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2018 SECOND SEMIANNUAL and ANNUAL GROUNDWATER QUALITY MONITORING REPORT

Genesis Solar Energy Project

Riverside County, California

COC S&W-20

December 26, 2018

Prepared By:

Northstar Environmental Remediation

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Lake Forest, California 92630

SIGNATURE PAGE

2018 SECOND SEMIANNUAL and ANNUAL GROUNDWATER QUALITY MONITORING REPORT

RIVERSIDE COUNTY, CALIFORNIA

PROFESSIONAL STATEMENT

I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Arlin W. Brewster

Professional Geologist 9207

December 26, 2018

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1.0 INTRODUCTION

Northstar Environmental Remediation (Northstar) has prepared this 2018 Second Semiannual and Annual Groundwater Quality Monitoring Report on behalf of Genesis Solar, LLC (Genesis). This report details groundwater quality monitoring performed in December 2018 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 mi^2 (2,435 km^2) 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 86.75 feet bgs (300.65 feet amsl) in TW-1, located upgradient of the site, to 127.38 feet bgs (266.09 feet amsl) in TW-2, 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 December 4, 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 Levelogger 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 Levelogger 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 TW-1, TW-2, and OBS-1 using disposable bailers. Field data sheets are included in **Appendix A**. Well 23a could not be sampled during this monitoring period.

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. Northstar coordinates with GSEP staff to turn on these pumps when necessary to collect groundwater samples. 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 stable isotope analyses 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 for this reporting period 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, but increased significantly for three upgradient wells (TW-1, OBS-1, and DM-1) during the monitoring period.
- 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 decreased significantly in all shallow wells during this monitoring period, largely due to a large influx of fresh precipitation on October 13.
- Chart 4: **Calcium** - Concentrations are generally the same or lower than baseline results, except in shallow well OBS-1 during this monitoring 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, except for a significant increase in shallow well OBS-1 during this monitoring event. 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 appeared to be rising in all wells. Concentrations generally decreased to near-normal values during this monitoring event.
- 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, except for a significant increase in shallow well OBS-1 during this monitoring event.
- 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 and a slight decrease in DM-2 during this monitoring event.
- 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 second 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: An increasing trend was identified only for arsenic.
- 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

Groundwater analytical data for calendar year 2018 are generally consistent with historical analytical data, except for upgradient shallow well OBS-1, which increased in concentrations of several constituents in December 2018. This is likely related to a large precipitation event that affected the shallow aquifer in October 2018.

Well PW-2 was the only water production well consistently utilized during the calendar year, as PW-0 remains on standby and was turned on only intermittently for testing, maintenance, and sampling, and PW-1 is sealed indefinitely. The Mann-Kendall test for trends typically requires a minimum data set of between 4 to 10 values collected at regular intervals throughout the year to encompass seasonal changes. Currently, all wells but PW-0 and PW-1 have a data set large enough to perform the M-K test.

The following is a list of the analytes that have displayed increasing trends during the 2017 calendar year:

- TW-2 displayed an increasing trend for arsenic only in the fourth quarter of 2018.
- DM-3 displayed an increasing trend for calcium in both the second and fourth quarters of 2018.

No additional analytes were added to the Mann-Kendall analysis this year.

The stable isotope analysis returned results within the normal range through the entire 2018 calendar year.

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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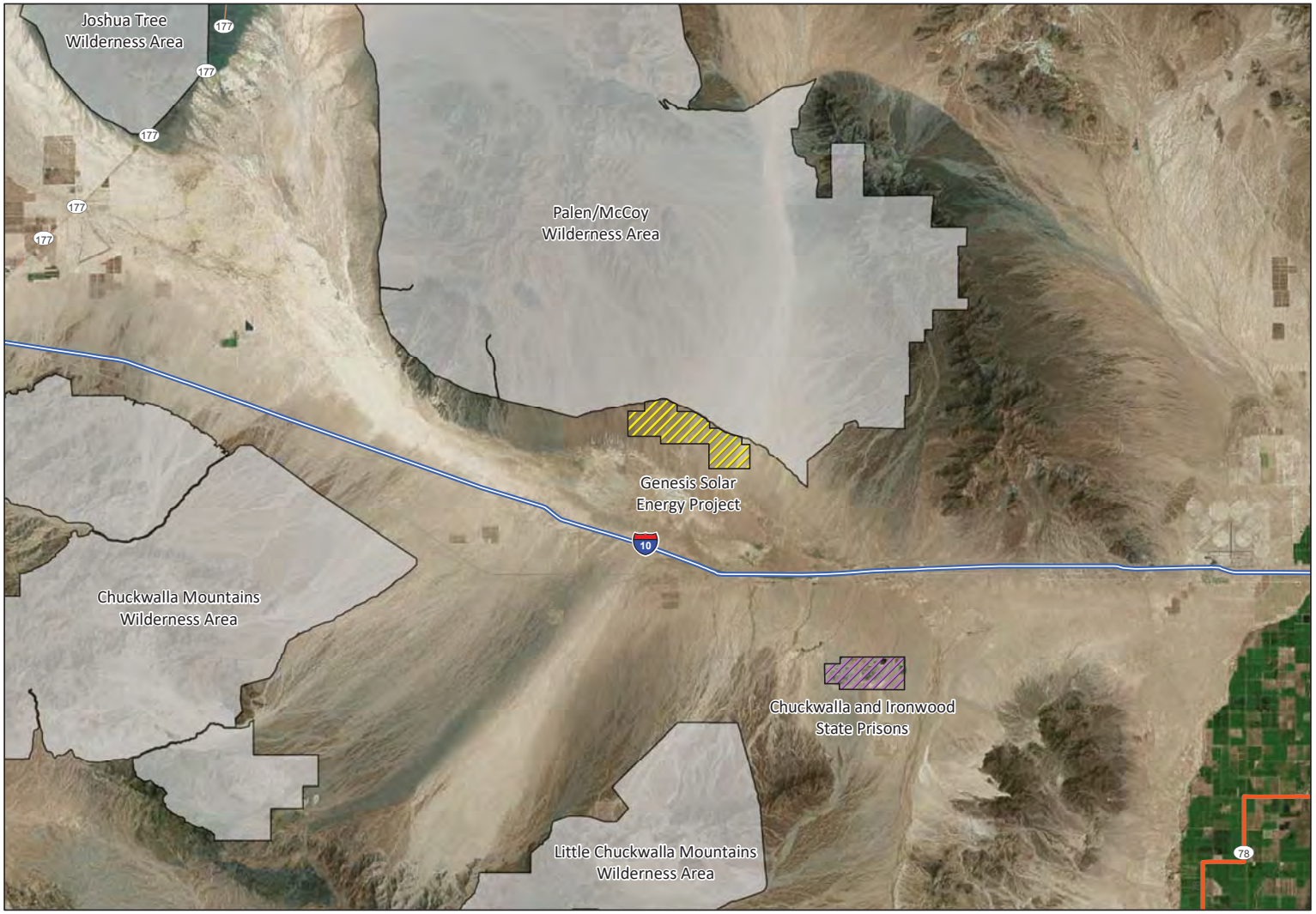
FIGURES



GSEP Footprint
Prisons
Wilderness Area

0 1.25 2.5 5 7.5 10
Miles

N
W E
S

NORTHSTAR
ENVIRONMENTAL REMEDIATION

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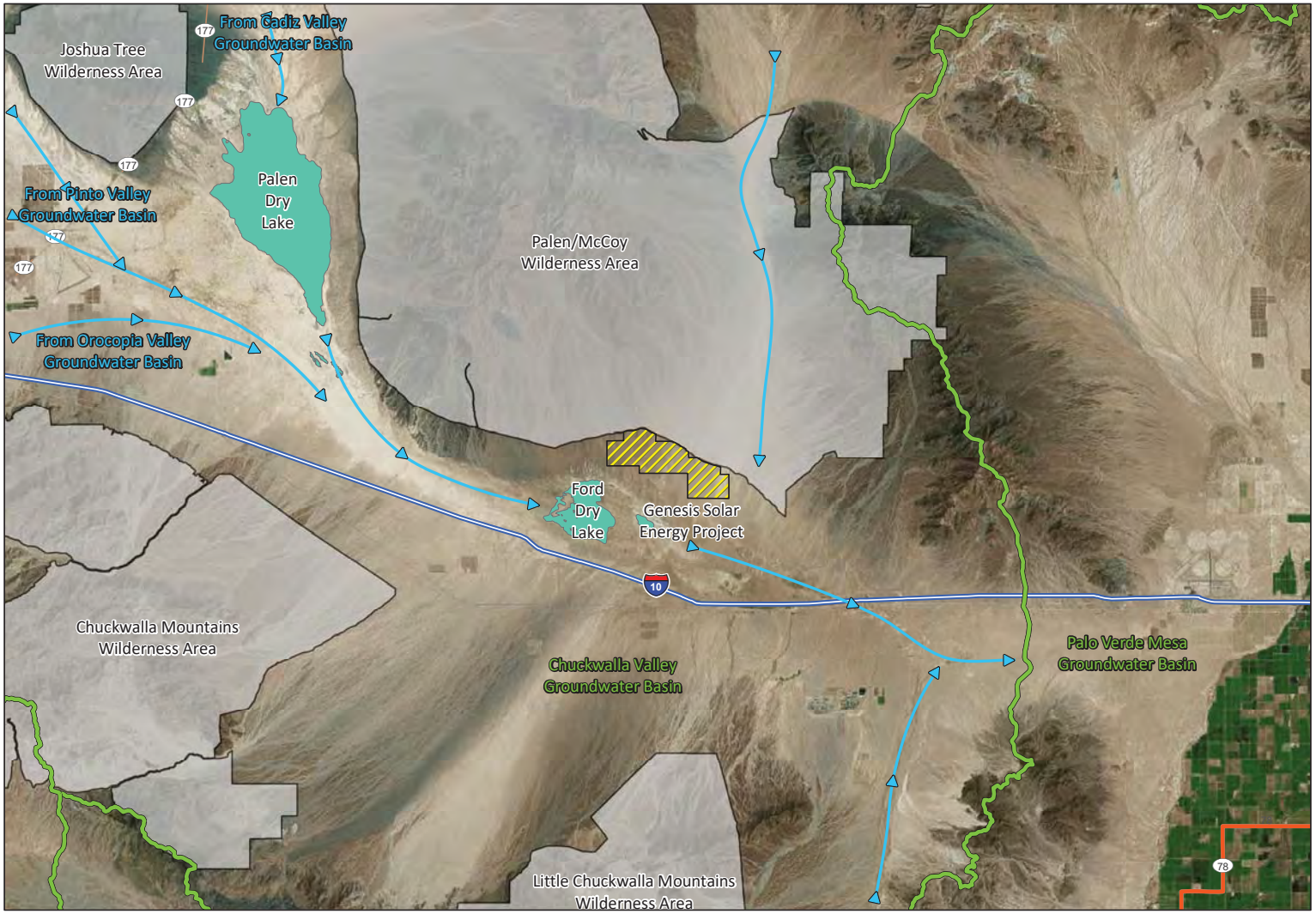
Lake Forest, California 92630
(949) 580-2800

Project Number:
196-004-06

Genesis Solar Energy Project
11995 Wiley's Well Road
Blythe, California 92225

Figure 1
Site Vicinity Map

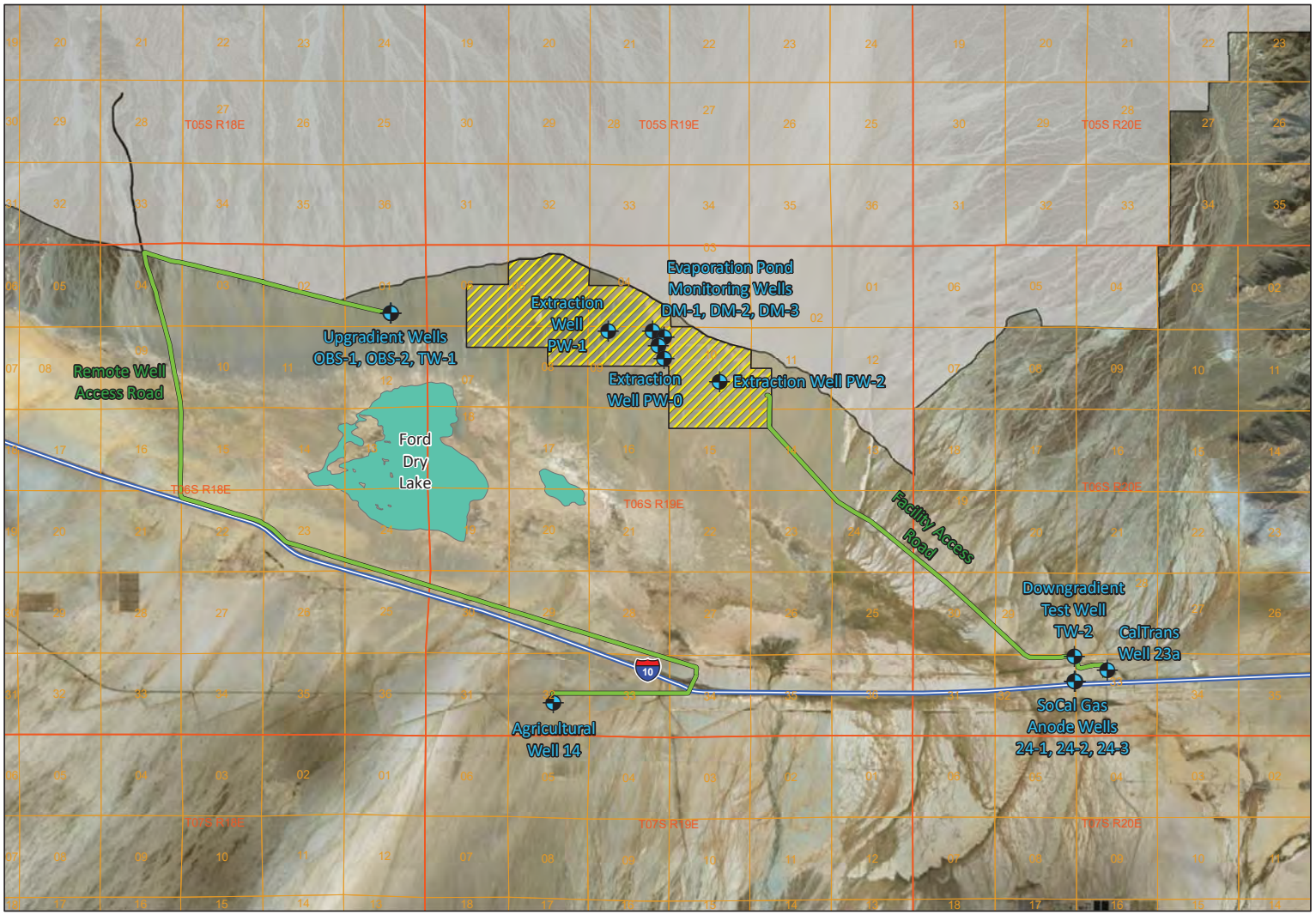


Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest, California 92630
(949) 580-2800

Project Number:
196-004-06

Genesis Solar Energy Project
11995 Wiley's Well Road
Blythe, California 92225

Figure 2
Hydrogeologic Setting



GSEP Footprint
Active Monitoring Wells
Lake
Wilderness Area
Access Road

0 0.5 1 2 3 4 Miles

N
W E
S

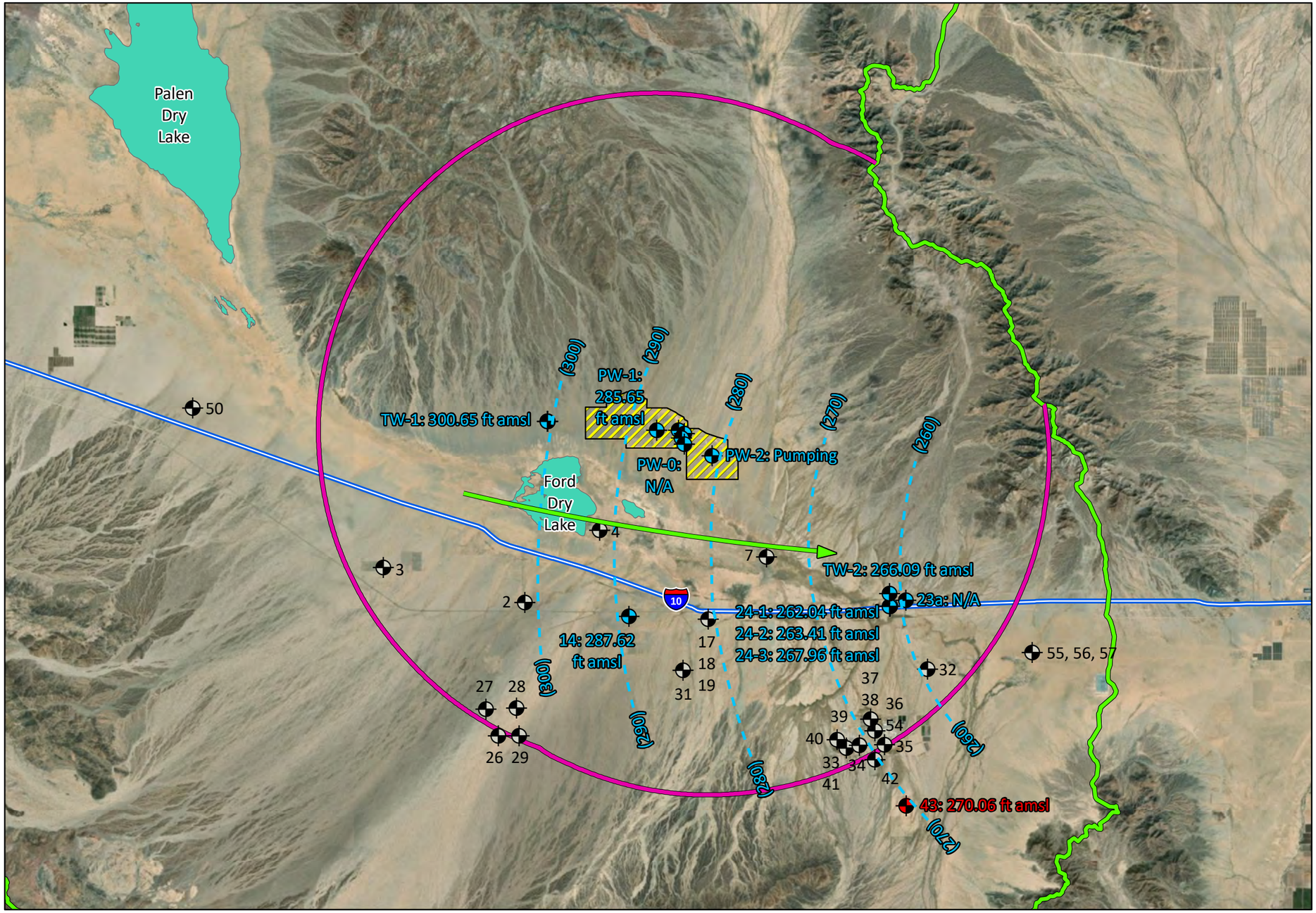
NORTHSTAR
ENVIRONMENTAL REMEDIATION

Northstar Environmental
Remediation
26225 Enterprise Court
Lake Forest, California 92630
(949) 580-2800

Project Number:
196-004-06

Genesis Solar Energy Project
11995 Wiley's Well Road
Blythe, California 92225

Figure 3
Groundwater Monitoring Area
and Well Locations



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

0 1 2 4 6 8 Miles

N
W E
S

NORTHSTAR
ENVIRONMENTAL REMEDIATION

Northstar Environmental
Remediation
26225 Enterprise Court
Lake Forest, California 92630
(949) 580-2800

Project Number:
196-004-06

Genesis Solar Energy Project
11995 Wiley's Well Road
Blythe, California 92225

Figure 4
Bouse Formation Groundwater
Elevation Contour Map

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-19J1	--	--	--	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-1	12/4/2018	Northstar	387.40	86.75	300.65	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
TW-2	12/4/2018	Northstar	393.47	127.38	266.09	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

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	8/13/2013	WorleyParsons	388.30	78.07	310.23	Monitoring
OBS-1	11/14/2013	WorleyParsons	388.30	78.15	310.15	Monitoring
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-1	12/4/2018	Northstar	388.30	78.18	310.12	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

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]	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
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
14	12/4/2018	Northstar	388.14	100.52	287.62	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
23a	12/4/2018	Northstar	392.10	NM[7]		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

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
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
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
24-1	12/4/2018	Northstar	389.40	127.36	262.04	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
24-2	12/4/2018	Northstar	388.86	125.45	263.41	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
24-3	12/4/2018	Northstar	392.04	124.08	267.96	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

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	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
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-0	12/4/2018	Northstar	385.64	NM[9]		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-1	12/4/2018	Northstar	384.43	98.78	285.65	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
PW-2	12/4/2018	Northstar	385.15	NM[9]		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

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
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
DM-1	12/4/2018	Northstar	391.49	107.45	284.04	Monitoring
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-2	12/4/2018	Northstar	391.32	107.80	283.52	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
DM-3	12/4/2018	Northstar	388.34	104.68	283.66	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

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
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
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

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	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
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

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	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
43	9/4/2018	USGS-NWIS	505.6	235.27	270.33	Irrigation
43	11/14/2018	USGS-NWIS	505.6	235.54	270.06	Irrigation
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 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

9. Sounding port obstructed

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	12/4/2018	N/A	N/A	N/A[1]	--	--	--	--	--	--
OBS-1	12/4/2018	N/A	Bailer	5,750	8.05	25.6	23.1	7.15	24.30	+70
TW-1	12/4/2018	N/A	Bailer	5,750	10.25	15.2	37.0	7.68	25.24	-170
TW-2	12/4/2018	N/A	Bailer	5,750	7.87	5.78	45.9	6.11	25.86	-187
PW-0	12/4/2018	N/A	Production Pump	N/A[2]	8.06	6.85	19.8	7.37	27.08	-41
PW-1	12/4/2018	N/A	N/A	N/A[1]	--	--	--	--	--	--
PW-2	12/4/2018	N/A	Production Pump	N/A[2]	8.15	3.95	38.1	5.36	29.42	+108
DM-1	12/4/2018	188	Bladder Pump	6,254	7.78	19.3	6.6	4.86	21.60	+66
DM-2	12/4/2018	112	Bladder Pump	5,646	7.81	17.9	75.0	3.07	22.82	+100
DM-3	12/4/2018	121	Bladder Pump	5,718	7.80	18.8	3.2	4.34	22.33	+130

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
^{o}C = degrees Celsius
mV = milliVolts
N/A = Not Applicable or Not Available
-- = Not Measured
1. Not sampled - well not accessible
2. 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† (mg/L)	Deuterium (‰ relative to VSMOW)	Oxygen-18 (‰ relative to VSMOW)
			EPA Method 300.0			EPA Method 200.7						EPA Method 200.8												SM7470A	SM2540C	SM2510B	SM4500H	SM1664A	8015B	Isotope Geochemistry	
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[J]	17	<5.0	<10	<5.0	<5.0	9.6	2.9[J]	<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[J]	11	<10	3.8[J]	17	<5.0	<10	<5.0	<5.0	8.6	4.4[J]	<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[J]	17	<5.0	<10	<5.0	<5.0	6.6	<10	<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[J]	4.2[J]	22	<5.0	<10	<5.0	<5.0	5.2	3.4[J]	2.8[J]	<100	<0.20	9,400	16,000	9.9	1.7[J]	<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[J]	11[J]	<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[J]	13	<5.0	<10	<5.0	<5.0	8.4	<10	9.0[J]	<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	<0.010	3,400	20	<1.0	6.1	<10	8.2	15	<5.0	<10	<5.0	<5.0	<5.0	4.0[J]	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[J]	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[J]	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[J]	<0.12	-62.80	-7.93
TW-1	12/4/2018	Bailer	6,910	2,400	<0.500	89	<0.5	4,800	35	<20	<10	<10	20	15	<10	<10	<10	<10	-	<10	<10	<10	<0.50	8,100	13,900	10	<5.0	<0.099	-63.50	-7.97
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[J]	0.093	<2.0	2.9	30	<1.0	<2.0	<1.0	<1.0	4.1	0.91[J]	<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[J]	0.11	<2.0	4.4	36	<1.0	<2.0	<1.0	<1.0	3.4	1.8[J]	<2.0	2.9[J]	<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	1,100	23	<0.40	<0.20	<2.0	5.8	35	<1.0	<2.0	<1.0	<1.0	2.8	0.68[J]	<2.0	<20	<0.20	3,200	5,900	9.9	1.6[J]	<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[J]	0.13	<10	6.9	41	<5.0	<10	<5.0	<5.0	7.8	<10	4.0[J]	<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[J]	<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[J]	650	44	5.4[J]	<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
TW-2	12/4/2018	Bailer	1,930	454	<0.500	87	<0.5	1,200	30	<20	<10	<10	11	40	<10	<10	<10	<10	-	<10	<10	39	<0.50	2,600	5,540	10	<5.0	<0.10	-75.90	-10.05
OBS-1	11/10/2010	Low Flow	8,300	9,400	0.78	450	0.036	6,500	25	2.4	110	-	-	-	-	-	-	-	59	-	-	-	-	20,000	23,000	7.7	-	-	-62.9	-6.88
OBS-1	6/8/2011	Low Flow	6,600	6,800	0.81	460	<0.010	5,800	26	2.3	94	-	-	-	-	-	-	-	60	-	-	-	-	19,000	32,000	7.7	-	-	-63.1	-6.82
OBS-1	6/8/2011	Low Flow	6,600	6,800	0.64	470	<0.010	5,800	25	2.3	91	-	-	-	-	-	-	-	71	-	-	-	-	19,000	31,000	7.7	-	-	-62.7	-6.86
OBS-1	12/13/2011	Low Flow	6,300	6,700	1.4	430	0.0051	6,500	34	0.4	91	-	-	-	-	-	-	-	-	-	-	-	-	21,000	27,000	7.8	-	-	-60.9	-6.80
OBS-1	12/13/2011	Hydrasleeve	6,200	6,500	1.4	400	0.0045	6,300	32	0.35	87	-	-	-	-	-	-	-	-	-	-	-	-	20,000	28,000	7.8	-	-	-61.4	-6.90
OBS-1	5/23/2012	Hydrasleeve	6,400	7,000	1.9	380	<0.010	7,200	33	<0.040	73	-	-	-	-	-	-	-	-	-	-	-	-	21,000	36,000	7.9	-	-	-62.8	-6.90
OBS-1	10/23/2012	Hydrasleeve	6,400	6,700	<2.2	400	<0.010	6,200	31	<0.040	89	-	-	-	-	-	-	-	-	-	-	-	-	21,000	36,000	7.3	-	-	-64.3	-6.80
OBS-1	5/20/2014	Hydrasleeve	6,300	5,700	-	330	<0.020	5,500	27	<0.040	77	<10	<5.0	13	<5.0	<10	<5.0	<5.0	4.9[J]	4.7[J]	58	<100	<0.20	17,000	30,000	7.9	<4.7	-	-59.93	-7.03
OBS-1	12/4/2014	Hydrasleeve	5,400	4,900	4.3[J]	330	<0.050	6,100	27	<0.20	87	<10	2.8[J]	13	<5.0	<10	<5.0	<5.0	2.5[J]	6.8[J]	59	18[J]	<0.20	17,000	26,000	8.0	<4.7	<0.094	-62.2	-6.71
OBS-1	6/11/2015	Hydrasleeve	5,900	5,600	<5.5	310	<0.10	5,600	24	<0.40	81	<10	<5.0	13	<5.0	<10	<5.0	<5.0	5.5	3.9[J]	60	13[J]	<0.20	18,000	31,000	8.0	<4.7	<0.099	-60.2	-6.72
OBS-1	12/10/2015	Hydrasleeve	6,200	5,600	<5.5	330	<0.010	5,600	24	<0.040	81	<10	2.7[J]	17	<5.0	<10	<5.0	<5.0	6.2	<10	72	<100	<0.20	18,000	30,000	7.9	<5.0	<0.094	-61.2	-6.87
OBS-1	6/2/2016	Hydrasleeve	5,500	4,800	7.3	290	<0.10	5,500	22	0.34[J]	82	1.6[J]	2.4	13	0.34[J]	0.63[J]	<1.0	<1.0	5.1	0.87[J]	67	5.2[J]	<0.20	18,000	30,000	8.0	<4.7	<0.096	-60.14	-6.75
OBS-1	11/30/2016	Hydrasleeve	6,100	5,800	<5.5	320	<0.010	5,400	28	<0.040	86	<20	<10	12	<10	<20	<10	<10	<10	<20	70	<200	<0.20	18,000	23,000	7.9	<4.7	<0.093	-61.30	-6.68
OBS-1	6/1/2017	Hydrasleeve	5,200	5,200	<11	330	<0.10	5,900	25	<1.0	87	<10	3.4[J]	14	<5.0	<10	<5.0	<5.0	3.2[J]	3.6[J]	51	<100	<0.20	18,000	21,000	8.0	<5.1	<0.094	-60.70	-6.68
OBS-1	12/5/2017	Hydrasleeve	5,380	4,890	9.69	330	<0.025	2,200	46	<0.035	90	<5.0	<5.0	15	<5.0	<5.0	<5.0	<5.0	-	<5.0	94	<5.0	<0.50	18,000	23,200	7.9	6.21	<0.10	-59.01	-7.11
OBS-1	6/1/2018	Bailer	6,040	5,520	12.4	320	0.10[J]	6,700	75	<10	87	<0.5	<5.0	7.8	<0.5	<0.5	<0.5	<0.5	-	<5.0	57	5.8	<0.50	16,000	23,600	8.0	<5.0	<0.11	-60.90	-6.84
OBS-1	12/4/2018	Bailer	7,680	7,130	5.52	480	<0.5	12,000	63	<20	140	<10	<10	14	<10	<10	<10	<10	-	<10	80	<10	<0.50	17,000	23,600	7.9	<5.0	<0.10	-61.40	-6.79
OBS-2	6/17/2009	Grab	2,300	810	0.5	66	<0.010	1,500	12	0.46	14	-	-	-	-	-	-	-	29	-	-	-	-	5,000	8,800	7.8	-	-	-	-
Well 36	11/10/2010	Spigot	270	250	<0.25	13	<0.010	300	1.8	<0.30	0.76	-	-	-	-	-	-	-	<5	-	-	-	-	860	1,500	8.7	-	-	-77.2	-9.79
Well 36	6/8/2011	Spigot	240	250	<0.25	14	<0.010	270	2.2	<0.30	0.63	-	-	-	-	-	-	-	<5	-	-	-	-	840	1,500	8.7	-	-	-77.8	-9.78
Well 36	12/14/2011	Spigot	240	210	0.082	12	<0.010	290	2.3	0.034	0.65	-	-	-	-	-	-	-	-	-	-	-	-	870	1,300	8.6	-	-	-74.6	-9.8
Well 23a	11/11/2010	Hydrasleeve	620	470	<0.25	29	0.4	520	11	13	1.5	-	-	-	-	-	-	-	500	-	-	-	-	1,700	2,900	8.3	-	-	-76.0	-10.24
Well 23a	6/7/2011	Hydrasleeve	480	400	<0.25	26	0.012	440	9	1.9	<0.50	-	-	-	-	-	-	-	78	-	-	-	-	1,500	2,500	8.4	-	-	-77.7	-10.40
Well 23a	12/14/2011	Hydrasleeve	510	400	<0.22	24	0.016	550	11.0	3.8	0.47	-	-	-	-	-	-	-	-	-	-	-	-	1,600	2,400	8.2	-	-	-75.0	-10.30
Well 23a	5/24/2012	Hydrasleeve	410	410	<0.22	25	<0.010	420	11.0	0.071	0.29	-	-	-	-	-	-	-	-	-	-	-	-	1,500	2,500	8.3	-	-	-76.2	-10.40
Well 23a	10/23/2012	Hydrasleeve	440	440	<0.22	19	<0.010	420	8.7	0.059	3.0	-	-	-	-	-	-	-	-	-	-	-	-	1,400	2,400	8.3	-	-	-77.6	-10.40

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)
Well 23a	5/20/2014	Hydrasleeve	570	490	-	24	<0.010	540	10	0.042	0.51	<10	<5.0	20	<5.0	<10	<5.0	<5.0	7.2	<10	<10	100[B]	<0.20	1,600	2,800	8.1	<4.7	-	-74.05	-10.33
Well 23a	12/4/2014	Hydrasleeve	480	370	<0.22	24	<0.010	520	10	0.011[J]	0.51	<10	<5.0	20	<5.0	<10	<5.0	<5.0	5.6	<10	<10	100	<0.20	1,500	2,900	8.2	<4.7	<0.095	-76.4	-10.31
Well 23a	12/10/2015	Hydrasleeve	520	430	<0.22	22	<0.010	490	9.2	0.015[J]	0.60	<4.0	1.6[J]	21	<2.0	<4.0	<2.0	<2.0	8.6	<4.0	1.9[J]	96	<0.20	1,600	2,800	8.1	<5.1	<0.095	-74.3	-10.09
Well 23a	6/2/2016	Hydrasleeve	480	380	<0.11	20	<0.010	550	11	0.42	0.55	<2.0	1.2	16	<1.0	<2.0	<1.0	4.0	41	0.69[J]	0.98[J]	270	<0.20	1,600	3,100	8.4	<4.7	<0.094	-73.73	-10.25
Well 23a	11/30/2016	Hydrasleeve	490	430	<0.22	21	<0.010	490	10	<0.040	0.47	<10	<5.0	19	<5.0	<10	<5.0	<5.0	5.6	<10	5.0[J]	74[J]	<0.20	1,500	2,600	8.1	<4.7	<0.095	-76.40	-10.18
Well 23a	6/1/2017	Hydrasleeve	430	400	<0.22	23	<0.010	580	12	0.31	0.68	<10	<5.0	20	<5.0	<10	<5.0	3.2[J]	45	<10	<10	340	<0.20	1,500	2,700	8.2	<5.1	<0.096	-75.30	-10.20
Well 23a	12/5/2017	Hydrasleeve	466	389	<0.50	19	<0.005	670	13	0.060[J]	0.52	<0.50	1.2	17	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	76	<0.50	1,300	2,550	8.3	1.40[J]	<0.10	-74.35	-10.47
Well 23a	6/1/2018	Bailer	491	415	<0.50	22	0.082[J]	760	19	<10	<5	<0.50	<5.0	13	<0.50	<0.50	<0.50	<0.50	-	<0.50	<5.0	56	<0.50	1,300	2,640	8.4	<5.0	<0.11	-73.60	-10.12
DM-1	5/24/2012	Low Flow	4,600	2,000	3.9	250	<0.10	3,800	23.0	<0.40	56	-	-	-	-	-	-	-	-	-	-	-	-	12,000	16,000	7.8	-	-	-65.1	-8.8
DM-1	10/24/2012	Low Flow	5,400	2,300	<1.1	210	<0.010	3,200	20.0	<0.040	58	-	-	-	-	-	-	-	11	-	-	-	-	11,000	18,000	7.8	-	-	-72.1	-8.6
DM-1	5/22/2014	Low Flow	5,300	2,000	-	240	<0.010	3,700	22	<0.040	54	<10	6.2	52	<5.0	<10	<5.0	<5.0	2.5[J]	4.6[J]	3.0[J]	<100	<0.20	11,000	19,000	7.8	<5.0	-	-68.50	-8.51
DM-1	5/22/2014 [1]	Low Flow	5,200	2,000	-	230	<0.010	3,600	22	<0.040	53	<10	5.6	50	<5.0	<10	<5.0	<5.0	<5.0	3.9[J]	3.1[J]	<100	<0.20	11,000	19,000	7.7	<5.3	-	-69.47	-8.74
DM-1	12/4/2014	Low Flow	4,800	1,700	2.9	230	<0.050	3,600	21	<0.20	57	<10	7.7	50	<5.0	<10	<5.0	<5.0	<5.0	9.2[J]	<10	25[J]	0.15[J]	11,000	19,000	7.9	<4.7	<0.094	-72.1	-8.75
DM-1	6/11/2015	Low Flow	4,600	2,000	3.7[J]	230	<0.10	3,600	21	<0.40	52	<10	3.8[J]	36	<5.0	2.9[J]	<5.0	<5.0	3.6[J]	6.3[J]	3.6[J]	<100	0.26	10,000	19,000	7.8	<4.7	<0.10	-69.2	-8.47
DM-1	12/10/2015	Low Flow	5,300	2,100	4.9[J]	260	<0.010	3,700	22	<0.040	57	<10	5.6	38	<5.0	<10	<5.0	<5.0	<5.0	<10	5.2[J]	<100	<0.20	12,000	19,000	7.8	<5.0	<0.094	-70.3	-8.57
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[J]	<1.0	<1.0	0.99[J]	1.1[J]	3.3	2.5[J]	<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	<0.010	3,700	23	<0.040	59	<20	6.7[J]	31	<10	<20	<10	<10	<10	<10	13[J]	<200	<0.20	11,000	17,000	7.8	<4.7	<0.093	-70.70	-8.68
DM-1	6/1/2017	Low Flow	4,600	1,900	4.2[J]	250	<0.10	4,100	21	<1.0	62	<10	4.8[J]	28	<5.0	5.9[J]	<5.0	<5.0	<5.0	7.6[J]	6.9[J]	<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[J]	5,200	63	0.78[J]	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-1	12/4/2018	Low Flow	8,180	3,280	9.00	260	<0.5	4,800	33	<20	68	<10	10	31	<10	<10	<10	<10	-	<10	<10	<10	<0.50	11,000	17,400	7.7	<5.0	<0.10	-70.10	-8.55
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[J]	54	<10	4.7[J]	97	<5.0	<10	<5.0	<5.0	59	4.1[J]	3.3[J]	<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[J]	55	<10	5.7	140	<5.0	<10	<5.0	<5.0	90	8.4[J]	<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[J]	290	<0.10	3,500	22	<0.40	55	<10	4.1[J]	110	<5.0	2.9[J]	<5.0	<5.0	40	4.9[J]	<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	<0.010	3,600	21	0.062	61	<10	5.9	85	<5.0	<10	<5.0	<5.0	88	<10	5.5[J]	<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[J]	60	0.51[J]	4.7	62	<1.0	1.5[J]	<1.0	<1.0	62	1.1[J]	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[J]	290	<0.010	4,200	28	<0.040	61	<20	5.9[J]	56	<10	<20	<10	<10	40	<20	18[J]	<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[J]	280	<0.10	4,100	21	<1.0	62	<10	4.4[J]	52	<5.0	<10	<5.0	<5.0	17	5.2[J]	5.6[J]	<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	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[J]	4,800	68	<10	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-2	12/4/2018	Low Flow	5,290	1,770	11.4	240	<0.5	4,900	35	<20	60	<10	<10	57	<10	<10	<10	<10	-	<10	<10	28	<0.50	7,100	13,000	7.8	<5.0	<0.10	-72.30	-8.98
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	<10	13	18	<5.0	<10	<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[J]	230	<0.050	3,600	20	<0.20	56	<10	16	18	<5.0	<10	<5.0	<5.0	<5.0	9.6[J]	<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	<10	14	17	<5.0	<10	<5.0	<5.0	<5.0	4.5[J]	<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[J]	3,500	19	<0.040	51	<10	17	21	<5.0	<10	<5.0	<5.0	<5.0	<10	3.1[J]	<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[J]	<1.0	<1.0	0.64[J]	0.88[J]	1.0[J]	5.1[J]	<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[J]	4,100	23	<0.040	56	<10	16	18	<5.0	<10	<5.0	<5.0	<5.0	<10	5.6[J]	<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	<10	15	18	<5.0	<10	<5.0	<5.0	<5.0	3.9[J]	2.7[J]	<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[J]	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[J]	4,100	61	<10	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
DM-3	12/4/2018	Low Flow	6,770	2,840	2.50	280	<0.5	5,200	33	<20	69	<10	20	34	<10	<10	<10	<10	-	<10	<10	<10	<0.50	9,700	17,100	7.8	<5.0	<0.10	-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[J]	2.1	-	-	-	-	-	-	-	-	-	-	-	-	2,100	3,400	8.0	-	-	-79.4	-10.40
PW-0	12/4/2018	Spigot	2,100	698	<0.500	100	<0.5	1,100	25	<20	<10	<10	45	55	<10	<10	<10	<10	-	<10	<10	92	<0.50	2,600	6,170	7.9	<5.0	<0.10	-76.3	-10.01
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[J]	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[J]	4.1	<10	27	39	<5.0	<10	<5.0	<5.0	19	<10	<10	<100	<0.20	2,100	3,800	8.2	1.5[J]	-	-76.65	-10.08
PW-2	12/4/2014	Spigot	900	440	<0.55	52	<0.010	670	5.6	0.075	4.3	<10	28	40	<5.0	<10	<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	<10	28	38	<5.0	<10	<5.0	<5.0	23	2.7[J]	<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[J]	4.0	<10	28	39	<5.0	<10	<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[J]	4.2	<10	28	38	<5.0	<10	<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	<2.0	<4.0	<2.0	<2.0	25	<4.0	<4.0	<40	<0.20	2,200	3,800	8.1	4.1[J]	<0.095	-77.2	-10.21
PW-2	6/2/2016	Spigot	830	390	0.46	51	<0.010	680	5.1	0.10	4.1	<2.0	26	43	<1.0	<2.0	<1.0	<1.0	20	<2.0	0.63[J]	<20	<0.20	2,200	4,100	8.1	<4.8	<0.096	-77.30	-10.38
PW-2	6/2/2016 [1]	Spigot	820	380	0.37	51	<0.010	680	5.1	0.12	4.1	<2.0	26	42	<1.0	<2.0	<1.0	<1.0	21	0.87[J]	<2.0	<20	<0.20	2,200	4,100	8.1	<4.8	<0.096	-77.46	-10.44

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)
PW-2	11/30/2016	Spigot	750	410	<0.22	49	<0.010	650	5.4	0.049	4.3	<10	29	40	<5.0	<10	<5.0	<5.0	19	<10	3.4[J]	<100	<0.20	2,100	3,600	8.0	<4.8	<0.095	-78.00	-10.21
PW-2	11/30/2016 [1]	Spigot	860	450	<0.22	49	<0.010	680	5.6	0.050	4.4	<10	29	39	<5.0	<10	<5.0	<5.0	18	<10	2.7[J]	<100	<0.20	2,100	3,700	7.9	<4.7	<0.095	-78.50	-10.30
PW-2	6/1/2017	Spigot	800	440	<0.55	56	<0.010	750	5.6	0.085[J]	4.5	<10	27	38	<5.0	<10	<5.0	<5.0	19	<10	6.7[J]	<100	<0.20	2,100	3,500	8.1	1.7[J]	<0.098	-77.70	-10.21
PW-2	6/1/2017 [1]	Spigot	820	430	<0.55	54	<0.010	740	5.5	0.084[J]	4.5	<10	28	39	<5.0	<10	<5.0	<5.0	20	<10	<10	<100	<0.20	2,100	3,700	8.0	<5.4	<0.096	-77.90	-10.26
PW-2	12/5/2017	Spigot	812	415	<0.50	54	<0.025	270	7.9	0.076[J]	4.8	<0.50	28	39	<0.50	<0.50	<0.50	<0.50	-	<0.50	0.51	4.5	<0.50	2,000	3,570	7.9	<5.0	<0.10	-76.11	-10.50
PW-2	12/5/2017 [1]	Spigot	739	375	<0.50	56	<0.025	410	8.1	0.11[J]	5.1	<0.50	29	38	<0.50	<0.50	<0.50	<0.50	-	2.0	0.61	7.0	<0.50	2,000	3,590	8.1	2.11	<0.10	-75.80	-10.48
PW-2	6/1/2018	Spigot	865	449	<2.50	51	0.099[J]	1000	9.8	<10	4.1[J]	<0.50	19	14	<0.50	<0.50	<0.50	<0.50	-	<0.50	<5.0	<5.0	<0.50	2,000	3,620	8.5	<5.00	<0.11	-77.70	-10.22
PW-2	6/1/2018 [1]	Spigot	857	445	<2.50	54	0.11[J]	1100	10	<10	4.2[J]	<0.50	12	7.3	<0.50	<0.50	<0.50	<0.50	-	<0.50	<5.0	<5.0	<0.50	2,000	3,630	8.2	<5.00	<0.11	-78.20	-10.26
PW-2	12/4/2018	Spigot	895	454	<0.500	55	<0.5	690	11	<20	<10	<10	34	41	<10	<10	<10	<10	-	<10	<10	<10	<0.50	1,900	3,580	8.1	<5.00	<0.11	-77.90	-10.24
PW-2	12/4/2018 [1]	Spigot	998	454	<0.500	72	<0.5	950	12	<20	<10	<10	33	44	<10	<10	<10	<10	-	<10	<10	<10	<0.50	1,800	3,580	8.1	15.4	<0.10	-77.80	-10.24

NOTES:
mg/L = milligrams per liter
ug/L = micrograms per liter
uS/cm = microsiemens per centimeter
‰ = parts per thousand
VSMOW = Vienna Standard Mean Ocean Water
< = not detected at or above the indicated reporting limit
- = information is unknown / not applicable / not analyzed
B - Compound was detected in the laboratory equipment blank.
J - Result is less than the reporting limit but greater than or equal to the method detection limit, thus the concentration is an approximate value.
† - Heat Transfer Fluid (HTF) is characterized by the analytes 1,1'-oxybis-benzene and 1,1'-biphenyl.
1 - Duplicate sample

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)	CH2M Hill and Boyle Engineering, 1995/Woodward-Clyde	738 to 1,100	--	199	--	--	--	--	--	--	--	765
	8/24/83 (Chloride)												
43	Jan-86	Kennedy/Jenks/Chilton, 1986	510 to 780	--	460	--	--	--	--	--	--	--	1,150
47	Jan-86	Kennedy/Jenks/Chilton, 1986	500 to 850	--	520	--	--	--	--	--	--	--	1,350
	1/4/1984	Woodward-Clyde Consultants, 1986	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 Second 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: Cool, clear		

Well No.	Date	TOC Reference Elevation (ft)	Depth to Water (ft)	Corrected Water Level Elevation (ft)	Comments
TW-1	12/4/2018	387.40	86.75	300.65	Solinst Levelogger Transducer
TW-2	12/4/2018	393.47	127.38	266.09	Manual Measurement
OBS-1	12/4/2018	388.30	78.18	310.12	Solinst Levelogger Transducer
OBS-2-270	12/4/2018	388.14	N/A	N/A	Buried Transducer Cable
OBS-2-315	12/4/2018	388.14	N/A	N/A	Buried Transducer Cable
OBS-2-370	12/4/2018	388.14	N/A	N/A	Buried Transducer Cable
OBS-2-400	12/4/2018	388.14	N/A	N/A	Buried Transducer Cable
14	12/4/2018	388.14	100.52	287.62	Manual Measurement
23a	12/4/2018	392.10	N/A	N/A	Manual Measurement
24-1	12/4/2018	389.40	127.36	262.04	Manual Measurement
24-2	12/4/2018	388.86	125.45	263.41	Manual Measurement
24-3	12/4/2018	392.04	124.08	267.96	Manual Measurement
PW-0	12/4/2018	385.64	N/A	N/A	Manual Measurement
PW-1	12/4/2018	384.43	98.78	285.65	Manual Measurement
PW-2	12/4/2018	385.15	N/A	N/A	Manual Measurement
DM-1	12/4/2018	391.49	107.45	284.04	Manual Measurement
DM-2	12/4/2018	391.32	107.80	283.52	Manual Measurement
DM-3	12/4/2018	388.34	104.68	283.66	Manual Measurement

Additional Notes:

GROUNDWATER SAMPLING FIELD FORM

Event: 2018 2nd Semiannual	Site: Genesis Solar Energy Project	Project No: 196-004-06
Project: Groundwater Quality Monitoring Program		Project Manager: AWB
Technicians: RCD/AWB		Weather: Cool, clear
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						
Total Depth (ft btoc)	1,825						
Screened Interval (ft btoc)	1800 - 1825						
Depth to Water (ft btoc)	N/A						
Sample Date	N/A						
Sample Time	N/A						

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

COMMENTS: Not sampled - encroachment permit not yet processed

Well No.	OBS-1	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	5.0	24.30	8.05	25.6	23.1	+70	7.15
Total Depth (ft btoc)	160						
Screened Interval (ft btoc)	100 - 150						
Depth to Water (ft btoc)	78.18						
Sample Date	12/4/2018						
Sample Time	10:25						

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	25.24	10.25	15.2	37	-170	7.68
Total Depth (ft btoc)	565						
Screened Interval (ft btoc)	340 - 564						
Depth to Water (ft btoc)	86.75						
Sample Date	12/4/2018						
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-2	Temp °C	pH	Conductivity (mS/cm)	Turbidity (NTUs)	ORP (mV)	DO (mg/L)
Casing Diameter (in.)	5.0	25.86	7.87	5.78	45.9	-187	6.11
Total Depth (ft btoc)	1,841						
Screened Interval (ft btoc)	Multiple						
Depth to Water (ft btoc)	127.38						
Sample Date	12/4/2018						
Sample Time	9:00						

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 2nd Semiannual	Site: Genesis Solar Energy Project	Project No: 196-004-06
Project: Groundwater Quality Monitoring Program		Project Manager: AWB
Technicians: RCD/AWB		Weather: Cool, clear
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	27.08	8.06	6.85	19.8	-41	7.37
Total Depth (ft btoc)	1,251						
Screened Interval (ft btoc)	Multiple						
Depth to Water (ft btoc)	N/A						
Sample Date	12/4/2018						
Sample Time	8:25						

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

COMMENTS: Water level not obtained - gauge port obstructed

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)	98.78						
Sample Date	12/4/2018						
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	29.42	8.15	3.95	38.1	+108	5.36
Total Depth (ft btoc)	1,125						
Screened Interval (ft btoc)	Multiple						
Depth to Water (ft btoc)	N/A						
Sample Date	12/4/2018						
Sample Time	8:35						

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

COMMENTS: Collected duplicate sample; water level not obtained - gauge port obstructed

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 2nd Semiannual	Site: Genesis Solar Energy Project	Project No: 196-004-06
Project: Groundwater Quality Monitoring Program		Project Manager: AWB
Technicians: RCD/AWB		Weather: Cool, clear

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	6:24	107.46	21.59	7.72	19.1	7.2	+68	4.82
Total Depth (ft btoc)	120	6:26	107.46	21.60	7.76	19.2	6.8	+64	4.86
Screened Interval (ft btoc)	100 - 120	6:28	107.46	21.60	7.78	19.3	6.6	+66	4.86
Depth to Water (ft btoc)	107.45								
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	12/4/2018								
Sample Time	6:30								

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	6:54	107.90	22.79	7.79	17.6	76.1	+104	3.12
Total Depth (ft btoc)	120	6:56	107.90	22.81	7.79	17.7	75.1	+101	3.08
Screened Interval (ft btoc)	100 - 120	6:58	107.90	22.82	7.81	17.9	75.0	+100	3.07
Depth to Water (ft btoc)	107.80								
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	12/4/2018								
Sample Time	7:00								

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	7:24	104.74	22.33	7.82	18.8	2.7	+127	4.31
Total Depth (ft btoc)	120	7:26	104.74	22.28	7.80	18.8	3.1	+128	4.33
Screened Interval (ft btoc)	100 - 120	7:28	104.74	22.33	7.80	18.8	3.2	+130	4.34
Depth to Water (ft btoc)	104.68								
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	12/4/2018								
Sample Time	7:30								

General Well Location: South side of settlement ponds

COMMENTS:

APPENDIX B

CHARTS 1 - 29

Chart 1: Chloride

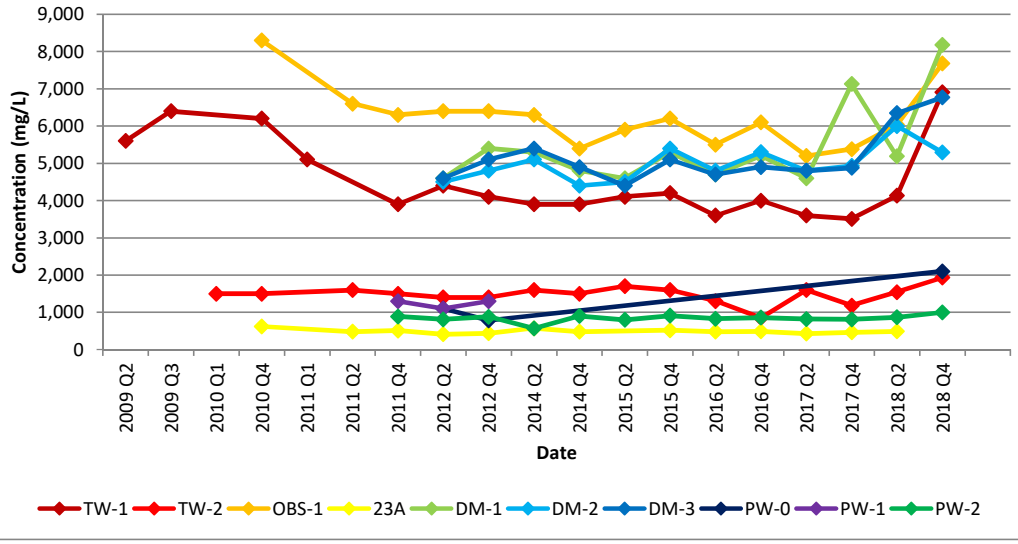


Chart 2: Sulfate (SO_4)

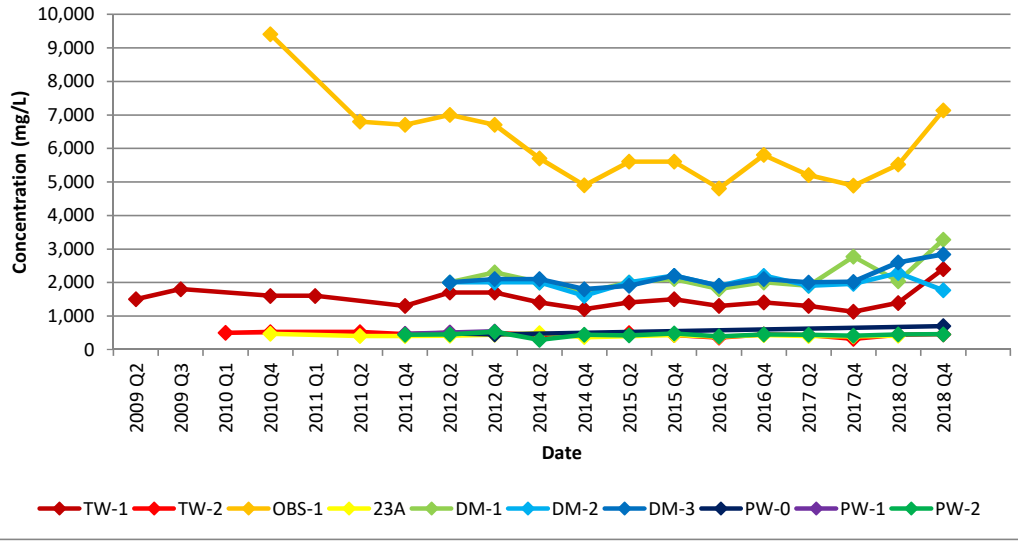


Chart 3: Nitrate (NO_3)

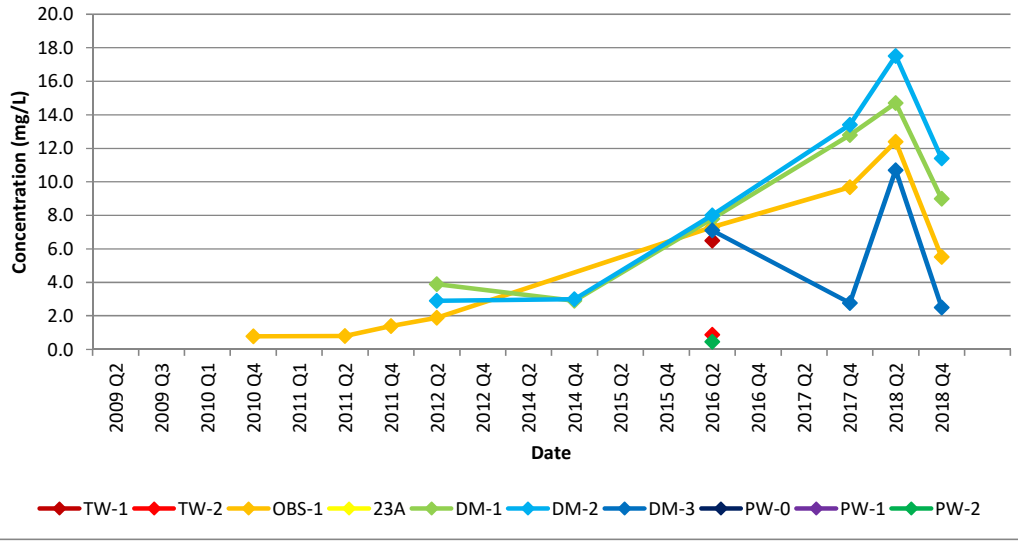


Chart 4: Calcium

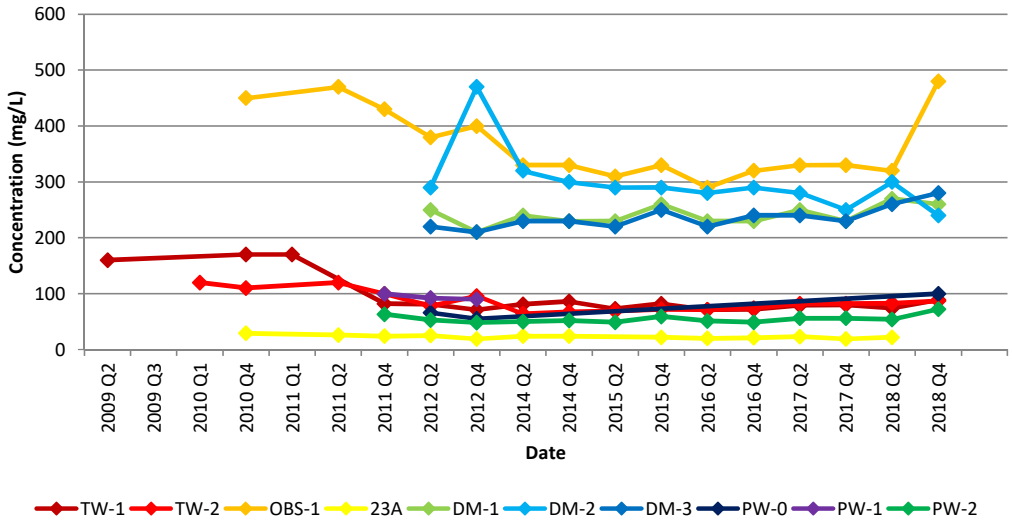


Chart 5: Copper

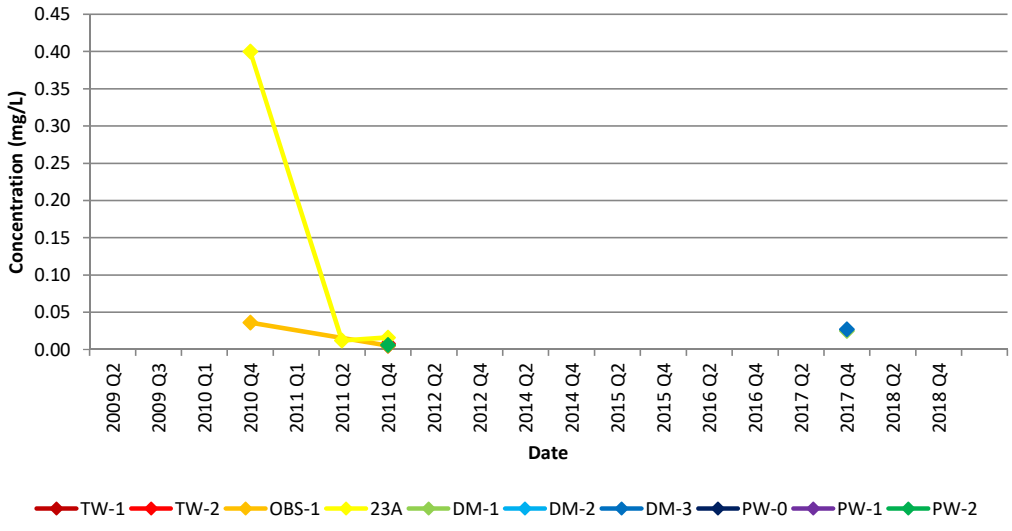


Chart 6: Sodium

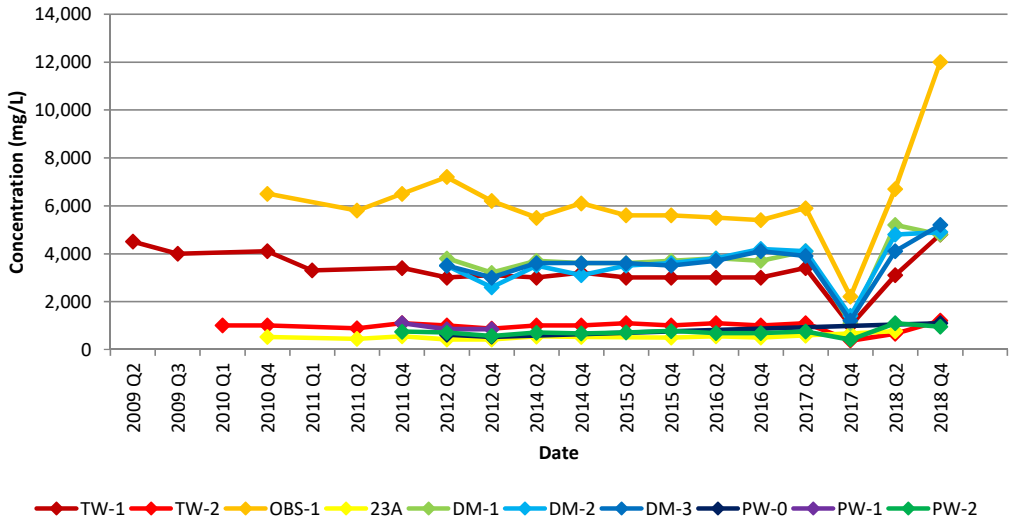


Chart 7: Potassium

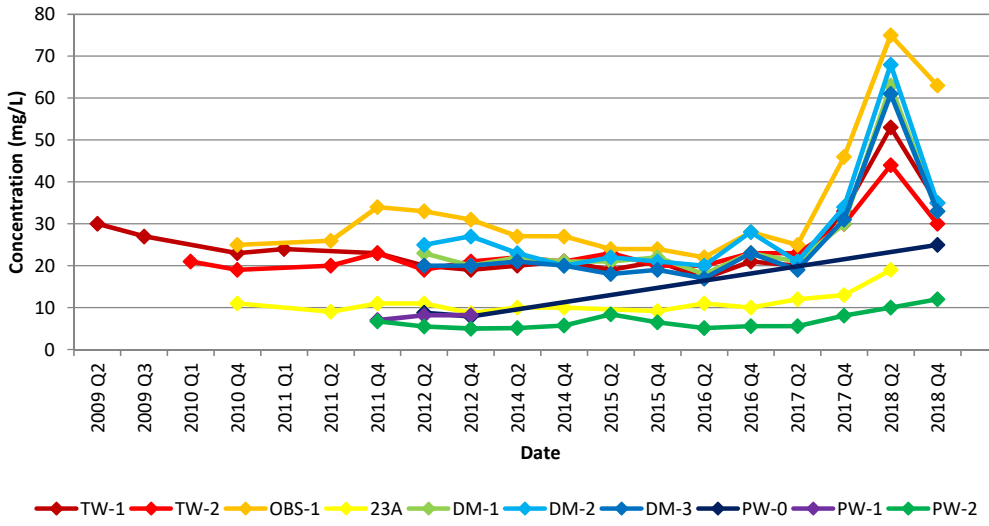


Chart 8: Iron

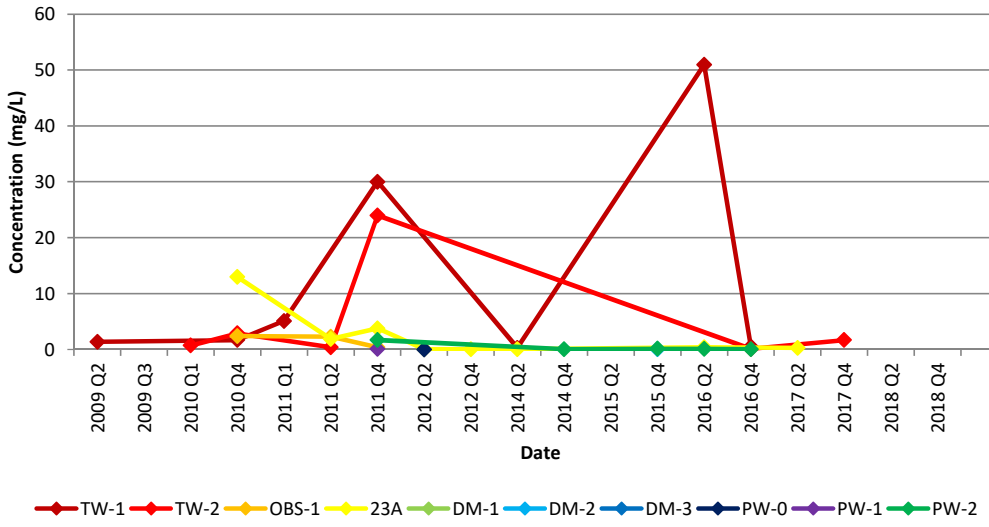


Chart 9: Magnesium

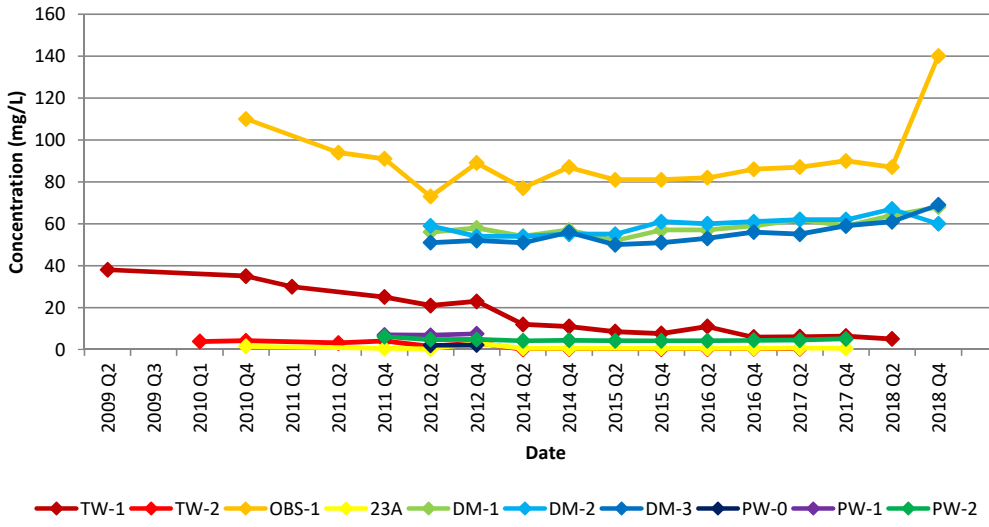


Chart 10: Antimony

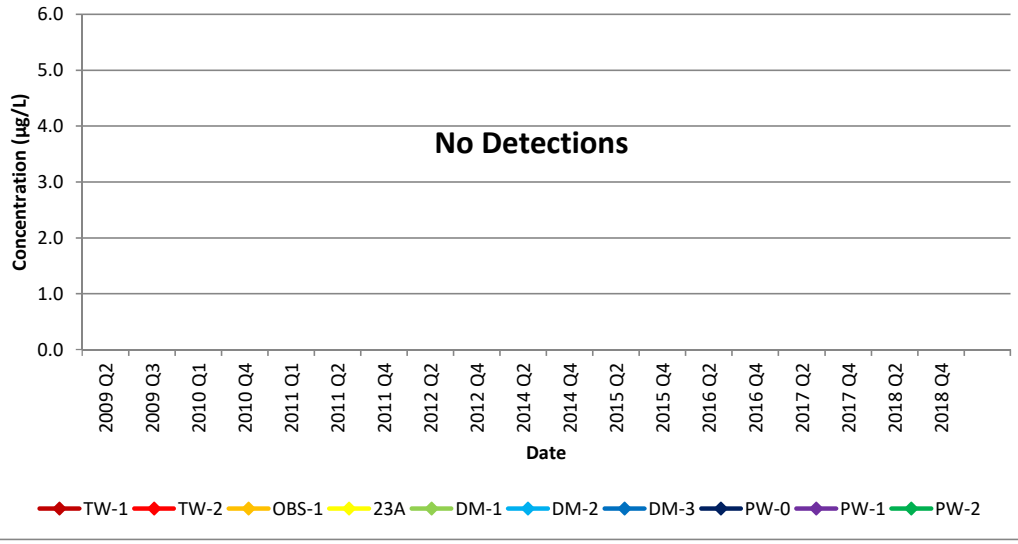


Chart 11: Arsenic

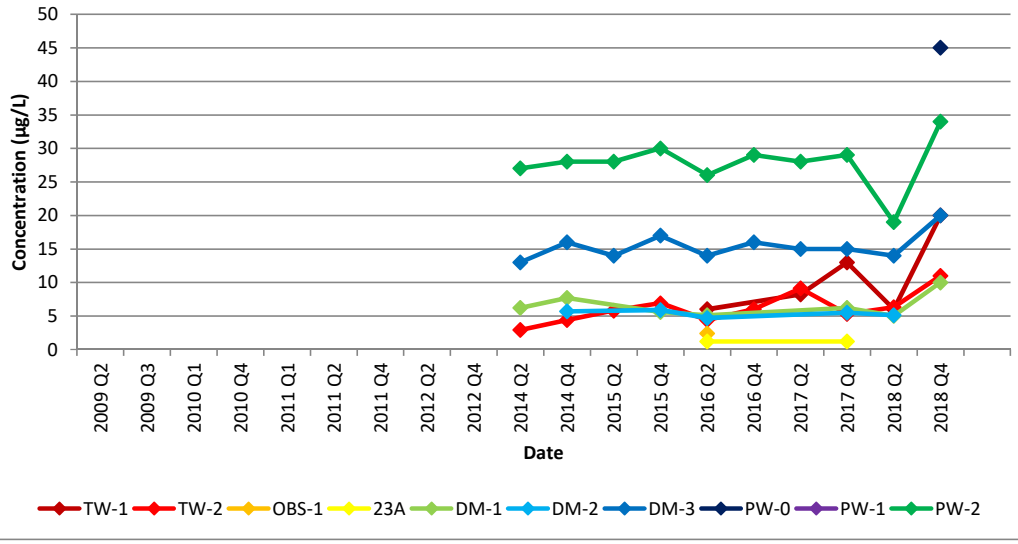


Chart 12: Barium

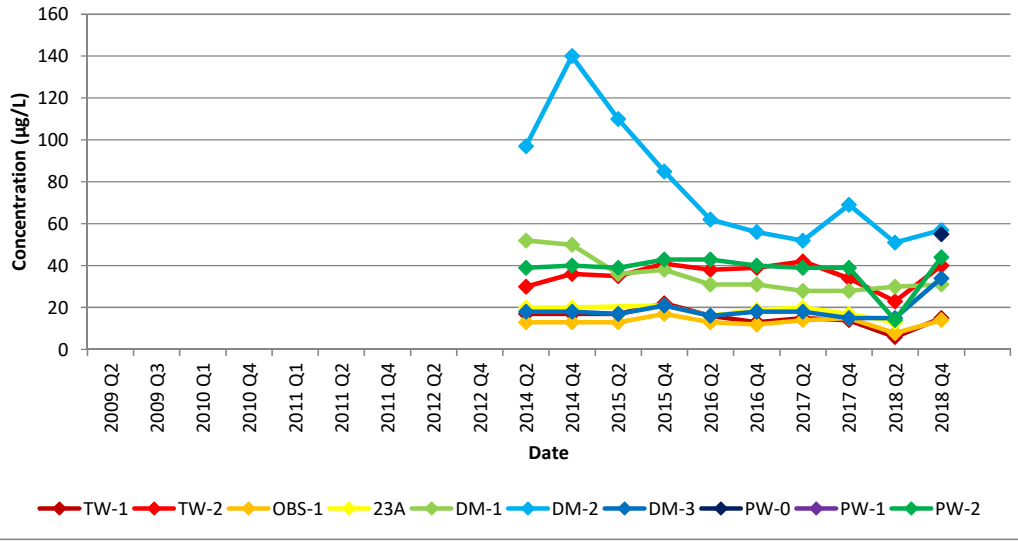


Chart 13: Cadmium

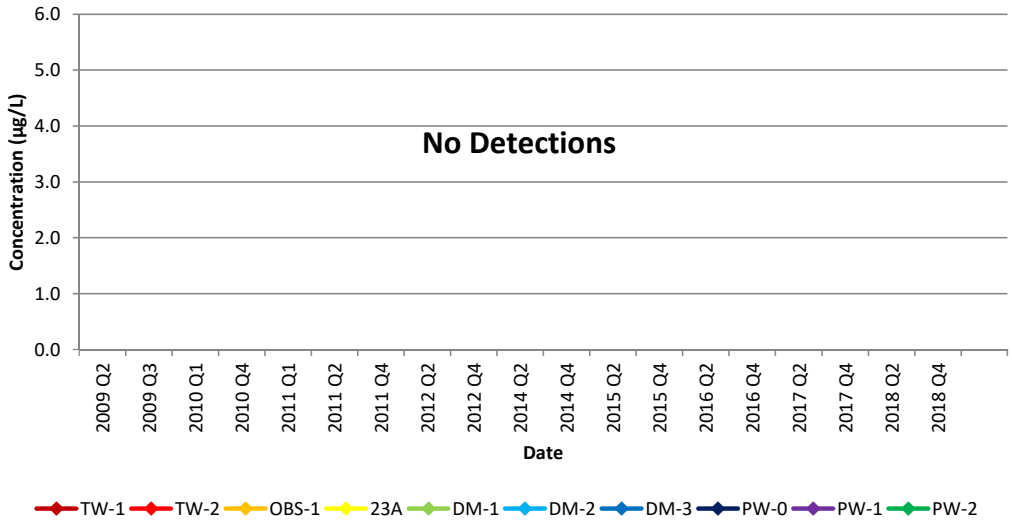


Chart 14: Chromium (Total)

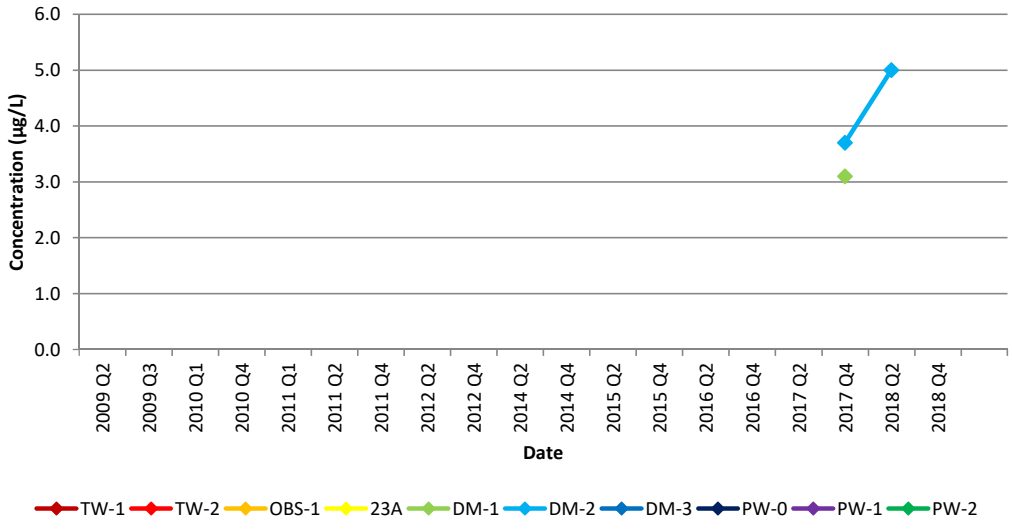


Chart 15: Cobalt

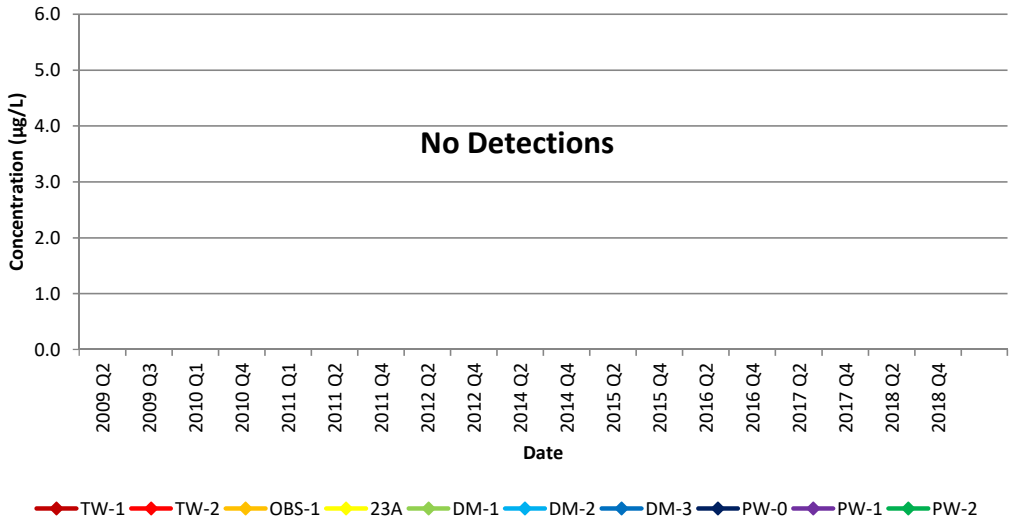


Chart 16: Lead

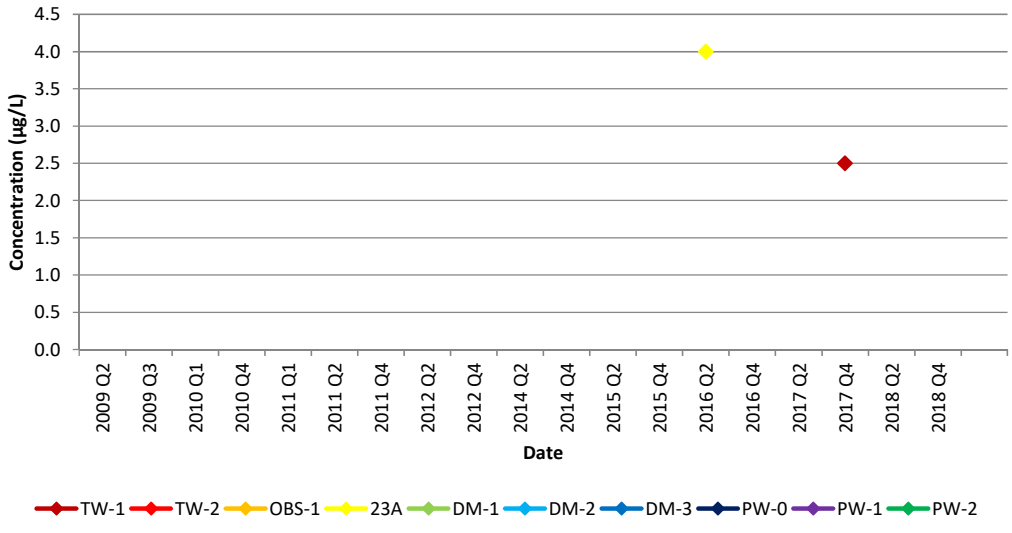


Chart 17: Manganese

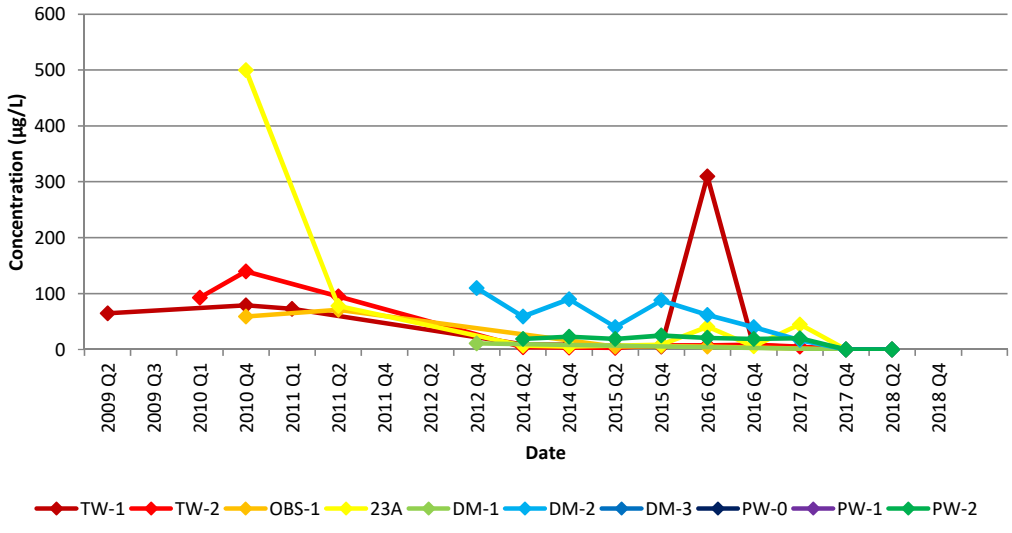


Chart 18: Nickel

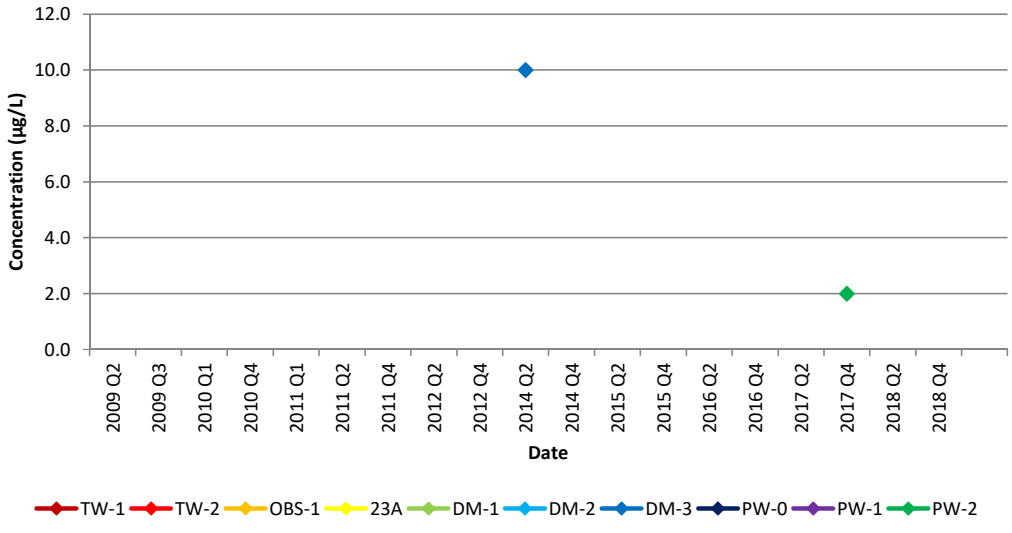


Chart 19: Selenium

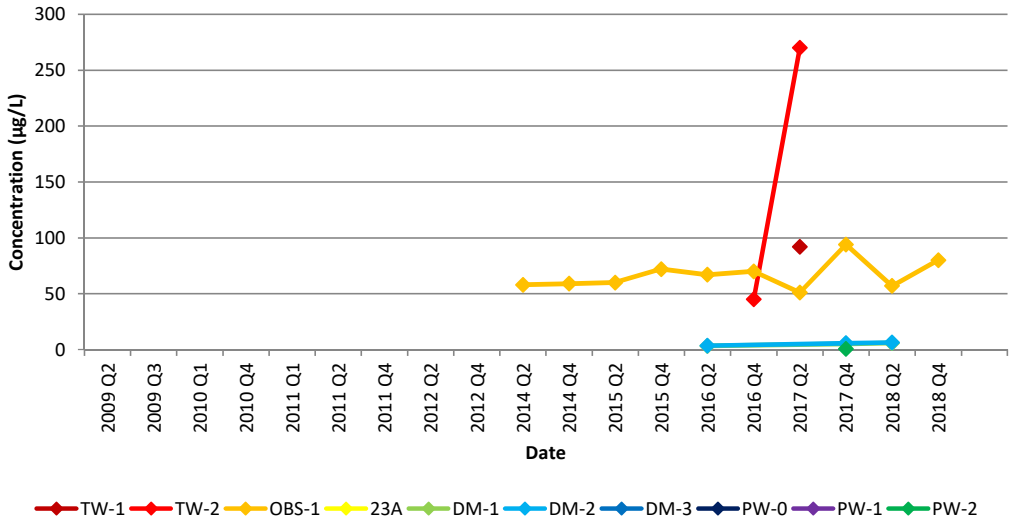


Chart 20: Zinc

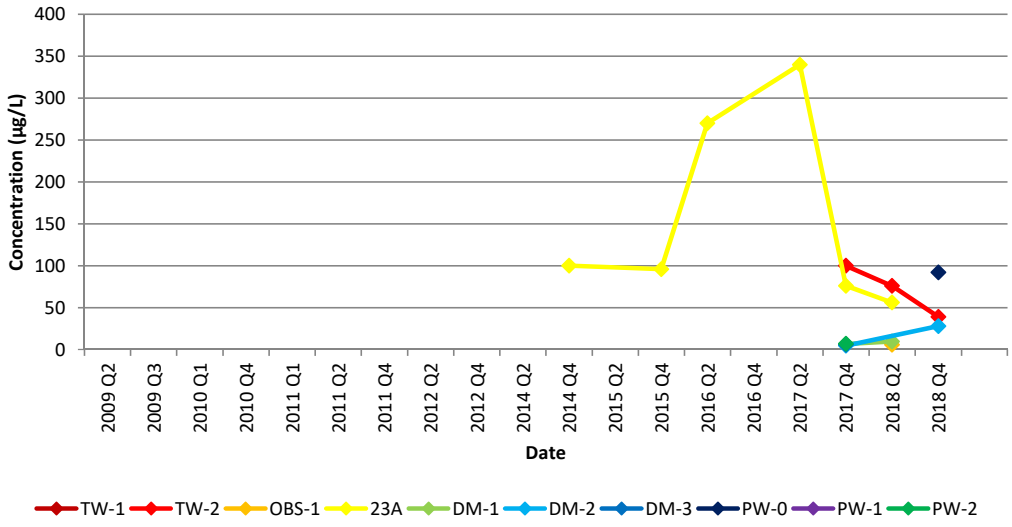


Chart 21: Mercury

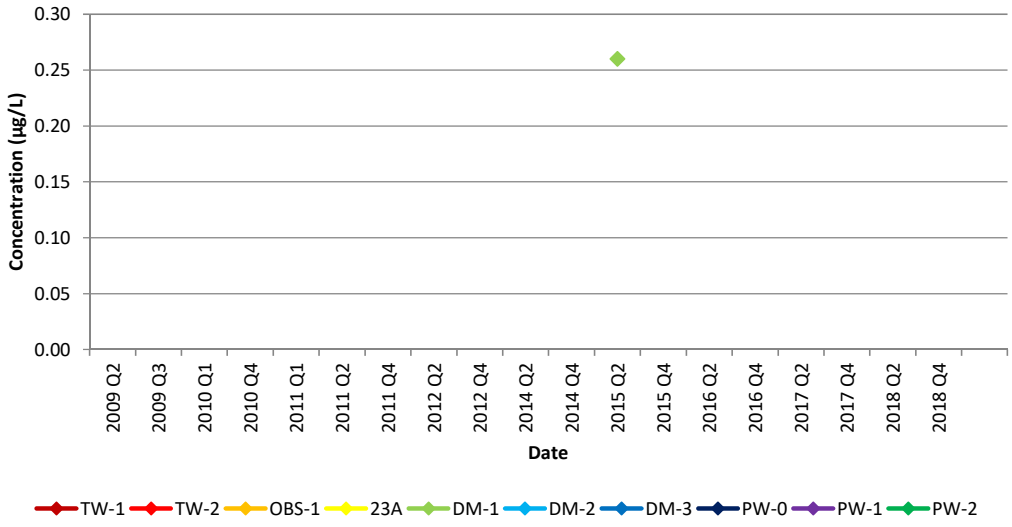


Chart 22: Total Dissolved Solids

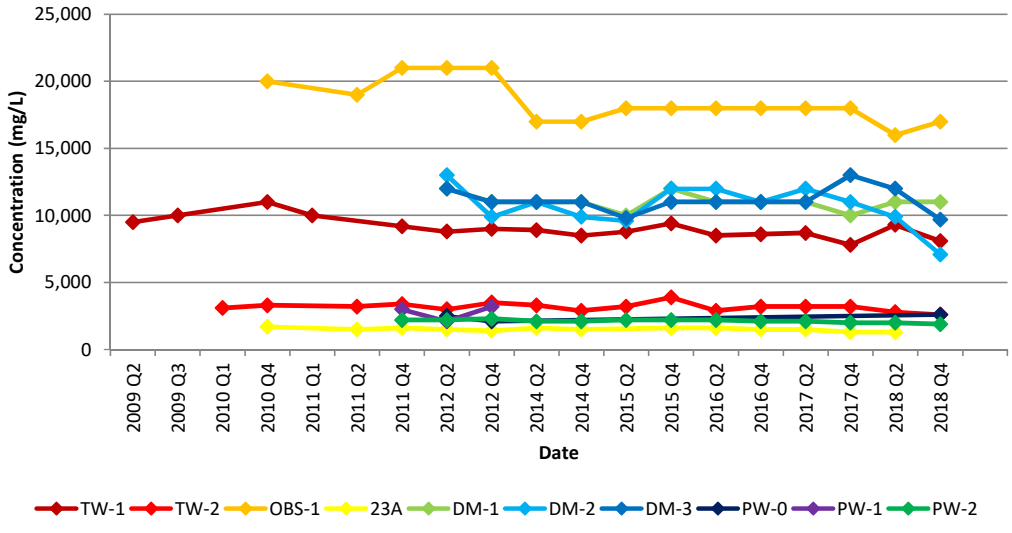


Chart 23: Specific Conductance

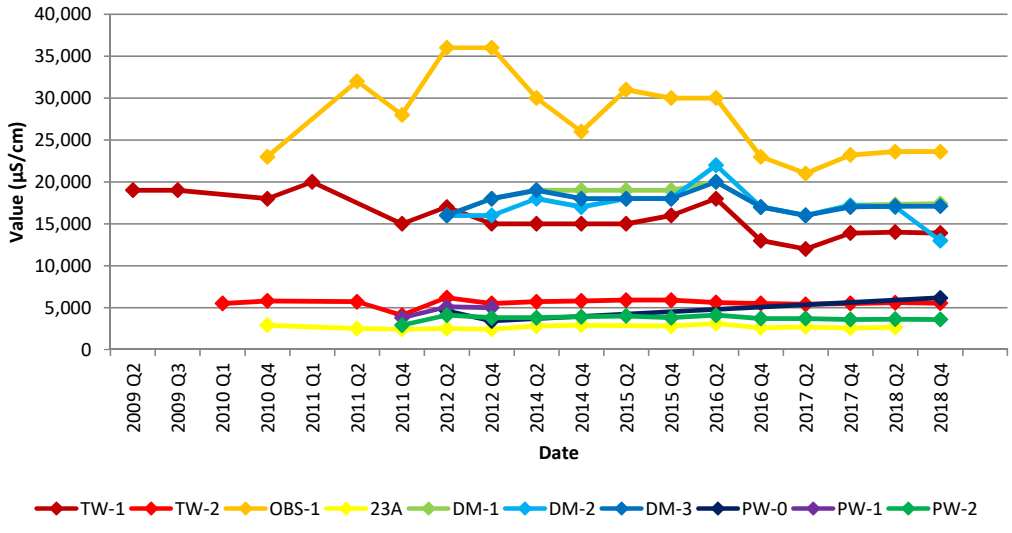
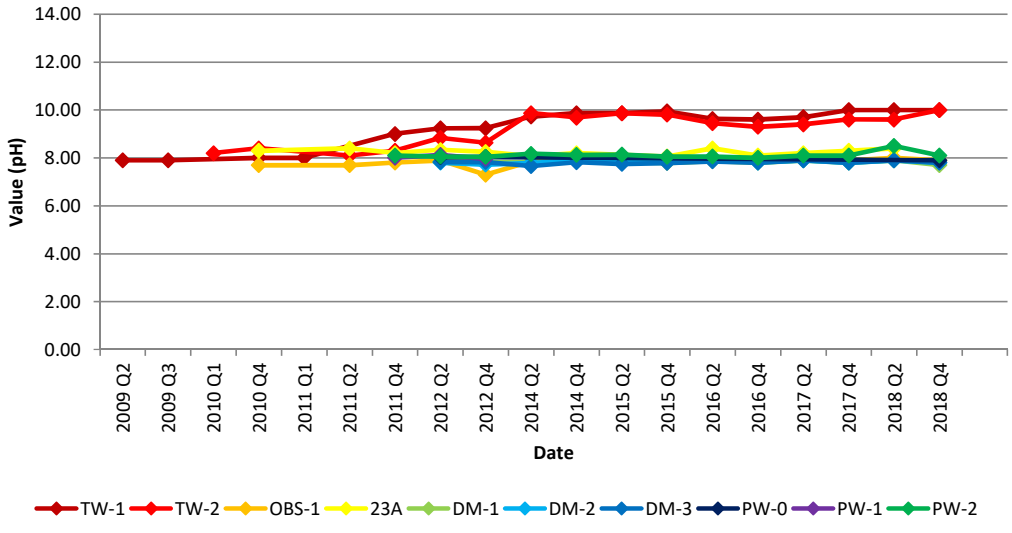


Chart 24: pH



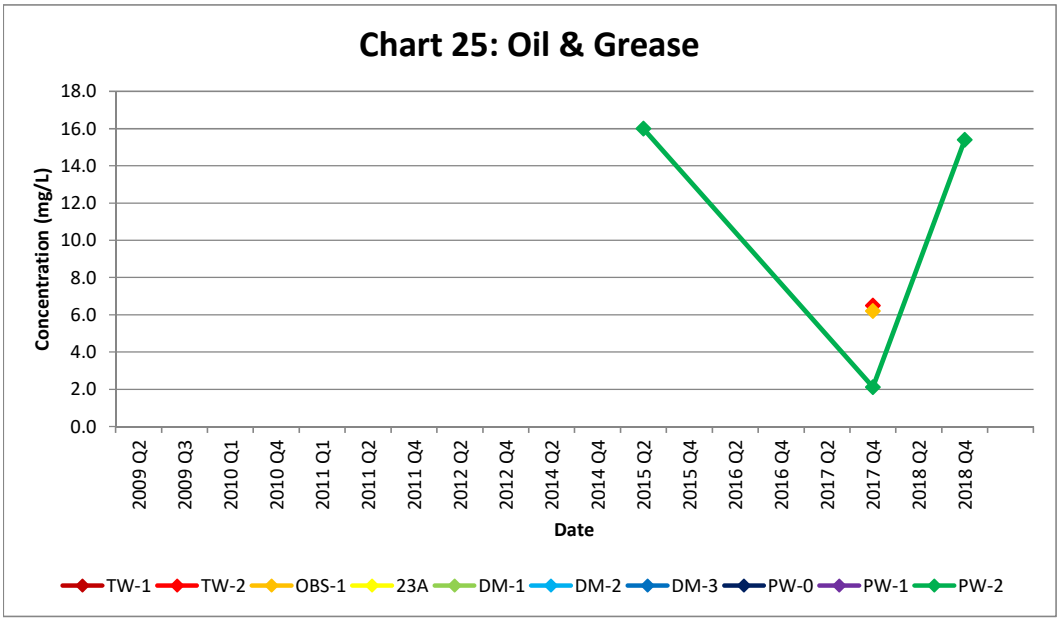


Chart 25: Oil & Grease
Concentration (mg/L)
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
2009 Q2
2009 Q3
2010 Q1
2010 Q4
2011 Q1
2011 Q2
2011 Q4
2012 Q2
2012 Q4
2014 Q2
2014 Q4
2015 Q2
2015 Q4
2016 Q2
2016 Q4
2017 Q2
2017 Q4
2018 Q2
2018 Q4
Date
TW-1
TW-2
OBS-1
23A
DM-1
DM-2
DM-3
PW-0
PW-1
PW-2

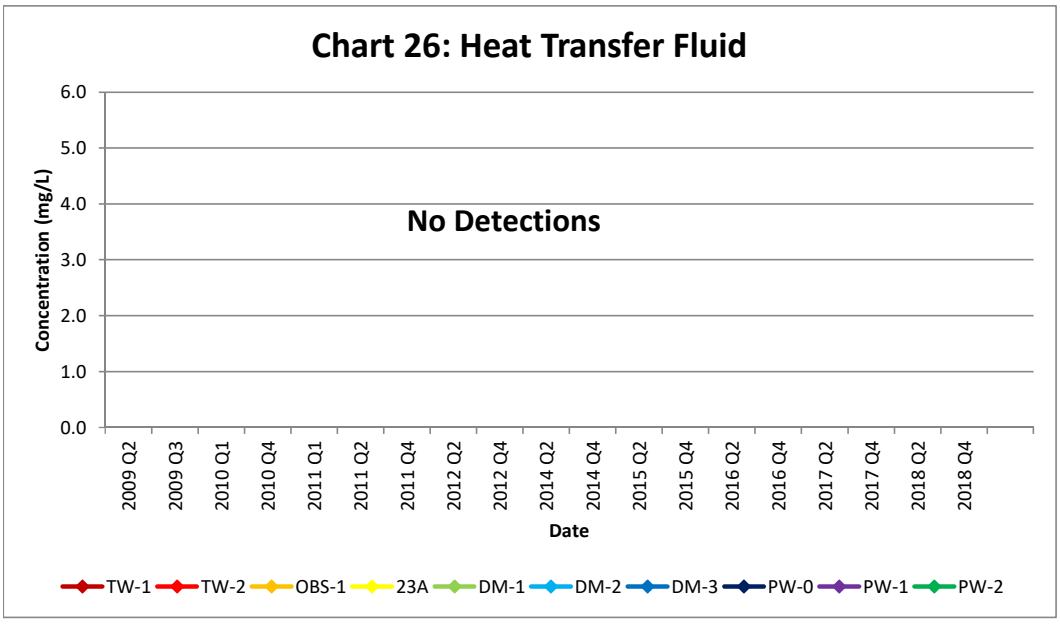


Chart 26: Heat Transfer Fluid
Concentration (mg/L)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
No Detections
2009 Q2
2009 Q3
2010 Q1
2010 Q4
2011 Q1
2011 Q2
2011 Q4
2012 Q2
2012 Q4
2014 Q2
2014 Q4
2015 Q2
2015 Q4
2016 Q2
2016 Q4
2017 Q2
2017 Q4
2018 Q2
2018 Q4
Date
TW-1
TW-2
OBS-1
23A
DM-1
DM-2
DM-3
PW-0
PW-1
PW-2

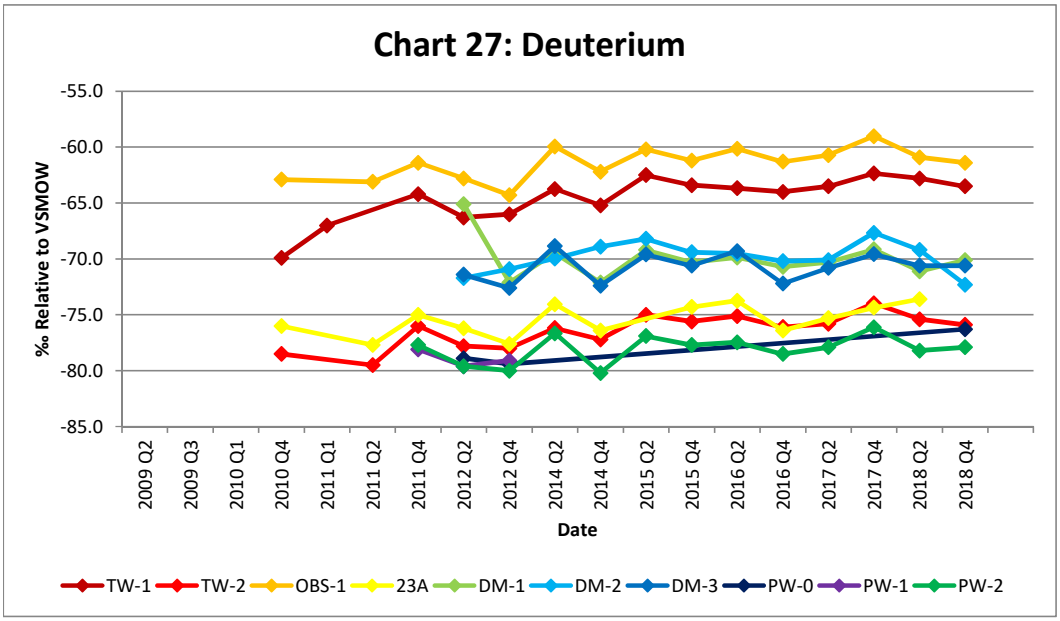


Chart 27: Deuterium
-55.0
-60.0
-65.0
-70.0
-75.0
-80.0
-85.0
‰ Relative to VSMOW
2009 Q2
2009 Q3
2010 Q1
2010 Q4
2011 Q1
2011 Q2
2011 Q4
2012 Q2
2012 Q4
2014 Q2
2014 Q4
2015 Q2
2015 Q4
2016 Q2
2016 Q4
2017 Q2
2017 Q4
2018 Q2
2018 Q4
Date
TW-1
TW-2
OBS-1
23A
DM-1
DM-2
DM-3
PW-0
PW-1
PW-2

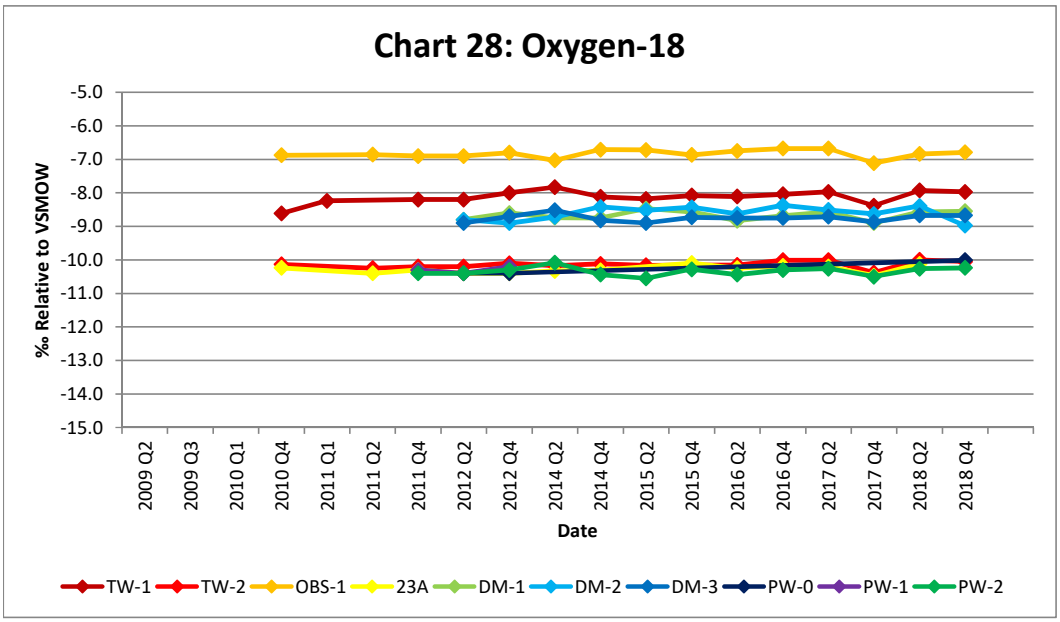
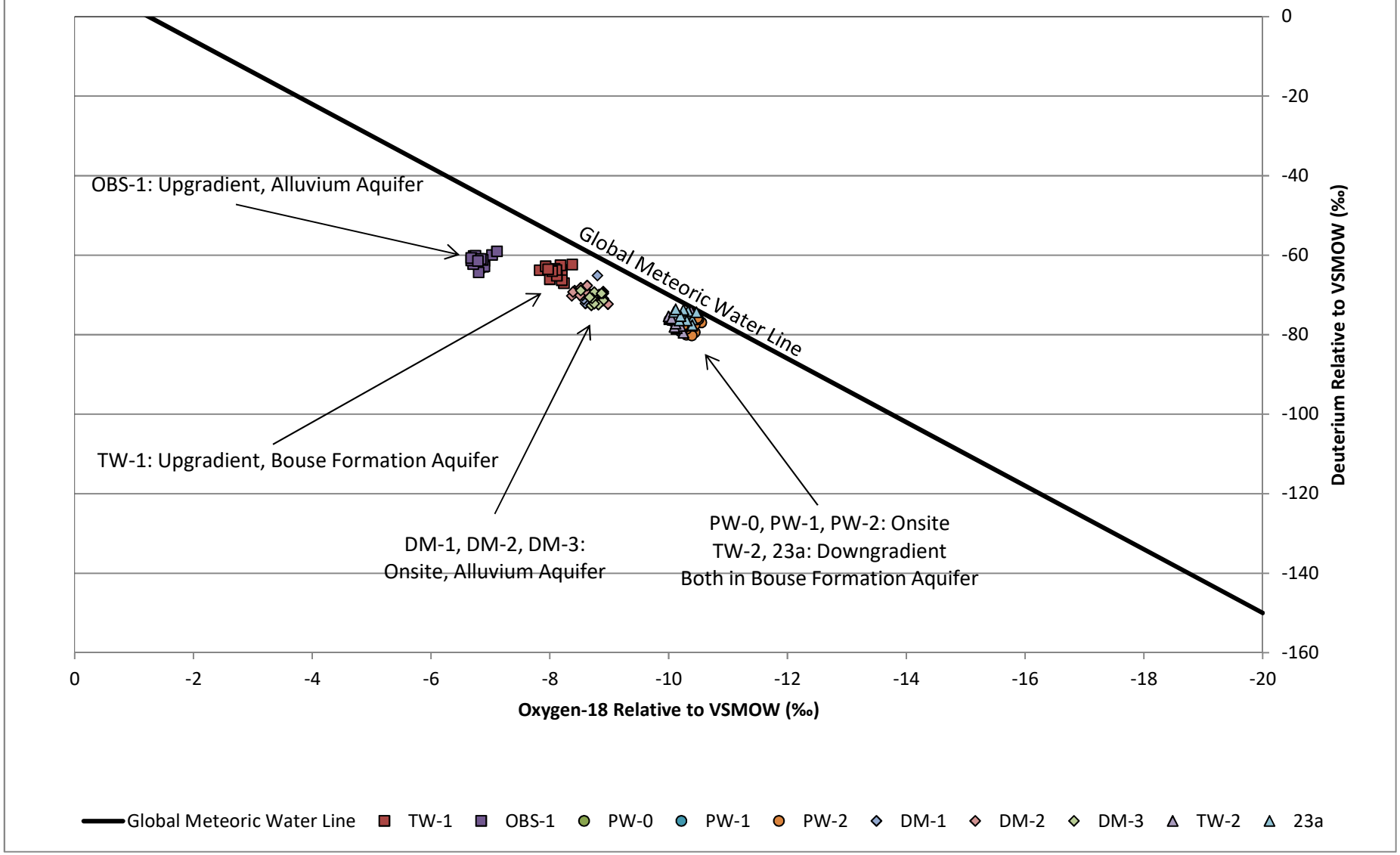


Chart 28: Oxygen-18
-5.0
-6.0
-7.0
-8.0
-9.0
-10.0
-11.0
-12.0
-13.0
-14.0
-15.0
‰ Relative to VSMOW
2009 Q2
2009 Q3
2010 Q1
2010 Q4
2011 Q1
2011 Q2
2011 Q4
2012 Q2
2012 Q4
2014 Q2
2014 Q4
2015 Q2
2015 Q4
2016 Q2
2016 Q4
2017 Q2
2017 Q4
2018 Q2
2018 Q4
Date
TW-1
TW-2
OBS-1
23A
DM-1
DM-2
DM-3
PW-0
PW-1
PW-2

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



APPENDIX C

MANN-KENDALL TREND ANALYSIS

Appendix C
2018 Second 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	-0.582	0.02868	Decreasing Trend
	Calcium	71	170	95	-0.322	0.09440	No Statistical Trend
	Chloride	3,510	6,910	4,603	-0.427	0.01268	Decreasing Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	12,000	20,000	16,042	-0.637	0.00028	Decreasing Trend
	Sulfate	1,130	2,400	1,485	-0.183	0.30542	No Statistical Trend
	Total Dissolved Solids	7,800	10,000	9,021	-0.546	0.00141	Decreasing Trend
TW-2	Arsenic	2.9	11.0	6.2	0.058	0.02476	Increasing Trend
	Barium	23	42	36	0.156	0.59151	No Statistical Trend
	Calcium	64	120	87	-0.216	0.24754	No Statistical Trend
	Chloride	850	1,930	1,482	0.039	0.86613	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	4,100	6,200	5,566	-0.053	0.80353	No Statistical Trend
	Sulfate	315	520	453	-0.504	0.00676	Decreasing Trend
	Total Dissolved Solids	2,600	3,900	3,165	-0.224	0.24074	No Statistical Trend
OBS-1	Arsenic	N/A	N/A	N/A	N/A	N/A	N/A
	Barium	8	17	13	0.048	0.92581	No Statistical Trend
	Calcium	290	480	367	-0.403	0.04848	Decreasing Trend
	Chloride	5,200	8,300	6,247	-0.452	0.02249	Decreasing Trend
	Selenium	51	94	67	0.289	0.28313	No Statistical Trend
	Specific Conductivity	21,000	36,000	27,760	-0.343	0.08980	No Statistical Trend
	Sulfate	4,800	9,400	6,116	-0.433	0.02905	Decreasing Trend
	Total Dissolved Solids	16,000	21,000	18,467	-0.490	0.01975	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	10	6.6	-0.036	1.00000	No Statistical Trend
	Barium	28	52	36	-0.675	0.01070	Decreasing Trend
	Calcium	210	270	241	0.302	0.22226	No Statistical Trend
	Chloride	4,600	8,180	5,417	0.188	0.44563	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	16,000	20,000	17,908	-0.048	0.88837	No Statistical Trend
	Sulfate	1,700	3,280	2,157	0.254	0.29362	No Statistical Trend
	Total Dissolved Solids	10,000	12,000	11,000	-0.287	0.28088	No Statistical Trend
DM-2	Arsenic	4.7	5.9	5.5	-0.276	0.56609	No Statistical Trend
	Barium	51	140	78	-0.644	0.01227	Decreasing Trend
	Calcium	240	470	300	-0.582	0.01379	Decreasing Trend
	Chloride	4,400	6,000	4,985	0.438	0.06119	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	13,000	22,000	17,100	-0.082	0.77820	No Statistical Trend
	Sulfate	1,600	2,280	1,984	-0.032	0.94391	No Statistical Trend
	Total Dissolved Solids	7,100	13,000	10,700	-0.245	0.32421	No Statistical Trend
DM-3	Arsenic	13	20	15	0.236	0.41001	No Statistical Trend
	Barium	15	34	19	-0.145	0.64152	No Statistical Trend
	Calcium	210	280	236	0.593	0.01179	Increasing Trend
	Chloride	4,400	6,770	5,158	0.246	0.30139	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	16,000	20,000	17,600	-0.179	0.48060	No Statistical Trend
	Sulfate	1,800	2,840	2,130	0.362	0.12624	No Statistical Trend
	Total Dissolved Solids	9,700	13,000	11,125	-0.037	0.93838	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	34	27	0.070	0.85533	No Statistical Trend
	Barium	7.3	44	37	-0.047	0.92706	No Statistical Trend
	Calcium	48	72	54	0.305	0.17492	No Statistical Trend
	Chloride	570	998	831	0.090	0.71382	No Statistical Trend
	Selenium	N/A	N/A	N/A	N/A	N/A	N/A
	Specific Conductivity	2,900	4,100	3,714	-0.237	0.29543	No Statistical Trend
	Sulfate	290	530	428	0.000	1.00000	No Statistical Trend
	Total Dissolved Solids	1,900	2,300	2,115	-0.681	0.00313	Decreasing Trend

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

APPENDIX D

LABORATORY REPORTS

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

21 December 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 12/05/18 10:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Joann Marroquin
Client Services Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OBS-1	T183598-01	Water	12/04/18 10:25	12/05/18 10:50
TW-1	T183598-02	Water	12/04/18 11:00	12/05/18 10:50
TW-2	T183598-03	Water	12/04/18 09:00	12/05/18 10:50
PW-0	T183598-04	Water	12/04/18 08:25	12/05/18 10:50
PW-2	T183598-05	Water	12/04/18 08:35	12/05/18 10:50
DM-1	T183598-06	Water	12/04/18 06:30	12/05/18 10:50
DM-2	T183598-07	Water	12/04/18 07:00	12/05/18 10:50
DM-3	T183598-08	Water	12/04/18 07:30	12/05/18 10:50
DUP	T183598-09	Water	12/04/18 00:00	12/05/18 10:50

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.

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DETECTIONS SUMMARY

Sample ID: OBS-1 **Laboratory ID:** T183598-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**14**	10	ug/l	200.8	
Selenium	**80**	10	ug/l	200.8	
Calcium	**480**	10	mg/l	EPA 200.7	
Potassium	**63**	10	mg/l	EPA 200.7	
Magnesium	**140**	10	mg/l	EPA 200.7	R-07
Sodium	**12000**	10	mg/l	EPA 200.7	
pH	**7.9**	0.10	pH Units	SM4500	O-04
Total Dissolved Solids	**17000**	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	**23600**	10.0	umhos/cm	SM2510b mod.	
Chloride	**7680**	100	mg/l	EPA 300.0	
Sulfate as SO4	**7130**	100	mg/l	EPA 300.0	
Nitrate as NO3	**5.52**	0.500	mg/l	EPA 300.0	

Sample ID: TW-1 **Laboratory ID:** T183598-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**20**	10	ug/l	200.8	
Barium	**15**	10	ug/l	200.8	
Calcium	**89**	10	mg/l	EPA 200.7	
Potassium	**35**	10	mg/l	EPA 200.7	
Sodium	**4800**	10	mg/l	EPA 200.7	
Total Dissolved Solids	**8100**	55	mg/l	TDS by SM2540C	
pH	**10**	0.10	pH Units	SM4500	O-04
Specific Conductance (EC)	**13900**	10.0	umhos/cm	SM2510b mod.	
Chloride	**6910**	100	mg/l	EPA 300.0	
Sulfate as SO4	**2400**	100	mg/l	EPA 300.0	

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

Sample ID: TW-2 **Laboratory ID:** T183598-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**11**	10	ug/l	200.8	
Barium	**40**	10	ug/l	200.8	
Zinc	**39**	10	ug/l	200.8	
Calcium	**87**	10	mg/l	EPA 200.7	
Potassium	**30**	10	mg/l	EPA 200.7	
Sodium	**1200**	10	mg/l	EPA 200.7	
pH	**10**	0.10	pH Units	SM4500	O-04
Total Dissolved Solids	**2600**	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	**5540**	10.0	umhos/cm	SM2510b mod.	
Chloride	**1930**	50.0	mg/l	EPA 300.0	
Sulfate as SO4	**454**	5.00	mg/l	EPA 300.0	

Sample ID: PW-0 **Laboratory ID:** T183598-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**45**	10	ug/l	200.8	
Barium	**55**	10	ug/l	200.8	
Zinc	**92**	10	ug/l	200.8	
Calcium	**100**	10	mg/l	EPA 200.7	
Potassium	**25**	10	mg/l	EPA 200.7	
Sodium	**1100**	10	mg/l	EPA 200.7	
pH	**7.9**	0.10	pH Units	SM4500	O-04
Total Dissolved Solids	**2600**	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	**6170**	10.0	umhos/cm	SM2510b mod.	
Fluoride	**5.82**	0.500	mg/l	EPA 300.0	
Chloride	**2100**	50.0	mg/l	EPA 300.0	
Sulfate as SO4	**698**	50.0	mg/l	EPA 300.0	

Sample ID: PW-2 **Laboratory ID:** T183598-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**34**	10	ug/l	200.8	
Barium	**41**	10	ug/l	200.8	
Calcium	**55**	10	mg/l	EPA 200.7	
Potassium	**11**	10	mg/l	EPA 200.7	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

Sample ID: PW-2 **Laboratory ID:** T183598-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Sodium	**690**	10	mg/l	EPA 200.7	
pH	**8.1**	0.10	pH Units	SM4500	O-04
Total Dissolved Solids	**1900**	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	**3580**	10.0	umhos/cm	SM2510b mod.	
Fluoride	**6.16**	0.500	mg/l	EPA 300.0	
Chloride	**895**	50.0	mg/l	EPA 300.0	
Sulfate as SO4	**454**	5.00	mg/l	EPA 300.0	

Sample ID: DM-1 **Laboratory ID:** T183598-06

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**10**	10	ug/l	200.8	
Barium	**31**	10	ug/l	200.8	
Calcium	**260**	10	mg/l	EPA 200.7	
Magnesium	**68**	10	mg/l	EPA 200.7	
Potassium	**33**	10	mg/l	EPA 200.7	
Sodium	**4800**	10	mg/l	EPA 200.7	
Total Dissolved Solids	**11000**	55	mg/l	TDS by SM2540C	
pH	**7.7**	0.10	pH Units	SM4500	O-04
Specific Conductance (EC)	**17400**	10.0	umhos/cm	SM2510b mod.	
Chloride	**8180**	100	mg/l	EPA 300.0	
Sulfate as SO4	**3280**	100	mg/l	EPA 300.0	
Nitrate as NO3	**9.00**	0.500	mg/l	EPA 300.0	

Sample ID: DM-2 **Laboratory ID:** T183598-07

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**57**	10	ug/l	200.8	
Zinc	**28**	10	ug/l	200.8	
Calcium	**240**	10	mg/l	EPA 200.7	
Potassium	**35**	10	mg/l	EPA 200.7	
Magnesium	**60**	10	mg/l	EPA 200.7	
Sodium	**4900**	10	mg/l	EPA 200.7	
pH	**7.8**	0.10	pH Units	SM4500	O-04
Total Dissolved Solids	**7100**	55	mg/l	TDS by SM2540C	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

Sample ID: DM-2 **Laboratory ID:** T183598-07

Analyte	Result	Reporting Limit	Units	Method	Notes
Specific Conductance (EC)	**13000**	10.0	umhos/cm	SM2510b mod.	
Chloride	**5290**	100	mg/l	EPA 300.0	
Sulfate as SO4	**1770**	100	mg/l	EPA 300.0	
Nitrate as NO3	**11.4**	0.500	mg/l	EPA 300.0	

Sample ID: DM-2 **Laboratory ID:** T183598-07RE1

No Results Detected

Sample ID: DM-3 **Laboratory ID:** T183598-08

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**20**	10	ug/l	200.8	
Barium	**34**	10	ug/l	200.8	
Calcium	**280**	10	mg/l	EPA 200.7	
Potassium	**33**	10	mg/l	EPA 200.7	
Magnesium	**69**	10	mg/l	EPA 200.7	
Sodium	**5200**	10	mg/l	EPA 200.7	
pH	**7.8**	0.10	pH Units	SM4500	O-04
Total Dissolved Solids	**9700**	55	mg/l	TDS by SM2540C	
Specific Conductance (EC)	**17100**	10.0	umhos/cm	SM2510b mod.	
Chloride	**6770**	100	mg/l	EPA 300.0	
Sulfate as SO4	**2840**	100	mg/l	EPA 300.0	
Nitrate as NO3	**2.50**	0.500	mg/l	EPA 300.0	

Sample ID: DM-3 **Laboratory ID:** T183598-08RE1

No Results Detected

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

Sample ID: DUP **Laboratory ID:** T183598-09

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**33**	10	ug/l	200.8	
Barium	**44**	10	ug/l	200.8	
Calcium	**72**	10	mg/l	EPA 200.7	
Potassium	**12**	10	mg/l	EPA 200.7	
Sodium	**950**	10	mg/l	EPA 200.7	
Total Dissolved Solids	**1800**	55	mg/l	TDS by SM2540C	
Oil & Grease	**15.4**	5.00	mg/l	EPA 1664B	
pH	**8.1**	0.10	pH Units	SM4500	O-04
Specific Conductance (EC)	**3580**	10.0	umhos/cm	SM2510b mod.	
Chloride	**998**	50.0	mg/l	EPA 300.0	
Sulfate as SO4	**454**	5.00	mg/l	EPA 300.0	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

OBS-1

T183598-01(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**480**		10	"	"	"	"	12/13/18	"	
Iron	ND		20	"	"	"	"	"	"	R-07
Magnesium	**140**		10	"	"	"	"	"	"	R-07
Potassium	**63**		10	"	"	"	"	12/13/18	"	
Sodium	**12000**		10	"	"	"	"	"	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	ND		10	"	"	"	"	"	"	
Barium	**14**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	R-07
Nickel	ND		10	"	"	"	"	"	"	R-07
Selenium	**80**		10	"	"	"	"	"	"	
Zinc	ND		10	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	ND		5.00	mg/l	1	8120722	12/07/18	12/11/18	EPA 1664B	
Specific Conductance (EC)	**23600**		10.0	umhos/cm	"	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**7.9**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**17000**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

OBS-1

T183598-01(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Anions by EPA Method 300.0										
Chloride	**7680**		100	mg/l	20	8120528	12/05/18	12/06/18	EPA 300.0	
Sulfate as SO4	**7130**		100	"	"	"	"	"	"	
Nitrate as NO3	**5.52**		0.500	"	1	"	"	12/05/18	"	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

TW-1

T183598-02(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**89**		10	"	"	"	"	12/13/18	"	
Iron	ND		20	"	"	"	"	"	"	
Magnesium	ND		10	"	"	"	"	"	"	R-07
Potassium	**35**		10	"	"	"	"	12/13/18	"	
Sodium	**4800**		10	"	"	"	"	"	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	**20**		10	"	"	"	"	"	"	
Barium	**15**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	R-07
Nickel	ND		10	"	"	"	"	"	"	R-07
Selenium	ND		10	"	"	"	"	"	"	
Zinc	ND		10	"	"	"	"	"	"	R-07
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	ND		5.00	mg/l	1	8120722	12/07/18	12/11/18	EPA 1664B	
Specific Conductance (EC)	**13900**		10.0	umhos/cm	"	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**10**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**8100**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
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TW-1

T183598-02(Water)

SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**6910**		100	mg/l	20	8120528	12/05/18	12/06/18	EPA 300.0	
Sulfate as SO4	**2400**		100	"	"	"	"	"	"	
Nitrate as NO3	ND		0.500	"	1	"	"	12/05/18	"	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

TW-2

T183598-03(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
				SunStar Laboratories, Inc.						
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**87**		10	"	"	"	"	12/13/18	"	
Iron	ND		20	"	"	"	"	"	"	
Magnesium	ND		10	"	"	"	"	"	"	R-07
Potassium	**30**		10	"	"	"	"	12/13/18	"	
Sodium	**1200**		10	"	"	"	"	12/13/18	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	**11**		10	"	"	"	"	"	"	
Barium	**40**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	R-07
Nickel	ND		10	"	"	"	"	"	"	R-07
Selenium	ND		10	"	"	"	"	"	"	
Zinc	**39**		10	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	ND		5.00	mg/l	1	8120722	12/07/18	12/11/18	EPA 1664B	
Specific Conductance (EC)	**5540**		10.0	umhos/cm	"	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**10**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**2600**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

TW-2

T183598-03(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.										
Anions by EPA Method 300.0										
Chloride	**1930**		50.0	mg/l	10	8120528	12/05/18	12/06/18	EPA 300.0	
Sulfate as SO4	**454**		5.00	"	1	"	"	12/05/18	"	
Nitrate as NO3	ND		0.500	"	"	"	"	"	"	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

PW-0

T183598-04(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**100**		10	"	"	"	"	12/13/18	"	
Iron	ND		20	"	"	"	"	"	"	R-07
Magnesium	ND		10	"	"	"	"	"	"	R-07
Potassium	**25**		10	"	"	"	"	12/13/18	"	
Sodium	**1100**		10	"	"	"	"	"	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	**45**		10	"	"	"	"	"	"	
Barium	**55**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	R-07
Nickel	ND		10	"	"	"	"	"	"	R-07
Selenium	ND		10	"	"	"	"	"	"	
Zinc	**92**		10	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	ND		5.00	mg/l	1	8120722	12/07/18	12/11/18	EPA 1664B	
Specific Conductance (EC)	**6170**		10.0	umhos/cm	"	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**7.9**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**2600**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

PW-0

T183598-04(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Anions by EPA Method 300.0										
Fluoride	**5.82**		0.500	mg/l	1	8120528	12/05/18	12/05/18	EPA 300.0	
Chloride	**2100**		50.0	"	10	"	"	12/06/18	"	
Sulfate as SO4	**698**		50.0	"	"	"	"	"	"	
Nitrate as NO3	ND		0.500	"	1	"	"	12/05/18	"	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

PW-2

T183598-05(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**55**		10	"	"	"	"	12/13/18	"	
Iron	ND		20	"	"	"	"	"	"	R-07
Magnesium	ND		10	"	"	"	"	"	"	R-07
Potassium	**11**		10	"	"	"	"	12/13/18	"	
Sodium	**690**		10	"	"	"	"	"	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	**34**		10	"	"	"	"	"	"	
Barium	**41**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	R-07
Nickel	ND		10	"	"	"	"	"	"	R-07
Selenium	ND		10	"	"	"	"	"	"	
Zinc	ND		10	"	"	"	"	"	"	R-07
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	ND		5.00	mg/l	1	8120722	12/07/18	12/11/18	EPA 1664B	
Specific Conductance (EC)	**3580**		10.0	umhos/cm	"	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**8.1**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**1900**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

PW-2

T183598-05(Water)

SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluoride	**6.16**		0.500	mg/l	1	8120528	12/05/18	12/05/18	EPA 300.0	
Chloride	**895**		50.0	"	10	"	"	12/06/18	"	
Sulfate as SO4	**454**		5.00	"	1	"	"	12/05/18	"	
Nitrate as NO3	ND		0.500	"	"	"	"	"	"	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DM-1

T183598-06(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**260**		10	"	"	"	"	12/13/18	"	
Iron	ND		20	"	"	"	"	"	"	
Magnesium	**68**		10	"	"	"	"	"	"	
Potassium	**33**		10	"	"	"	"	12/13/18	"	
Sodium	**4800**		10	"	"	"	"	"	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	**10**		10	"	"	"	"	"	"	
Barium	**31**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	R-07
Nickel	ND		10	"	"	"	"	"	"	R-07
Selenium	ND		10	"	"	"	"	"	"	
Zinc	ND		10	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	ND		5.00	mg/l	1	8120722	12/07/18	12/11/18	EPA 1664B	
Specific Conductance (EC)	**17400**		10.0	umhos/cm	"	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**7.7**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**11000**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DM-1

T183598-06(Water)

SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**8180**		100	mg/l	20	8120528	12/05/18	12/06/18	EPA 300.0	
Sulfate as SO4	**3280**		100	"	"	"	"	"	"	
Nitrate as NO3	**9.00**		0.500	"	1	"	"	12/05/18	"	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DM-2

T183598-07(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**240**		10	"	"	"	"	12/13/18	"	
Iron	ND		20	"	"	"	"	"	"	R-07
Magnesium	**60**		10	"	"	"	"	"	"	
Potassium	**35**		10	"	"	"	"	12/13/18	"	
Sodium	**4900**		10	"	"	"	"	"	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	ND		10	"	"	"	"	"	"	
Barium	**57**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	R-07
Nickel	ND		10	"	"	"	"	"	"	R-07
Selenium	ND		10	"	"	"	"	"	"	
Zinc	**28**		10	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Specific Conductance (EC)	**13000**		10.0	umhos/cm	1	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**7.8**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**7100**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DM-2

T183598-07(Water)

SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**5290**		100	mg/l	20	8120528	12/05/18	12/06/18	EPA 300.0	
Sulfate as SO4	**1770**		100	"	"	"	"	"	"	
Nitrate as NO3	**11.4**		0.500	"	1	"	"	12/05/18	"	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DM-2

T183598-07RE1(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.										
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	ND		5.00	mg/l	1	8122037	12/20/18	12/20/18	EPA 1664B	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DM-3

T183598-08(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**280**		10	"	"	"	"	"	"	
Iron	ND		20	"	"	"	"	"	"	
Magnesium	**69**		10	"	"	"	"	"	"	
Potassium	**33**		10	"	"	"	"	"	"	
Sodium	**5200**		10	"	"	"	"	"	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	**20**		10	"	"	"	"	"	"	
Barium	**34**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	
Nickel	ND		10	"	"	"	"	"	"	
Selenium	ND		10	"	"	"	"	"	"	
Zinc	ND		10	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Specific Conductance (EC)	**17100**		10.0	umhos/cm	1	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**7.8**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**9700**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DM-3

T183598-08(Water)

SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**6770**		100	mg/l	20	8120528	12/05/18	12/06/18	EPA 300.0	
Sulfate as SO4	**2840**		100	"	"	"	"	"	"	
Nitrate as NO3	**2.50**		0.500	"	1	"	"	12/05/18	"	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DM-3

T183598-08RE1(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.										
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	ND		5.00	mg/l	1	8122037	12/20/18	12/20/18	EPA 1664B	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DUP

T183598-09(Water)

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods										**FILT**
Copper	ND		0.50	mg/l	100	8120712	12/07/18	12/13/18	EPA 200.7	
Calcium	**72**		10	"	"	"	"	"	"	
Iron	ND		20	"	"	"	"	"	"	R-07
Magnesium	ND		10	"	"	"	"	"	"	R-07
Potassium	**12**		10	"	"	"	"	"	"	
Sodium	**950**		10	"	"	"	"	"	"	
Antimony	ND		10	ug/l	20	8121043	12/10/18	12/12/18	200.8	
Arsenic	**33**		10	"	"	"	"	"	"	
Barium	**44**		10	"	"	"	"	"	"	
Cadmium	ND		10	"	"	"	"	"	"	
Chromium	ND		10	"	"	"	"	"	"	
Cobalt	ND		10	"	"	"	"	"	"	R-07
Lead	ND		10	"	"	"	"	"	"	R-07
Nickel	ND		10	"	"	"	"	"	"	R-07
Selenium	ND		10	"	"	"	"	"	"	
Zinc	ND		10	"	"	"	"	"	"	R-07
Cold Vapor Extraction EPA 7470/7471										
Mercury	ND		0.50	ug/l	1	8120723	12/07/18	12/10/18	EPA 7470A Water	
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods										
Oil & Grease	**15.4**		5.00	mg/l	1	8120722	12/07/18	12/11/18	EPA 1664B	
Specific Conductance (EC)	**3580**		10.0	umhos/cm	"	8120531	12/05/18	12/05/18	SM2510b mod.	
pH	**8.1**		0.10	pH Units	"	8120530	12/05/18	12/05/18	SM4500	O-04
Total Dissolved Solids	**1800**		55	mg/l	"	8120538	12/05/18	12/06/18	TDS by SM2540C	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

DUP

T183598-09(Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.										
Anions by EPA Method 300.0										
Chloride	**998**		50.0	mg/l	10	8120528	12/05/18	12/06/18	EPA 300.0	
Sulfate as SO4	**454**		5.00	"	1	"	"	12/05/18	"	
Nitrate as NO3	ND		0.500	"	"	"	"	"	"	

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

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
Batch 8120712 - EPA 3010A											
Blank (8120712-BLK1)					Prepared: 12/07/18 Analyzed: 12/13/18						
Copper	ND		0.005	mg/l							
Calcium	ND		0.10	"							
Iron	ND		0.20	"							
Magnesium	ND		0.10	"							
Potassium	ND		0.10	"							
Sodium	ND		0.10	"							QB-01
LCS (8120712-BS1)					Prepared: 12/07/18 Analyzed: 12/13/18						
Copper	0.485		0.005	mg/l	0.500		97.0	85-115			
Matrix Spike (8120712-MS1)		**Source: T183598-01**			Prepared: 12/07/18 Analyzed: 12/13/18						**FILT**
Copper	3.27		0.50	mg/l	0.500	ND	653	70-130			
Matrix Spike Dup (8120712-MSD1)		**Source: T183598-01**			Prepared: 12/07/18 Analyzed: 12/13/18						**FILT**
Copper	3.27		0.50	mg/l	0.500	ND	654	70-130	0.161	30	
Batch 8121043 - EPA 3010A											
Blank (8121043-BLK1)					Prepared: 12/10/18 Analyzed: 12/12/18						
Antimony	ND		0.50	ug/l							
Arsenic	ND		0.50	"							
Barium	ND		0.50	"							
Beryllium	ND		0.50	"							
Cadmium	ND		0.50	"							
Chromium	ND		0.50	"							
Cobalt	ND		0.50	"							
Lead	ND		0.50	"							
Nickel	ND		0.50	"							
Selenium	ND		0.50	"							
Zinc	ND		0.50	"							

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26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

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
Batch 8121043 - EPA 3010A											
LCS (8121043-BS1)					Prepared: 12/10/18 Analyzed: 12/12/18						
Arsenic	57.1		0.50	ug/l	50.0		114	75-125			
Barium	48.3		0.50	"	50.0		96.6	75-125			
Cadmium	54.0		0.50	"	50.0		108	75-125			
Chromium	46.6		0.50	"	50.0		93.1	75-125			
Lead	47.0		0.50	"	50.0		94.1	75-125			
Matrix Spike (8121043-MS1)		**Source: T183598-01**			Prepared: 12/10/18 Analyzed: 12/12/18						
Arsenic	116		10	ug/l	50.0	6.69	218	75-125			QM-01
Barium	62.3		10	"	50.0	13.6	97.3	75-125			
Cadmium	48.7		10	"	50.0	1.27	94.9	75-125			
Chromium	110		10	"	50.0	2.50	216	75-125			QM-01
Lead	107		10	"	50.0	ND	213	75-125			QM-01
Matrix Spike Dup (8121043-MSD1)		**Source: T183598-01**			Prepared: 12/10/18 Analyzed: 12/12/18						
Arsenic	61.3		10	ug/l	50.0	6.69	109	75-125	61.5	20	QM-01
Barium	60.4		10	"	50.0	13.6	93.6	75-125	3.05	20	
Cadmium	45.9		10	"	50.0	1.27	89.2	75-125	6.10	20	
Chromium	52.8		10	"	50.0	2.50	101	75-125	70.6	20	QM-01
Lead	51.3		10	"	50.0	ND	103	75-125	70.2	20	QM-01

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

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 8120723 - EPA 7470A Water											
Blank (8120723-BLK1)					Prepared: 12/07/18 Analyzed: 12/10/18						
Mercury	ND		0.50	ug/l							
LCS (8120723-BS1)					Prepared: 12/07/18 Analyzed: 12/10/18						
Mercury	5.53		0.50	ug/l	5.00		111	80-120			
Matrix Spike (8120723-MS1)		**Source: T183598-01**			Prepared: 12/07/18 Analyzed: 12/10/18						
Mercury	3.45		0.50	ug/l	5.00	ND	68.9	75-125			QM-05
Matrix Spike Dup (8120723-MSD1)		**Source: T183598-01**			Prepared: 12/07/18 Analyzed: 12/10/18						
Mercury	4.48		0.50	ug/l	5.00	ND	89.5	75-125	26.0	20	QM-05

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Joann Marroquin

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25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

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
Batch 8120530 - General Preparation											
Duplicate (8120530-DUP1)		**Source: T183598-01**			Prepared & Analyzed: 12/05/18						
pH	7.91		0.10	pH Units		7.89			0.253	20	
Batch 8120531 - General Preparation											
Duplicate (8120531-DUP1)		**Source: T183598-01**			Prepared & Analyzed: 12/05/18						
Specific Conductance (EC)	23600		10.0	umhos/cm		23600			0.00	15	
Batch 8120538 - General Preparation											
Blank (8120538-BLK1)					Prepared: 12/05/18 Analyzed: 12/06/18						
Total Dissolved Solids	ND		55	mg/l							
LCS (8120538-BS1)					Prepared: 12/05/18 Analyzed: 12/06/18						
Total Dissolved Solids	512		55	mg/l	500		102	80-120			
Duplicate (8120538-DUP1)		**Source: T183598-01**			Prepared: 12/05/18 Analyzed: 12/06/18						
Total Dissolved Solids	17100		55	mg/l		16800			1.30	5	
Batch 8120722 - General Preparation											
Blank (8120722-BLK1)					Prepared: 12/07/18 Analyzed: 12/11/18						
Oil & Grease	ND		5.00	mg/l							
LCS (8120722-BS1)					Prepared: 12/07/18 Analyzed: 12/11/18						
Oil & Grease	36.5		5.00	mg/l	40.0		91.2	83-101			

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

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
Batch 8120722 - General Preparation											
LCS Dup (8120722-BSD1)					Prepared: 12/07/18 Analyzed: 12/11/18						
Oil & Grease	33.7		5.00	mg/l	40.0		84.2	83-101	7.98	11	
Batch 8122037 - General Preparation											
Blank (8122037-BLK1)					Prepared & Analyzed: 12/20/18						
Oil & Grease	ND		5.00	mg/l							
LCS (8122037-BS1)					Prepared & Analyzed: 12/20/18						
Oil & Grease	33.2		5.00	mg/l	40.0		83.0	83-101			
LCS Dup (8122037-BSD1)					Prepared & Analyzed: 12/20/18						
Oil & Grease	33.9		5.00	mg/l	40.0		84.8	83-101	2.09	11	

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

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
Batch 8120528 - General Preparation											
Blank (8120528-BLK1)					Prepared & Analyzed: 12/05/18						
Fluoride	ND		0.500	mg/l							
Chloride	ND		5.00	"							
Sulfate as SO4	ND		5.00	"							
Nitrate as NO3	ND		0.500	"							
LCS (8120528-BS1)					Prepared & Analyzed: 12/05/18						
Chloride	26.4		5.00	mg/l	25.0		106	75-125			
Sulfate as SO4	26.4		5.00	"	25.0		106	75-125			
Nitrate as NO3	26.8		0.500	"	25.0		107	75-125			
Matrix Spike (8120528-MS1)		**Source: T183598-01**			Prepared: 12/05/18 Analyzed: 12/06/18						
Chloride	7920		100	mg/l	25.0	7680	963	75-125			QM-02
Sulfate as SO4	7450		100	"	25.0	7130	NR	75-125			QM-02
Nitrate as NO3	26.5		0.500	"	25.0	5.52	83.9	75-125			
Matrix Spike Dup (8120528-MSD1)		**Source: T183598-01**			Prepared: 12/05/18 Analyzed: 12/06/18						
Chloride	9040		100	mg/l	25.0	7680	NR	75-125	13.2	20	QM-02
Sulfate as SO4	8560		100	"	25.0	7130	NR	75-125	13.9	20	QM-02
Nitrate as NO3	31.6		0.500	"	25.0	5.52	104	75-125	17.6	20	

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Northstar Environmental Remediation	Project: Genesis Solar Groundwater	
26225 Enterprise Court	Project Number: 196-004-06	**Reported:**
Lake Forest CA, 92630	Project Manager: Arlin Brewster	12/21/18 10:53

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.
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.
QB-01	The method blank contains analyte at a concentration above the MRL; however, concentration is less than 10% of the sample result, which is negligible according to method criteria.
O-04	This sample was received and analyzed outside the 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

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Joann Marroquin

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: Northstar Environmental Remediation _____ Date: 12/04/18 Page: 1 of 1

Address: 26225 Enterprise Court, Lake Forest, CA 92630 _____ Project Name: Genesis Solar Groundwater _____

Phone: 949-274-1719 _____ Fax: _____ Collector: Arlin Brewster _____ Client Project #: 196-004-06 _____

Project Manager: Arlin Brewster _____ Batch #: T183598 EDF #: T10000006093 _____

Sample ID	Date Sampled	Time	Sample Type	Container Type	200.7 - Metals: Ca, Cu, Na, K, Fe, Mg (FIELD FILTERED)	200.8 - Metals: Sb, As, Ba, Cd, Cr, Co, Pb, Ni, Se, Zn (F.F.)	300.0 - Chloride, Nitrate, Sulfate	1664 - Oil and Grease	7470A - Mercury	9040 - pH	SM2510B - Conductivity, Specific	SM2540C - Total Dis. Solids	8015M - Therminol (Subcontract)	Deuterium, Oxygen-18 (Subcont.)	300.0 - Fluoride	Laboratory ID #	Comments/Preservative	Total # of containers
~~23a~~			~~W~~	~~Various~~	X	X	X	X	X	X	X	X	X	X		~~01~~		~~6~~
OBS-1	12/04/18	1025	W	Various	X	X	X	X	X	X	X	X	X	X		~~02~~	01	6
TW-1		1100	W	Various	X	X	X	X	X	X	X	X	X	X		~~03~~	02	6
TW-2		0900	W	Various	X	X	X	X	X	X	X	X	X	X		~~04~~	03	6
PW-0		0825	W	Various	X	X	X	X	X	X	X	X	X	X	X	~~05~~	04	6
PW-2		0835	W	Various	X	X	X	X	X	X	X	X	X	X	X	~~06~~	05	6
DM-1		0630	W	Various	X	X	X	X	X	X	X	X	X	X		~~07~~	06	6
DM-2		0700	W	Various	X	X	X	X	X	X	X	X	X	X		~~08~~	07	6
DM-3		0730	W	Various	X	X	X	X	X	X	X	X	X	X		~~09~~	08	6
DUP	N/A	N/A	W	Various	X	X	X	X	X	X	X	X	X	X		~~10~~	09	6
Field Blank	N/A	N/A	W	Various												~~11~~	HOLD 10	6
Trip Blank	N/A	N/A	W	Various												~~12~~	HOLD 11	6

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	12/05/18 @ 1050	[signature]	12.5.18 10:50
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers ~~12~~ 66

Chain of Custody seals Y/N/NA

Seals intact? Y/N/NA

Received good condition/cold 2.3 3.6 2.5

Turn around time: Standard **

Notes

** Deuterium & Oxygen-18 subcontract has 10 day TAT

Reporting limits must match previous reports

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

SunStar Laboratories — Celebrating 20 Years!

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 1183598

Client Name: NORTHSTAR ENV. Project: GENESIS SOLAR GROUNDWATER

Delivered by: ☒ Client ☐ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

If Courier, Received by: _____ Date/Time Courier Received: _____

Lab Received by: SUNNY Date/Time Lab Received: 12.5.18 / 10:50

Total number of coolers received: 3

Temperature:	Cooler #1	1.1 °C +/- the CF (1.2°C)	= 2.3	°C corrected temperature
Temperature:	Cooler #2	2.4 °C +/- the CF (1.2°C)	= 3.6	°C corrected temperature
Temperature:	Cooler #3	1.3 °C +/- the CF (1.2°C)	= 2.5	°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers) Within criteria? ☒ **Yes** ☐ **No**

If NO:

Samples received on ice? ☐ Yes ☐ **No → Complete Non-Conformance Sheet**

If on ice, samples received same day collected? ☐ Yes → Acceptable ☐ **No → Complete Non-Conformance Sheet**

Custody seals intact on cooler/sample	☐ Yes	☐ No*	☒ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☒ Yes	☐ No*	☐ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: SL 12.5.18

Comments:

SunStar Laboratories

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client:	**Northstar Environmental Remediation**	**Project Manager:**	**Joann Marroquin**
Project:	**Genesis Solar Groundwater**	**Project Number:**	**196-004-06**

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

Date Due:	12/12/18 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	12/05/18 10:50
Logged In By:	Sunny Lounethone	Date Logged In:	12/05/18 11:28

Samples Received at: **2.3°C**

Custody Seals	No	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confirm	Yes		

Analysis	Due	TAT	Expires	Comments
T183598-01 OBS-1 [Water] Sampled 12/04/18 10:25 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 10:25	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 10:25	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 10:25	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 10:25	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 10:25	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 10:25	
Conductivity	12/12/18 15:00	5	01/01/19 10:25	
pH water 9040	12/12/18 15:00	5	12/05/18 10:25	
TDS-160.1	12/12/18 15:00	5	12/11/18 10:25	
T183598-02 TW-1 [Water] Sampled 12/04/18 11:00 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 11:00	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 11:00	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 11:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 11:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 11:00	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 11:00	
Conductivity	12/12/18 15:00	5	01/01/19 11:00	
pH water 9040	12/12/18 15:00	5	12/05/18 11:00	
TDS-160.1	12/12/18 15:00	5	12/11/18 11:00	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Joann Marroquin
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T183598-03 TW-2 [Water] Sampled 12/04/18 09:00 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 09:00	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 09:00	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 09:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 09:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 09:00	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 09:00	
Conductivity	12/12/18 15:00	5	01/01/19 09:00	
pH water 9040	12/12/18 15:00	5	12/05/18 09:00	
TDS-160.1	12/12/18 15:00	5	12/11/18 09:00	
T183598-04 PW-0 [Water] Sampled 12/04/18 08:25 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 08:25	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 08:25	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 08:25	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 08:25	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 08:25	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 08:25	
Conductivity	12/12/18 15:00	5	01/01/19 08:25	
pH water 9040	12/12/18 15:00	5	12/05/18 08:25	
TDS-160.1	12/12/18 15:00	5	12/11/18 08:25	
T183598-05 PW-2 [Water] Sampled 12/04/18 08:35 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 08:35	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 08:35	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 08:35	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 08:35	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 08:35	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 08:35	
Conductivity	12/12/18 15:00	5	01/01/19 08:35	
pH water 9040	12/12/18 15:00	5	12/05/18 08:35	
TDS-160.1	12/12/18 15:00	5	12/11/18 08:35	

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WORK ORDER

T183598

Client:	**Northstar Environmental Remediation**	**Project Manager:**	**Joann Marroquin**
Project:	**Genesis Solar Groundwater**	**Project Number:**	**196-004-06**

Analysis	Due	TAT	Expires	Comments
T183598-06 DM-1 [Water] Sampled 12/04/18 06:30 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 06:30	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 06:30	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 06:30	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 06:30	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 06:30	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 06:30	
Conductivity	12/12/18 15:00	5	01/01/19 06:30	
pH water 9040	12/12/18 15:00	5	12/05/18 06:30	
TDS-160.1	12/12/18 15:00	5	12/11/18 06:30	
T183598-07 DM-2 [Water] Sampled 12/04/18 07:00 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 07:00	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 07:00	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 07:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 07:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 07:00	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 07:00	
Conductivity	12/12/18 15:00	5	01/01/19 07:00	
pH water 9040	12/12/18 15:00	5	12/05/18 07:00	
TDS-160.1	12/12/18 15:00	5	12/11/18 07:00	
T183598-08 DM-3 [Water] Sampled 12/04/18 07:30 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 07:30	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 07:30	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 07:30	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 07:30	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 07:30	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 07:30	
Conductivity	12/12/18 15:00	5	01/01/19 07:30	
pH water 9040	12/12/18 15:00	5	12/05/18 07:30	
TDS-160.1	12/12/18 15:00	5	12/11/18 07:30	

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WORK ORDER

T183598

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Joann Marroquin
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T183598-09 DUP [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 00:00	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 00:00	Ca,Cu,Na,K,Fe,Mg
200.8	12/12/18 15:00	5	06/02/19 00:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 00:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 00:00	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 00:00	
Conductivity	12/12/18 15:00	5	01/01/19 00:00	
pH water 9040	12/12/18 15:00	5	12/05/18 00:00	
TDS-160.1	12/12/18 15:00	5	12/11/18 00:00	
T183598-10 FIELD BLANK [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T183598-11 TRIP BLANK [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
Isotech Laboratories, Inc.				
T183598-01 OBS-1 [Water] Sampled 12/04/18 10:25 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 10:25	Deuterium,Oxygen-18
T183598-02 TW-1 [Water] Sampled 12/04/18 11:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 11:00	Deuterium,Oxygen-18
T183598-03 TW-2 [Water] Sampled 12/04/18 09:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 09:00	Deuterium,Oxygen-18
T183598-04 PW-0 [Water] Sampled 12/04/18 08:25 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 08:25	Deuterium,Oxygen-18
T183598-05 PW-2 [Water] Sampled 12/04/18 08:35 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 08:35	Deuterium,Oxygen-18

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

WORK ORDER

T183598

Client:	**Northstar Environmental Remediation**	**Project Manager:**	**Joann Marroquin**
Project:	**Genesis Solar Groundwater**	**Project Number:**	**196-004-06**

Analysis	Due	TAT	Expires	Comments
Isotech Laboratories, Inc.				
T183598-06 DM-1 [Water] Sampled 12/04/18 06:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 06:30	Deuterium,Oxygen-18
T183598-07 DM-2 [Water] Sampled 12/04/18 07:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 07:00	Deuterium,Oxygen-18
T183598-08 DM-3 [Water] Sampled 12/04/18 07:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 07:30	Deuterium,Oxygen-18
T183598-09 DUP [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 00:00	Deuterium,Oxygen-18
TestAmerica (Irvine) Laboratories				
T183598-01 OBS-1 [Water] Sampled 12/04/18 10:25 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 10:25	8015M- Therminol
T183598-02 TW-1 [Water] Sampled 12/04/18 11:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 11:00	8015M- Therminol
T183598-03 TW-2 [Water] Sampled 12/04/18 09:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 09:00	8015M- Therminol
T183598-04 PW-0 [Water] Sampled 12/04/18 08:25 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 08:25	8015M- Therminol
T183598-05 PW-2 [Water] Sampled 12/04/18 08:35 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 08:35	8015M- Therminol
T183598-06 DM-1 [Water] Sampled 12/04/18 06:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 06:30	8015M- Therminol

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client:	**Northstar Environmental Remediation**	**Project Manager:**	**Joann Marroquin**
Project:	**Genesis Solar Groundwater**	**Project Number:**	**196-004-06**

Analysis	Due	TAT	Expires	Comments
TestAmerica (Irvine) Laboratories				
T183598-07 DM-2 [Water] Sampled 12/04/18 07:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 07:00	8015M- Therminol
T183598-08 DM-3 [Water] Sampled 12/04/18 07:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 07:30	8015M- Therminol
T183598-09 DUP [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 00:00	8015M- Therminol

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client:	**Northstar Environmental Remediation**	**Project Manager:**	**Joann Marroquin**
Project:	**Genesis Solar Groundwater**	**Project Number:**	**196-004-06**

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

Date Due:	12/12/18 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	12/05/18 10:50
Logged In By:	Sunny Lounethone	Date Logged In:	12/05/18 11:28

Samples Received at: **2.3°C**

Custody Seals	No	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confirm	Yes		

Analysis	Due	TAT	Expires	Comments
T183598-01 OBS-1 [Water] Sampled 12/04/18 10:25 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 10:25	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 10:25	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 10:25	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 10:25	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 10:25	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 10:25	
Conductivity	12/12/18 15:00	5	01/01/19 10:25	
pH water 9040	12/12/18 15:00	5	12/05/18 10:25	
TDS-160.1	12/12/18 15:00	5	12/11/18 10:25	
T183598-02 TW-1 [Water] Sampled 12/04/18 11:00 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 11:00	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 11:00	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 11:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 11:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 11:00	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 11:00	
Conductivity	12/12/18 15:00	5	01/01/19 11:00	
pH water 9040	12/12/18 15:00	5	12/05/18 11:00	
TDS-160.1	12/12/18 15:00	5	12/11/18 11:00	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Joann Marroquin
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T183598-03 TW-2 [Water] Sampled 12/04/18 09:00 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 09:00	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 09:00	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 09:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 09:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 09:00	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 09:00	
Conductivity	12/12/18 15:00	5	01/01/19 09:00	
pH water 9040	12/12/18 15:00	5	12/05/18 09:00	
TDS-160.1	12/12/18 15:00	5	12/11/18 09:00	
T183598-04 PW-0 [Water] Sampled 12/04/18 08:25 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 08:25	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 08:25	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 08:25	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 08:25	Chloride,Sulfate,Fluoride only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 08:25	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 08:25	
Conductivity	12/12/18 15:00	5	01/01/19 08:25	
pH water 9040	12/12/18 15:00	5	12/05/18 08:25	
TDS-160.1	12/12/18 15:00	5	12/11/18 08:25	
T183598-05 PW-2 [Water] Sampled 12/04/18 08:35 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 08:35	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 08:35	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 08:35	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 08:35	Chloride,Sulfate,Fluoride only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 08:35	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 08:35	
Conductivity	12/12/18 15:00	5	01/01/19 08:35	
pH water 9040	12/12/18 15:00	5	12/05/18 08:35	
TDS-160.1	12/12/18 15:00	5	12/11/18 08:35	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Joann Marroquin
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T183598-06 DM-1 [Water] Sampled 12/04/18 06:30 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 06:30	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 06:30	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 06:30	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 06:30	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 06:30	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 06:30	
Conductivity	12/12/18 15:00	5	01/01/19 06:30	
pH water 9040	12/12/18 15:00	5	12/05/18 06:30	
TDS-160.1	12/12/18 15:00	5	12/11/18 06:30	
T183598-07 DM-2 [Water] Sampled 12/04/18 07:00 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 07:00	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 07:00	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 07:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 07:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 07:00	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 07:00	
Conductivity	12/12/18 15:00	5	01/01/19 07:00	
pH water 9040	12/12/18 15:00	5	12/05/18 07:00	
TDS-160.1	12/12/18 15:00	5	12/11/18 07:00	
T183598-08 DM-3 [Water] Sampled 12/04/18 07:30 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 07:30	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 07:30	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 07:30	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 07:30	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 07:30	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 07:30	
Conductivity	12/12/18 15:00	5	01/01/19 07:30	
pH water 9040	12/12/18 15:00	5	12/05/18 07:30	
TDS-160.1	12/12/18 15:00	5	12/11/18 07:30	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Joann Marroquin
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T183598-09 DUP [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
1664	12/12/18 15:00	5	01/01/19 00:00	Oil & Grease
200.7	12/12/18 15:00	5	06/02/19 00:00	Ca,Cu,Na,K,Fe,Mg (Field Filtered, Report as Dissolved)
200.8	12/12/18 15:00	5	06/02/19 00:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered, Report as Dissolved)
300.0 - F, Cl, Br, SO4	12/12/18 15:00	5	01/01/19 00:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	12/12/18 15:00	5	12/06/18 00:00	Nitrate
7470/71 Hg	12/12/18 15:00	5	03/04/19 00:00	
Conductivity	12/12/18 15:00	5	01/01/19 00:00	
pH water 9040	12/12/18 15:00	5	12/05/18 00:00	
TDS-160.1	12/12/18 15:00	5	12/11/18 00:00	
T183598-10 FIELD BLANK [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T183598-11 TRIP BLANK [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

Isotech Laboratories, Inc.

T183598-01 OBS-1 [Water] Sampled 12/04/18 10:25 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 10:25	Deuterium,Oxygen-18
T183598-02 TW-1 [Water] Sampled 12/04/18 11:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 11:00	Deuterium,Oxygen-18
T183598-03 TW-2 [Water] Sampled 12/04/18 09:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 09:00	Deuterium,Oxygen-18
T183598-04 PW-0 [Water] Sampled 12/04/18 08:25 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 08:25	Deuterium,Oxygen-18
T183598-05 PW-2 [Water] Sampled 12/04/18 08:35 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 08:35	Deuterium,Oxygen-18

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Joann Marroquin
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
Isotech Laboratories, Inc.				
T183598-06 DM-1 [Water] Sampled 12/04/18 06:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 06:30	Deuterium,Oxygen-18
T183598-07 DM-2 [Water] Sampled 12/04/18 07:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 07:00	Deuterium,Oxygen-18
T183598-08 DM-3 [Water] Sampled 12/04/18 07:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 07:30	Deuterium,Oxygen-18
T183598-09 DUP [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	12/12/18 15:00	5	06/02/19 00:00	Deuterium,Oxygen-18
TestAmerica (Irvine) Laboratories				
T183598-01 OBS-1 [Water] Sampled 12/04/18 10:25 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 10:25	8015M- Therminol
T183598-02 TW-1 [Water] Sampled 12/04/18 11:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 11:00	8015M- Therminol
T183598-03 TW-2 [Water] Sampled 12/04/18 09:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 09:00	8015M- Therminol
T183598-04 PW-0 [Water] Sampled 12/04/18 08:25 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 08:25	8015M- Therminol
T183598-05 PW-2 [Water] Sampled 12/04/18 08:35 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 08:35	8015M- Therminol
T183598-06 DM-1 [Water] Sampled 12/04/18 06:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 06:30	8015M- Therminol

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T183598

Client:	**Northstar Environmental Remediation**	**Project Manager:**	**Joann Marroquin**
Project:	**Genesis Solar Groundwater**	**Project Number:**	**196-004-06**

Analysis	Due	TAT	Expires	Comments
TestAmerica (Irvine) Laboratories				
T183598-07 DM-2 [Water] Sampled 12/04/18 07:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 07:00	8015M- Therminol
T183598-08 DM-3 [Water] Sampled 12/04/18 07:30 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 07:30	8015M- Therminol
T183598-09 DUP [Water] Sampled 12/04/18 00:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	12/12/18 15:00	5	06/02/19 00:00	8015M- Therminol

Reviewed By

Date

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: 440-226404-1
Client Project/Site: T183598

For:
SunStar Laboratories Inc
25712 Commercentre Drive
Lake Forest, California 92630

Attn: Joann Marroquin

Authorized for release by:
12/14/2018 3:46:49 PM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

Table of Contents

Sample Summary

Client: SunStar Laboratories Inc
Project/Site: T183598

TestAmerica Job ID: 440-226404-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-226404-1	T183598-01	Water	12/04/18 10:25	12/05/18 14:50
440-226404-2	T183598-02	Water	12/04/18 11:00	12/05/18 14:50
440-226404-3	T183598-03	Water	12/04/18 09:00	12/05/18 14:50
440-226404-4	T183598-04	Water	12/04/18 08:25	12/05/18 14:50
440-226404-5	T183598-05	Water	12/04/18 08:35	12/05/18 14:50
440-226404-6	T183598-06	Water	12/04/18 06:30	12/05/18 14:50
440-226404-7	T183598-07	Water	12/04/18 07:00	12/05/18 14:50
440-226404-8	T183598-08	Water	12/04/18 07:30	12/05/18 14:50
440-226404-9	T183598-09	Water	12/04/18 00:00	12/05/18 14:50

Job ID: 440-226404-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-226404-1

Comments
No additional comments.

Receipt
The samples were received on 12/5/2018 2:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5º 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 440-515342 and analytical batch 440-515553. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch: (LCS 440-515342/2-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 8015B TH preparation batch 440-515342.

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: T183598

TestAmerica Job ID: 440-226404-1

Client Sample ID: T183598-01 — Lab Sample ID: 440-226404-1

No Detections.

Client Sample ID: T183598-02 — Lab Sample ID: 440-226404-2

No Detections.

Client Sample ID: T183598-03 — Lab Sample ID: 440-226404-3

No Detections.

Client Sample ID: T183598-04 — Lab Sample ID: 440-226404-4

No Detections.

Client Sample ID: T183598-05 — Lab Sample ID: 440-226404-5

No Detections.

Client Sample ID: T183598-06 — Lab Sample ID: 440-226404-6

No Detections.

Client Sample ID: T183598-07 — Lab Sample ID: 440-226404-7

No Detections.

Client Sample ID: T183598-08 — Lab Sample ID: 440-226404-8

No Detections.

Client Sample ID: T183598-09 — Lab Sample ID: 440-226404-9

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: T183598-01
Lab Sample ID: 440-226404-1
Date Collected: 12/04/18 10:25
Matrix: Water
Date Received: 12/05/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 13:54	1
1,1'-Biphenyl	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*59*		*45 - 120*	*12/06/18 09:50*	*12/07/18 13:54*	*1*

Client Sample ID: T183598-02
Lab Sample ID: 440-226404-2
Date Collected: 12/04/18 11:00
Matrix: Water
Date Received: 12/05/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.099	0.020	mg/L		12/06/18 09:50	12/07/18 14:15	1
1,1'-Biphenyl	ND		0.099	0.020	mg/L		12/06/18 09:50	12/07/18 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*62*		*45 - 120*	*12/06/18 09:50*	*12/07/18 14:15*	*1*

Client Sample ID: T183598-03
Lab Sample ID: 440-226404-3
Date Collected: 12/04/18 09:00
Matrix: Water
Date Received: 12/05/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 14:36	1
1,1'-Biphenyl	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 14:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*59*		*45 - 120*	*12/06/18 09:50*	*12/07/18 14:36*	*1*

Client Sample ID: T183598-04
Lab Sample ID: 440-226404-4
Date Collected: 12/04/18 08:25
Matrix: Water
Date Received: 12/05/18 14:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 14:57	1
1,1'-Biphenyl	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*62*		*45 - 120*	*12/06/18 09:50*	*12/07/18 14:57*	*1*

Client Sample ID: T183598-05
Lab Sample ID: 440-226404-5
Date Collected: 12/04/18 08:35
Matrix: Water
Date Received: 12/05/18 14:50

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	0.021	mg/L		12/06/18 09:50	12/07/18 15:18	1
1,1'-Biphenyl	ND		0.11	0.021	mg/L		12/06/18 09:50	12/07/18 15:18	1

Client Sample ID: T183598-05
Date Collected: 12/04/18 08:35
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-5
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	61		45 - 120	12/06/18 09:50	12/07/18 15:18	1

Client Sample ID: T183598-06
Date Collected: 12/04/18 06:30
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-6
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		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 15:38	1
1,1'-Biphenyl	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 15:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	56		45 - 120	12/06/18 09:50	12/07/18 15:38	1

Client Sample ID: T183598-07
Date Collected: 12/04/18 07:00
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-7
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		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 15:59	1
1,1'-Biphenyl	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 15:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	62		45 - 120	12/06/18 09:50	12/07/18 15:59	1

Client Sample ID: T183598-08
Date Collected: 12/04/18 07:30
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-8
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		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 16:20	1
1,1'-Biphenyl	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 16:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	60		45 - 120	12/06/18 09:50	12/07/18 16:20	1

Client Sample ID: T183598-09
Date Collected: 12/04/18 00:00
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-9
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		0.10	0.021	mg/L		12/06/18 09:50	12/07/18 16:41	1
1,1'-Biphenyl	ND		0.10	0.021	mg/L		12/06/18 09:50	12/07/18 16:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	67		45 - 120	12/06/18 09:50	12/07/18 16:41	1

Surrogate Summary

Client: SunStar Laboratories Inc
Project/Site: T183598

TestAmerica Job ID: 440-226404-1

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)								
440-226404-1	T183598-01	59								
440-226404-2	T183598-02	62								
440-226404-3	T183598-03	59								
440-226404-4	T183598-04	62								
440-226404-5	T183598-05	61								
440-226404-6	T183598-06	56								
440-226404-7	T183598-07	62								
440-226404-8	T183598-08	60								
440-226404-9	T183598-09	67								
LCS 440-515342/2-A	Lab Control Sample	59								
LCSD 440-515342/3-A	Lab Control Sample Dup	61								
MB 440-515342/1-A	Method Blank	62								

Surrogate Legend

OTCN = n-Octacosane

Method Summary

Client: SunStar Laboratories Inc
Project/Site: T183598

TestAmerica Job ID: 440-226404-1

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: T183598

TestAmerica Job ID: 440-226404-1

Client Sample ID: T183598-01
Date Collected: 12/04/18 10:25
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-1
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			985 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 13:54	LMB	TAL IRV

Client Sample ID: T183598-02
Date Collected: 12/04/18 11:00
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-2
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			1010 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 14:15	LMB	TAL IRV

Client Sample ID: T183598-03
Date Collected: 12/04/18 09:00
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-3
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			980 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 14:36	LMB	TAL IRV

Client Sample ID: T183598-04
Date Collected: 12/04/18 08:25
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-4
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			990 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 14:57	LMB	TAL IRV

Client Sample ID: T183598-05
Date Collected: 12/04/18 08:35
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-5
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			945 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 15:18	LMB	TAL IRV

Client Sample ID: T183598-06
Date Collected: 12/04/18 06:30
Date Received: 12/05/18 14:50

Lab Sample ID: 440-226404-6
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			995 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 15:38	LMB	TAL IRV

Lab Chronicle

Client: SunStar Laboratories Inc
Project/Site: T183598

TestAmerica Job ID: 440-226404-1

Client Sample ID: T183598-07

Lab Sample ID: 440-226404-7

Date Collected: 12/04/18 07:00

Matrix: Water

Date Received: 12/05/18 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			985 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 15:59	LMB	TAL IRV

Client Sample ID: T183598-08

Lab Sample ID: 440-226404-8

Date Collected: 12/04/18 07:30

Matrix: Water

Date Received: 12/05/18 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1000 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 16:20	LMB	TAL IRV

Client Sample ID: T183598-09

Lab Sample ID: 440-226404-9

Date Collected: 12/04/18 00:00

Matrix: Water

Date Received: 12/05/18 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			960 mL	1 mL	515342	12/06/18 09:50	HCK	TAL IRV
Total/NA	Analysis	8015B		1			515553	12/07/18 16:41	LMB	TAL IRV

Laboratory References:

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

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

Lab Sample ID: MB 440-515342/1-A
Matrix: Water
Analysis Batch: 515553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 515342

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 11:08	1
1,1'-Biphenyl	ND		0.10	0.020	mg/L		12/06/18 09:50	12/07/18 11:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*62*		*45 - 120*	*12/06/18 09:50*	*12/07/18 11:08*	*1*

Lab Sample ID: LCS 440-515342/2-A
Matrix: Water
Analysis Batch: 515553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 515342

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene, 1,1'-oxybis-			0.100	0.0624	J	mg/L		62	50 - 115		
1,1'-Biphenyl			0.100	0.0515	J	mg/L		51	50 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*59*		*45 - 120*

Lab Sample ID: LCSD 440-515342/3-A
Matrix: Water
Analysis Batch: 515553

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 515342

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis-			0.100	0.0627	J	mg/L		63	50 - 115	1	30
1,1'-Biphenyl			0.100	0.0522	J	mg/L		52	50 - 115	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane	*61*		*45 - 120*

QC Association Summary

Client: SunStar Laboratories Inc
Project/Site: T183598

TestAmerica Job ID: 440-226404-1

GC Semi VOA

Prep Batch: 515342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-226404-1	T183598-01	Total/NA	Water	3510C	
440-226404-2	T183598-02	Total/NA	Water	3510C	
440-226404-3	T183598-03	Total/NA	Water	3510C	
440-226404-4	T183598-04	Total/NA	Water	3510C	
440-226404-5	T183598-05	Total/NA	Water	3510C	
440-226404-6	T183598-06	Total/NA	Water	3510C	
440-226404-7	T183598-07	Total/NA	Water	3510C	
440-226404-8	T183598-08	Total/NA	Water	3510C	
440-226404-9	T183598-09	Total/NA	Water	3510C	
MB 440-515342/1-A	Method Blank	Total/NA	Water	3510C	
LCS 440-515342/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-515342/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 515553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-226404-1	T183598-01	Total/NA	Water	8015B	515342
440-226404-2	T183598-02	Total/NA	Water	8015B	515342
440-226404-3	T183598-03	Total/NA	Water	8015B	515342
440-226404-4	T183598-04	Total/NA	Water	8015B	515342
440-226404-5	T183598-05	Total/NA	Water	8015B	515342
440-226404-6	T183598-06	Total/NA	Water	8015B	515342
440-226404-7	T183598-07	Total/NA	Water	8015B	515342
440-226404-8	T183598-08	Total/NA	Water	8015B	515342
440-226404-9	T183598-09	Total/NA	Water	8015B	515342
MB 440-515342/1-A	Method Blank	Total/NA	Water	8015B	515342
LCS 440-515342/2-A	Lab Control Sample	Total/NA	Water	8015B	515342
LCSD 440-515342/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	515342

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
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.
¤	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: T183598

TestAmerica Job ID: 440-226404-1

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	06-30-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

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

Mouton, Alain

From: Joann Marroquin <joann@sunstarlabs.com>
Sent: Thursday, December 06, 2018 8:15 PM
To: Mouton, Alain
Cc: Roberts, Danielle C.
Subject: RE: TestAmerica Sample Login Confirmation files from 440-226404 T183598

-External Email-

Alain,

Please set these to your std TAT, no rush.

Thank you,
Joann

Joann Marroquin
Southern California Sales/CSM

SunStar 20 Laboratories

25712 Commercentre Dr., Lake Forest, CA 92630
Office: (949) 297-5020 | Fax: (949) 297-5027 | Cell: (949) 469-3124
CA ELAP Certification: 2250 | CA Small Business Certification: 31511

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From: Mouton, Alain [mailto:alain.mouton@testamericainc.com]
Sent: Thursday, December 06, 2018 5:10 PM
To: Joann Marroquin; Rose Fasheh
Cc: Danielle C. Roberts
Subject: TestAmerica Sample Login Confirmation files from 440-226404 T183598

Hello,

Attached, please find the Sample Confirmation files for job 440-226404; T183598

Please feel free to contact me or your PM, Danielle Roberts, if you have any questions.

Thank you.

Please let us know if we met your expectations by rating the service you received from

TestAmerica on this project by visiting our website at: Project Feedback

ALAIN MOUTON
Project Manager Assistant

TestAmerica Irvine
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 949.261,1022

Reference: [486753]
Attachments: 2

SUBCONTRACT ORDER

SunStar Laboratories, Inc.

T183598

SENDING LABORATORY:

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

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: T183598-01	**Water**	**Sampled: 12/04/18 10:25**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 10:25		8015M- Therminol
Containers Supplied:				
Sample ID: T183598-02	**Water**	**Sampled: 12/04/18 11:00**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 11:00		8015M- Therminol
Containers Supplied:				
Sample ID: T183598-03	**Water**	**Sampled: 12/04/18 09:00**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 09:00		8015M- Therminol
Containers Supplied:				
Sample ID: T183598-04	**Water**	**Sampled: 12/04/18 08:25**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 08:25		8015M- Therminol
Containers Supplied:				
Sample ID: T183598-05	**Water**	**Sampled: 12/04/18 08:35**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 08:35		8015M- Therminol
Containers Supplied:				
Sample ID: T183598-06	**Water**	**Sampled: 12/04/18 06:30**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 06:30		8015M- Therminol
Containers Supplied:				

LB/LB 12/5/18

Released By	Date	Received By	Date
12-5-18 1450		FAIRV	12/5/18 1450
Released By	Date	Received By	Date

4.0/3.5 IR93

SUBCONTRACT ORDER

SunStar Laboratories, Inc.

T183598

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: T183598-07	**Water**	**Sampled: 12/04/18 07:00**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 07:00		8015M- Therminol
Containers Supplied:				
Sample ID: T183598-08	**Water**	**Sampled: 12/04/18 07:30**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 07:30		8015M- Therminol
Containers Supplied:				
Sample ID: T183598-09	**Water**	**Sampled: 12/04/18 00:00**		
Misc Water Testing #1	12/12/18 15:00	06/02/19 00:00		8015M- Therminol
Containers Supplied:				

Released By	Date	Received By	Date
	12-5-18 1450	TAIRI	12/5/13 1450
Released By	Date	Received By	Date
			4.0/3.5 12/3

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Login Sample Receipt Checklist

Client: SunStar Laboratories Inc

Job Number: 440-226404-1

Login Number: 226404
List Number: 1
Creator: Bonta, Lucia F

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYSIS REPORT

Lab #:	694813	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-01				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 10:25	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-61.4 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-6.79 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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

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ANALYSIS REPORT

Lab #:	694814	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-02				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 11:00	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-63.5 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-7.97 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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

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ANALYSIS REPORT

Lab #:	694815	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-03				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 9:00	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-75.9 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-10.05 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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

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ANALYSIS REPORT

Lab #:	694816	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-04				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 8:25	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-76.3 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-10.01 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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

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ANALYSIS REPORT

Lab #:	694817	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-05				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 8:35	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-77.9 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-10.24 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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

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ANALYSIS REPORT

Lab #:	694818	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-06				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 6:30	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-70.1 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-8.55 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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

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ANALYSIS REPORT

Lab #:	694819	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-07				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 7:00	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-72.3 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-8.98 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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

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ANALYSIS REPORT

Lab #:	694820	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-08				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 7:30	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-70.6 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-8.67 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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

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ANALYSIS REPORT

Lab #:	694821	Job #:	40280	IS-101168	Co. Job#:
Sample Name:	T183598-09				Co. Lab#:
Company:	SunStar Laboratories, Inc				
API/Well:					
Container:	250ml Plastic Bottle				
Field/Site Name:	T183598				
Location:					
Formation/Depth:					
Sampling Point:					
Date Sampled:	12/04/2018 0:00	Date Received:	12/07/2018	Date Reported:	12/20/2018

δD of water	----------	-77.8 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-10.24 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ 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