-9	T181813-09	Water	05/30/18 00:01	06/07/18 14:00



Case Narrative

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Job ID: 440-213039-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-213039-1

Comments

No additional comments.

Receipt

The samples were received on 6/7/2018 2:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

GC Semi VOA

Method(s) 8015B: Insufficient 8015-DRO sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch preparation batch 440-480999 and analytical batch 440-481075. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-480999/18-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3510C 8015Bpreparation batch 440-480999.

Method(s) 3510C: Samples were preserved in sulfuric acid.

T181813-01 (440-213039-1), T181813-02 (440-213039-2), T181813-03 (440-213039-3), T181813-04 (440-213039-4), T181813-05 (440-213039-5), T181813-06 (440-213039-6), T181813-07 (440-213039-7), T181813-08 (440-213039-8) and T181813-09 (440-213039-9)

Method(s) 3510C: Due to lab error the sample(s) was prepped and analyzed outside of holding time.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Client Sample ID: T181813-01

Lab Sample ID: 440-213039-1

No Detections.

Client Sample ID: T181813-02

Lab Sample ID: 440-213039-2

No Detections.

Client Sample ID: T181813-03

Lab Sample ID: 440-213039-3

No Detections.

Client Sample ID: T181813-04

Lab Sample ID: 440-213039-4

No Detections.

Client Sample ID: T181813-05

Lab Sample ID: 440-213039-5

No Detections.

Client Sample ID: T181813-06

Lab Sample ID: 440-213039-6

No Detections.

Client Sample ID: T181813-07

Lab Sample ID: 440-213039-7

No Detections.

Client Sample ID: T181813-08

Lab Sample ID: 440-213039-8

No Detections.

Client Sample ID: T181813-09

Lab Sample ID: 440-213039-9

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Irvine



Client Sample Results

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Client Sample ID: T181813-01

Date Collected: 06/01/18 05:35

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-1

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.11	0.022	mg/L		06/08/18 05:53	06/08/18 14:18	1
1,1'-Biphenyl	ND		0.11	0.022	mg/L		06/08/18 05:53	06/08/18 14:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	63		45 - 120				06/08/18 05:53	06/08/18 14:18	1

Client Sample ID: T181813-02

Date Collected: 06/01/18 11:00

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-2

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.11	0.022	mg/L		06/08/18 05:53	06/08/18 14:41	1
1,1'-Biphenyl	ND		0.11	0.022	mg/L		06/08/18 05:53	06/08/18 14:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	72		45 - 120				06/08/18 05:53	06/08/18 14:41	1

Client Sample ID: T181813-03

Date Collected: 06/01/18 11:10

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-3

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.12	0.023	mg/L		06/08/18 05:53	06/08/18 15:04	1
1,1'-Biphenyl	ND		0.12	0.023	mg/L		06/08/18 05:53	06/08/18 15:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	71		45 - 120				06/08/18 05:53	06/08/18 15:04	1

Client Sample ID: T181813-04

Date Collected: 06/01/18 06:30

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-4

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.11	0.022	mg/L		06/08/18 05:53	06/08/18 15:26	1
1,1'-Biphenyl	ND		0.11	0.022	mg/L		06/08/18 05:53	06/08/18 15:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	67		45 - 120				06/08/18 05:53	06/08/18 15:26	1

Client Sample ID: T181813-05

Date Collected: 06/01/18 09:15

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-5

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.11	0.022	mg/L		06/08/18 05:53	06/08/18 15:49	1
1,1'-Biphenyl	ND		0.11	0.022	mg/L		06/08/18 05:53	06/08/18 15:49	1

TestAmerica Irvine

Client Sample Results

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Client Sample ID: T181813-05

Date Collected: 06/01/18 09:15

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	53		45 - 120	06/08/18 05:53	06/08/18 15:49	1

Client Sample ID: T181813-06

Date Collected: 05/30/18 16:30

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-6

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND	H	0.10	0.021	mg/L		06/08/18 05:53	06/08/18 16:12	1
1,1'-Biphenyl	ND	H	0.10	0.021	mg/L		06/08/18 05:53	06/08/18 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	67		45 - 120	06/08/18 05:53	06/08/18 16:12	1

Client Sample ID: T181813-07

Date Collected: 05/30/18 17:30

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-7

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND	H	0.11	0.023	mg/L		06/08/18 05:53	06/08/18 16:34	1
1,1'-Biphenyl	ND	H	0.11	0.023	mg/L		06/08/18 05:53	06/08/18 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	76		45 - 120	06/08/18 05:53	06/08/18 16:34	1

Client Sample ID: T181813-08

Date Collected: 05/30/18 18:30

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-8

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND	H	0.11	0.022	mg/L		06/08/18 05:53	06/08/18 16:56	1
1,1'-Biphenyl	ND	H	0.11	0.022	mg/L		06/08/18 05:53	06/08/18 16:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	57		45 - 120	06/08/18 05:53	06/08/18 16:56	1

Client Sample ID: T181813-09

Date Collected: 05/30/18 00:01

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-9

Matrix: Water

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND	H	0.11	0.022	mg/L		06/08/18 05:53	06/08/18 17:19	1
1,1'-Biphenyl	ND	H	0.11	0.022	mg/L		06/08/18 05:53	06/08/18 17:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane	65		45 - 120	06/08/18 05:53	06/08/18 17:19	1

TestAmerica Irvine

Surrogate Summary

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTCN1 (45-120)
440-213039-1	T181813-01	63
440-213039-2	T181813-02	72
440-213039-3	T181813-03	71
440-213039-4	T181813-04	67
440-213039-5	T181813-05	53
440-213039-6	T181813-06	67
440-213039-7	T181813-07	76
440-213039-8	T181813-08	57
440-213039-9	T181813-09	65
LCS 440-480999/18-A	Lab Control Sample	60
LCSD 440-480999/19-A	Lab Control Sample Dup	78
MB 440-480999/1-A	Method Blank	60

Surrogate Legend

OTCN = n-Octacosane

Method Summary

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



Lab Chronicle

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Client Sample ID: T181813-01

Date Collected: 06/01/18 05:35

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			920 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 14:18	LMB	TAL IRV

Client Sample ID: T181813-02

Date Collected: 06/01/18 11:00

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			925 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 14:41	LMB	TAL IRV

Client Sample ID: T181813-03

Date Collected: 06/01/18 11:10

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			855 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 15:04	LMB	TAL IRV

Client Sample ID: T181813-04

Date Collected: 06/01/18 06:30

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			915 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 15:26	LMB	TAL IRV

Client Sample ID: T181813-05

Date Collected: 06/01/18 09:15

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			920 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 15:49	LMB	TAL IRV

Client Sample ID: T181813-06

Date Collected: 05/30/18 16:30

Date Received: 06/07/18 14:00

Lab Sample ID: 440-213039-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			975 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 16:12	LMB	TAL IRV

TestAmerica Irvine

Lab Chronicle

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Client Sample ID: T181813-07

Lab Sample ID: 440-213039-7

Date Collected: 05/30/18 17:30

Matrix: Water

Date Received: 06/07/18 14:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			880 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 16:34	LMB	TAL IRV

Client Sample ID: T181813-08

Lab Sample ID: 440-213039-8

Date Collected: 05/30/18 18:30

Matrix: Water

Date Received: 06/07/18 14:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			905 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 16:56	LMB	TAL IRV

Client Sample ID: T181813-09

Lab Sample ID: 440-213039-9

Date Collected: 05/30/18 00:01

Matrix: Water

Date Received: 06/07/18 14:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			930 mL	1 mL	480999	06/08/18 05:53	L1H	TAL IRV
Total/NA	Analysis	8015B		1			481075	06/08/18 17:19	LMB	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-480999/1-A
Matrix: Water
Analysis Batch: 481075

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 480999

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Benzene, 1,1'-oxybis-	ND		0.10	0.020	mg/L		06/08/18 05:53	06/08/18 12:04	1	
1,1'-Biphenyl	ND		0.10	0.020	mg/L		06/08/18 05:53	06/08/18 12:04	1	
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil	Fac
	%Recovery	Qualifier								
<i>n</i> -Octacosane	60		45 - 120				06/08/18 05:53	06/08/18 12:04	1	

Lab Sample ID: LCS 440-480999/18-A
Matrix: Water
Analysis Batch: 481075

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 480999

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits			
		Result	Qualifier					%Rec.	RPD	
Benzene, 1,1'-oxybis-	0.100	0.0629	J	mg/L		63	50 - 115			
1,1'-Biphenyl	0.100	0.0568	J	mg/L		57	50 - 115			
Surrogate	LCS	LCS	Limits			D	Prepared	Analyzed	Dil	Fac
	%Recovery	Qualifier								
<i>n</i> -Octacosane	60		45 - 120				06/08/18 05:53	06/08/18 12:04	1	

Lab Sample ID: LCSD 440-480999/19-A
Matrix: Water
Analysis Batch: 481075

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 480999

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit	
		Result	Qualifier							
Benzene, 1,1'-oxybis-	0.100	0.0778	J	mg/L		78	50 - 115	21	30	
1,1'-Biphenyl	0.100	0.0705	J	mg/L		71	50 - 115	21	30	
Surrogate	LCSD	LCSD	Limits			D	Prepared	Analyzed	Dil	Fac
	%Recovery	Qualifier								
<i>n</i> -Octacosane	78		45 - 120				06/08/18 05:53	06/08/18 12:04	1	

QC Association Summary

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

GC Semi VOA

Prep Batch: 480999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213039-1	T181813-01	Total/NA	Water	3510C	
440-213039-2	T181813-02	Total/NA	Water	3510C	
440-213039-3	T181813-03	Total/NA	Water	3510C	
440-213039-4	T181813-04	Total/NA	Water	3510C	
440-213039-5	T181813-05	Total/NA	Water	3510C	
440-213039-6	T181813-06	Total/NA	Water	3510C	
440-213039-7	T181813-07	Total/NA	Water	3510C	
440-213039-8	T181813-08	Total/NA	Water	3510C	
440-213039-9	T181813-09	Total/NA	Water	3510C	
MB 440-480999/1-A	Method Blank	Total/NA	Water	3510C	
LCS 440-480999/18-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-480999/19-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 481075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-213039-1	T181813-01	Total/NA	Water	8015B	480999
440-213039-2	T181813-02	Total/NA	Water	8015B	480999
440-213039-3	T181813-03	Total/NA	Water	8015B	480999
440-213039-4	T181813-04	Total/NA	Water	8015B	480999
440-213039-5	T181813-05	Total/NA	Water	8015B	480999
440-213039-6	T181813-06	Total/NA	Water	8015B	480999
440-213039-7	T181813-07	Total/NA	Water	8015B	480999
440-213039-8	T181813-08	Total/NA	Water	8015B	480999
440-213039-9	T181813-09	Total/NA	Water	8015B	480999
MB 440-480999/1-A	Method Blank	Total/NA	Water	8015B	480999
LCS 440-480999/18-A	Lab Control Sample	Total/NA	Water	8015B	480999
LCSD 440-480999/19-A	Lab Control Sample Dup	Total/NA	Water	8015B	480999

Definitions/Glossary

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: SunStar Laboratories Inc
Project/Site: T181813

TestAmerica Job ID: 440-213039-1

Laboratory: TestAmerica Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-18 *

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8015B	3510C	Water	1,1'-Biphenyl
8015B	3510C	Water	Benzene, 1,1'-oxybis-

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

ADDITIONAL
SAMPLE

SUBCONTRACT ORDER

SunStar Laboratories, Inc.

T181813

SENDING LABORATORY:

SunStar Laboratories, Inc.
25712 Commercentre Drive
Lake Forest, CA 92630
Phone: (949) 297-5020
Fax: (949) 297-5027
Project Manager: Rose Fasheh

RECEIVING LABORATORY:

TestAmerica (Irvine) Laboratories
17461 Derian Ave, #100
Irvine, CA 92614
Phone : (949) 261-1022
Fax: N/A

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: T181813-01	Water	Sampled:06/01/18 05:35		
Misc Water Testing #1	06/08/18 15:00	11/28/18 05:35		8015M- Therminol
<i>Containers Supplied:</i>				
Sample ID: T181813-02	Water	Sampled:06/01/18 11:00		
Misc Water Testing #1	06/08/18 15:00	11/28/18 11:00		8015M- Therminol
<i>Containers Supplied:</i>				
Sample ID: T181813-03	Water	Sampled:06/01/18 11:10		
Misc Water Testing #1	06/08/18 15:00	11/28/18 11:10		8015M- Therminol
<i>Containers Supplied:</i>				
Sample ID: T181813-04	Water	Sampled:06/01/18 06:30		
Misc Water Testing #1	06/08/18 15:00	11/28/18 06:30		8015M- Therminol
<i>Containers Supplied:</i>				
Sample ID: T181813-05	Water	Sampled:06/01/18 09:15		Fluoride added per client request (Arlin, 6/1)
Misc Water Testing #1	06/08/18 15:00	11/28/18 09:15		8015M- Therminol
<i>Containers Supplied:</i>				
Sample ID: T181813-06	Water	Sampled:05/30/18 16:30		
Misc Water Testing #1	06/08/18 15:00	11/26/18 16:30		8015M- Therminol
<i>Containers Supplied:</i>				



Released By Date 6-7-18 1400 Received By Date 6/7/18 1400

Released By _____ Date _____ Received By _____ Date _____

1.7/1.7 IRVCG

165 6/7



- 1
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SUBCONTRACT ORDER

SunStar Laboratories, Inc.

T181813

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: T181813-07	Water	Sampled:05/30/18 17:30		
Misc Water Testing #1	06/08/18 15:00	11/26/18 17:30		8015M- Therminol
<i>Containers Supplied:</i>				
Sample ID: T181813-08	Water	Sampled:05/30/18 18:30		
Misc Water Testing #1	06/08/18 15:00	11/26/18 18:30		8015M- Therminol
<i>Containers Supplied:</i>				
Sample ID: T181813-09	Water	Sampled:05/30/18 00:00		
Misc Water Testing #1	06/08/18 15:00	11/26/18 00:00		8015M- Therminol
<i>Containers Supplied:</i>				

Released By  Date 6-7-18 1400 Received By  Date 6/7/18 1400

Released By _____ Date _____ Received By _____ Date _____

1-7/1.7 IRVCE Page 2 of 2

Login Sample Receipt Checklist

Client: SunStar Laboratories Inc

Job Number: 440-213039-1

SDG Number:

Login Number: 213039

List Number: 1

Creator: Garcia, Veronica G

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



SEND DATA TO:

Name: Rose Fahshe
 Company: SunStar Laboratories
 Address: 25712 Commercentre Drive
 Lake Forest, CA 92630

Phone: 949-297-5020

Email: rose@sunstarlabs.com

Project: T181813 - Genesis GW

PO #:

Location:

Sampled By: A.B.

SEND INVOICE TO (if different from SEND DATA TO):

Name: Cathy Hartman
 Company:
 Address:

Phone:

Email: accounting@sunstarlabs.com

 Standard

 Priority

 Rush

Analysis Requested

Sample Description

Container Number	Sample Identification	Date Sampled	Time	15N & 18O in NO3	dD & 18O in H2O	TEE (Pending)	Comments
T181813-01	23a	Jun-01-18	5:35 am		X		
T181813-02	OBS-1	Jun-01-18	11:00 am		X		
T181813-03	TW-1	Jun-01-18	11:10 am		X		
T181813-04	TW-2	Jun-01-18	6:30 am		X		
T181813-05	PW-2	Jun-01-18	9:15 am		X		
T181813-06	DM-1	May-30-18	4:30 pm		X		
T181813-07	DM-2	May-30-18	5:30 pm		X		
T181813-08	DM-3	May-30-18	6:30 pm		X		
T181813-09	DUP	-	-		X		

Chain-of-Custody Record

Signature	Company	Date	Time
Relinquished by <i>[Signature]</i>	<i>SunStar Labs</i>	<i>6-4-18</i>	<i>11:38</i>
Received by Abby L. Skube / Isotech Laboratories		JUN 05 2018	9:50
Relinquished by			
Received by			
Relinquished by			
Received by			

Lab #: 666544 Job #: 38517 IS-101168 Co. Job#:
 Sample Name: 23a Co. Lab#: T181813-01
 Company: SunStar Laboratories, Inc
 API/Well:
 Container: 250ml Plastic Bottle
 Field/Site Name: T181813 - Genesis GW
 Location:
 Formation/Depth:
 Sampling Point:
 Date Sampled: 6/01/2018 5:35 Date Received: 6/05/2018 Date Reported: 6/15/2018

δD of water	-----	-73.6 ‰ relative to VSMOW
δ ¹⁸ O of water	-----	-10.12 ‰ relative to VSMOW
Tritium content of water	-----	na
δ ¹³ C of DIC	-----	na
¹⁴ C content of DIC	-----	na
δ ¹⁵ N of nitrate	-----	na
δ ¹⁸ O of nitrate	-----	na
δ ³⁴ S of sulfate	-----	na
δ ¹⁸ O of sulfate	-----	na
Vacuum Distilled? *	-----	No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 666545 Job #: 38517 IS-101168 Co. Job#:
 Sample Name: OBS-1 Co. Lab#: T181813-02
 Company: SunStar Laboratories, Inc
 API/Well:
 Container: 250ml Plastic Bottle
 Field/Site Name: T181813 - Genesis GW
 Location:
 Formation/Depth:
 Sampling Point:
 Date Sampled: 6/01/2018 11:00 Date Received: 6/05/2018 Date Reported: 6/15/2018

δ D of water ----- -60.9 ‰ relative to VSMOW

δ^{18} O of water ----- -6.84 ‰ relative to VSMOW

Tritium content of water ----- na

δ^{13} C of DIC ----- na

14 C content of DIC ----- na

δ^{15} N of nitrate ----- na

δ^{18} O of nitrate ----- na

δ^{34} S of sulfate ----- na

δ^{18} O of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 666546 Job #: 38517 IS-101168 Co. Job#:
Sample Name: TW-1 Co. Lab#: T181813-03
Company: SunStar Laboratories, Inc
API/Well:
Container: 250ml Plastic Bottle
Field/Site Name: T181813 - Genesis GW
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 6/01/2018 11:10 Date Received: 6/05/2018 Date Reported: 6/15/2018

δ D of water ----- -62.8 ‰ relative to VSMOW

δ ¹⁸O of water ----- -7.93 ‰ relative to VSMOW

Tritium content of water ----- na

δ ¹³C of DIC ----- na

¹⁴C content of DIC ----- na

δ ¹⁵N of nitrate ----- na

δ ¹⁸O of nitrate ----- na

δ ³⁴S of sulfate ----- na

δ ¹⁸O of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 666547 Job #: 38517 IS-101168 Co. Job#:
 Sample Name: TW-2 Co. Lab#: T181813-04
 Company: SunStar Laboratories, Inc
 API/Well:
 Container: 250ml Plastic Bottle
 Field/Site Name: T181813 - Genesis GW
 Location:
 Formation/Depth:
 Sampling Point:
 Date Sampled: 6/01/2018 6:30 Date Received: 6/05/2018 Date Reported: 6/15/2018

δD of water	-----	-75.4 ‰ relative to VSMOW
δ ¹⁸ O of water	-----	-10.00 ‰ relative to VSMOW
Tritium content of water	-----	na
δ ¹³ C of DIC	-----	na
¹⁴ C content of DIC	-----	na
δ ¹⁵ N of nitrate	-----	na
δ ¹⁸ O of nitrate	-----	na
δ ³⁴ S of sulfate	-----	na
δ ¹⁸ O of sulfate	-----	na
Vacuum Distilled? *	-----	No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 666548 Job #: 38517 IS-101168 Co. Job#:
 Sample Name: PW-2 Co. Lab#: T181813-05
 Company: SunStar Laboratories, Inc
 API/Well:
 Container: 250ml Plastic Bottle
 Field/Site Name: T181813 - Genesis GW
 Location:
 Formation/Depth:
 Sampling Point:
 Date Sampled: 6/01/2018 9:15 Date Received: 6/05/2018 Date Reported: 6/15/2018

δD of water	-----	-77.7 ‰ relative to VSMOW
δ ¹⁸ O of water	-----	-10.22 ‰ relative to VSMOW
Tritium content of water	-----	na
δ ¹³ C of DIC	-----	na
¹⁴ C content of DIC	-----	na
δ ¹⁵ N of nitrate	-----	na
δ ¹⁸ O of nitrate	-----	na
δ ³⁴ S of sulfate	-----	na
δ ¹⁸ O of sulfate	-----	na
Vacuum Distilled? *	-----	No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 666549 Job #: 38517 IS-101168 Co. Job#:
Sample Name: DM-1 Co. Lab#: T181813-06
Company: SunStar Laboratories, Inc
API/Well:
Container: 250ml Plastic Bottle
Field/Site Name: T181813 - Genesis GW
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 5/30/2018 16:30 Date Received: 6/05/2018 Date Reported: 6/15/2018

δ D of water ----- -71.1 ‰ relative to VSMOW

δ ¹⁸O of water ----- -8.57 ‰ relative to VSMOW

Tritium content of water ----- na

δ ¹³C of DIC ----- na

¹⁴C content of DIC ----- na

δ ¹⁵N of nitrate ----- na

δ ¹⁸O of nitrate ----- na

δ ³⁴S of sulfate ----- na

δ ¹⁸O of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 666550 Job #: 38517 IS-101168 Co. Job#:
 Sample Name: DM-2 Co. Lab#: T181813-07
 Company: SunStar Laboratories, Inc
 API/Well:
 Container: 250ml Plastic Bottle
 Field/Site Name: T181813 - Genesis GW
 Location:
 Formation/Depth:
 Sampling Point:
 Date Sampled: 5/30/2018 17:30 Date Received: 6/05/2018 Date Reported: 6/15/2018

δD of water ----- -69.2 ‰ relative to VSMOW

δ¹⁸O of water ----- -8.39 ‰ relative to VSMOW

Tritium content of water ----- na

δ¹³C of DIC ----- na

¹⁴C content of DIC ----- na

δ¹⁵N of nitrate ----- na

δ¹⁸O of nitrate ----- na

δ³⁴S of sulfate ----- na

δ¹⁸O of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 666551 Job #: 38517 IS-101168 Co. Job#:
 Sample Name: DM-3 Co. Lab#: T181813-08
 Company: SunStar Laboratories, Inc
 API/Well:
 Container: 250ml Plastic Bottle
 Field/Site Name: T181813 - Genesis GW
 Location:
 Formation/Depth:
 Sampling Point:
 Date Sampled: 5/30/2018 18:30 Date Received: 6/05/2018 Date Reported: 6/15/2018

δD of water ----- -70.6 ‰ relative to VSMOW

δ¹⁸O of water ----- -8.67 ‰ relative to VSMOW

Tritium content of water ----- na

δ¹³C of DIC ----- na

¹⁴C content of DIC ----- na

δ¹⁵N of nitrate ----- na

δ¹⁸O of nitrate ----- na

δ³⁴S of sulfate ----- na

δ¹⁸O of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 666552 Job #: 38517 IS-101168 Co. Job#:
 Sample Name: DUP Co. Lab#: T181813-09
 Company: SunStar Laboratories, Inc
 API/Well:
 Container: 250ml Plastic Bottle
 Field/Site Name: T181813 - Genesis GW
 Location:
 Formation/Depth:
 Sampling Point:
 Date Sampled: / / Date Received: 6/05/2018 Date Reported: 6/15/2018

δD of water	-----	-78.2 ‰ relative to VSMOW
δ ¹⁸ O of water	-----	-10.26 ‰ relative to VSMOW
Tritium content of water	-----	na
δ ¹³ C of DIC	-----	na
¹⁴ C content of DIC	-----	na
δ ¹⁵ N of nitrate	-----	na
δ ¹⁸ O of nitrate	-----	na
δ ³⁴ S of sulfate	-----	na
δ ¹⁸ O of sulfate	-----	na
Vacuum Distilled? *	-----	No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water