DOCKETED	
Docket Number:	09-AFC-08C
Project Title:	Genesis Solar Energy Project
TN #:	257996
Document Title:	2024 S1 Groundwater Detection Monitoring Report
Description:	N/A
Filer:	Cynthia Keller
Organization:	NexteraEnergy Resources
Submitter Role:	Applicant
Submission Date:	7/25/2024 12:36:47 PM
Docketed Date:	7/25/2024

2024 FIRST SEMIANNUAL GROUNDWATER DETECTION MONITORING REPORT Genesis Solar Energy Project

Riverside County, California

COC S&W-6

July 11, 2024

Prepared By:

Northstar Environmental Remediation

26225 Enterprise Court

Lake Forest, California 92630

SIGNATURE PAGE

2024 FIRST SEMIANNUAL GROUNDWATER DETECTION 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.

I further certify that this report has been reviewed by the appropriate authority at NextEra Energy Resources and is being submitted with their written consent.

Arlin W. Brewster

Professional Geologist 9207

July 11, 2024

Table of Contents

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

Northstar Environmental Remediation (Northstar) has prepared this 2024 First Semiannual Groundwater Detection Monitoring Report on behalf of Genesis Solar, LLC (Genesis). This report details groundwater detection monitoring performed in the first half of 2024 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 consists of two independent concentrated solar electric generating facilities with a nominal net electrical output of 125 megawatts (MW) each (a total net electrical output of 250 MW).

Northstar conducts groundwater detection monitoring in accordance with Condition of Certification Soil & Water 6 (COC S&W-6) as presented in the California Energy Commission (CEC) Final Decision document dated October 12, 2010 (CEC, 2010). The COC S&W-6 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 submitted an updated Plan of Development (POD) for the GSEP in September 2010 (Genesis Solar, LLC 2010). In addition, Genesis filed an Application for Certification (AFC) for the GSEP to the 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 GSEP uses dry cooling technology and relies on groundwater as a water source during operation. Three groundwater production wells installed at the GSEP between July and October 2011 are permitted to pump groundwater at an average rate of 202 acre-feet per year (afy) (up to 1,348 afy during construction).

The Final Decision and FEIS discuss the potential impacts associated with the proposed groundwater use by the GSEP. Groundwater drawdown impacts are anticipated to be less than significant, but because the prediction of groundwater level effects by computer modeling entails inherent uncertainty, both the Final Decision and the FEIS adopted COC S&W-2 for the GSEP to monitor groundwater level at the vicinity of the GSEP.

Two evaporation ponds (licensed as Class II Surface Impoundments) located between Solar Fields 1 and 2 accept wastewater generated during GSEP operation (**Figure 3**). 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 (**Figure 4**). 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 lies between the communities of Blythe and Desert Center, California. 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 approximately 6 miles southeast of the GSEP.

The GSEP lies on 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 to the mountains have formed alluvial fans from multiple identifiable sources, and multiple fan surfaces have coalesced into a single bajada surface that wraps around each of these mountain fronts. Between the bajada surfaces from each mountain chain 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.

Climatic data collected from Weather Station Blythe Riverside Airport (33.61°N, -114.71°W, at an elevation of about 387 feet amsl) indicate 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). Northstar obtained this data from the 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 940 mi^2 (2,435 km^2) underlying Chuckwalla Valley. It is bounded upgradient 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 downgradient by the Palo Verde Mesa Groundwater Basin (Palo Verde Basin) (**Figure 2**). Groundwater occurs at depths of about 80 to 140 feet below ground surface (bgs) and groundwater flow is generally southeast to eastward, from the Chuckwalla Basin to the Palo Verde Basin (**Figure 2**).

Sources of groundwater recharge to the Chuckwalla Basin includes 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 prior to GSEP operations indicate a stable surplus of 2,600 afy (CEC, 2010). Current operational demand, based on calendar year 2022 extraction data, is approximately 126.0 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 is the unconsolidated to partially consolidated Pliocene-aged Bouse Formation, consisting of coarse alluvium and fanglomerate deposits (Wilson and Owen-Joyce, 1994). Below the Bouse Formation is 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 below ground surface); and, the deeper Bouse Formation aquifer (extending between approximately 250 to 6,500 feet below ground surface) (Wilson and Owen-Joyce, 1994). The Pinto Formation exists only on the eastern fringe of the Chuckwalla Basin and is generally 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 87.35 feet bgs (300.05 feet amsl) in TW-1, located upgradient of the site, to 136.37 feet bgs (255.73 feet amsl) in Well 23a, located downgradient of the site. Perched water exists at the Chuckwalla State Prison but is unlikely to occur within the GSEP boundaries as there is no irrigation.

1.4 Monitoring Program Objectives

Northstar performs groundwater detection monitoring in accordance with COC S&W-6 as described in the CEC's Final Decision. The primary objectives for the evaporation pond detection as outlined in the MRP are to:

- Establish baseline conditions by conducting four quarters of monitoring prior to discharge of wastewater to the ponds;
- Collect water level elevation data to characterize groundwater flow conditions in the uppermost water-bearing zone beneath the evaporation pond area;
- Collect and evaluate water quality data using approved statistical and other methods to identify potential changes in the existing water quality of the aquifer immediately underlying the evaporation ponds; and,

- Demonstrate compliance with the discharge requirements contained in COC S&W-6 and the WDR for the GSEP.

2.0 EVAPORATION PONDS

2.1 Evaporation Pond Overview

The North and South Evaporation Ponds (sometimes referred to as the West and East ponds, respectively) were designed by Fluor Corp. and are identified on **Figure 3**. Each pond is constructed with multiple layers of containment that drain to a centralized collection sump. The pond drainage sump slopes away from the centerline of the ponds to the north and south and is equipped with a set of three moisture detection probes in each side. Each pond is also equipped with a pump to return all accumulated water back to the pond surface.

2.2 Monitoring Methods

On a semiannual basis, a sample is collected from each of the evaporation ponds and identified as the North Pond and South Pond. Representative water is collected in a clean, dedicated 5-gallon bucket and processed into sample containers inside the containment area. Laboratory samples are submitted to SunStar Laboratories, Inc. (SunStar) of Lake Forest, California. SunStar subcontracts the heat transfer fluid analysis to Eurofins Calscience Laboratories, Inc. (Eurofins) of Tustin, California. 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.

2.3 Evaporation Pond Sample Results

Analytical data for the evaporation ponds is included in **Table 4** and certified laboratory reports are included in **Appendix B**. In summary:

- The laboratory did not detect copper, iron, antimony, cadmium, chromium (total), cobalt, lead, nickel, zinc, mercury, oil & grease, or heat transfer fluid in either pond; and,
- Compound concentrations were slightly higher in the North Pond.

3.0 POND DRAINAGE SUMP SYSTEM

3.1 Pond Drainage Sump System Overview

A cross-sectional schematic of the pond drainage sump system is included in **Figure 5**. As shown in the figure, each pond is equipped with a total of six probes (Watermark Model 200SS electrical resistance probes) installed at a distance of 15, 70, and 110 feet from the pond centerline.

The water return pumps are installed on the north side of the North Pond and the south side of the South Pond. Readings from the totalizers on each pump are recorded on a quarterly basis.

3.2 Monitoring Methods

Terminals attached to the probe wire leads are stored in a weatherproof vault at the north and south end of each pond, where resistivity readings can be collected using a Watermark 30-KTCD-NL meter. Values can range from 0-10 centibars (saturated) to 199 centibars (dry). Readings are collected from the probes and the nearby water return pumps on a quarterly basis and summarized in **Table 5**. If the pump totalizers show any signs of increase, or if the probes display values within the saturated range (usually started with probe #1 in the lowest part of the sump), Northstar notifies NextEra operations who then conduct further investigation.

3.3 Monitoring Results

No water was pumped from the North or South Pond during the reporting period and the totalizers currently read 607.01 and 7.48 gallons, respectively.

None of the moisture detection probes showed signs of water saturation during monitoring. Probe #1W in the North Pond currently shows signs of increasing humidity, though there was no signs of moisture building up in the well cap.

4.0 DETECTION MONITORING WELLS

4.1 Detection Monitoring Well Overview

A total of three detection monitoring wells were installed around the perimeter of the evaporation ponds (**Figure 4**). Detection monitoring wells DM-1, DM-2, and DM-3 were installed to a total depth of 120 feet bgs into the shallow Alluvium aquifer with screened intervals between 100 to 120 feet bgs. **Table 1** provides construction details for the wells. Well DM-1 is located upgradient, west of the ponds. Well DM-2 and DM-3 are located downgradient, east and south of the ponds, respectively.

4.2 Monitoring Methods

Northstar measured the depth to groundwater in each well using a Solinst interface probe. Field staff documented 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** includes the groundwater level measurements and calculated water level elevations. **Figure 4** illustrates the groundwater elevation contours and flow direction.

Each detection monitoring well has a dedicated 1.66-inch diameter Geotech® stainless steel submersible bladder pump and dedicated Teflon-lined tubing with water intakes set at the middle of wetted screen at approximately 115 feet btoc. Field staff collect samples from these wells using the low flow purging method in accordance with the most recent EPA guidance document (USEPA, 2017).

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

Field staff measure groundwater parameters with a Horiba water quality field instrument. Staff calibrate the Horiba at the beginning of each day and decontaminate 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 at 5-minute intervals and at the time of sampling as part of the low flow purge method of sampling.

Wells were purged until water quality parameters stabilized over three successive readings (+/- 0.2 for pH, +/- 10% for EC, ORP and turbidity) and the discharge volume exceeded the drawdown, tubing, and flow-through cell volume. 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**).

After purging and parameter stabilization, the flow-through cell was disconnected so samples could be collected from the pump discharge. Field staff wore new nitrile gloves to collect groundwater samples in clean bottles (preserved as appropriate) provided by the laboratory. Where required, samples were field filtered with a new 0.45-micron filter attached to the end of the discharge tubing. Staff labeled sample containers with the well identification, date, time, sampler, analytical method, and placed them in a chilled ice chest. Northstar delivered the samples under proper chain-of-custody protocol to the laboratory.

Groundwater purged from DM-1, DM-2, and DM-3 was temporarily contained in a sealed 5-gallon bucket and then disposed in the evaporation ponds as directed in the MRP (Part II A.1.b.). **Table 3** includes the measured field parameters documented at the end of purging activities.

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

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

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), as required, with each analytical batch.

Northstar collects a duplicate sample once per sampling event that is submitted to the laboratory without identifiers that associate the sample with a well, date, or time. During this event, a duplicate sample from well PW-2 was collected for analysis. **Table 4** of the *Groundwater Quality Monitoring Report* (Northstar, 2024) provides a summary of analytical results for the duplicate sample.

In addition to these methods, a set of quality control blank samples is collected and put on hold at the laboratory pending analysis of the groundwater samples. These samples include a field blank and trip blank. The field blank bottle set is filled with demineralized water and set adjacent to the work area with the lids off during the workday and is intended to screen out constituents in ambient air. The trip blank

bottle sets are prepared at the laboratory and are sealed throughout the groundwater sampling event. They are stored inside the sample coolers and are 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.

4.3 Results of Water Level Measurements

Table 2 provides the wellhead reference elevation (toc elevation), depth-to-groundwater, and water level elevations for each detection monitoring well. Depth to groundwater ranged from 104.56 (well DM-3) to 107.79 (well DM-2) feet bgs, and the calculated groundwater elevations range from 283.53 (well DM-2) to 284.05 (well DM-1) feet amsl.

Northstar used groundwater elevation data to generate a potentiometric surface contour map of the uppermost water-bearing zone beneath the evaporation pond (**Figure 4**). The groundwater flow direction and gradient beneath the site were determined based on linear interpolation between contours of equal elevation. Groundwater flow beneath the evaporation ponds was determined to be predominantly in an east to southeast direction at a gradient of approximately 0.0005 feet/foot. The groundwater flow direction and gradient are consistent with historical monitoring events. Groundwater flow direction has historically ranged between east-northeast and southeast and the gradient has ranged between 0.0004 and 0.0007 feet/foot.

4.4 Groundwater Flow Velocity

The average horizontal groundwater flow velocity beneath the evaporation ponds was estimated using the following equation:

V = (KhI)/ne

Where:

V = average linear groundwater velocity (in feet per day)
Kh = aquifer horizontal hydraulic conductivity (in feet per day)
I = average hydraulic gradient (vertical change in groundwater elevation/corresponding horizontal distance in feet per lateral feet), and
ne = effective aquifer porosity.

Each monitoring well is screened from 100-120 feet bgs in fine-grained sand, as detailed in the Detection Monitoring Well Installation Report (WorleyParsons, 2012). The reported hydraulic conductivity for fine-grained sand is approximately 0.03 to 60 feet/day, as stated in scientific references (Domenico and Schwartz, 1990). Based on the characteristics of the shallow Alluvium aquifer in which the detection monitoring wells are screened, this calculation assumes an average hydraulic conductivity value of 15 to 30 feet/day, an effective porosity of 25 percent, and an average gradient of 0.0005 feet/foot, as estimated from **Figure 4**.

Based on these calculations, the average groundwater velocity estimated in the uppermost water-bearing zone beneath the evaporation ponds is approximately 0.030 to 0.060 feet laterally per day, or 10.95 to 21.90 lateral feet per year. Historically, estimates of groundwater flow velocity have ranged from 8.76 to 30.66 lateral feet per year.

4.5 General Chemical Analysis

Table 4 provides a summary of the detection monitoring well groundwater sample analytical results. **Appendix B** contains copies of the laboratory analytical reports for the groundwater samples. Groundwater samples from detection monitoring wells DM-1, DM-2, and DM-3 were analyzed for the parameters listed in Section 4.2. The concentration of detected analytes is generally similar between the detection monitoring wells. Similarity in the concentrations of analytes is expected as the three wells are located within 1,000 feet of each other and are screened at the same depth interval (100-120 feet bgs).

The following is a summary of the groundwater monitoring results for the detection monitoring wells since the beginning of the monitoring program:

- **Chloride** detections have been consistent for all wells and have ranged from 4,400 to 9,760 milligrams per liter (mg/L), averaging 5,392 mg/L.
- **Sulfate as SO_4** detections have been consistent for all wells and have ranged from 1,600 to 4,350 mg/L, averaging 2,116 mg/L.
- **Nitrate as NO_3** detections have been consistent for all wells and have ranged from non-detect to 21.2 mg/L, averaging 7.63 mg/L.
- **Total Dissolved Solid** concentrations have been consistent for all wells and have ranged from 6,800 to 14,000 mg/L, averaging 10,577 mg/L.
- **pH** levels have been consistent for all wells and have ranged from 7.2 to 8.2 standard units, averaging 7.8 standard units.
- **Specific Conductivity** levels have been consistent for all wells and have ranged from 13,000 to 22,000 microSiemens per centimeter (µs/cm), averaging 17,723 µs/cm.
- **Antimony** has not been detected above the reporting limit for all wells.
- **Arsenic** detections have been consistent for all wells and have ranged from non-detect to 26 µg/L, averaging 11.2 µg/L.
- **Barium** detections have been inconsistent between all wells, averaging 33.7 µg/L in upgradient well DM-1, 61.1 µg/L in downgradient well DM-2, and 18.4 µg/L in downgradient well DM-3.
- **Cadmium** has not been detected above the reporting limit for all wells.
- **Calcium** detections have been consistent for all wells and have ranged from 190 to 470 mg/L, averaging 251 mg/L.
- **Chromium (Total)** detections have been inconsistent because the concentrations are frequently between the MDL and RL. Reportable concentrations have ranged from 3.1 to 3.7 µg/L, averaging 3.4 µg/L.
- **Cobalt** has not been detected above the reporting limit for all wells.

- **Copper** detections have been inconsistent because the concentrations are frequently between the MDL and RL. Reportable concentrations have ranged from 0.006 to 0.027 mg/L, averaging 0.011 mg/L.
- **Lead** has not been detected above the reporting limit for all wells.
- **Mercury** has only been detected once above the reporting limit in upgradient well DM-1 at a concentration of 0.26 µg/L. Mercury has not been detected at or above the reporting limit in wells DM-2 and DM-3.
- **Nickel** has only been detected once above the reporting limit in downgradient well DM-3 at a concentration of 10 µg/L. Nickel has not been detected at or above the reporting limit in wells DM-1 or DM-2.
- **Selenium** detections have been inconsistent because the concentrations are frequently between the MDL and RL. Reportable concentrations have ranged from 0.68 to 55 µg/L, averaging 14.1 µg/L.
- **Zinc** detections have been inconsistent because the concentrations are frequently between the MDL and RL. Reportable concentrations have ranged from 0.55 to 76 µg/L, averaging 21.8 µg/L.

4.6 Non-Statistical Analysis

In accordance with the MRP Part II.A.5 and Part III.A.2, a non-statistical analysis has been applied to the groundwater analytical results for this sampling event.

The non-statistical analysis requires all detections of the constituents of concern (ie, those defined in Part II.A.4 of the same document) reported above the method detection limit (MDL) in the downgradient wells (DM-2 and DM-3) that do not appear in the upgradient well (DM-1) be identified, and where there are either a) two or more constituents identified in this list from a single downgradient monitoring point, or b) one of the identified constituents in this list exceeds the Practical Quantification Limit (PQL), a release is tentatively indicated.

For the purposes of this report, the PQL is equal to the reporting limit (RL) as identified for each constituent in the laboratory report, which is generally 5 times the MDL. The results of the non-statistical method for this sampling event is as follows:

- Well DM-2: There are no constituents of concern that meet the release detection criteria.
- Well DM-3: There are no constituents of concern that meet the release detection criteria.

4.7 Quality Assurance/Quality Control

As documented in the attached laboratory reports (see **Appendix B**), groundwater samples collected from the evaporation pond detection monitoring wells during this sampling event 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, and nitrate as NO3, which has a 48-hour hold time).

No analytes were detected in the method blank sample.

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, with the following exceptions:

- The spike recovery was outside acceptable limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptable criteria and the data was accepted because the chemist determined that there should be no impact to the final results. This may have affected the results for analytes including **chloride and sulfate as SO4.**

Duplicate sample control: For this event, a duplicate sample (named DUP) was collected from sample point PW-2 (as reported in the *Groundwater Quality Monitoring Report* (Northstar, 2024). The sample was submitted to the laboratory without date or time qualifiers. For this event, all sample results for PW-2 and DUP agreed within 10%.

5.0 LAND TREATMENT UNIT SUMMARY

The Land Treatment Unit (LTU) is an onsite bioremediation landfarm utilized for the treatment of soil contaminated with the heat transfer fluid (HTF) Therminol. Soil from all HTF spills is excavated within 48 hours and placed in one of four treatment bays, numbered LTU #1 to 4. The soil is then tested to determine whether it can be effectively treated onsite (under 10,000 mg/kg of HTF) or if it is hazardous and would be more effectively treated offsite (above 10,000 mg/kg of HTF).

Soil in the LTUs is overturned on a weekly basis by onsite staff to aid in the bioremediation of the soil. A representative composite soil sample is collected from each bay on a quarterly basis (or as needed) and analyzed by EPA Method 8015M for Therminol (characterized by the chemical markers 1,1'-oxybis-benzene and 1,1'-biphenyl) to monitor the progress of remediation. Once the concentration is less than 100 mg/kg of HTF, the soil may be removed from the LTU and staged onsite for later use. Treatment is enhanced by the addition of moisture and fertilizers. Laboratory reports for the data referenced below is included in **Appendix C**.

Sample Date: January 15, 2024
Reason for Sample: Initial sample of new soil stockpile after minor HTF spill on 01/11/24
Sample ID: Staging Area
Results: 1,1'-oxybis-benzene: 7,700 mg/kg; 1,1'-biphenyl: 2,800 mg/kg
Outcome: Soil moved to LTU #3 to begin onsite treatment

Sample Date: March 27, 2024
Reason for Sample: Routine quarterly sampling of soil in LTU bays
Sample ID: LTU #3
Results: 1,1'-oxybis-benzene: 6,700 mg/kg; 1,1'-biphenyl: 2,300 mg/kg
Outcome: Onsite treatment continued

Sample Date: April 4, 2024
Reason for Sample: Initial sample of new soil stockpile after minor HTF spill on 04/02/24
Sample ID: Waste Soil
Results: 1,1'-oxybis-benzene: 14,000 mg/kg; 1,1'-biphenyl: 5,300 mg/kg
Outcome: Soil transported offsite as hazardous waste

Sample Date: April 15, 2024
Reason for Sample: Initial samples of four stockpiles and six roll-top bins of soil after large HTF spill on 04/11/24
Sample IDs: Bin #RB23103, 5247, PT1416, PT6369, 5063, and 4917 (all combined into sample ID Composite (Samples 1-6)); SP #1, 2, 3, and 4
Results for Composite Sample: 1,1'-oxybis-benzene: 25,000 mg/kg; 1,1'-biphenyl: 8,900 mg/kg
Results for SP #1, 2, and 3: 1,1'-oxybis-benzene: ranged from 3,200 to 9,400 mg/kg; 1,1'-biphenyl: ranged from 1,100 to 3,400 mg/kg

Results for SP #4: 1,1'-oxybis-benzene: 16,000 mg/kg; 1,1'-biphenyl: 5,600 mg/kg
Outcome: All soil in roll-top bins and from stockpile #4 were transported offsite as hazardous waste; soil from stockpiles 1, 2, and 3 were transferred to the LTU bays 1, 2, and 3 for onsite treatment.

Sample Date: June 6, 2024
Reason for Sample: Routine quarterly sampling of soil in LTU bays
Sample ID: LTU #1, 2, and 3
Results: 1,1'-oxybis-benzene: ranged from 3,100 to 7,600 mg/kg; 1,1'-biphenyl: ranged from 890 to 2,700 mg/kg
Outcome: Onsite treatment continued

6.0 ANNUAL SUMMARY

The 2024 annual summary will be included in the *2024 First Semiannual and Annual Groundwater Detection Monitoring Report*, produced by Northstar by January 15, 2025.

7.0 CONCLUSIONS

Based on the available data obtained during this sample event:

- None of the compounds detected in the downgradient detection monitoring wells DM-2 and DM-3 met the criteria for a potential release.
- Available groundwater quality data is generally stable with minor trend fluctuations.
- Groundwater flow direction, gradient, and velocity is consistent with historical events.

All data currently indicates compliance with the discharge requirements contained in COC S&W-6 and the WDR for the GSEP, with exceptions as noted above.

8.0 REFERENCES

Bureau of Land Management, 2010. *Final Environmental Impact Statement, Genesis Solar Energy Project*. August 27, 2010.

California Department of Water Resources (DWR), 1963. *Data on Water Wells and Springs in the Chuckwalla Valley Area, Riverside County, California*. Bulletin No. 91-7.

California Energy Commission (CEC), 2010. *Genesis Solar Energy Project Commission Decision*. October 12, 2010.

California Regional Water Quality Control Board – Colorado River Basin Region, 2013a. *Monitoring and Reporting Program R7-2013-0005 for Genesis Solar, LLC*. March 21, 2013.

California Regional Water Quality Control Board – Colorado River Basin Region, 2013b. *Board Order R7-2013-0005 Waste Discharge Requirements for Genesis Solar, LLC*. March 21, 2013.

Domenico, P. and Schwartz, F., 1990. *Physical and Chemical Hydrogeology*. J. Wiley & Sons.

Genesis Solar, LLC, 2009. *Application for Certification, Genesis Solar Energy Project, Riverside County, California*. August 31, 2009.

Genesis Solar, LLC, 2010. *Plan of Development CA48880, Genesis Solar Energy Project, Riverside County, California*. October 2010.

Northstar Environmental Remediation, 2024. *2024 First Semiannual Groundwater Quality Monitoring Report, Genesis Solar Energy Project, Riverside County, California*. July 10, 2024.

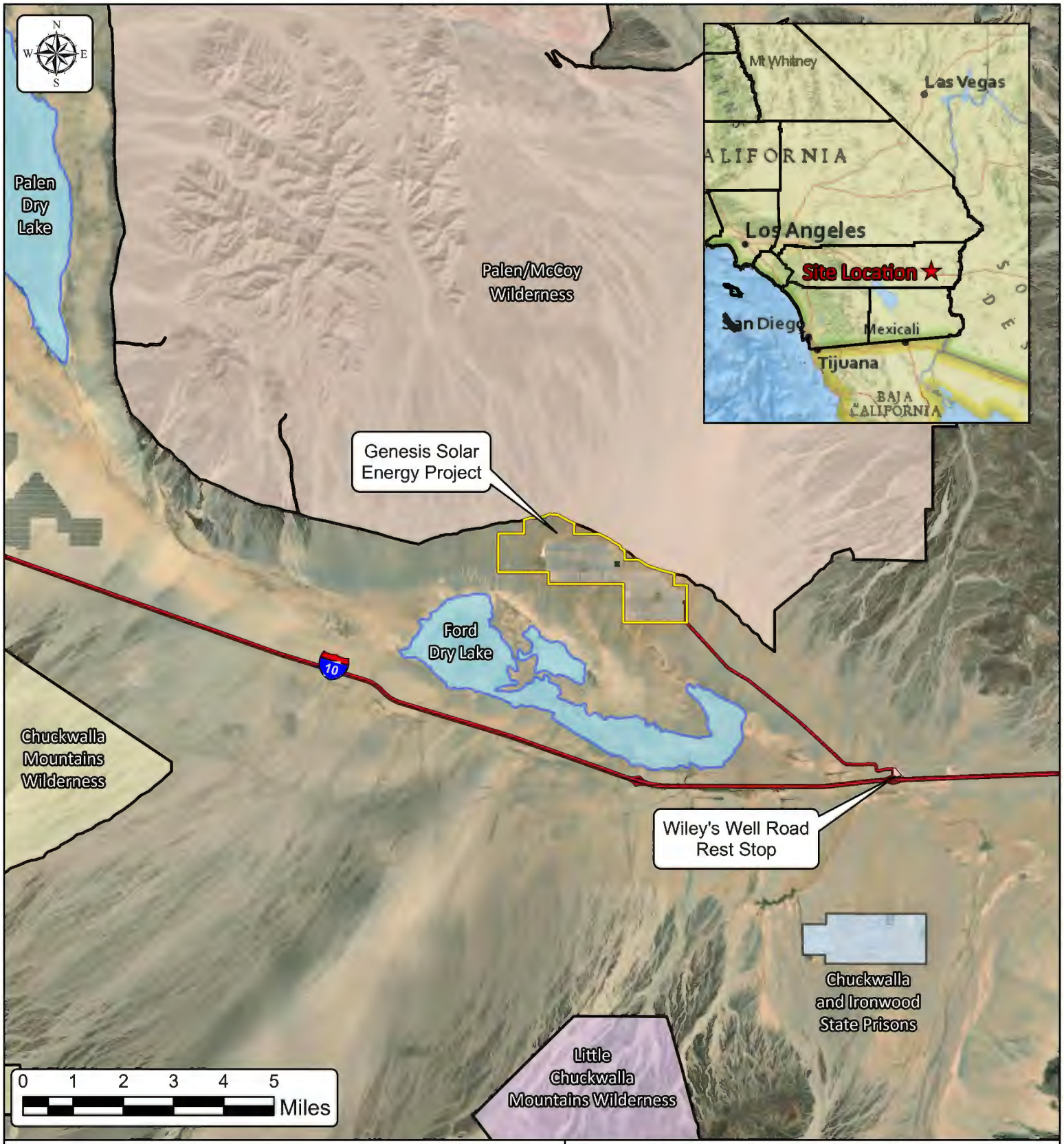
U.S. Bureau of Reclamation, 1972. *Inland Basins Project, California-Nevada, Summary Report: Reconnaissance Investigations*. 1972.

U.S. Environmental Protection Agency (USEPA), 2017. *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*. September 19, 2017.

Wilson, R.P., and Owen-Joyce, S.J., 1994. *Method to identify wells that yield water that will be replaced by Colorado River water in Arizona, California, Nevada, and Utah*. U.S. Geological Survey, Water Resources Investigation Report 94-4005.

WorleyParsons, 2012. *Detection Monitoring Well Installation Report*. Genesis Solar Energy Project, March 30, 2012.

FIGURES



Legend

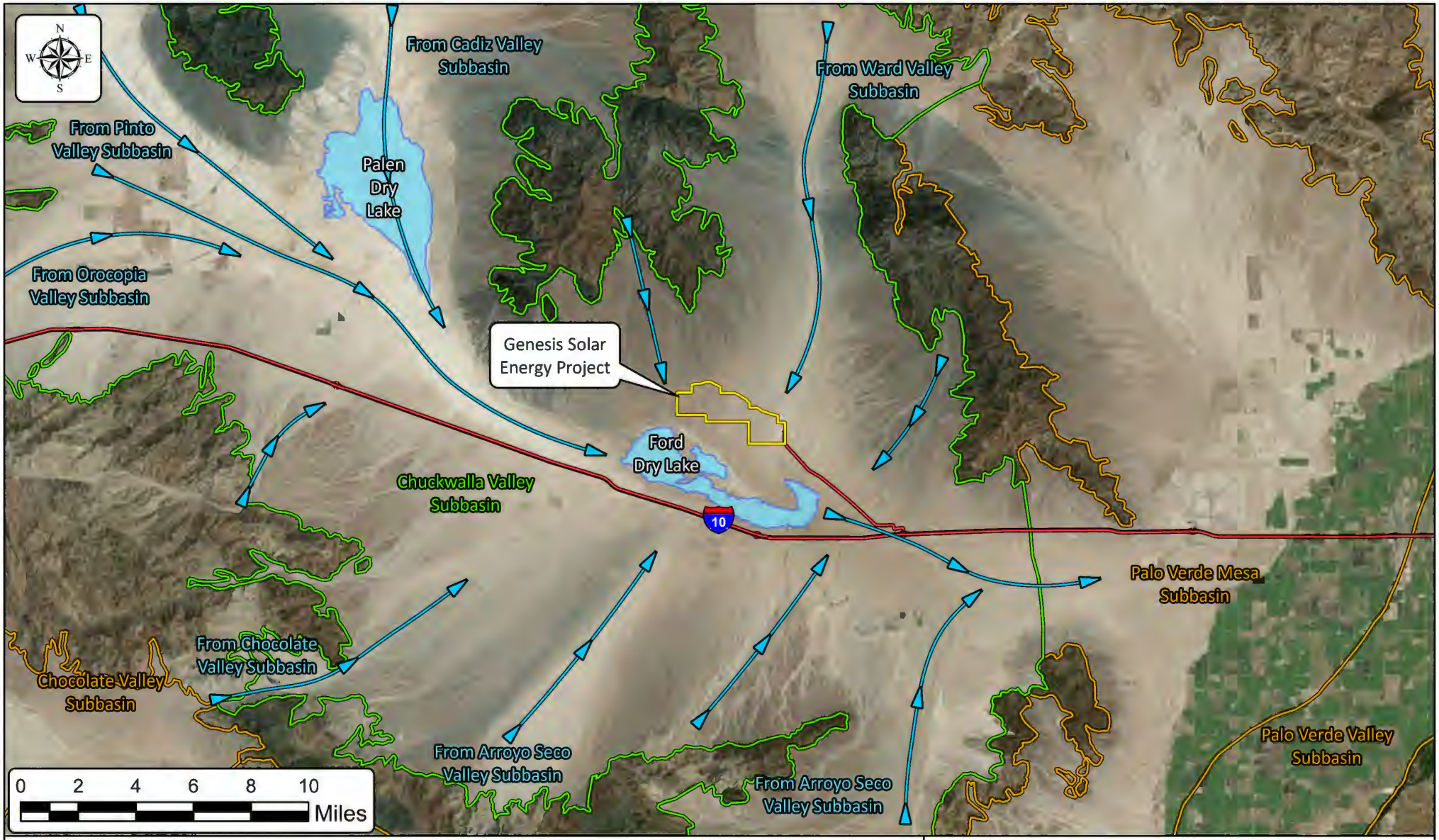
- GSEP Property Boundary
- Chuckwalla and Ironwood State Prisons
- Chuckwalla Mountains Wilderness Area
- Little Chuckwalla Mountains Wilderness Area
- Palen/McCoy Wilderness Area
- Dry Lakes
- Roads

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

FIGURE 1
Site Vicinity Map

NORTHSTAR environmental remediation	Project No. 196-004	Draw Date: 9 Jul 2024
	Drawn By: AWB	Checked By: AWB

File Name: Figure 1 - Vicinity Map



Legend

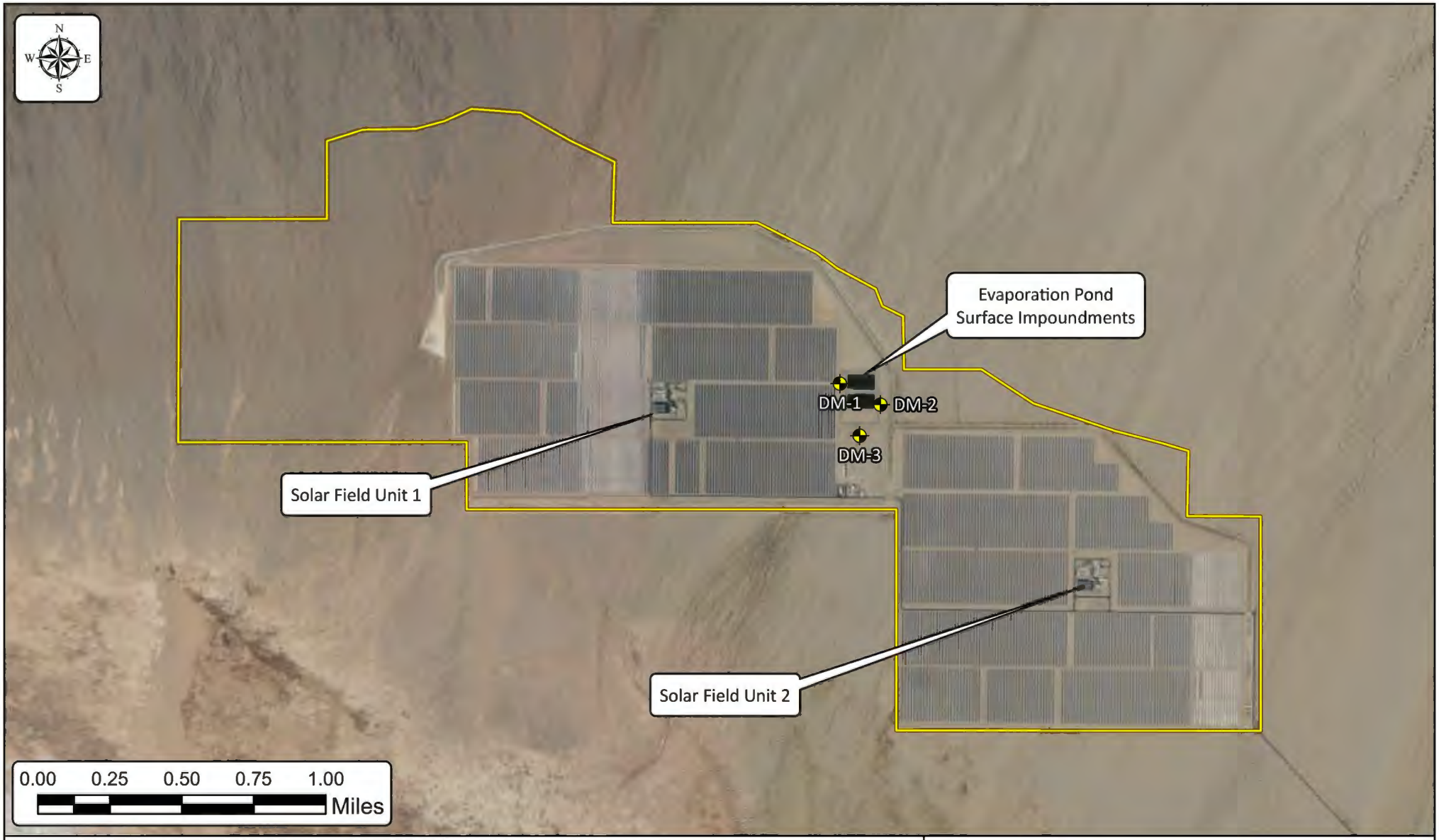
- GSEP Property Boundary
- Chuckwalla Valley Groundwater Subbasin
- Adjacent Groundwater Subbasins
- Dry Lakes
- Water Flow Direction

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

FIGURE 2
Hydrogeologic Setting

NORTHSTAR	Project No. 196-004	Draw Date: 9 Jul 2024
	Drawn By: AWB	Checked By: AWB

File Name: Figure 2 - Hydrogeology



Legend

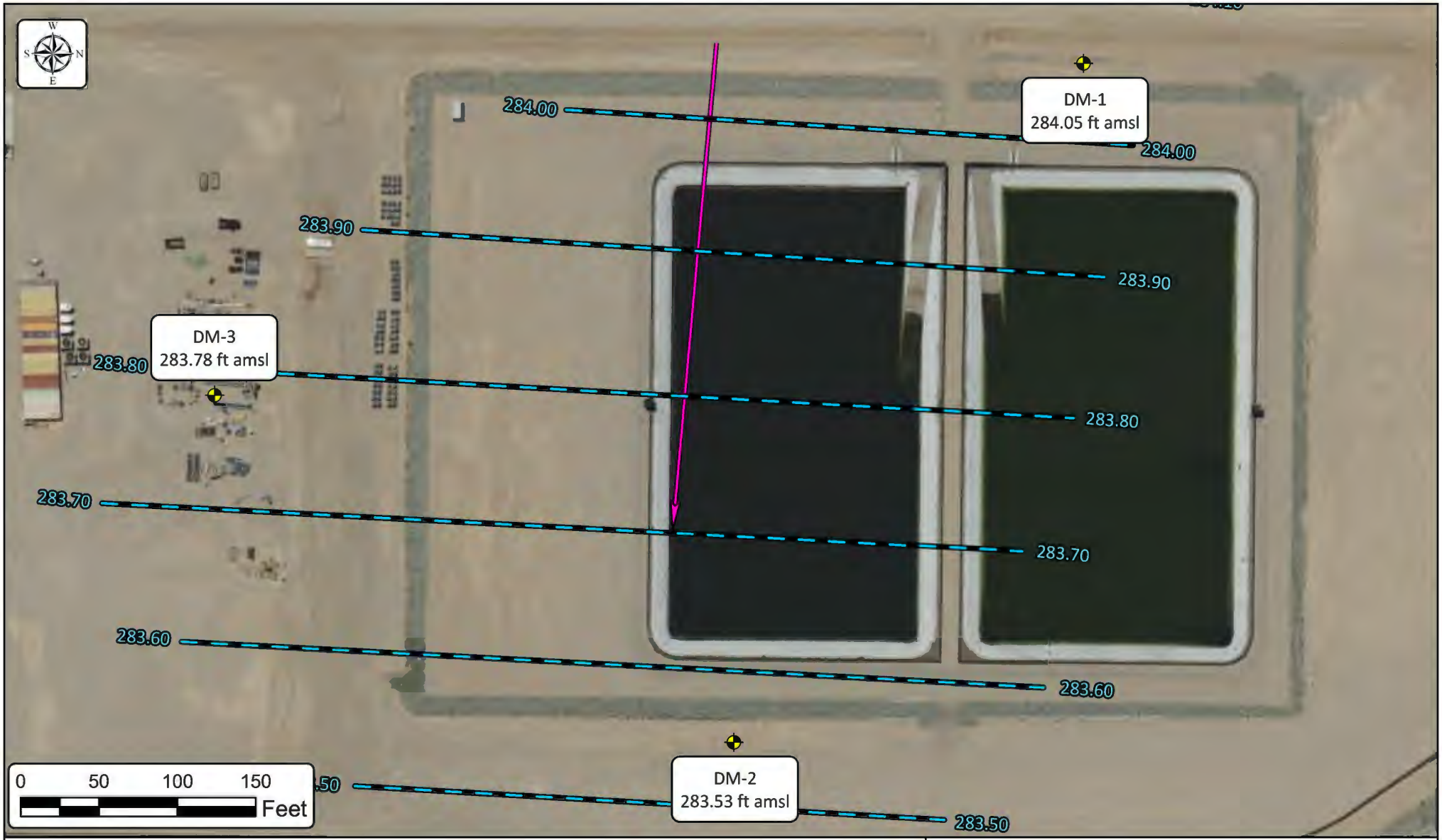
- GSEP Property Boundary
- Detection Monitoring Wells

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

FIGURE 3
Monitoring Area Showing
Detection Monitoring Wells

NORTHSTAR	Project No. 196-004	Draw Date: 11 Jun 2024
	Drawn By: AWB	Checked By: AWB

File Name: Figure 3 - Monitoring Area



Legend

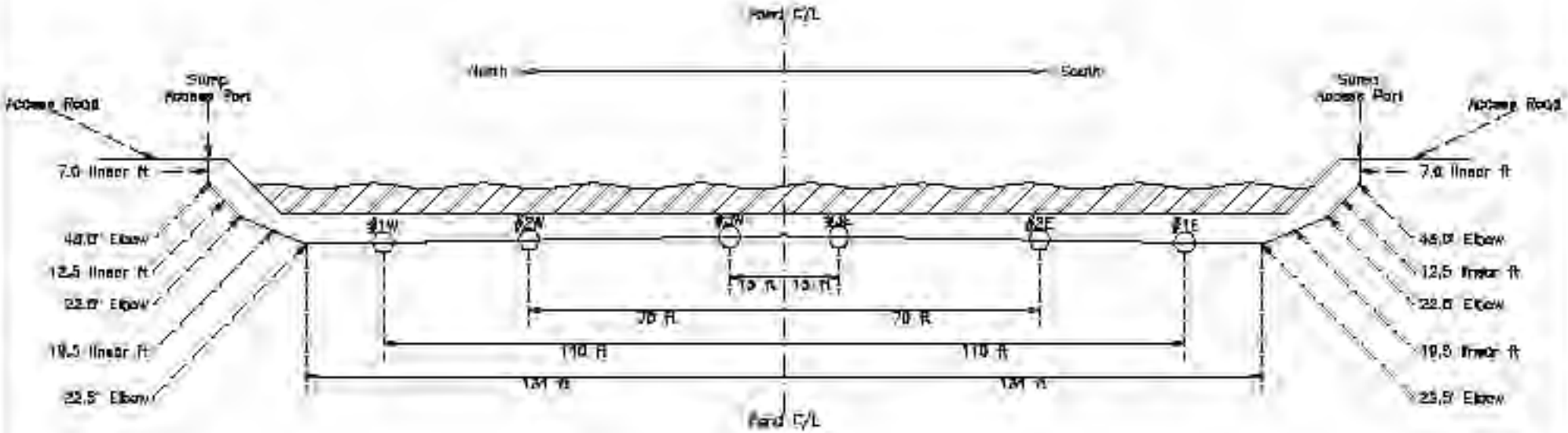
- Detection Monitoring Wells
- Groundwater Elevation Contour Lines *(feet above mean sea level)*
- Groundwater Gradient Direction

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

FIGURE 4
Groundwater Elevation Contour Map
June 2024

NORTHSTAR	Project No. 196-004	Draw Date: 11 Jul 2024
	Drawn By: AWB	Checked By: AWB

File Name: Figure 4 - GW Contours



Note: All dimensions are approximate and are based upon field observations.

Notes:

1. Probes installed at #1W through #1E are Irrometer/Watermark Model 200SS Moisture Probes.
2. Sump access port is 4-inch diameter HDPE pipe.
3. Moisture probes are tied to 1/4-inch diameter braided steel pull-through cable (total length of approximately 340 feet).
4. Probes installed in 4-inch diameter perforated pipe with approximate 1 degree slope away from C/L.
5. Moisture probes furnished with two leads for direct read by Watermark Model 30 KTCD-NL meter.

0 15 30
Scale: 1 inch = 30 Feet

Project Name: Genesis Solar Energy Project	Project Number: 196-004-05
Project Address: 11995 Wiley's Well Rd, Blythe, CA	Drawn/Checked By: AWB
Consulting Firm: Northstar Environmental Remediation	Date Drawn: 01/13/2023
Figure Description: Pond Drainage Sump System Detail	Figure Number: Figure 5

TABLES

TABLE 1

DETECTION MONITORING WELL DETAILS

Genesis Solar Energy Project, Riverside County, California

Well ID	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										
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

Notes:

-- = information is not available or unknown

amsl = above mean sea level

bgs = below ground surface

TABLE 2

GROUNDWATER LEVEL MEASUREMENTS

Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl)	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Difference from Baseline (feet)	Comments / Use
WELLS INCLUDED IN THE GROUNDWATER DETECTION MONITORING PROGRAM							
DM-1	2/27/2012	WorleyParsons	391.49	106.63	284.86	N/A	Monitoring
DM-1	5/24/2012	WorleyParsons	391.49	107.11	284.38	0.00	Baseline
DM-1	7/26/2012	WorleyParsons	391.49	107.10	284.39	0.01	Monitoring
DM-1	11/14/2012	WorleyParsons	391.49	108.15	283.34	-1.04	Monitoring
DM-1	3/29/2013	WorleyParsons	391.49	107.34	284.15	-0.23	Monitoring
DM-1	6/19/2013	WorleyParsons	391.49	107.19	284.30	-0.08	Monitoring
DM-1	8/13/2013	WorleyParsons	391.49	107.07	284.42	0.04	Monitoring
DM-1	11/12/2013	WorleyParsons	391.49	107.22	284.27	-0.11	Monitoring
DM-1	2/26/2014	WorleyParsons	391.49	107.13	284.36	-0.02	Monitoring
DM-1	5/22/2014	Northstar	391.49	107.05	284.44	0.06	Monitoring
DM-1	8/8/2014	Northstar	391.49	107.11	284.38	0.00	Monitoring
DM-1	12/4/2014	Northstar	391.49	107.03	284.46	0.08	Monitoring
DM-1	3/26/2015	Northstar	391.49	107.22	284.27	-0.11	Monitoring
DM-1	6/11/2015	Northstar	391.49	107.01	284.48	0.10	Monitoring
DM-1	12/10/2015	Northstar	391.49	106.98	284.51	0.13	Monitoring
DM-1	6/2/2016	Northstar	391.49	107.18	284.31	-0.07	Monitoring
DM-1	11/30/2016	Northstar	391.49	107.27	284.22	-0.16	Monitoring
DM-1	6/1/2017	Northstar	391.49	107.12	284.37	-0.01	Monitoring
DM-1	12/5/2017	Northstar	391.49	107.38	284.11	-0.27	Monitoring
DM-1	5/30/2018	Northstar	391.49	107.10	284.39	0.01	Monitoring
DM-1	12/4/2018	Northstar	391.49	107.45	284.04	-0.34	Monitoring
DM-1	6/14/2019	Northstar	391.49	107.18	284.31	-0.07	Monitoring
DM-1	12/5/2019	Northstar	391.49	107.42	284.07	-0.31	Monitoring
DM-1	6/4/2020	Northstar	391.49	107.10	284.39	0.01	Monitoring
DM-1	12/3/2020	Northstar	391.49	107.70	283.79	-0.59	Monitoring
DM-1	6/3/2021	Northstar	391.49	107.06	284.43	0.05	Monitoring
DM-1	12/2/2021	Northstar	391.49	107.35	284.14	-0.24	Monitoring
DM-1	6/2/2022	Northstar	391.49	107.25	284.24	-0.14	Monitoring
DM-1	12/1/2022	Northstar	391.49	107.40	284.09	-0.29	Monitoring
DM-1	6/8/2023	Northstar	391.49	107.49	284.00	-0.38	Monitoring
DM-1	12/7/2023	Northstar	391.49	107.41	284.08	-0.30	Monitoring
DM-1	6/6/2024	Northstar	391.49	107.44	284.05	-0.33	Monitoring
DM-2	2/27/2012	WorleyParsons	391.32	106.92	284.40	N/A	Monitoring
DM-2	5/24/2012	WorleyParsons	391.32	107.37	283.95	0.00	Baseline
DM-2	7/26/2012	WorleyParsons	391.32	107.33	283.99	0.04	Monitoring
DM-2	11/14/2012	WorleyParsons	391.32	108.33	282.99	-0.96	Monitoring
DM-2	3/29/2013	WorleyParsons	391.32	107.59	283.73	-0.22	Monitoring
DM-2	6/19/2013	WorleyParsons	391.32	107.41	283.91	-0.04	Monitoring
DM-2	8/13/2013	WorleyParsons	391.32	107.31	284.01	0.06	Monitoring
DM-2	11/12/2013	WorleyParsons	391.32	107.63	283.69	-0.26	Monitoring
DM-2	2/26/2014	WorleyParsons	391.32	107.40	283.92	-0.03	Monitoring
DM-2	5/22/2014	Northstar	391.32	107.28	284.04	0.09	Monitoring
DM-2	8/8/2014	Northstar	391.32	107.28	284.04	0.09	Monitoring
DM-2	12/4/2014	Northstar	391.32	107.43	283.89	-0.06	Monitoring
DM-2	3/26/2015	Northstar	391.32	107.61	283.71	-0.24	Monitoring
DM-2	6/11/2015	Northstar	391.32	107.40	283.92	-0.03	Monitoring
DM-2	12/10/2015	Northstar	391.32	107.30	284.02	0.07	Monitoring
DM-2	6/2/2016	Northstar	391.32	107.38	283.94	-0.01	Monitoring
DM-2	11/30/2016	Northstar	391.32	107.52	283.80	-0.15	Monitoring
DM-2	6/1/2017	Northstar	391.32	107.47	283.85	-0.10	Monitoring
DM-2	12/5/2017	Northstar	391.32	107.78	283.54	-0.41	Monitoring
DM-2	5/30/2018	Northstar	391.32	107.45	283.87	-0.08	Monitoring
DM-2	12/4/2018	Northstar	391.32	107.80	283.52	-0.43	Monitoring
DM-2	6/14/2019	Northstar	391.32	107.55	283.77	-0.18	Monitoring
DM-2	12/5/2019	Northstar	391.32	107.72	283.60	-0.35	Monitoring
DM-2	6/4/2020	Northstar	391.32	107.45	283.87	-0.08	Monitoring
DM-2	12/3/2020	Northstar	391.32	108.03	283.29	-0.66	Monitoring
DM-2	6/3/2021	Northstar	391.32	107.64	283.68	-0.27	Monitoring
DM-2	12/2/2021	Northstar	391.32	107.71	283.61	-0.34	Monitoring
DM-2	6/2/2022	Northstar	391.32	107.65	283.67	-0.28	Monitoring
DM-2	12/1/2022	Northstar	391.32	107.72	283.60	-0.35	Monitoring
DM-2	6/8/2023	Northstar	391.32	107.82	283.50	-0.45	Monitoring
DM-2	12/7/2023	Northstar	391.32	107.74	283.58	-0.37	Monitoring
DM-2	6/6/2024	Northstar	391.32	107.79	283.53	-0.42	Monitoring
DM-3	2/27/2012	WorleyParsons	388.34	103.85	284.49	N/A	Monitoring
DM-3	5/24/2012	WorleyParsons	388.34	104.35	283.99	0.00	Baseline
DM-3	7/26/2012	WorleyParsons	388.34	104.28	284.06	0.07	Monitoring
DM-3	11/14/2012	WorleyParsons	388.34	105.25	283.09	-0.90	Monitoring
DM-3	3/29/2013	WorleyParsons	388.34	104.35	283.99	0.00	Monitoring

TABLE 2

GROUNDWATER LEVEL MEASUREMENTS

Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Source	Top of Casing Elevation (feet amsl)	Depth to Water (feet below TOC)	Groundwater Elevation (feet amsl)	Difference from Baseline (feet)	Comments / Use
DM-3	6/19/2013	WorleyParsons	388.34	104.20	284.14	0.15	Monitoring
DM-3	8/13/2013	WorleyParsons	388.34	104.31	284.03	0.04	Monitoring
DM-3	11/12/2013	WorleyParsons	388.34	104.43	283.91	-0.08	Monitoring
DM-3	2/26/2014	WorleyParsons	388.34	104.31	284.03	0.04	Monitoring
DM-3	5/22/2014	Northstar	388.34	104.20	284.14	0.15	Monitoring
DM-3	8/8/2014	Northstar	388.34	104.21	284.13	0.14	Monitoring
DM-3	12/4/2014	Northstar	388.34	104.39	283.95	-0.04	Monitoring
DM-3	3/26/2015	Northstar	388.34	104.59	283.75	-0.24	Monitoring
DM-3	6/12/2015	Northstar	388.34	104.18	284.16	0.17	Monitoring
DM-3	12/11/2015	Northstar	388.34	103.96	284.38	0.39	Monitoring
DM-3	6/3/2016	Northstar	388.34	104.38	283.96	-0.03	Monitoring
DM-3	12/2/2016	Northstar	388.34	104.28	284.06	0.07	Monitoring
DM-3	6/1/2017	Northstar	388.34	104.25	284.09	0.10	Monitoring
DM-3	12/5/2017	Northstar	388.34	104.62	283.72	-0.27	Monitoring
DM-3	5/30/2018	Northstar	388.34	104.27	284.07	0.08	Monitoring
DM-3	12/4/2018	Northstar	388.34	104.68	283.66	-0.33	Monitoring
DM-3	6/14/2019	Northstar	388.34	104.38	283.96	-0.03	Monitoring
DM-3	12/6/2019	Northstar	388.34	104.66	283.68	-0.31	Monitoring
DM-3	6/5/2020	Northstar	388.34	104.32	284.02	0.03	Monitoring
DM-3	12/3/2020	Northstar	388.34	104.80	283.54	-0.45	Monitoring
DM-3	6/3/2021	Northstar	388.34	104.29	284.05	0.06	Monitoring
DM-3	12/2/2021	Northstar	388.34	104.50	283.84	-0.15	Monitoring
DM-3	6/2/2022	Northstar	388.34	104.50	283.84	-0.15	Monitoring
DM-3	12/1/2022	Northstar	388.34	104.50	283.84	-0.15	Monitoring
DM-3	6/8/2023	Northstar	388.34	104.68	283.66	-0.33	Monitoring
DM-3	12/7/2023	Northstar	388.34	104.52	283.82	-0.17	Monitoring
DM-3	6/6/2024	Northstar	388.34	104.56	283.78	-0.21	Monitoring

Notes:

amsl = above mean sea level

TOC = top of casing

TABLE 3
FIELD DATA COLLECTED DURING THE MOST RECENT GROUNDWATER MONITORING EVENT
Genesis Solar Energy Project, Riverside County, California

Well ID	Date	Groundwater Purging			Field Parameters					
		Rate of Groundwater Discharge (mL/min)	Purging Method	Total Volume Purged (mL)	Temperature (°C)	pH	Conductivity (mS/cm)	Turbidity (NTU)	ORP (mV)	D.O. (mg/L)
DM-1	6/6/2024	180	Bladder Pump	3,600	32.1	6.93	17.8	7.6	+83	5.45
DM-2	6/6/2024	138	Bladder Pump	3,600	29.9	7.01	18.1	89.0	+89	0.74
DM-3	6/6/2024	143	Bladder Pump	3,600	34.2	6.78	17.0	0.2	+120	5.42

NOTES:
mL = milliliters
mL/min = milliliters per minute
mS/cm = millisiemens per centermeter
NTU = Nephelometric Turbidity Units
DO = Dissolved Oxygen
mg/L = milligrams per liter
^{0}C = degree Celsius
mV = millivolts

TABLE 4
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Genesis Solar Energy Project, Riverside County, California

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 (All Species) (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 (standard 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	
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	7.84	-	-	-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	7.83	-	-	-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	7.81	<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	7.74	<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	7.92	<4.7	<0.094	N/A[2]	N/A[2]
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	7.81	<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	7.79	<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	7.87	<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-1	6/14/2019	Low Flow	5,040	1,930	8.76	280	0.006	4,800	65	0.35	63	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	-	<0.50	9,600	17,700	7.2	<5.0	<0.10	-70.40	-8.58
DM-1	12/5/2019	Low Flow	7,460	2,150[J]	16.3	250	0.004[J]	4,200	32	<0.20	67	<5.0	0.80[J]	32	<5.0	2.1[J]	<5.0	<5.0	-	<5.0	0.80[J]	47	<0.50	11,000	17,600	7.7	<5.0	<0.10	-70.10	-8.55
DM-1	6/4/2020	Low Flow	5,500	2,090	8.04	220	0.007	4,300	24	<0.20	53	<5.0	<5.0	33	<5.0	<5.0	<5.0	<5.0	-	<5.0	13	16	<0.50	12,000	17,800	7.3	<5.0	<0.096	-70.30	-8.57
DM-1	12/3/2020	Low Flow	5,530	2,150	8.50	230	<0.005	9,500	35	<0.20	49	<5.0	<5.0	35	<5.0	<5.0	<5.0	<5.0	-	<5.0	0.87	<0.50	<0.50	12,000	18,000	7.9	<5.0	<0.11	-70.20	-8.57
DM-1	6/3/2021	Low Flow	5,520	2,050	8.28	220	<0.50	3,800	<50	<20	57	<10	<10	31	<10	<10	<10	<10	-	<10	17	<10	<0.50	8,100	17,800	7.7	<5.0	<0.095	-70.80	-8.62
DM-1	12/2/2021	Low Flow	5,360	1,930	8.59	230	<0.50	4,200	<50	<20	58	<10	<10	29	<10	<10	<10	<10	-	<10	16	<10	<1.0	14,000	17,800	7.8	<5.0	<0.099	-70.10	-8.58
DM-1	6/2/2022	Low Flow	5,530	2,070	8.70	240	<2.5	4,500	<250	<100	69	<50	<50	<50	<50	<50	<50	<50	-	<50	52	<50	<1.0	9,300	17,800	7.8	<5.0	<0.095	-70.20	-8.62
DM-1	12/1/2022	Low Flow	5,130	1,960	7.36	230	<0.005	4,500	58	<0.20	61	<25	<25	26	<25	<25	<25	<25	-	<25	<25	<25	<1.0	11,000	17,900	7.8	<5.0	<0.096	-70.20	-8.62
DM-1	6/8/2023	Low Flow	5,300	2,000	7.58	240	<0.50	4,100	<50	<20	65	<10	<10	29	<10	<10	<10	<10	-	<10	<10	<10	<1.0	10,000	18,000	7.8	<5.0	<0.097	-69.30	-8.53
DM-1	12/7/2023	Low Flow	5,290	1,830	7.18	230	<0.50	4,500	<50	<20	65	<25	<25	29	<25	<25	<25	<25	-	<25	<25	<25	<1.0	10,000	18,400	8.2	<5.0	<0.100	-69.80	-8.59
DM-1	6/6/2024	Low Flow	5,510	1,920	7.81	230	<0.50	4,200	<50	<20	62	<5.0	5.6	25	<5.0	<5.0	<5.0	<5.0	-	<5.0	7.2	8.8	<1.0	10,000	18,600	8.0	<5.0	<0.100	-70.10	-8.63
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	7.80	-	-	-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	7.72	-	-	-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	7.79	<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	7.90	<4.7	<0.095	N/A[2]	N/A[2]
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	7.92	<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	7.85	<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	7.95	<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-2	6/14/2019	Low Flow	5,240	2,080	11.2	300	<0.005	5,100	68	<0.20	67	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	-	<0.50	9,300	18,000	7.3	<5.0	<0.10	-70.10	-8.50
DM-2	12/5/2019	Low Flow	7,680	2,330[J]	21.2	310	0.007	4,400	30	<0.20	65	<5.0	<5.0	50	<5.0	2.9[J]	<5.0	<5.0	-	<5.0	3.2[J]	76	<0.50	10,000	17,000	7.6	<5.0	<0.10	-70.00	-8.48
DM-2	6/4/2020	Low Flow	5,580	2,240	10.4	280	0.007	4,100	41	<0.20	55	<5.0	<5.0	46	<5.0	<5.0	<5.0	<5.0	-	<5.0	9.8	24	<0.50	11,000	18,100	7.4	<5.0	<0.096	-69.90	-8.47
DM-2	12/3/2020	Low Flow	5,730	2,340	9.46	250	<0.005	11,000	34	<0.20	51	<5.0	<5.0	49	<5.0	<5.0	<5.0	<5.0	-	<5.0	0.94	<0.50	<0.50	10,000	18,000	7.8	<5.0	<0.11	-70.10	-8.50
DM-2	6/3/2021	Low Flow	5,610	2,210	7.85	230	<0.50	3,800	<50	<20	58	<10	<10	45	<10	<10	<10	<10	-	<10	16	<10	<0.50	9,000	18,200	7.6	<5.0	<0.092	-69.90	-8.50
DM-2	12/2/2021	Low Flow	5,470	2,100	10.0	270	<0.50	4,500	<50	<20	63	<10	<10	44	<10	<10	<10	<10	-	<10	16	<10	<1.0	13,000	18,200	7.8	<5.0	<0.095	-69.50	-8.47
DM-2	6/2/2022	Low Flow	5,860	2,160	10.9	240	<2.5	4,200	<250	<100	67	<50	<50	<50	<50	<50	<50	<50	-	<50	53	<50	<1.0	9,300	18,200	7.7	<5.0	<0.093	-69.60	-8.51
DM-2	12/1/2022	Low Flow	5,450	2,180	9.45	250	<0.005	4,700	57	<0.20	65	<25	<25	37	<25	<25	<25	<25	-	<25	<25	<25	<1.0	10,000	18,300	7.8	<5.0	<0.098	-69.50	-8.49
DM-2	6/8/2023	Low Flow	5,470	2,190	9.73	300	<0.50	4,800	<50	<20	85	<10	<10	37	<10	<10	<10	<10	-	<10	<10	<10	<1.0	6,800	18,300	7.6	<5.0	<0.100	-70.00	-8.51
DM-2	12/7/2023	Low Flow	5,390	1,930	6.21	240	<0.50	4,300	<50	<20	66	<25	<25	40	<25	<25	<25	<25	-	<25	<25	<25	<1.0	11,000	18,900	7.9	<5.0	<0.100	-69.60	-8.49
DM-2	6/6/2024	Low Flow	4,910	2,110	8.84	240	<0.50	4,100	<50	<20	64	<5.0	6.1	35	<5.0	<5.0	<5.0	<5.0	-	<5.0	8.6	13	<1.0	10,000	19,000	7.9	<5.0	<0.090	-69.60	-8.49
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	7.83	-	-	-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	7.83	-	-	-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	7.66	<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	7.82	<4.7	<0.099	N/A[2]	N/A[2]
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	7.75	<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	7.79	<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	7.86	<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
DM-3	6/14/2019	Low Flow	4,880	1,960	2.87	270	0.009	4,900	60	<0.20	59	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	-	<0.50	9,300	16,800	7.5	<5.0	<0.10	-70.80	-8.69
DM-3	12/6/2019	Low Flow	9,760	4,350	3.52	240	0.006	4,100	31	<0.20	58	<5.0	11	18	<5.0	0.90[J]	<5.0	<5.0	-	<5.0	0.40[J]	51	<0.50	11,000	17,800	7.7	<5.0	<0.10	-70.50	-8.64
DM-3	6/5/2020	Low Flow	5,250	2,080	2.44	230	0.007	4,000	35	<0.20	48	<5.0	16	17	<5.0	<5.0	<5.0	<5.0	-	<5.0	6.4	13	<0.50	11,000	17,400	7.5	<5.0	<0.097	-70.70	-8.65
DM-3	12/3/2020	Low Flow	5,420	2,300	2.47	220	<0.005	9,100	29	<0.20	45	<5.0	<5.0	20	<5.0	<5.0	<5.0	<5.0	-	<5.0	0.68	0.55	<0.50	10,000	17,000	7.9	<5.0	<0.11	-70.90	-8.71

TABLE 4
SUMMARY OF LABORATORY ANALYTICAL RESULTS
Genesis Solar Energy Project, Riverside County, California

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 (All Species) (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 (standard 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	
DM-3	6/3/2021	Low Flow	5,380	2,130	2.44	190	<0.50	3,500	<50	<20	48	<10	17	18	<10	<10	<10	<10	-	<10	20	10	<0.50	7,700	17,400	7.7	<5.0	<0.093	-70.40	-8.69
DM-3	12/2/2021	Low Flow	5,230	2,020	3.06	220	<0.50	4,000	<50	<20	53	<10	26	17	<10	<10	<10	<10	-	<10	11	<10	<1.0	12,000	17,400	7.8	<5.0	<0.094	-70.60	-8.69
DM-3	6/2/2022	Low Flow	5,570	2,110	2.82	240	<2.5	4,500	<250	<100	59	<50	<50	<50	<50	<50	<50	<50	-	<50	55	50	<1.0	8,500	17,400	7.8	<5.0	<0.090	-70.50	-8.71
DM-3	12/1/2022	Low Flow	5,300	2,110	3.11	210	<0.005	4,400	55	<0.20	56	<25	<25	<25	<25	<25	<25	<25	-	<25	<25	<25	<1.0	9,900	17,600	7.8	<5.0	<0.099	-70.50	-8.71
DM-3	6/8/2023	Low Flow	5,230	2,100	2.61	240	<0.50	4,200	<50	<20	66	<10	16	17	<10	<10	<10	<10	-	<10	<10	<10	<1.0	9,800	17,600	7.7	<5.0	<0.099	-71.10	-8.76
DM-3	12/7/2023	Low Flow	5,300	1,940	2.65	220	<0.50	4,100	<50	<20	60	<25	<25	<25	<25	<25	<25	<25	-	<25	<25	<25	<1.0	10,000	18,100	8.0	<5.0	<0.099	-71.50	-8.76
DM-3	6/6/2024	Low Flow	4,650	2,060	3.01	220	<0.50	4,100	<50	<20	59	<5.0	17	15	<5.0	<5.0	<5.0	<5.0	-	<5.0	5.6	6.2	<1.0	9,900	18,200	8.0	<5.0	<0.100	-70.40	-8.67
North Pond	6/1/2018	Composite	61,700	21,000	0.870	230	<0.015	12,000	430	<0.35	4.6[J]	<10	470	230	<10	<0.50	<10	<0.50	-	25	<25	62	<0.50	120,000	148,000	9.4	<1.40	<0.095	N/A	N/A
North Pond	12/3/2018	Composite	241,000	18,600	24.3	630	2.9	46,000	8,300	<20	27	<25	1,000	68	<25	<25	<25	<25	-	59	<25	<25	<0.50	400,000	241,000	7.6	<5.00	<0.099	N/A	N/A
North Pond	6/13/2019	Composite	39,800	12,000	<0.500	280	0.038	41,000	<0.10	<0.20	5.7	<10	25	12	<10	<10	<10	<10	-	<10	<10	-	<0.50	72,000	108,000	9.1	<5.00	<0.094	N/A	N/A
North Pond	12/5/2019	Composite	83,000	27,000	<500	380	0.090	43,000	340	<0.20	3.0	<5.0	800	200	<5.0	<50	<50	<5.0	-	<50	<50	4,300	<0.50	120,000	120,000	8.8	<5.00	<0.095	N/A	N/A
North Pond	6/4/2020	Composite	40,900	11,300	27.4	510	3.4	20,000	240	<20	570	<25	560	76	<25	<25	<25	<25	-	<25	38	39	<0.50	70,000	107,000	9.4	<5.00	<0.090	N/A	N/A
North Pond	12/3/2020	Composite	38,000	11,800	7.73	390	<0.5	30,000	250	<20	19	<25	8.7	330	<25	<25	<25	<25	-	<25	0.81	0.81	<0.50	57,000	95,000	8.9	<5.00	<0.10	N/A	N/A
North Pond	6/4/2021	Composite	48,200	15,200	53.1	400	<0.50	31,000	230	<20	12	<25	510	130	<25	<25	<25	<25	-	30	53	<25	<0.50	16,000	119,000	9.4	<5.00	<0.087	N/A	N/A
North Pond	12/2/2021	Composite	57,500	18,600	<50.0	470	<0.50	44,000	300	<20	17	<20	640	170	<20	<20	<20	<20	-	<20	31	<20	<1.0	91,000	142,000	8.9	<5.00	<0.092	N/A	N/A
North Pond	6/2/2022	Composite	86,200	30,400	47.8	<100	<5.0	79,000	<500	<200	<100	<50	940	300	<50	<50	<50	<50	-	<50	89	<50	<1.0	180,000	175,000	8.6	<5.00	<0.098	N/A	N/A
North Pond	12/1/2022	Composite	24,200	8,040	47.8	250	<1.2	21,000	<250	<50	<25	<25	340	170	<25	<25	<25	<25	-	<25	41	56	<1.0	41,000	70,300	8.4	<5.00	<0.100	N/A	N/A
North Pond	6/8/2023	Composite	28,700	7,800	1,910	380	<2.0	23,000	<200	<80	<40	<10	340	280	<10	<10	<10	<10	-	<10	<10	<10	<1.0	46,000	75,500	8.8	<5.00	<0.099	N/A	N/A
North Pond	12/7/2023	Composite	37,200	9,530	<250	390	<2.0	28,000	<200	<80	<40	<25	420	100	<25	<25	<25	<25	-	<25	<25	<25	<1.0	65,000	100,000	9.1	<5.00	<0.100	N/A	N/A
North Pond	6/6/2024	Composite	57,700	17,000	44.6	410	<0.50	4,500	310	<20	16	<50	460	140	<50	<50	<50	<50	-	<50	66	<50	<1.0	110,000	147,000	8.7	<5.00	<0.088	N/A	N/A
South Pond	6/1/2018	Composite	152,000	59,500	22.2	27	<0.015	17,000	1,100	<0.35	17	<10	1,100	85	<25	<10	<10	<0.50	-	46	43	79	<0.50	310,000	218,000	8.3	<1.40	<0.090	N/A	N/A
South Pond	12/3/2018	Composite	33,200	8,710	65.1	410	2.8	34,000	420	<20	27	<25	390	310	<25	<25	<25	<25	-	<25	<25	160	<0.50	39,000	61,200	8.9	36.4	<0.097	N/A	N/A
South Pond	6/13/2019	Composite	38,700	10,800	57.2	430	0.064	40,000	<0.10	<0.20	16	<10	28	25	<10	<10	<10	<10	-	<10	<10	-	<0.50	68,000	104,000	9.3	<5.00	<0.097	N/A	N/A
South Pond	12/5/2019	Composite	30,000	6,770	2.17	200	0.041	14,000	160	<0.20	13	<5.0	200	170	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	190	<0.50	35,000	49,700	9.0	<5.00	<0.099	N/A	N/A
South Pond	6/4/2020	Composite	74,600	23,900	14.8	390	4.2	62,000	470	<20	1,100	<25	1,100	360	<25	<25	<25	<25	-	36	68	48	<0.50	130,000	166,000	8.8	<5.00	<0.091	N/A	N/A
South Pond	12/3/2020	Composite	73,700	16,600	10.6	370	<0.5	42,000	480	<20	23	<25	14	290	<25	<25	<25	<25	-	<25	0.73	3.0	<0.50	92,000	150,000	8.6	<5.00	<0.099	N/A	N/A
South Pond	6/4/2021	Composite	91,000	22,300	<50.0	420	<0.50	55,000	620	<20	29	<25	1,100	420	<25	<25	<25	<25	-	56	69	100	<0.50	25,000	183,000	9.0	<5.00	<0.091	N/A	N/A
South Pond	12/2/2021	Composite	24,000	6,560	<50.0	240	<0.50	19,000	150	<20	16	<10	290	200	<10	<10	<10	<20	-	21	18	64	<1.0	38,000	67,500	8.9	<5.00	<0.090	N/A	N/A
South Pond	6/2/2022	Composite	80,200	21,900	45.2	300	<5.0	65,000	<500	<200	100	<50	920	310	<50	<50	<50	<50	-	<50	82	<50	<1.0	140,000	168,000	8.4	<5.00	<0.095	N/A	N/A
South Pond	12/1/2022	Composite	24,000	5,500	<25.0	300	<1.2	20,000	<250	<50	<25	<25	260	210	<25	<25	<25	<25	-	<25	59	60	<1.0	35,000	67,400	8.5	<5.00	<0.100	N/A	N/A
South Pond	6/8/2023	Composite	25,800	5,600	959	270	<2.0	19,000	<200	<80	<40	<10	280	210	<10	<10	<10	<10	-	<10	12	39	<1.0	22,000	66,300	8.2	<5.00	<0.099	N/A	N/A
South Pond	12/7/2023	Composite	17,900	4,040	449	240	<2.0	17,000	<200	<80	<40	<25	250	190	<25	<25	<25	<25	-	<25	<25	170	<1.0	35,000	59,500	9.3	<5.00	<0.100	N/A	N/A
South Pond	6/6/2024	Composite	53,600	11,800	44.7	460	<0.50	4,000	340	<20	30	<50	540	390	<50	<50	<50	<50	-	<50	52	<50	<1.0	110,000	142,000	9.1	<4.47	<0.092	N/A	N/A

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
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
2 - Analytical results not available at time of reporting due to laboratory equipment failure.
Analytical data shaded grey is a monitored Contaminant of Concern as defined in the Waste Discharge Requirements, Condition 79, Page 16

TABLE 5

SUMMARY OF POND DRAINAGE SUMP DATA

Genesis Solar Energy Project, Riverside County, California

Date of Reading	Sensor Readings[1]														Comments
	North Pond							South Pond							
	#1W	#2W	#3W	#1E	#2E	#3E	Totalizer	#1W	#2W	#3W	#1E	#2E	#3E	Totalizer	
1st Qtr 2014	199	199	199	199	199	199	-	199	199	199	199	199	199	-	All probes are dry
2nd Qtr 2014	199	199	199	199	199	199	-	199	199	199	199	199	199	-	
3rd Qtr 2014	199	199	199	199	199	199	-	199	199	199	199	199	199	-	
12/05/2014	199	199	199	199	199	199	-	199	199	199	199	199	199	-	
03/26/2015	199	199	199	199	199	199	-	199	199	199	199	199	199	-	
06/12/2015	133	199	199	199	199	199	-	199	199	199	199	199	199	-	
09/03/2015	78	199	199	199	199	199	-	199	199	199	199	199	199	-	
09/15/2015	67	199	199	199	199	199	-	199	199	199	199	199	199	-	
12/10/2015	0	75	199	199	199	199	-	199	199	199	199	199	199	-	Sump pumps turned on - no water
03/01/2016	6	101	199	199	199	199	-	199	199	199	199	199	199	-	
06/02/2016	4	80	199	199	199	199	-	199	199	199	199	199	199	-	
09/01/2016	0	42	146	199	175	105	-	199	199	199	199	199	199	-	
12/01/2016	0	59	199	199	199	188	1,144.79	199	199	199	183	199	199	24.21	Readings on arrival
12/01/2016	199	199	199	199	199	199	1,144.79	199	199	199	183	199	199	24.21	Readings on departure, new probes in North Pond
03/02/2017	199	199	199	199	199	199	1,144.79	199	199	199	199	199	199	24.21	
06/01/2017	199	199	199	199	199	199	1,144.79	199	199	199	199	199	199	24.21	
09/04/2017	199	199	199	199	199	199	1,695.44	199	199	199	192	178	199	24.21	
12/05/2017	114	165	199	199	179	180	1,695.66	199	199	199	166	199	199	24.21	To date, all totalizer increases are from pump testing
03/06/2018	186	199	199	199	199	199	1,695.66	199	199	199	199	199	199	24.21	
06/01/2018	159	199	199	199	199	199	1,695.66	199	199	199	177	186	199	24.21	
09/12/2018	78	192	199	199	199	192	1,694.83	199	199	199	197	187	199	24.21	
12/03/2018	119	181	199	199	199	199	1,688.26	199	199	199	199	168	199	24.21	
03/08/2019	150	199	199	199	199	199	1,690.80	199	199	199	115	168	199	24.21	
06/13/2019	199	199	199	199	199	199	1,687.19	199	199	199	188	199	199	24.21	
09/08/2019	199	199	199	199	199	199	1,686.68	199	199	199	188	199	199	24.21	
12/05/2019	145	199	199	199	199	199	1,683.78	199	199	199	199	199	199	24.21	
03/17/2020	168	199	199	199	199	199	1,681.87	199	199	199	199	199	199	24.21	
06/04/2020	109	199	199	199	199	199	1,657.23	199	199	199	199	199	199	22.64	
09/16/2020	199	199	199	199	199	199	1,619.72	199	199	199	199	199	199	20.34	
12/03/2020	98	199	199	199	199	199	1,624.77	199	199	199	199	199	199	20.34	
03/23/2021	104	199	199	199	199	199	1,628.91	199	199	199	199	199	199	20.34	
06/04/2021	119	199	199	199	199	199	2,017.91	199	199	199	199	199	199	205.98	Sump pumps tested prior to readings
09/21/2021	89	199	199	199	199	199	2,188.61	199	199	199	199	199	199	197.30	
12/02/2021	97	199	199	199	199	199	2,186.30	199	199	199	199	199	199	N/A [2]	
03/30/2022	134	199	199	199	199	199	2,183.93	199	199	199	199	199	199	N/A [2]	
06/02/2022	151	199	199	199	199	199	7.48	199	199	199	189	199	199	7.48	New pumps and totalizers installed in 2nd quarter
08/04/2022	109	191	199	199	199	105	605.44	199	199	199	188	199	199	7.48	Verification readings following leak reported by NextEra
09/30/2022	105	189	199	199	199	122	605.44	199	199	199	199	199	199	7.48	
12/01/2022	103	179	199	199	197	176	605.55	171	199	199	189	174	199	7.48	
03/29/2023	181	199	199	199	199	199	605.55	199	199	199	199	199	199	7.48	
06/08/2023	56	198	199	199	199	196	605.55	199	199	199	198	199	199	7.48	
09/28/2023	75	153	199	199	199	149	605.55	199	199	199	199	199	199	7.48	Moisture under both western caps
12/07/2023	70	110	199	199	199	98	605.55	199	199	199	167	199	199	7.48	Moisture under north pond, western cap
03/27/2024	199	199	199	199	199	199	607.01	199	199	199	198	199	199	7.48	Moisture under north pond, western cap
06/06/2024	130	199	199	199	199	199	607.01	199	199	199	199	199	199	7.48	No moisture observed under caps

1 - Readings in centibars, collected with a Watermark 30 KTCD-NL Soil Moisture Meter

2 - Pump totalizer not functioning

APPENDIX A

FIELD DATA SHEETS

GROUNDWATER SAMPLING FIELD FORM

Date: 06/06/24	Site: Genesis Solar Energy Project	Project No: 196-004-07
Project: Groundwater Detection Monitoring Program		Project Manager: AWB
Technicians: AWB		Weather: Hot
Sampling Method: Low-flow sampling with submersible pump (EPA 2017 protocols) and flow-through cell		

Well No.	DM-1	Time (5 Min Int)	Water Level (ft btoc)	Temp °C (3%)	pH (+/- 0.1)	Cond (mS/cm) (3%)	Turbidity (NTUs) (10%)	ORP (mV) (+/- 10)	DO (mg/L) (10%)
Casing Diameter (in.)	4.0	20:10	107.48	33.8	6.83	17.8	12.4	+88	4.02
Total Depth (ft btoc)	120	20:15	107.45	32.2	6.91	17.7	7.8	+85	5.49
Screen Interval (ft btoc)	100 - 120	20:20	107.45	32.1	6.94	17.8	7.6	+84	5.48
Depth to Water (ft btoc)	107.44	20:25	107.45	32.1	6.93	17.8	7.6	+83	5.45
Depth of Inlet (ft btoc)	115.00								
Discharge Time (sec)	30								
Fill Time (sec)	20								
Cycles per Minute	1.2								
Volume per Cycle (mL)	150								
Pump Rate (mL/min)	180								
Volume Purged (mL)	3,600								
Sample Date	06/06/24								
Sample Time	20:50								

Purge Volume Calculation: Total must exceed tubing volume (1,204 mL) plus drawdown volume (2,460 mL/foot) = **1,229 mL**

Well No.	DM-2	Time (5 Min Int)	Water Level (ft btoc)	Temp °C (3%)	pH (+/- 0.1)	Cond (mS/cm) (3%)	Turbidity (NTUs) (10%)	ORP (mV) (+/- 10)	DO (mg/L) (10%)
Casing Diameter (in.)	4.0	21:25	108.06	30.8	6.94	17.9	104.0	+89	1.55
Total Depth (ft btoc)	120	21:30	108.18	30.1	6.97	18.1	86.0	+89	0.76
Screen Interval (ft btoc)	100 - 120	21:35	108.23	30.0	6.99	18.1	87.0	+89	0.75
Depth to Water (ft btoc)	107.79	21:40	108.25	29.9	7.01	18.1	89.0	+89	0.74
Depth of Inlet (ft btoc)	115.00								
Discharge Time (sec)	28								
Fill Time (sec)	37								
Cycles per Minute	0.9								
Volume per Cycle (mL)	150								
Pump Rate (mL/min)	138								
Volume Purged (mL)	3,600								
Sample Date	06/06/24								
Sample Time	22:15								

Purge Volume Calculation: Total must exceed tubing volume (1,204 mL) plus drawdown volume (2,460 mL/foot) = **2,336 mL**

Well No.	DM-3	Time (5 Min Int)	Water Level (ft btoc)	Temp °C (3%)	pH (+/- 0.1)	Cond (mS/cm) (3%)	Turbidity (NTUs) (10%)	ORP (mV) (+/- 10)	DO (mg/L) (10%)
Casing Diameter (in.)	4.0	18:55	104.60	35.9	6.69	17.2	1.4	+118	5.80
Total Depth (ft btoc)	120	19:00	104.60	34.4	6.76	17.0	0.0	+121	5.44
Screen Interval (ft btoc)	100 - 120	19:05	104.60	34.3	6.78	17.0	0.3	+120	5.43
Depth to Water (ft btoc)	104.56	19:10	104.60	34.2	6.78	17.0	0.2	+120	5.42
Depth of Inlet (ft btoc)	115.00								
Discharge Time (sec)	28								
Fill Time (sec)	35								
Cycles per Minute	1.0								
Volume per Cycle (mL)	150								
Pump Rate (mL/min)	143								
Volume Purged (mL)	3,600								
Sample Date	06/06/24								
Sample Time	19:50								

Purge Volume Calculation: Total must exceed tubing volume (1,204 mL) plus drawdown volume (2,460 mL/foot) = **1,303 mL**

APPENDIX B

LABORATORY ANALYTICAL RESULTS

MONITORING WELLS AND EVAPORATION PONDS

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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

25 June 2024

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

RE: Genesis Solar Groundwater

Enclosed are the results of analyses for samples received by the laboratory on 06/07/24 10:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee
Project 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	06/25/24 12:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DM-1	T242360-01	Water	06/06/24 20:50	06/07/24 10:30
DM-2	T242360-02	Water	06/06/24 22:15	06/07/24 10:30
DM-3	T242360-03	Water	06/06/24 19:50	06/07/24 10:30
North Pond	T242360-04	Water	06/06/24 17:50	06/07/24 10:30
South Pond	T242360-05	Water	06/06/24 18:00	06/07/24 10:30

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

DETECTIONS SUMMARY

Sample ID: DM-1 **Laboratory ID:** T242360-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**5.6**	5.0	ug/l	200.8	FILT
Barium	**25**	5.0	ug/l	200.8	FILT
Calcium	**230**	50	mg/l	EPA 200.7	FILT
Selenium	**7.2**	5.0	ug/l	200.8	FILT
Magnesium	**62**	10	mg/l	EPA 200.7	FILT
Zinc	**8.8**	5.0	ug/l	200.8	FILT
Sodium	**4200**	50	mg/l	EPA 200.7	FILT
pH	**8.0**	0.10	pH Units	SM 4500-H+B	
Total Dissolved Solids	**10000**	10	mg/l	TDS by SM2540C	
Specific Conductance (EC)	**18600**	10.0	mho/cm @25°(	SM2510b mod.	
pH Temperature °C	**20**		pH Units	SM 4500-H+B	
Chloride	**5510**	500	mg/l	EPA 300.0	
Sulfate as SO4	**1920**	500	mg/l	EPA 300.0	
Nitrate as NO3	**7.81**	0.500	mg/l	EPA 300.0	O-07
Nitrate as N	**1.76**	0.200	mg/l	EPA 300.0	O-07

Sample ID: DM-2 **Laboratory ID:** T242360-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**6.1**	5.0	ug/l	200.8	FILT
Barium	**35**	5.0	ug/l	200.8	FILT
Calcium	**240**	50	mg/l	EPA 200.7	FILT
Selenium	**8.6**	5.0	ug/l	200.8	FILT
Magnesium	**64**	10	mg/l	EPA 200.7	FILT
Zinc	**13**	5.0	ug/l	200.8	FILT
Sodium	**4100**	50	mg/l	EPA 200.7	FILT
pH	**7.9**	0.10	pH Units	SM 4500-H+B	
Total Dissolved Solids	**10000**	10	mg/l	TDS by SM2540C	
pH Temperature °C	**20**		pH Units	SM 4500-H+B	
Specific Conductance (EC)	**19000**	10.0	mho/cm @25°(	SM2510b mod.	
Chloride	**4910**	2500	mg/l	EPA 300.0	
Sulfate as SO4	**2110**	250	mg/l	EPA 300.0	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

Sample ID: DM-2 **Laboratory ID:** T242360-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Nitrate as NO3	**8.84**	0.500	mg/l	EPA 300.0	O-07
Nitrate as N	**2.00**	0.200	mg/l	EPA 300.0	O-07

Sample ID: DM-3 **Laboratory ID:** T242360-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**17**	5.0	ug/l	200.8	FILT
Barium	**15**	5.0	ug/l	200.8	FILT
Calcium	**220**	50	mg/l	EPA 200.7	FILT
Selenium	**5.6**	5.0	ug/l	200.8	FILT
Magnesium	**59**	10	mg/l	EPA 200.7	FILT
Zinc	**6.2**	5.0	ug/l	200.8	FILT
Sodium	**4100**	50	mg/l	EPA 200.7	FILT
Total Dissolved Solids	**9900**	10	mg/l	TDS by SM2540C	
pH	**8.0**	0.10	pH Units	SM 4500-H+B	
Specific Conductance (EC)	**18200**	10.0	mho/cm @25°(	SM2510b mod.	
pH Temperature °C	**20**		pH Units	SM 4500-H+B	
Chloride	**4650**	2500	mg/l	EPA 300.0	
Sulfate as SO4	**2060**	250	mg/l	EPA 300.0	
Nitrate as NO3	**3.01**	0.500	mg/l	EPA 300.0	O-07
Nitrate as N	**0.680**	0.200	mg/l	EPA 300.0	O-07

Sample ID: North Pond **Laboratory ID:** T242360-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**460**	50	ug/l	200.8	FILT
Barium	**140**	50	ug/l	200.8	FILT
Calcium	**410**	50	mg/l	EPA 200.7	FILT
Selenium	**66**	50	ug/l	200.8	FILT
Magnesium	**16**	10	mg/l	EPA 200.7	FILT
Potassium	**310**	50	mg/l	EPA 200.7	FILT
Sodium	**4500**	500	mg/l	EPA 200.7	FILT
pH	**8.7**	0.10	pH Units	SM 4500-H+B	
Total Dissolved Solids	**110000**	10	mg/l	TDS by SM2540C	
Specific Conductance (EC)	**147000**	10.0	mho/cm @25°(	SM2510b mod.	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

Sample ID: North Pond **Laboratory ID:** T242360-04

Analyte	Result	Reporting Limit	Units	Method	Notes
pH Temperature °C	**20**		pH Units	SM 4500-H+B	
Chloride	**57700**	5000	mg/l	EPA 300.0	
Sulfate as SO4	**17000**	5000	mg/l	EPA 300.0	
Nitrate as NO3	**44.6**	25.0	mg/l	EPA 300.0	
Nitrate as N	**10.0**	10.0	mg/l	EPA 300.0	

Sample ID: South Pond **Laboratory ID:** T242360-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic	**540**	50	ug/l	200.8	FILT
Barium	**390**	50	ug/l	200.8	FILT
Calcium	**460**	50	mg/l	EPA 200.7	FILT
Selenium	**52**	50	ug/l	200.8	FILT
Magnesium	**30**	10	mg/l	EPA 200.7	FILT
Potassium	**340**	50	mg/l	EPA 200.7	FILT
Sodium	**4000**	500	mg/l	EPA 200.7	FILT
pH	**9.1**	0.10	pH Units	SM 4500-H+B	
Total Dissolved Solids	**110000**	10	mg/l	TDS by SM2540C	
Specific Conductance (EC)	**142000**	10.0	mho/cm @25°C	SM2510b mod.	
pH Temperature °C	**20**		pH Units	SM 4500-H+B	
Chloride	**53600**	5000	mg/l	EPA 300.0	
Sulfate as SO4	**11800**	5000	mg/l	EPA 300.0	
Nitrate as NO3	**44.7**	25.0	mg/l	EPA 300.0	
Nitrate as N	**10.0**	10.0	mg/l	EPA 300.0	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

DM-1

T242360-01 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods									
Calcium	**230**	50	mg/l	100	24F0096	06/07/24	06/13/24	EPA 200.7	FILT
Copper	ND	0.50	"	"	"	"	"	"	FILT, R-01
Iron	ND	20	"	"	"	"	"	"	FILT, R-01
Magnesium	**62**	10	"	"	"	"	"	"	FILT
Potassium	ND	50	"	"	"	"	"	"	FILT, R-01
Sodium	**4200**	50	"	"	"	"	"	"	FILT
Antimony	ND	5.0	ug/l	10	24F0114	06/07/24	06/13/24	200.8	FILT, R-01
Arsenic	**5.6**	5.0	"	"	"	"	"	"	FILT
Barium	**25**	5.0	"	"	"	"	"	"	FILT
Cadmium	ND	5.0	"	"	"	"	"	"	FILT, R-01
Chromium	ND	5.0	"	"	"	"	"	"	FILT, R-01
Cobalt	ND	5.0	"	"	"	"	"	"	FILT, R-01
Lead	ND	5.0	"	"	"	"	"	"	FILT, R-01
Nickel	ND	5.0	"	"	"	"	"	"	FILT, R-01
Selenium	**7.2**	5.0	"	"	"	"	"	"	FILT
Zinc	**8.8**	5.0	"	"	"	"	"	"	FILT
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	1.0	ug/l	1	24F0064	06/07/24	06/11/24	EPA 7470A Water	FILT
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
Oil & Grease	ND	5.00	mg/l	1	24F0108	06/07/24	06/10/24	EPA 1664B	
Specific Conductance (EC)	**18600**	10.0	umho/cm @25°C	"	24F0145	06/11/24	06/12/24	SM2510b mod.	
pH	**8.0**	0.10	pH Units	"	24F0111	06/07/24	06/11/24	SM 4500-H+B	
pH Temperature °C	**20**		"	"	"	"	"	"	
Total Dissolved Solids	**10000**	10	mg/l	"	24F0143	06/11/24	06/14/24	TDS by SM2540C	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

DM-1

T242360-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Anions by EPA Method 300.0									
Chloride	**5510**	500	mg/l	100	24F0110	06/07/24	06/10/24	EPA 300.0	
Sulfate as SO4	**1920**	500	"	"	"	"	"	"	
Nitrate as NO3	**7.81**	0.500	"	1	"	"	06/10/24	"	O-07
Nitrate as N	**1.76**	0.200	"	"	"	"	"	"	O-07

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

DM-2

T242360-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 200 Series Methods									
Calcium	**240**	50	mg/l	100	24F0096	06/07/24	06/13/24	EPA 200.7	FILT
Copper	ND	0.50	"	"	"	"	"	"	FILT, R-01
Iron	ND	20	"	"	"	"	"	"	FILT, R-01
Magnesium	**64**	10	"	"	"	"	"	"	FILT
Potassium	ND	50	"	"	"	"	"	"	FILT, R-01
Sodium	**4100**	50	"	"	"	"	"	"	FILT
Antimony	ND	5.0	ug/l	10	24F0114	06/07/24	06/13/24	200.8	FILT, R-01
Arsenic	**6.1**	5.0	"	"	"	"	"	"	FILT
Barium	**35**	5.0	"	"	"	"	"	"	FILT
Cadmium	ND	5.0	"	"	"	"	"	"	FILT, R-01
Chromium	ND	5.0	"	"	"	"	"	"	FILT, R-01
Cobalt	ND	5.0	"	"	"	"	"	"	FILT, R-01
Lead	ND	5.0	"	"	"	"	"	"	FILT, R-01
Nickel	ND	5.0	"	"	"	"	"	"	FILT, R-01
Selenium	**8.6**	5.0	"	"	"	"	"	"	FILT
Zinc	**13**	5.0	"	"	"	"	"	"	FILT
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	1.0	ug/l	1	24F0064	06/07/24	06/11/24	EPA 7470A Water	FILT
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
Oil & Grease	ND	5.00	mg/l	1	24F0108	06/07/24	06/10/24	EPA 1664B	
Specific Conductance (EC)	**19000**	10.0	umho/cm @25°C	"	24F0145	06/11/24	06/12/24	SM2510b mod.	
pH	**7.9**	0.10	pH Units	"	24F0111	06/07/24	06/11/24	SM 4500-H+B	
pH Temperature °C	**20**		"	"	"	"	"	"	
Total Dissolved Solids	**10000**	10	mg/l	"	24F0143	06/11/24	06/14/24	TDS by SM2540C	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

DM-2

T242360-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Anions by EPA Method 300.0									
Chloride	**4910**	2500	mg/l	500	24F0110	06/07/24	06/10/24	EPA 300.0	
Sulfate as SO4	**2110**	250	"	50	"	"	06/07/24	"	
Nitrate as NO3	**8.84**	0.500	"	1	"	"	06/10/24	"	O-07
Nitrate as N	**2.00**	0.200	"	"	"	"	"	"	O-07

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

DM-3

T242360-03 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods									
Calcium	**220**	50	mg/l	100	24F0096	06/07/24	06/13/24	EPA 200.7	FILT
Copper	ND	0.50	"	"	"	"	"	"	FILT, R-01
Iron	ND	20	"	"	"	"	"	"	FILT, R-01
Magnesium	**59**	10	"	"	"	"	"	"	FILT
Potassium	ND	50	"	"	"	"	"	"	FILT, R-01
Sodium	**4100**	50	"	"	"	"	"	"	FILT
Antimony	ND	5.0	ug/l	10	24F0114	06/07/24	06/13/24	200.8	FILT, R-01
Arsenic	**17**	5.0	"	"	"	"	"	"	FILT
Barium	**15**	5.0	"	"	"	"	"	"	FILT
Cadmium	ND	5.0	"	"	"	"	"	"	FILT, R-01
Chromium	ND	5.0	"	"	"	"	"	"	FILT, R-01
Cobalt	ND	5.0	"	"	"	"	"	"	FILT, R-01
Lead	ND	5.0	"	"	"	"	"	"	FILT, R-01
Nickel	ND	5.0	"	"	"	"	"	"	FILT, R-01
Selenium	**5.6**	5.0	"	"	"	"	"	"	FILT
Zinc	**6.2**	5.0	"	"	"	"	"	"	FILT
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	1.0	ug/l	1	24F0064	06/07/24	06/11/24	EPA 7470A Water	FILT
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
Oil & Grease	ND	5.00	mg/l	1	24F0108	06/07/24	06/10/24	EPA 1664B	
Specific Conductance (EC)	**18200**	10.0	umho/cm @25°C	"	24F0145	06/11/24	06/12/24	SM2510b mod.	
pH	**8.0**	0.10	pH Units	"	24F0111	06/07/24	06/11/24	SM 4500-H+B	
pH Temperature °C	**20**		"	"	"	"	"	"	
Total Dissolved Solids	**9900**	10	mg/l	"	24F0143	06/11/24	06/14/24	TDS by SM2540C	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

DM-3

T242360-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Anions by EPA Method 300.0									
Chloride	**4650**	2500	mg/l	500	24F0110	06/07/24	06/10/24	EPA 300.0	
Sulfate as SO4	**2060**	250	"	50	"	"	06/07/24	"	
Nitrate as NO3	**3.01**	0.500	"	1	"	"	06/10/24	"	O-07
Nitrate as N	**0.680**	0.200	"	"	"	"	"	"	O-07

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

North Pond

T242360-04 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 200 Series Methods									
Calcium	**410**	50	mg/l	100	24F0096	06/07/24	06/13/24	EPA 200.7	FILT
Copper	ND	0.50	"	"	"	"	"	"	FILT, R-01
Iron	ND	20	"	"	"	"	"	"	FILT, R-01
Magnesium	**16**	10	"	"	"	"	"	"	FILT
Potassium	**310**	50	"	"	"	"	"	"	FILT
Sodium	**4500**	500	"	1000	"	"	"	"	FILT
Antimony	ND	50	ug/l	100	24F0114	06/07/24	06/13/24	200.8	FILT, R-01
Arsenic	**460**	50	"	"	"	"	"	"	FILT
Barium	**140**	50	"	"	"	"	"	"	FILT
Cadmium	ND	50	"	"	"	"	"	"	FILT, R-01
Chromium	ND	50	"	"	"	"	"	"	FILT, R-01
Cobalt	ND	50	"	"	"	"	"	"	FILT, R-01
Lead	ND	50	"	"	"	"	"	"	FILT, R-01
Nickel	ND	50	"	"	"	"	"	"	FILT, R-01
Selenium	**66**	50	"	"	"	"	"	"	FILT
Zinc	ND	50	"	"	"	"	"	"	FILT, R-01
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	1.0	ug/l	1	24F0064	06/07/24	06/11/24	EPA 7470A Water	FILT
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
Oil & Grease	ND	5.00	mg/l	1	24F0108	06/07/24	06/10/24	EPA 1664B	
Specific Conductance (EC)	**147000**	10.0	umho/cm @25°C	"	24F0145	06/11/24	06/12/24	SM2510b mod.	
pH	**8.7**	0.10	pH Units	"	24F0111	06/07/24	06/11/24	SM 4500-H+B	
pH Temperature °C	**20**		"	"	"	"	"	"	
Total Dissolved Solids	**110000**	10	mg/l	"	24F0143	06/11/24	06/14/24	TDS by SM2540C	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

North Pond

T242360-04 (Water)

SunStar Laboratories, Inc.

Anions by EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**57700**	5000	mg/l	1000	24F0110	06/07/24	06/11/24	EPA 300.0	
Sulfate as SO4	**17000**	5000	"	"	"	"	"	"	
Nitrate as NO3	**44.6**	25.0	"	50	"	"	06/07/24	"	
Nitrate as N	**10.0**	10.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

South Pond

T242360-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 200 Series Methods									
Calcium	**460**	50	mg/l	100	24F0096	06/07/24	06/13/24	EPA 200.7	FILT
Copper	ND	0.50	"	"	"	"	"	"	FILT, R-01
Iron	ND	20	"	"	"	"	"	"	FILT, R-01
Magnesium	**30**	10	"	"	"	"	"	"	FILT
Potassium	**340**	50	"	"	"	"	"	"	FILT
Sodium	**4000**	500	"	1000	"	"	"	"	FILT
Antimony	ND	50	ug/l	100	24F0114	06/07/24	06/13/24	200.8	FILT, R-01
Arsenic	**540**	50	"	"	"	"	"	"	FILT
Barium	**390**	50	"	"	"	"	"	"	FILT
Cadmium	ND	50	"	"	"	"	"	"	FILT, R-01
Chromium	ND	50	"	"	"	"	"	"	FILT, R-01
Cobalt	ND	50	"	"	"	"	"	"	FILT, R-01
Lead	ND	50	"	"	"	"	"	"	FILT, R-01
Nickel	ND	50	"	"	"	"	"	"	FILT, R-01
Selenium	**52**	50	"	"	"	"	"	"	FILT
Zinc	ND	50	"	"	"	"	"	"	FILT, R-01
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	1.0	ug/l	1	24F0064	06/07/24	06/11/24	EPA 7470A Water	FILT
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
Oil & Grease	ND	4.47	mg/l	1	24F0108	06/07/24	06/10/24	EPA 1664B	
Specific Conductance (EC)	**142000**	10.0	umho/cm @25°C	"	24F0145	06/11/24	06/12/24	SM2510b mod.	
pH	**9.1**	0.10	pH Units	"	24F0111	06/07/24	06/11/24	SM 4500-H+B	
pH Temperature °C	**20**		"	"	"	"	"	"	
Total Dissolved Solids	**110000**	10	mg/l	"	24F0143	06/11/24	06/14/24	TDS by SM2540C	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

South Pond

T242360-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Anions by EPA Method 300.0									
Chloride	**53600**	5000	mg/l	1000	24F0110	06/07/24	06/11/24	EPA 300.0	
Sulfate as SO4	**11800**	5000	"	"	"	"	"	"	
Nitrate as NO3	**44.7**	25.0	"	50	"	"	06/07/24	"	
Nitrate as N	**10.0**	10.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

Metals by EPA 200 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 24F0096 - EPA 3010A										
Blank (24F0096-BLK1)				Prepared: 06/06/24 Analyzed: 06/13/24						
Cadmium	ND	0.005	mg/l							
Chromium	ND	0.005	"							
Copper	ND	0.005	"							
Lead	ND	0.005	"							
Nickel	ND	0.005	"							
Silver	ND	0.030	"							
Zinc	ND	0.030	"							
LCS (24F0096-BS1)				Prepared: 06/06/24 Analyzed: 06/13/24						
Cadmium	1.48	0.005	mg/l	1.50		98.6	85-115			
Chromium	1.47	0.005	"	1.50		97.7	85-115			
Copper	1.49	0.005	"	1.50		99.3	85-115			
Lead	1.50	0.005	"	1.50		99.7	85-115			
Nickel	1.47	0.005	"	1.50		98.0	85-115			
Zinc	1.48	0.030	"	1.50		98.7	85-115			
Matrix Spike (24F0096-MS1)		**Source: T242330-06**		Prepared: 06/06/24 Analyzed: 06/13/24						
Cadmium	1.55	0.005	mg/l	1.50	0.076	98.5	70-130			
Chromium	1.50	0.005	"	1.50	ND	99.9	70-130			
Copper	1.55	0.005	"	1.50	0.018	102	70-130			
Lead	1.49	0.005	"	1.50	0.002	99.5	70-130			
Nickel	1.48	0.005	"	1.50	0.001	98.6	70-130			
Zinc	1.61	0.030	"	1.50	0.017	106	70-130			
Matrix Spike Dup (24F0096-MSD1)		**Source: T242330-06**		Prepared: 06/06/24 Analyzed: 06/13/24						
Cadmium	1.58	0.005	mg/l	1.50	0.076	99.9	70-130	1.37	30	
Chromium	1.52	0.005	"	1.50	ND	101	70-130	1.16	30	
Copper	1.57	0.005	"	1.50	0.018	104	70-130	1.86	30	
Lead	1.51	0.005	"	1.50	0.002	101	70-130	1.20	30	
Nickel	1.51	0.005	"	1.50	0.001	100	70-130	1.71	30	
Zinc	1.64	0.030	"	1.50	0.017	108	70-130	1.54	30	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

Metals by EPA 200 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 24F0114 - EPA 3010A										
Blank (24F0114-BLK1)				Prepared: 06/07/24 Analyzed: 06/13/24						
Antimony	ND	0.50	ug/l							
Arsenic	ND	0.50	"							
Barium	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	"							
LCS (24F0114-BS1)				Prepared: 06/07/24 Analyzed: 06/13/24						
Arsenic	26.1	0.50	ug/l	25.0		104	85-115			
Barium	25.0	0.50	"	25.0		100	85-115			
Cadmium	25.2	0.50	"	25.0		101	85-115			
Chromium	23.6	0.50	"	25.0		94.6	85-115			
Lead	25.0	0.50	"	25.0		99.8	85-115			
Matrix Spike (24F0114-MS1)	**Source: T242356-01**			Prepared: 06/07/24 Analyzed: 06/13/24						
Arsenic	28.7	5.0	ug/l	25.0	1.70	108	70-130			
Barium	40.6	5.0	"	25.0	16.2	97.6	70-130			
Cadmium	24.0	5.0	"	25.0	0.400	94.4	70-130			
Chromium	24.0	5.0	"	25.0	0.300	94.8	70-130			
Lead	25.8	5.0	"	25.0	0.500	101	70-130			
Matrix Spike Dup (24F0114-MSD1)	**Source: T242356-01**			Prepared: 06/07/24 Analyzed: 06/13/24						
Arsenic	27.2	5.0	ug/l	25.0	1.70	102	70-130	5.37	20	
Barium	38.9	5.0	"	25.0	16.2	90.8	70-130	4.28	20	
Cadmium	23.8	5.0	"	25.0	0.400	93.6	70-130	0.837	20	
Chromium	23.3	5.0	"	25.0	0.300	92.0	70-130	2.96	20	
Lead	24.6	5.0	"	25.0	0.500	96.4	70-130	4.76	20	

SunStar Laboratories, Inc.

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

Jeff Lee, Project 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	06/25/24 12:37

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 24F0064 - EPA 7470A Water										
Blank (24F0064-BLK1)				Prepared: 06/05/24 Analyzed: 06/11/24						
Mercury	ND	1.0	ug/l							
LCS (24F0064-BS1)				Prepared: 06/05/24 Analyzed: 06/11/24						
Mercury	6.93	1.0	ug/l	7.50		92.4	80-120			
Matrix Spike (24F0064-MS1)	**Source: T242306-02**			Prepared: 06/05/24 Analyzed: 06/11/24						
Mercury	6.56	1.0	ug/l	7.50	ND	87.4	80-120			
Matrix Spike Dup (24F0064-MSD1)	**Source: T242306-02**			Prepared: 06/05/24 Analyzed: 06/11/24						
Mercury	6.63	1.0	ug/l	7.50	ND	88.4	80-120	1.06	20	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 24F0108 - General Preparation										
Blank (24F0108-BLK1)				Prepared: 06/07/24 Analyzed: 06/10/24						
Oil & Grease	ND	5.00	mg/l							
LCS (24F0108-BS1)				Prepared: 06/07/24 Analyzed: 06/10/24						
Oil & Grease	51.8	5.00	mg/l	53.1		97.6	78-114			
LCS Dup (24F0108-BSD1)				Prepared: 06/07/24 Analyzed: 06/10/24						
Oil & Grease	48.0	5.00	mg/l	53.1		90.4	78-114	7.62	20	
Batch 24F0111 - General Preparation										
Duplicate (24F0111-DUP1)		**Source: T242356-01**		Prepared: 06/07/24 Analyzed: 06/11/24						
pH	8.46	0.10	pH Units		8.47			0.118	10	
pH Temperature °C	20.3		"		19.8			2.49	200	
Batch 24F0143 - General Preparation										
Blank (24F0143-BLK1)				Prepared: 06/11/24 Analyzed: 06/14/24						
Total Dissolved Solids	ND	10	mg/l							
LCS (24F0143-BS1)				Prepared: 06/11/24 Analyzed: 06/14/24						
Total Dissolved Solids	539	10	mg/l	500		108	80-120			
Duplicate (24F0143-DUP1)		**Source: T242356-02**		Prepared: 06/11/24 Analyzed: 06/14/24						
Total Dissolved Solids	17200	10	mg/l		17800			3.56	20	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 24F0145 - General Preparation										
Duplicate (24F0145-DUP1)		**Source: T242356-01**		Prepared: 06/11/24 Analyzed: 06/12/24						
Specific Conductance (EC)	2740	10.0	umho/cm @25°C		2740			0.00	15	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

Anions by EPA Method 300.0 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 24F0110 - General Preparation										
Blank (24F0110-BLK1)				Prepared & Analyzed: 06/07/24						
Chloride	ND	5.00	mg/l							
Sulfate as SO4	ND	5.00	"							
Nitrate as NO3	ND	0.500	"							
Nitrate as N	ND	0.200	"							
LCS (24F0110-BS1)				Prepared & Analyzed: 06/07/24						
Chloride	23.2	5.00	mg/l	25.0		92.6	75-125			
Sulfate as SO4	23.1	5.00	"	25.0		92.5	75-125			
Nitrate as NO3	23.3	0.500	"	25.0		93.1	75-125			
Matrix Spike (24F0110-MS1)		**Source: T242356-01**		Prepared & Analyzed: 06/07/24						
Chloride	418	250	mg/l	25.0	407	40.8	75-125			QM-05
Sulfate as SO4	383	250	"	25.0	372	45.0	75-125			QM-05
Nitrate as NO3	23.3	0.500	"	25.0	0.888	89.7	75-125			
Matrix Spike (24F0110-MS2)		**Source: T242360-01**		Prepared: 06/07/24 Analyzed: 06/11/24						
Chloride	5120	500	mg/l	25.0	5510	NR	75-125			QM-05
Sulfate as SO4	1830	500	"	25.0	1920	NR	75-125			QM-05
Nitrate as NO3	33.7	0.500	"	25.0	7.81	103	75-125			
Matrix Spike Dup (24F0110-MSD1)		**Source: T242356-01**		Prepared & Analyzed: 06/07/24						
Chloride	420	250	mg/l	25.0	407	50.2	75-125	0.561	20	QM-05
Sulfate as SO4	386	250	"	25.0	372	56.4	75-125	0.741	20	QM-05
Nitrate as NO3	23.6	0.500	"	25.0	0.888	90.9	75-125	1.31	20	
Matrix Spike Dup (24F0110-MSD2)		**Source: T242360-01**		Prepared: 06/07/24 Analyzed: 06/11/24						
Chloride	5050	500	mg/l	25.0	5510	NR	75-125	1.43	20	QM-05
Sulfate as SO4	1790	500	"	25.0	1920	NR	75-125	2.21	20	QM-05
Nitrate as NO3	33.7	0.500	"	25.0	7.81	104	75-125	0.0979	20	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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

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	06/25/24 12:37

Notes and Definitions

R-01	The Reporting Limit has been raised to account for dilution necessary due to matrix interference.
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.
O-07	The sample was analyzed outside the EPA recommended holding time of 48 hours.
FILT	The sample was filtered prior to analysis.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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.

boratories, Inc.
mercentre Dr
t, CA 92630
020

Chain of Custody Record

star Environmental Remediation
225 Enterprise Court, Lake Forest, CA 92630
274-1719
ager: Arlin Brewster

Date:

Project Name: Genesis Solar Groundwater

Collector: Arlin Brewster

Client Project #: 196-004-06

Batch #: T242360

EDF #: T10000006093

mple ID	Date Sampled	Time	Sample Type	Container Type	200.7 - Dissolved Metals: Ca, Cu, Na, K, Fe, Mg (FIELD FILTERED)	200.8 - Dissolved 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/Preservativ
DM-1	6/6/24	2050	W	Various	X	X	X	X	X	X	X	X	X	X			
DM-2	6/6/24	2215	W	Various	X	X	X	X	X	X	X	X	X	X			
DM-3	6/6/24	1950	W	Various	X	X	X	X	X	X	X	X	X	X			
h Pond	6/6/24	1750	W	Various	X	X	X	X	X	X	X	X	X				
th Pond	6/6/24	1800	W	Various	X	X	X	X	X	X	X	X	X				

by: (signature)	Date / Time	Received by: (signature)	Date / Time
	6/7/24 1030		6/7/24 1030
by: (signature)	Date / Time	Received by: (signature)	Date / Time
by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 28

Chain of Custody seals Y/N/NA

Seals intact? Y/N/NA

Received good condition/cold: 1.1°C

Turn around time: Standard **

Notes

** Deuterium & Oxyg
subcontract has 10 da

Reporting limits must
previous reports

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

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

Rev. 02C Date 11/23
Receiving Form 001A

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T242366

Client Name: Northstar Environmental Project: Genesis Solar Groundwater

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

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

Lab Received by: Dave Date/Time Lab Received: 6/7/24 1030

Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due: 11/17/2024

Temperature: Cooler #1	1.0 °C +/- the CF (+ 0.1°C)	=	1.1	°C corrected temperature
Temperature: Cooler #2	°C +/- the CF (+ 0.1°C)	=		°C corrected temperature
Temperature: Cooler #3	°C +/- the CF (+ 0.1°C)	=		°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers)	Within criteria?	☒ **Yes** ☐ **No** ☐ **N/A**
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: DS 6/7/24

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Jeff Lee
SunStar Laboratories Inc
25712 Commercentre Drive
Lake Forest, California 92630

Generated 6/20/2024 8:49:04 AM

JOB DESCRIPTION

T242630

JOB NUMBER

570-187549-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Eurofins Calscience

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Generated
6/20/2024 8:49:04 AM

Authorized for release by
Sandy Tat, Project Manager I
Sandy.Tat@et.eurofinsus.com
(714)895-5494

Table of Contents

Definitions/Glossary

Client: SunStar Laboratories Inc
Project/Site: T242630

Job ID: 570-187549-1

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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job Narrative
570-187549-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/10/2024 1:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C.

Diesel Range Organics
Method 8015B_DRO: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-450249. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.
Method: 8015B_DRO

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: T242630

Job ID: 570-187549-1

Client Sample ID: T242360-01 — Lab Sample ID: 570-187549-1

No Detections.

Client Sample ID: T242360-02 — Lab Sample ID: 570-187549-2

No Detections.

Client Sample ID: T242360-03 — Lab Sample ID: 570-187549-3

No Detections.

Client Sample ID: T242360-04 — Lab Sample ID: 570-187549-4

No Detections.

Client Sample ID: T242360-05 — Lab Sample ID: 570-187549-5

No Detections.

This Detection Summary does not include radiochemical test results.

Method: SW846 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: T242360-01
Date Collected: 06/06/24 20:50
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		100		ug/L		06/12/24 13:53	06/13/24 17:42	1
1,1'-Biphenyl	ND		100		ug/L		06/12/24 13:53	06/13/24 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*64*		*53 - 151*	*06/12/24 13:53*	*06/13/24 17:42*	*1*

Client Sample ID: T242360-02
Date Collected: 06/06/24 22:15
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-2
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		90		ug/L		06/12/24 13:53	06/13/24 18:06	1
1,1'-Biphenyl	ND		90		ug/L		06/12/24 13:53	06/13/24 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*67*		*53 - 151*	*06/12/24 13:53*	*06/13/24 18:06*	*1*

Client Sample ID: T242360-03
Date Collected: 06/06/24 19:50
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-3
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		100		ug/L		06/12/24 13:53	06/13/24 18:31	1
1,1'-Biphenyl	ND		100		ug/L		06/12/24 13:53	06/13/24 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*68*		*53 - 151*	*06/12/24 13:53*	*06/13/24 18:31*	*1*

Client Sample ID: T242360-04
Date Collected: 06/06/24 17:50
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-4
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		88		ug/L		06/12/24 13:53	06/13/24 18:55	1
1,1'-Biphenyl	ND		88		ug/L		06/12/24 13:53	06/13/24 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*58*		*53 - 151*	*06/12/24 13:53*	*06/13/24 18:55*	*1*

Client Sample ID: T242360-05
Date Collected: 06/06/24 18:00
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-5
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		92		ug/L		06/12/24 13:53	06/13/24 19:19	1
1,1'-Biphenyl	ND		92		ug/L		06/12/24 13:53	06/13/24 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*58*		*53 - 151*	*06/12/24 13:53*	*06/13/24 19:19*	*1*

Surrogate Summary

Client: SunStar Laboratories Inc
Project/Site: T242630

Job ID: 570-187549-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	OTCSN1 (53-151)
570-187549-1	T242360-01	64
570-187549-2	T242360-02	67
570-187549-3	T242360-03	68
570-187549-4	T242360-04	58
570-187549-5	T242360-05	58
LCS 570-450249/2-A	Lab Control Sample	88
LCSD 570-450249/3-A	Lab Control Sample Dup	67
MB 570-450249/1-A	Method Blank	63

Surrogate Legend

OTCSN = n-Octacosane (Surr)

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

Lab Sample ID: MB 570-450249/1-A
Matrix: Water
Analysis Batch: 450621

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450249

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		100		ug/L		06/12/24 13:52	06/13/24 13:38	1
1,1'-Biphenyl	ND		100		ug/L		06/12/24 13:52	06/13/24 13:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*63*		*53 - 151*	*06/12/24 13:52*	*06/13/24 13:38*	*1*

Lab Sample ID: LCS 570-450249/2-A
Matrix: Water
Analysis Batch: 452056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450249

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis-			1000	792.7		ug/L		79	57 - 120		
1,1'-Biphenyl			1000	774.6		ug/L		77	45 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*88*		*53 - 151*

Lab Sample ID: LCSD 570-450249/3-A
Matrix: Water
Analysis Batch: 450621

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 450249

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis-			1000	695.9		ug/L		70	57 - 120	13	20
1,1'-Biphenyl			1000	675.3		ug/L		68	45 - 120	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*67*		*53 - 151*

QC Association Summary

Client: SunStar Laboratories Inc
Project/Site: T242630

Job ID: 570-187549-1

GC Semi VOA

Prep Batch: 450249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-187549-1	T242360-01	Total/NA	Water	3510C	
570-187549-2	T242360-02	Total/NA	Water	3510C	
570-187549-3	T242360-03	Total/NA	Water	3510C	
570-187549-4	T242360-04	Total/NA	Water	3510C	
570-187549-5	T242360-05	Total/NA	Water	3510C	
MB 570-450249/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-450249/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-450249/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 450621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-187549-1	T242360-01	Total/NA	Water	8015B	450249
570-187549-2	T242360-02	Total/NA	Water	8015B	450249
570-187549-3	T242360-03	Total/NA	Water	8015B	450249
570-187549-4	T242360-04	Total/NA	Water	8015B	450249
570-187549-5	T242360-05	Total/NA	Water	8015B	450249
MB 570-450249/1-A	Method Blank	Total/NA	Water	8015B	450249
LCSD 570-450249/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	450249

Analysis Batch: 452056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-450249/2-A	Lab Control Sample	Total/NA	Water	8015B	450249

Lab Chronicle

Client: SunStar Laboratories Inc
Project/Site: T242630

Job ID: 570-187549-1

Client Sample ID: T242360-01
Date Collected: 06/06/24 20:50
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-1
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			245.5 mL	2.5 mL	450249	06/12/24 13:53	H6FE	EET CAL 4
Total/NA	Analysis	8015B		1	1 mL	1 mL	450621	06/13/24 17:42	SP9M	EET CAL 4
	Instrument ID: GC70B									

Client Sample ID: T242360-02
Date Collected: 06/06/24 22:15
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-2
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			278.5 mL	2.5 mL	450249	06/12/24 13:53	H6FE	EET CAL 4
Total/NA	Analysis	8015B		1	1 mL	1 mL	450621	06/13/24 18:06	SP9M	EET CAL 4
	Instrument ID: GC70B									

Client Sample ID: T242360-03
Date Collected: 06/06/24 19:50
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-3
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			248.1 mL	2.5 mL	450249	06/12/24 13:53	H6FE	EET CAL 4
Total/NA	Analysis	8015B		1	1 mL	1 mL	450621	06/13/24 18:31	SP9M	EET CAL 4
	Instrument ID: GC70B									

Client Sample ID: T242360-04
Date Collected: 06/06/24 17:50
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-4
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			284.5 mL	2.5 mL	450249	06/12/24 13:53	H6FE	EET CAL 4
Total/NA	Analysis	8015B		1	1 mL	1 mL	450621	06/13/24 18:55	SP9M	EET CAL 4
	Instrument ID: GC70B									

Client Sample ID: T242360-05
Date Collected: 06/06/24 18:00
Date Received: 06/10/24 13:40

Lab Sample ID: 570-187549-5
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			272.8 mL	2.5 mL	450249	06/12/24 13:53	H6FE	EET CAL 4
Total/NA	Analysis	8015B		1	1 mL	1 mL	450621	06/13/24 19:19	SP9M	EET CAL 4
	Instrument ID: GC70B									

Laboratory References:
EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: SunStar Laboratories Inc
Project/Site: T242630

Job ID: 570-187549-1

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4175	02-02-25

Method Summary

Client: SunStar Laboratories Inc
Project/Site: T242630

Job ID: 570-187549-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	EET CAL 4
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CAL 4

Protocol References:

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

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: SunStar Laboratories Inc
Project/Site: T242630

Job ID: 570-187549-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-187549-1	T242360-01	Water	06/06/24 20:50	06/10/24 13:40
570-187549-2	T242360-02	Water	06/06/24 22:15	06/10/24 13:40
570-187549-3	T242360-03	Water	06/06/24 19:50	06/10/24 13:40
570-187549-4	T242360-04	Water	06/06/24 17:50	06/10/24 13:40
570-187549-5	T242360-05	Water	06/06/24 18:00	06/10/24 13:40

SUBCONTRACT ORDER

SunStar Laboratories, Inc.

T242360

Loc 570
187549

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Eurofins Calscience (Tustin)
2841 Dow Ave, Suite 100
Tustin, CA 92780
Phone :(949) 261-1022
Fax: N/A

570-187549 Chain of Custody

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: T242360-01	**Water**	**Sampled:06/06/24 20:50**	1	
Misc Water Testing #1	06/14/24 15 00	12/03/24 20 50		8015M- Therminol
Containers Supplied.				
Sample ID: T242360-02	**Water**	**Sampled:06/06/24 22:15**	2	
Misc Water Testing #1	06/14/24 15 00	12/03/24 22 15		8015M- Therminol
Containers Supplied.				
Sample ID: T242360-03	**Water**	**Sampled:06/06/24 19:50**	3	
Misc Water Testing #1	06/14/24 15 00	12/03/24 19 50		8015M- Therminol
Containers Supplied.				
Sample ID: T242360-04	**Water**	**Sampled:06/06/24 17:50**	4	
Misc Water Testing #1	06/14/24 15 00	12/03/24 17 50		8015M- Therminol
Containers Supplied.				
Sample ID: T242360-05	**Water**	**Sampled:06/06/24 18:00**	5	
Misc Water Testing #1	06/14/24 15 00	12/03/24 18 00		8015M- Therminol
Containers Supplied.				

Released By	Date	Received By	Date
	6-10-24 13:40		6/10/24 13:40
Released By	Date	Received By	Date

2.6/2 0 Se12

Login Sample Receipt Checklist

Client: SunStar Laboratories Inc

Job Number: 570-187549-1

Login Number: 187549
List Number: 1
Creator: Vitente, Precy

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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?	N/A	Received project as a subcontract.
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.	True	
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	

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #: 925900 **Job #:** 58892 **CoreTrac:** IS-101168 **Co. Job#:** T242360

Sample Name: T242360-01 **Co. Lab#:** T242360-01

Company: SunStar Laboratories, Inc

Container: Amber Bottle

Field/Site Name: T242360

Sampling Point: DM-1

Date Sampled: 06/06/2024 20:50 **Date Received:** 06/11/2024 **Date Reported:** 06/25/2024

δD of water	-70.1‰ relative to VSMOW
$\delta^{18}O$ of water	-8.63‰ 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
δ^{34} 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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #: 925901 **Job #:** 58892 **CoreTrac:** IS-101168 **Co. Job#:** T242360

Sample Name: T242360-02 **Co. Lab#:** T242360-02

Company: SunStar Laboratories, Inc

Container: Amber Bottle

Field/Site Name: T242360

Sampling Point: DM-2

Date Sampled: 06/06/2024 22:15 **Date Received:** 06/11/2024 **Date Reported:** 06/25/2024

δD of water	-69.6‰ relative to VSMOW
$\delta^{18}O$ of water	-8.49‰ 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
δ^{34} 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

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #: 925902 **Job #:** 58892 **CoreTrac:** IS-101168 **Co. Job#:** T242360

Sample Name: T242360-03 **Co. Lab#:** T242360-03

Company: SunStar Laboratories, Inc

Container: Amber Bottle

Field/Site Name: T242360

Sampling Point: DM-3

Date Sampled: 06/06/2024 19:50 **Date Received:** 06/11/2024 **Date Reported:** 06/25/2024

δD of water	-70.4‰ 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
δ^{34} 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

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T242360

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Jeff Lee
Project Number: 196-004-06

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

Date Due: 06/14/24 17:00 (5 day TAT)
Received By: Dave Berner
Date Received: 06/07/24 10:30
Logged In By: Jeff Lee
Date Logged In: 06/07/24 13:05

Samples Received at: **1.1°C**

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

Analysis	Due	TAT	Expires	Comments
T242360-01 DM-1 [Water] Sampled 06/06/24 20:50 (GMT-08:00) Pacific Time (US &				
1664	06/14/24 15:00	5	07/04/24 20:50	Oil & Grease
200.7	06/14/24 15:00	5	12/03/24 20:50	Ca,Cu,Na,K,Fe,Mg (Field Filtered)
200.8	06/14/24 15:00	5	12/03/24 20:50	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/14/24 15:00	5	07/04/24 20:50	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/14/24 15:00	5	06/08/24 20:50	Nitrate
7470/71 Hg	06/14/24 15:00	5	09/04/24 20:50	
Conductivity	06/14/24 15:00	5	07/04/24 20:50	
pH water SM 4500-H+B	06/12/24 15:00	3	06/07/24 20:50	
TDS-160.1	06/14/24 15:00	5	06/13/24 20:50	
T242360-02 DM-2 [Water] Sampled 06/06/24 22:15 (GMT-08:00) Pacific Time (US &				
1664	06/14/24 15:00	5	07/04/24 22:15	Oil & Grease
200.7	06/14/24 15:00	5	12/03/24 22:15	Ca,Cu,Na,K,Fe,Mg (Field Filtered)
200.8	06/14/24 15:00	5	12/03/24 22:15	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/14/24 15:00	5	07/04/24 22:15	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/14/24 15:00	5	06/08/24 22:15	Nitrate
7470/71 Hg	06/14/24 15:00	5	09/04/24 22:15	
Conductivity	06/14/24 15:00	5	07/04/24 22:15	
pH water SM 4500-H+B	06/12/24 15:00	3	06/07/24 22:15	
TDS-160.1	06/14/24 15:00	5	06/13/24 22:15	

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T242360

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Jeff Lee
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
T242360-03 DM-3 [Water] Sampled 06/06/24 19:50 (GMT-08:00) Pacific Time (US &				
1664	06/14/24 15:00	5	07/04/24 19:50	Oil & Grease
200.7	06/14/24 15:00	5	12/03/24 19:50	Ca,Cu,Na,K,Fe,Mg (Field Filtered)
200.8	06/14/24 15:00	5	12/03/24 19:50	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/14/24 15:00	5	07/04/24 19:50	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/14/24 15:00	5	06/08/24 19:50	Nitrate
7470/71 Hg	06/14/24 15:00	5	09/04/24 19:50	
Conductivity	06/14/24 15:00	5	07/04/24 19:50	
pH water SM 4500-H+B	06/12/24 15:00	3	06/07/24 19:50	
TDS-160.1	06/14/24 15:00	5	06/13/24 19:50	
T242360-04 North Pond [Water] Sampled 06/06/24 17:50 (GMT-08:00) Pacific Time (US &				
1664	06/14/24 15:00	5	07/04/24 17:50	Oil & Grease
200.7	06/14/24 15:00	5	12/03/24 17:50	Ca,Cu,Na,K,Fe,Mg (Field Filtered)
200.8	06/14/24 15:00	5	12/03/24 17:50	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/14/24 15:00	5	07/04/24 17:50	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/14/24 15:00	5	06/08/24 17:50	Nitrate
7470/71 Hg	06/14/24 15:00	5	09/04/24 17:50	
Conductivity	06/14/24 15:00	5	07/04/24 17:50	
pH water SM 4500-H+B	06/12/24 15:00	3	06/07/24 17:50	
TDS-160.1	06/14/24 15:00	5	06/13/24 17:50	
T242360-05 South Pond [Water] Sampled 06/06/24 18:00 (GMT-08:00) Pacific Time (US &				
1664	06/14/24 15:00	5	07/04/24 18:00	Oil & Grease
200.7	06/14/24 15:00	5	12/03/24 18:00	Ca,Cu,Na,K,Fe,Mg (Field Filtered)
200.8	06/14/24 15:00	5	12/03/24 18:00	Sb,As,Ba,Cd,Cr,Co,Pb,Ni,Se,Zn (Field Filtered)
300.0 - F, Cl, Br, SO4	06/14/24 15:00	5	07/04/24 18:00	Chloride,Sulfate only
300.0 - NO2, NO3, PO4	06/14/24 15:00	5	06/08/24 18:00	Nitrate
7470/71 Hg	06/14/24 15:00	5	09/04/24 18:00	
Conductivity	06/14/24 15:00	5	07/04/24 18:00	
pH water SM 4500-H+B	06/12/24 15:00	3	06/07/24 18:00	
TDS-160.1	06/14/24 15:00	5	06/13/24 18:00	

Eurofins Calscience (Tustin)

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T242360

Client: Northstar Environmental Remediation
Project: Genesis Solar Groundwater
Project Manager: Jeff Lee
Project Number: 196-004-06

Analysis	Due	TAT	Expires	Comments
Eurofins Calscience (Tustin)				
T242360-01 DM-1 [Water] Sampled 06/06/24 20:50 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/14/24 15:00	5	12/03/24 20:50	8015M- Therminol
T242360-02 DM-2 [Water] Sampled 06/06/24 22:15 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/14/24 15:00	5	12/03/24 22:15	8015M- Therminol
T242360-03 DM-3 [Water] Sampled 06/06/24 19:50 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/14/24 15:00	5	12/03/24 19:50	8015M- Therminol
T242360-04 North Pond [Water] Sampled 06/06/24 17:50 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/14/24 15:00	5	12/03/24 17:50	8015M- Therminol
T242360-05 South Pond [Water] Sampled 06/06/24 18:00 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #1	06/14/24 15:00	5	12/03/24 18:00	8015M- Therminol
Isotech Laboratories, Inc.				
T242360-01 DM-1 [Water] Sampled 06/06/24 20:50 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	06/14/24 15:00	5	12/03/24 20:50	Deuterium,Oxygen-18
T242360-02 DM-2 [Water] Sampled 06/06/24 22:15 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	06/14/24 15:00	5	12/03/24 22:15	Deuterium,Oxygen-18
T242360-03 DM-3 [Water] Sampled 06/06/24 19:50 (GMT-08:00) Pacific Time (US &				
Misc Water Testing #2	06/14/24 15:00	5	12/03/24 19:50	Deuterium,Oxygen-18

Reviewed By

Date

APPENDIX C

LABORATORY ANALYTICAL RESULTS

LAND TREATMENT UNITS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Arlin Brewster
Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest, California 92630

Generated 1/23/2024 6:32:18 PM

JOB DESCRIPTION

Genesis

JOB NUMBER

570-168127-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Generated
1/23/2024 6:32:18 PM

Authorized for release by
Sheri Fama, Project Manager I
Sheri.Fama@et.eurofinsus.com
(657)210-6368

Table of Contents

Definitions/Glossary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-168127-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job ID: 570-168127-1 Eurofins Calscience

Job Narrative
570-168127-1

Receipt
The sample was received on 1/15/2024 1:55 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.8º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

Sample Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-168127-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-168127-1	Staging Area	Solid	01/15/24 09:15	01/15/24 13:55

Detection Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-168127-1

Client Sample ID: Staging Area

Lab Sample ID: 570-168127-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	7700		500		mg/Kg	100		8015B	Total/NA
1,1'-Biphenyl - DL	2800		500		mg/Kg	100		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-168127-1

Client Sample ID: Staging Area

Date Collected: 01/15/24 09:15
Date Received: 01/15/24 13:55

Lab Sample ID: 570-168127-1

Matrix: Solid

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	7700		500		mg/Kg		01/17/24 18:01	01/23/24 17:16	100
1,1'-Biphenyl	2800		500		mg/Kg		01/17/24 18:01	01/23/24 17:16	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*97*		*60 - 138*	*01/17/24 18:01*	*01/23/24 17:16*	*100*

Surrogate Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-168127-1

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	OTCSN1 (60-138)								
570-168127-1 - DL	Staging Area	97								
570-168127-1 MS - DL	Staging Area	89								
570-168127-1 MSD - DL	Staging Area	92								
LCS 570-402101/2-A	Lab Control Sample	73								
LCSD 570-402101/3-A	Lab Control Sample Dup	71								
MB 570-402101/1-A	Method Blank	73								

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Lab Chronicle

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-168127-1

Client Sample ID: Staging Area

Date Collected: 01/15/24 09:15
Date Received: 01/15/24 13:55

Lab Sample ID: 570-168127-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		10.04 g	10 mL	402101	01/17/24 18:01	E5RH	EET CAL 4
Total/NA	Analysis	8015B	DL	100	1 mL	1 mL	403676	01/23/24 17:16	SP9M	EET CAL 4
	Instrument ID: GC70B									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

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

Lab Sample ID: MB 570-402101/1-A
Matrix: Solid
Analysis Batch: 403676

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402101

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		5.0		mg/Kg		01/17/24 18:01	01/23/24 13:25	1
1,1'-Biphenyl	ND		5.0		mg/Kg		01/17/24 18:01	01/23/24 13:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*73*		*60 - 138*	*01/17/24 18:01*	*01/23/24 13:25*	*1*

Lab Sample ID: LCS 570-402101/2-A
Matrix: Solid
Analysis Batch: 403676

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402101

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis-			100	114		mg/Kg		114	68 - 120		
1,1'-Biphenyl			100	82.8		mg/Kg		83	57 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*73*		*60 - 138*

Lab Sample ID: LCSD 570-402101/3-A
Matrix: Solid
Analysis Batch: 403676

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 402101

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis-			100	115		mg/Kg		115	68 - 120	1	20
1,1'-Biphenyl			100	83.3		mg/Kg		83	57 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*71*		*60 - 138*

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

Lab Sample ID: 570-168127-1 MS
Matrix: Solid
Analysis Batch: 403676

Client Sample ID: Staging Area
Prep Type: Total/NA
Prep Batch: 402101

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis- - DL	7700		95.6	6350	4	mg/Kg		-1402	68 - 120		
1,1'-Biphenyl - DL	2800		95.6	2370	4	mg/Kg		-485	57 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane (Surr) - DL	*89*		*60 - 138*

Lab Sample ID: 570-168127-1 MSD
Matrix: Solid
Analysis Batch: 403676

Client Sample ID: Staging Area
Prep Type: Total/NA
Prep Batch: 402101

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis- - DL	7700		96.1	6080	4	mg/Kg		-1671	68 - 120	4	20
1,1'-Biphenyl - DL	2800		96.1	2280	4	mg/Kg		-578	57 - 120	4	20

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane (Surr) - DL	92		60 - 138

QC Association Summary

Client: Northstar Environmental Remediation
Job ID: 570-168127-1
Project/Site: Genesis

GC Semi VOA

Prep Batch: 402101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-168127-1 - DL	Staging Area	Total/NA	Solid	3550C	
MB 570-402101/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 570-402101/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 570-402101/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
570-168127-1 MS - DL	Staging Area	Total/NA	Solid	3550C	
570-168127-1 MSD - DL	Staging Area	Total/NA	Solid	3550C	

Analysis Batch: 403676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-168127-1 - DL	Staging Area	Total/NA	Solid	8015B	402101
MB 570-402101/1-A	Method Blank	Total/NA	Solid	8015B	402101
LCS 570-402101/2-A	Lab Control Sample	Total/NA	Solid	8015B	402101
LCSD 570-402101/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	402101
570-168127-1 MS - DL	Staging Area	Total/NA	Solid	8015B	402101
570-168127-1 MSD - DL	Staging Area	Total/NA	Solid	8015B	402101

Accreditation/Certification Summary

Client: Northstar Environmental Remediation
Job ID: 570-168127-1
Project/Site: Genesis

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24

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	3550C	Solid	1,1'-Biphenyl
8015B	3550C	Solid	Benzene, 1,1'-oxybis-

Method Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-168127-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	EET CAL 4
3550C	Ultrasonic Extraction	SW846	EET CAL 4

Protocol References:

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

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Loc: 570
168127

Eurofins Calscience
2841 Dow Avenue
Tustin, CA 92780
(714) 730-7950

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Ralph DeLaRarra	Lab PM: Sheri Fama	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Arlin Brewster	Phone: (949) 702-0968	E-Mail: sheri.fama@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Northstar Environmental Remediation	PWSID:			Job #:
Address: 26225 Enterprise Court	Due Date Requested:			
City: Lake Forest	TAT Requested (days): Normal			
State, Zip: CA, 92630	Compliance Project: Δ Yes Δ No			
Phone: (949) 274-1719	PO #: 196-004-06			
Email: Arlin.Brewster@NorthstarER.com	WO #			
Project Name: Genesis	Project #:			
Site: Genesis	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015M Therminol	8015B Gasoline + Diesel + Motor Oil	Title 22 Metals	Mercury	8260B - Total VOCs	TCLP - RCRA 8 Metals (6010)	Total Number of containers	Special Instructions/Note: EDF file NOT required
			Preservation Code:				1	1	1	1	1	1		
~~LTU#1~~ Staging area	1-15-24	0915	C	S	No	No	X							
~~LTU#2~~			C	S	No									
~~LTU#3~~			C	S	No									
~~LTU#4~~			C	S	No									

570-168127 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by:	Date/Time: 1-15-24 @ 1355	Company: NorthStar	Received by:	Date/Time: 1-15-24 1355	Company: EC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.8 / 0.8 sc12

Login Sample Receipt Checklist

Client: Northstar Environmental Remediation

Job Number: 570-168127-1

Login Number: 168127
List Number: 1
Creator: Khana, Piyush

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	True	
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	

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Arlin Brewster
Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest, California 92630

Generated 4/11/2024 5:13:16 PM

JOB DESCRIPTION

Genesis

JOB NUMBER

570-178469-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Generated
4/11/2024 5:13:16 PM

Authorized for release by
Sheri Fama, Project Manager I
Sheri.Fama@et.eurofinsus.com
(657)210-6368

Table of Contents

Definitions/Glossary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-178469-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits

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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job Narrative
570-178469-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 3/29/2024 3:29 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C.

Diesel Range Organics
Method 8015B_DRO: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 570-426558 and analytical batch 570-429291 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

Sample Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-178469-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-178469-1	LTU #3	Solid	03/27/24 06:45	03/29/24 15:29

Detection Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-178469-1

Client Sample ID: LTU #3

Lab Sample ID: 570-178469-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	6700	F2	250		mg/Kg	50		8015B	Total/NA
1,1'-Biphenyl - DL	2300		50		mg/Kg	10		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-178469-1

Client Sample ID: LTU #3

Date Collected: 03/27/24 06:45
Date Received: 03/29/24 15:29

Lab Sample ID: 570-178469-1

Matrix: Solid

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	6700	F2	250		mg/Kg		04/02/24 13:38	04/10/24 17:50	50
1,1'-Biphenyl	2300		50		mg/Kg		04/02/24 13:38	04/10/24 16:01	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*117*		*60 - 138*	*04/02/24 13:38*	*04/10/24 16:01*	*10*
n-Octacosane (Surr)	*113*		*60 - 138*	*04/02/24 13:38*	*04/10/24 17:50*	*50*

Surrogate Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-178469-1

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	OTCSN1 (60-138)						
570-178469-1 - DL	LTU #3	117						
570-178469-1 - DL	LTU #3	113						
570-178469-1 MS	LTU #3	115						
570-178469-1 MS	LTU #3	98						
570-178469-1 MSD	LTU #3	106						
570-178469-1 MSD	LTU #3	109						
LCS 570-426558/2-A	Lab Control Sample	75						
LCSD 570-426558/3-A	Lab Control Sample Dup	77						
MB 570-426558/1-A	Method Blank	73						

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Lab Chronicle

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-178469-1

Client Sample ID: LTU #3

Date Collected: 03/27/24 06:45
Date Received: 03/29/24 15:29

Lab Sample ID: 570-178469-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		9.98 g	10 mL	426558	04/02/24 13:38	JE	EET CAL 4
Total/NA	Analysis	8015B	DL	10	1 mL	1 mL	429291	04/10/24 16:01	N5Y3	EET CAL 4
	Instrument ID: GC70B									
Total/NA	Prep	3550C	DL		9.98 g	10 mL	426558	04/02/24 13:38	JE	EET CAL 4
Total/NA	Analysis	8015B	DL	50	1 mL	1 mL	429291	04/10/24 17:50	N5Y3	EET CAL 4
	Instrument ID: GC70B									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

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

Lab Sample ID: MB 570-426558/1-A
Matrix: Solid
Analysis Batch: 429027

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426558

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		5.0		mg/Kg		04/02/24 13:38	04/09/24 22:21	1
1,1'-Biphenyl	ND		5.0		mg/Kg		04/02/24 13:38	04/09/24 22:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*73*		*60 - 138*	*04/02/24 13:38*	*04/09/24 22:21*	*1*

Lab Sample ID: LCS 570-426558/2-A
Matrix: Solid
Analysis Batch: 429027

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426558

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis-			100	79.8		mg/Kg		80	68 - 120		
1,1'-Biphenyl			100	77.4		mg/Kg		77	57 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*75*		*60 - 138*

Lab Sample ID: LCSD 570-426558/3-A
Matrix: Solid
Analysis Batch: 429027

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 426558

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis-			100	83.8		mg/Kg		84	68 - 120	5	20
1,1'-Biphenyl			100	81.4		mg/Kg		81	57 - 120	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*77*		*60 - 138*

Lab Sample ID: 570-178469-1 MS
Matrix: Solid
Analysis Batch: 429291

Client Sample ID: LTU #3
Prep Type: Total/NA
Prep Batch: 426558

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1'-Biphenyl	2300		95.9	2140	4	mg/Kg		-211	57 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane (Surr)	*115*		*60 - 138*

Lab Sample ID: 570-178469-1 MS
Matrix: Solid
Analysis Batch: 429291

Client Sample ID: LTU #3
Prep Type: Total/NA
Prep Batch: 426558

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis-	6700	F2	95.9	5030	4	mg/Kg		-1743	68 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane (Surr)	*98*		*60 - 138*

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

Lab Sample ID: 570-178469-1 MSD
Matrix: Solid
Analysis Batch: 429291

Client Sample ID: LTU #3
Prep Type: Total/NA
Prep Batch: 426558

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1'-Biphenyl	2300		97.8	2190	4	mg/Kg		-150	57 - 120	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane (Surr)	*106*		*60 - 138*

Lab Sample ID: 570-178469-1 MSD
Matrix: Solid
Analysis Batch: 429291

Client Sample ID: LTU #3
Prep Type: Total/NA
Prep Batch: 426558

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis-	6700	F2	97.8	6610	4 F2	mg/Kg		-95	68 - 120	27	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane (Surr)	*109*		*60 - 138*

QC Association Summary

Client: Northstar Environmental Remediation
Job ID: 570-178469-1
Project/Site: Genesis

GC Semi VOA

Prep Batch: 426558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-178469-1 - DL	LTU #3	Total/NA	Solid	3550C	
MB 570-426558/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 570-426558/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 570-426558/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
570-178469-1 MS	LTU #3	Total/NA	Solid	3550C	
570-178469-1 MSD	LTU #3	Total/NA	Solid	3550C	

Analysis Batch: 429027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-426558/1-A	Method Blank	Total/NA	Solid	8015B	426558
LCS 570-426558/2-A	Lab Control Sample	Total/NA	Solid	8015B	426558
LCSD 570-426558/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	426558

Analysis Batch: 429291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-178469-1 - DL	LTU #3	Total/NA	Solid	8015B	426558
570-178469-1 - DL	LTU #3	Total/NA	Solid	8015B	426558
570-178469-1 MS	LTU #3	Total/NA	Solid	8015B	426558
570-178469-1 MS	LTU #3	Total/NA	Solid	8015B	426558
570-178469-1 MSD	LTU #3	Total/NA	Solid	8015B	426558
570-178469-1 MSD	LTU #3	Total/NA	Solid	8015B	426558

Accreditation/Certification Summary

Client: Northstar Environmental Remediation
Job ID: 570-178469-1
Project/Site: Genesis

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24

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	3550C	Solid	1,1'-Biphenyl
8015B	3550C	Solid	Benzene, 1,1'-oxybis-

Method Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-178469-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	EET CAL 4
3550C	Ultrasonic Extraction	SW846	EET CAL 4

Protocol References:

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

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Eurofins Calscience
2841 Dow Avenue
Tustin, CA 92780
(714) 730-7950

Chain of Custody Record

eurofins | Environment America

Loc: 570
178469

Client Information	Sampler: A. Brewster	Lab PM: Sheri Fama	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Arlin Brewster	Phone: (949) 274-1719	E-Mail: sheri.fama@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Northstar Environmental Remediation	PWSID:			Job #:
Address: 26225 Enterprise Court	Due Date Requested:			
City: Lake Forest	TAT Requested (days): Standard			
State, Zip: CA, 92630	Compliance Project: Δ Yes Δ No			
Phone: (949) 274-1719	PO #: 196-004-07			
Email: Arlin.Brewster@NorthstarER.com	WO #			
Project Name: Genesis	Project #:			
Site: Genesis	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015M Therminol	8015B Gasoline + Diesel + Motor Oil	Title 22 Metals	Mercury	8260B - Total VOCs	TCLP - RCRA 8 Metals (6010)	Total Number of containers	Special Instructions/Note: EDF file NOT required
			Preservation Code:				1	1	1	1	1	1		
~~LTU #1~~			C	S	No									
~~LTU #2~~			C	S	No									
LTU #3	03/27/24	0645	C	S	No		X						1	
~~LTU #4~~			C	S	No									

570-178469 Chain of Custody

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	03/29/24 @ 1530	Northstar		3/29/24 15:29	EC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.0 / 5.2 SC14

FGFS

Login Sample Receipt Checklist

Client: Northstar Environmental Remediation

Job Number: 570-178469-1

Login Number: 178469
List Number: 1
Creator: Khana, Piyush

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	True	
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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Arlin Brewster
Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest, California 92630

Generated 4/18/2024 5:05:20 PM

JOB DESCRIPTION

Genesis

JOB NUMBER

570-179152-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Generated
4/18/2024 5:05:20 PM

Authorized for release by
Sheri Fama, Project Manager I
Sheri.Fama@et.eurofinsus.com
(657)210-6368

Table of Contents

Definitions/Glossary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-179152-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job Narrative
570-179152-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 4/4/2024 1:35 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.

Diesel Range Organics
Method 8015B_DRO: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-428290 and analytical batch 570-431566 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS/D) recovery was within acceptance limits.

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

Sample Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-179152-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-179152-1	Waste Soil	Solid	04/04/24 09:00	04/04/24 13:35

Detection Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-179152-1

Client Sample ID: Waste Soil

Lab Sample ID: 570-179152-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	14000		500		mg/Kg	100		8015B	Total/NA
1,1'-Biphenyl - DL	5300		500		mg/Kg	100		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: Waste Soil
Lab Sample ID: 570-179152-1

Date Collected: 04/04/24 09:00
Matrix: Solid

Date Received: 04/04/24 13:35

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	14000		500		mg/Kg		04/08/24 11:13	04/17/24 16:23	100
1,1'-Biphenyl	5300		500		mg/Kg		04/08/24 11:13	04/17/24 16:23	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*116*		*60 - 138*	*04/08/24 11:13*	*04/17/24 16:23*	*100*

Surrogate Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-179152-1

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**OTCSN1 (60-138)**
570-179152-1 - DL	Waste Soil	116
570-179152-1 MS - DL	Waste Soil	108
570-179152-1 MSD - DL	Waste Soil	106
LCS 570-428290/2-A	Lab Control Sample	81
LCSD 570-428290/3-A	Lab Control Sample Dup	82
MB 570-428290/1-A	Method Blank	79

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Lab Chronicle

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-179152-1

Client Sample ID: Waste Soil

Date Collected: 04/04/24 09:00
Date Received: 04/04/24 13:35

Lab Sample ID: 570-179152-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		10.01 g	10 mL	428290	04/08/24 11:13	JE	EET CAL 4
Total/NA	Analysis	8015B	DL	100	1 mL	1 mL	431566	04/17/24 16:23	SP9M	EET CAL 4
	Instrument ID: GC70B									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

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

Lab Sample ID: MB 570-428290/1-A
Matrix: Solid
Analysis Batch: 431566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 428290

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		5.0		mg/Kg		04/08/24 11:13	04/17/24 12:56	1
1,1'-Biphenyl	ND		5.0		mg/Kg		04/08/24 11:13	04/17/24 12:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*79*		*60 - 138*	*04/08/24 11:13*	*04/17/24 12:56*	*1*

Lab Sample ID: LCS 570-428290/2-A
Matrix: Solid
Analysis Batch: 431566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 428290

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis-			100	81.9		mg/Kg		82	68 - 120		
1,1'-Biphenyl			100	79.8		mg/Kg		80	57 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*81*		*60 - 138*

Lab Sample ID: LCSD 570-428290/3-A
Matrix: Solid
Analysis Batch: 431566

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 428290

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis-			100	85.5		mg/Kg		86	68 - 120	4	20
1,1'-Biphenyl			100	83.1		mg/Kg		83	57 - 120	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*82*		*60 - 138*

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

Lab Sample ID: 570-179152-1 MS
Matrix: Solid
Analysis Batch: 431566

Client Sample ID: Waste Soil
Prep Type: Total/NA
Prep Batch: 428290

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis- - DL	14000		100	13300	4	mg/Kg		-1091	68 - 120		
1,1'-Biphenyl - DL	5300		100	4950	4	mg/Kg		-355	57 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane (Surr) - DL	*108*		*60 - 138*

Lab Sample ID: 570-179152-1 MSD
Matrix: Solid
Analysis Batch: 431566

Client Sample ID: Waste Soil
Prep Type: Total/NA
Prep Batch: 428290

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis- - DL	14000		96.5	13400	4	mg/Kg		-1051	68 - 120	1	20
1,1'-Biphenyl - DL	5300		96.5	4950	4	mg/Kg		-366	57 - 120	0	20

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane (Surr) - DL	106		60 - 138

QC Association Summary

Client: Northstar Environmental Remediation
Job ID: 570-179152-1
Project/Site: Genesis

GC Semi VOA

Prep Batch: 428290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-179152-1 - DL	Waste Soil	Total/NA	Solid	3550C	
MB 570-428290/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 570-428290/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 570-428290/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
570-179152-1 MS - DL	Waste Soil	Total/NA	Solid	3550C	
570-179152-1 MSD - DL	Waste Soil	Total/NA	Solid	3550C	

Analysis Batch: 431566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-179152-1 - DL	Waste Soil	Total/NA	Solid	8015B	428290
MB 570-428290/1-A	Method Blank	Total/NA	Solid	8015B	428290
LCS 570-428290/2-A	Lab Control Sample	Total/NA	Solid	8015B	428290
LCSD 570-428290/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	428290
570-179152-1 MS - DL	Waste Soil	Total/NA	Solid	8015B	428290
570-179152-1 MSD - DL	Waste Soil	Total/NA	Solid	8015B	428290

Accreditation/Certification Summary

Client: Northstar Environmental Remediation
Job ID: 570-179152-1
Project/Site: Genesis

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24

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	3550C	Solid	1,1'-Biphenyl
8015B	3550C	Solid	Benzene, 1,1'-oxybis-

Method Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-179152-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	EET CAL 4
3550C	Ultrasonic Extraction	SW846	EET CAL 4

Protocol References:

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

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Eurofins Calscience
2841 Dow Avenue
Tustin CA 92780
(714) 730-7950

Chain of Custody Record

eurofins | En Air

Loc: 570
179152

Client Information	Sampler: R DeLaParra	Lab PM: Sheri Fama	Carrier Tracking No(s):	COC No:
Client Contact: Mr Arlin Brewster	Phone: (949) 702-0968	E-Mail: sheri.fama@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Northstar Environmental Remediation	PWSID:			Job #:
Address: 26225 Enterprise Court	Due Date Requested:			
City: Lake Forest	TAT Requested (days): 10 Days			
State, Zip: CA 92630	Compliance Project: Δ Yes Δ No			
Phone: (949) 274-1719	PO #: 196-004-07			
Email: Arlin.Brewster@NorthstarER.com	WO #:			
Project Name: Genesis	Project #:			
Site: Genesis	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O AsNaO2
D Nitric Acid	P - Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V - MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015M Therminol	8015B Gasoline + Diesel + Motor Oil	Title 22 Metals	Mercury	8260B - Total VOCs	TCLP - RCRA 8 Metals (6010)	Total Number of containers	Special Instructions/Note: EDF file NOT required
			Preservation Code:				1	1	1	1	1	1		
Waste Soil	4-4-24	0900	C	S	No		X						1	

570-179152 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:
Relinquished by:	Date/Time: 4-4-24 1317	Company: NorthStar	Received by:	Date/Time: 4-4-24 1335	Company: EC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No

Cooler Temperature(s) °C and Other Remarks: 0.7/0.8 Sc 14

Login Sample Receipt Checklist

Client: Northstar Environmental Remediation

Job Number: 570-179152-1

Login Number: 179152
List Number: 1
Creator: Le, Sunny

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	True	
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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Arlin Brewster
Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest, California 92630

Generated 4/18/2024 4:49:20 PM

JOB DESCRIPTION

Genesis

JOB NUMBER

570-180649-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Generated
4/18/2024 4:49:20 PM

Authorized for release by
Sheri Fama, Project Manager I
Sheri.Fama@et.eurofinsus.com
(657)210-6368

Table of Contents

Definitions/Glossary

Client: Northstar Environmental Remediation
Job ID: 570-180649-1
Project/Site: Genesis

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job ID: 570-180649-1 Eurofins Calscience

Job Narrative
570-180649-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 4/15/2024 5:51 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.1°C.

Diesel Range Organics
Method 8015B_DRO: Surrogate recovery for the following samples were outside control limits: Composite (Samples 1-6) (570-180649-7), SP # 4 (570-180649-11), (570-180649-A-7-A MS) and (570-180649-A-7-B MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Metals
Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Thallium were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

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

Sample Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-180649-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-180649-1	Bin # RB23103	Soil	04/15/24 09:45	04/15/24 17:51
570-180649-2	Bin # 5247	Soil	04/15/24 09:50	04/15/24 17:51
570-180649-3	Bin # PT1416	Soil	04/15/24 10:05	04/15/24 17:51
570-180649-4	Bin # PT6369	Soil	04/15/24 10:00	04/15/24 17:51
570-180649-5	Bin # 5063	Soil	04/15/24 10:20	04/15/24 17:51
570-180649-6	Bin # 4917	Soil	04/15/24 10:25	04/15/24 17:51
570-180649-7	Composite (Samples 1-6)	Soil	04/15/24 10:25	04/15/24 17:51
570-180649-8	SP # 1	Soil	04/15/24 10:10	04/15/24 17:51
570-180649-9	SP # 2	Soil	04/15/24 10:12	04/15/24 17:51
570-180649-10	SP # 3	Soil	04/15/24 10:14	04/15/24 17:51
570-180649-11	SP # 4	Soil	04/15/24 10:16	04/15/24 17:51

Detection Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-180649-1

Client Sample ID: Bin # RB23103 — Lab Sample ID: 570-180649-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Composited	Yes				NONE	1		Composite	Total/NA

Client Sample ID: Bin # 5247 — Lab Sample ID: 570-180649-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Composited	Yes				NONE	1		Composite	Total/NA

Client Sample ID: Bin # PT1416 — Lab Sample ID: 570-180649-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Composited	Yes				NONE	1		Composite	Total/NA

Client Sample ID: Bin # PT6369 — Lab Sample ID: 570-180649-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Composited	Yes				NONE	1		Composite	Total/NA

Client Sample ID: Bin # 5063 — Lab Sample ID: 570-180649-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Composited	Yes				NONE	1		Composite	Total/NA

Client Sample ID: Bin # 4917 — Lab Sample ID: 570-180649-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Composited	Yes				NONE	1		Composite	Total/NA

Client Sample ID: Composite (Samples 1-6) — Lab Sample ID: 570-180649-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	25000		510		mg/Kg	100		8015B	Total/NA
1,1'-Biphenyl - DL	8900		510		mg/Kg	100		8015B	Total/NA
Arsenic	4.1		3.0		mg/Kg	5		6010B	Total/NA
Barium	70		3.0		mg/Kg	5		6010B	Total/NA
Cobalt	3.6		1.0		mg/Kg	5		6010B	Total/NA
Chromium	7.1		1.0		mg/Kg	5		6010B	Total/NA
Copper	14		2.0		mg/Kg	5		6010B	Total/NA
Nickel	5.9		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	16		1.0		mg/Kg	5		6010B	Total/NA
Zinc	30		5.1		mg/Kg	5		6010B	Total/NA
Lead	5.9		2.0		mg/Kg	5		6010B	Total/NA

Client Sample ID: SP # 1 — Lab Sample ID: 570-180649-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	7600		99		mg/Kg	20		8015B	Total/NA
1,1'-Biphenyl - DL	2700		99		mg/Kg	20		8015B	Total/NA

Client Sample ID: SP # 2 — Lab Sample ID: 570-180649-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	3200		48		mg/Kg	10		8015B	Total/NA
1,1'-Biphenyl - DL	1100		48		mg/Kg	10		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Detection Summary

Client: Northstar Environmental Remediation
Job ID: 570-180649-1
Project/Site: Genesis

Client Sample ID: SP # 3
Lab Sample ID: 570-180649-10

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	9400		250		mg/Kg	50		8015B	Total/NA
1,1'-Biphenyl - DL	3400		250		mg/Kg	50		8015B	Total/NA

Client Sample ID: SP # 4
Lab Sample ID: 570-180649-11

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	16000		500		mg/Kg	100		8015B	Total/NA
1,1'-Biphenyl - DL	5600		500		mg/Kg	100		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: Bin # RB23103
Lab Sample ID: 570-180649-1
Date Collected: 04/15/24 09:45
Matrix: Soil
Date Received: 04/15/24 17:51

Method: Composite - Sample Compositing

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Composited	Yes				NONE			04/16/24 10:39	1

Client Sample ID: Bin # 5247
Lab Sample ID: 570-180649-2
Date Collected: 04/15/24 09:50
Matrix: Soil
Date Received: 04/15/24 17:51

Method: Composite - Sample Compositing

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Composited	Yes				NONE			04/16/24 10:39	1

Client Sample ID: Bin # PT1416
Lab Sample ID: 570-180649-3
Date Collected: 04/15/24 10:05
Matrix: Soil
Date Received: 04/15/24 17:51

Method: Composite - Sample Compositing

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Composited	Yes				NONE			04/16/24 10:39	1

Client Sample ID: Bin # PT6369
Lab Sample ID: 570-180649-4
Date Collected: 04/15/24 10:00
Matrix: Soil
Date Received: 04/15/24 17:51

Method: Composite - Sample Compositing

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Composited	Yes				NONE			04/16/24 10:39	1

Client Sample ID: Bin # 5063
Lab Sample ID: 570-180649-5
Date Collected: 04/15/24 10:20
Matrix: Soil
Date Received: 04/15/24 17:51

Method: Composite - Sample Compositing

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Composited	Yes				NONE			04/16/24 10:39	1

Client Sample ID: Bin # 4917
Lab Sample ID: 570-180649-6
Date Collected: 04/15/24 10:25
Matrix: Soil
Date Received: 04/15/24 17:51

Method: Composite - Sample Compositing

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Composited	Yes				NONE			04/16/24 10:39	1

Client Sample ID: Composite (Samples 1-6)
Lab Sample ID: 570-180649-7
Date Collected: 04/15/24 10:25
Matrix: Soil
Date Received: 04/15/24 17:51

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	25000		510		mg/Kg		04/16/24 10:36	04/18/24 13:21	100
1,1'-Biphenyl	8900		510		mg/Kg		04/16/24 10:36	04/18/24 13:21	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*157*	*S1+*	*60 - 138*	*04/16/24 10:36*	*04/18/24 13:21*	*100*

Client Sample ID: Composite (Samples 1-6)
Lab Sample ID: 570-180649-7

Date Collected: 04/15/24 10:25
Matrix: Soil
Date Received: 04/15/24 17:51

Method: SW846 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.5		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Arsenic	**4.1**		3.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Barium	**70**		3.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Beryllium	ND		0.51		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Cadmium	ND		0.51		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Cobalt	**3.6**		1.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Chromium	**7.1**		1.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Copper	**14**		2.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Molybdenum	ND		2.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Nickel	**5.9**		2.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Antimony	ND		10		mg/Kg		04/16/24 07:11	04/17/24 13:57	5
Selenium	ND		3.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Thallium	ND		10		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Vanadium	**16**		1.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Zinc	**30**		5.1		mg/Kg		04/16/24 07:11	04/17/24 12:53	5
Lead	**5.9**		2.0		mg/Kg		04/16/24 07:11	04/17/24 12:53	5

Method: SW846 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.083		mg/Kg		04/16/24 13:15	04/16/24 16:35	1

Client Sample ID: SP # 1
Lab Sample ID: 570-180649-8

Date Collected: 04/15/24 10:10
Matrix: Soil
Date Received: 04/15/24 17:51

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	**7600**		99		mg/Kg		04/16/24 10:36	04/18/24 13:46	20
1,1'-Biphenyl	**2700**		99		mg/Kg		04/16/24 10:36	04/18/24 13:46	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*112*		*60 - 138*	*04/16/24 10:36*	*04/18/24 13:46*	*20*

Client Sample ID: SP # 2
Lab Sample ID: 570-180649-9

Date Collected: 04/15/24 10:12
Matrix: Soil
Date Received: 04/15/24 17:51

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	**3200**		48		mg/Kg		04/16/24 10:36	04/18/24 14:10	10
1,1'-Biphenyl	**1100**		48		mg/Kg		04/16/24 10:36	04/18/24 14:10	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*103*		*60 - 138*	*04/16/24 10:36*	*04/18/24 14:10*	*10*

Client Sample ID: SP # 3
Lab Sample ID: 570-180649-10

Date Collected: 04/15/24 10:14
Matrix: Soil
Date Received: 04/15/24 17:51

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	**9400**		250		mg/Kg		04/16/24 10:36	04/18/24 14:34	50

Client Sample ID: SP # 3

Lab Sample ID: 570-180649-10

Date Collected: 04/15/24 10:14

Matrix: Soil

Date Received: 04/15/24 17:51

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	3400		250		mg/Kg		04/16/24 10:36	04/18/24 14:34	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*119*		*60 - 138*	*04/16/24 10:36*	*04/18/24 14:34*	*50*

Client Sample ID: SP # 4

Lab Sample ID: 570-180649-11

Date Collected: 04/15/24 10:16

Matrix: Soil

Date Received: 04/15/24 17:51

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	16000		500		mg/Kg		04/16/24 10:36	04/18/24 14:59	100
1,1'-Biphenyl	5600		500		mg/Kg		04/16/24 10:36	04/18/24 14:59	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*146*	*S1+*	*60 - 138*	*04/16/24 10:36*	*04/18/24 14:59*	*100*

Surrogate Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-180649-1

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

Matrix: Soil

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		OTCSN1							
Lab Sample ID	Client Sample ID	(60-138)							
570-180649-7 - DL	Composite (Samples 1-6)	157 S1+							
570-180649-7 MS - DL	Composite (Samples 1-6)	143 S1+							
570-180649-7 MSD - DL	Composite (Samples 1-6)	144 S1+							
570-180649-8 - DL	SP # 1	112							
570-180649-9 - DL	SP # 2	103							
570-180649-10 - DL	SP # 3	119							
570-180649-11 - DL	SP # 4	146 S1+							

Surrogate Legend

OTCSN = n-Octacosane (Surr)

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		OTCSN1							
Lab Sample ID	Client Sample ID	(60-138)							
LCS 570-431082/2-A	Lab Control Sample	79							
LCSD 570-431082/3-A	Lab Control Sample Dup	85							
MB 570-431082/1-A	Method Blank	77							

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Lab Chronicle

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-180649-1

Client Sample ID: Bin # RB23103
Lab Sample ID: 570-180649-1
Date Collected: 04/15/24 09:45
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Composite		1			431085	04/16/24 10:39	KZX6	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: Bin # 5247
Lab Sample ID: 570-180649-2
Date Collected: 04/15/24 09:50
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Composite		1			431085	04/16/24 10:39	KZX6	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: Bin # PT1416
Lab Sample ID: 570-180649-3
Date Collected: 04/15/24 10:05
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Composite		1			431085	04/16/24 10:39	KZX6	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: Bin # PT6369
Lab Sample ID: 570-180649-4
Date Collected: 04/15/24 10:00
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Composite		1			431085	04/16/24 10:39	KZX6	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: Bin # 5063
Lab Sample ID: 570-180649-5
Date Collected: 04/15/24 10:20
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Composite		1			431085	04/16/24 10:39	KZX6	EET CAL 4
	Instrument ID: NOEQUIP									

Client Sample ID: Bin # 4917
Lab Sample ID: 570-180649-6
Date Collected: 04/15/24 10:25
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Composite		1			431085	04/16/24 10:39	KZX6	EET CAL 4
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-180649-1

Client Sample ID: Composite (Samples 1-6)

Lab Sample ID: 570-180649-7

Date Collected: 04/15/24 10:25
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		9.88 g	10 mL	431082	04/16/24 10:36	JE	EET CAL 4
Total/NA	Analysis	8015B	DL	100	1 mL	1 mL	431965	04/18/24 13:21	SP9M	EET CAL 4
	Instrument ID: GC70B									
Total/NA	Prep	3050B			1.97 g	50 mL	431005	04/16/24 07:11	GYR8	EET CAL 4
Total/NA	Analysis	6010B		5			431635	04/17/24 12:53	VZ0K	EET CAL 4
	Instrument ID: ICP10									
Total/NA	Prep	3050B			1.97 g	50 mL	431005	04/16/24 07:11	GYR8	EET CAL 4
Total/NA	Analysis	6010B		5			431628	04/17/24 13:57	VZ0K	EET CAL 4
	Instrument ID: ICP11									
Total/NA	Prep	7471A			0.50 g	50 mL	431178	04/16/24 13:15	VCN7	EET CAL 4
Total/NA	Analysis	7471A		1			431099	04/16/24 16:35	ECX6	EET CAL 4
	Instrument ID: HG8									

Client Sample ID: SP # 1

Lab Sample ID: 570-180649-8

Date Collected: 04/15/24 10:10
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		10.14 g	10 mL	431082	04/16/24 10:36	JE	EET CAL 4
Total/NA	Analysis	8015B	DL	20	1 mL	1 mL	431965	04/18/24 13:46	SP9M	EET CAL 4
	Instrument ID: GC70B									

Client Sample ID: SP # 2

Lab Sample ID: 570-180649-9

Date Collected: 04/15/24 10:12
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		10.39 g	10 mL	431082	04/16/24 10:36	JE	EET CAL 4
Total/NA	Analysis	8015B	DL	10	1 mL	1 mL	431965	04/18/24 14:10	SP9M	EET CAL 4
	Instrument ID: GC70B									

Client Sample ID: SP # 3

Lab Sample ID: 570-180649-10

Date Collected: 04/15/24 10:14
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		10.16 g	10 mL	431082	04/16/24 10:36	JE	EET CAL 4
Total/NA	Analysis	8015B	DL	50	1 mL	1 mL	431965	04/18/24 14:34	SP9M	EET CAL 4
	Instrument ID: GC70B									

Lab Chronicle

Client: Northstar Environmental Remediation
Job ID: 570-180649-1
Project/Site: Genesis

Client Sample ID: SP # 4
Lab Sample ID: 570-180649-11
Date Collected: 04/15/24 10:16
Matrix: Soil
Date Received: 04/15/24 17:51

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		9.97 g	10 mL	431082	04/16/24 10:36	JE	EET CAL 4
Total/NA	Analysis	8015B	DL	100	1 mL	1 mL	431965	04/18/24 14:59	SP9M	EET CAL 4
	Instrument ID: GC70B									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

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

Lab Sample ID: MB 570-431082/1-A
Matrix: Solid
Analysis Batch: 431566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431082

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		5.0		mg/Kg		04/16/24 10:36	04/17/24 18:29	1
1,1'-Biphenyl	ND		5.0		mg/Kg		04/16/24 10:36	04/17/24 18:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*77*		*60 - 138*	*04/16/24 10:36*	*04/17/24 18:29*	*1*

Lab Sample ID: LCS 570-431082/2-A
Matrix: Solid
Analysis Batch: 431566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431082

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis-			100	76.2		mg/Kg		76	68 - 120		
1,1'-Biphenyl			100	74.4		mg/Kg		74	57 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*79*		*60 - 138*

Lab Sample ID: LCSD 570-431082/3-A
Matrix: Solid
Analysis Batch: 431566

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 431082

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis-			100	70.8		mg/Kg		71	68 - 120	7	20
1,1'-Biphenyl			100	80.5		mg/Kg		80	57 - 120	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*85*		*60 - 138*

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

Lab Sample ID: 570-180649-7 MS
Matrix: Soil
Analysis Batch: 431965

Client Sample ID: Composite (Samples 1-6)
Prep Type: Total/NA
Prep Batch: 431082

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis- - DL	25000		103	22200	4	mg/Kg		-2669	68 - 120		
1,1'-Biphenyl - DL	8900		103	8000	4	mg/Kg		-854	57 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane (Surr) - DL	*143*	*S1+*	*60 - 138*

Lab Sample ID: 570-180649-7 MSD
Matrix: Soil
Analysis Batch: 431965

Client Sample ID: Composite (Samples 1-6)
Prep Type: Total/NA
Prep Batch: 431082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis- - DL	25000		98.1	21800	4	mg/Kg		-3187	68 - 120	2	20
1,1'-Biphenyl - DL	8900		98.1	7860	4	mg/Kg		-1039	57 - 120	2	20

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane (Surr) - DL	*144*	*S1+*	*60 - 138*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-431005/1-A ^5
Matrix: Solid
Analysis Batch: 431635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431005

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.5		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Arsenic	ND		3.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Barium	ND		3.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Beryllium	ND		0.50		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Cadmium	ND		0.50		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Cobalt	ND		1.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Chromium	ND		1.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Copper	ND		2.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Molybdenum	ND		2.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Nickel	ND		2.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Antimony	ND		10		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Selenium	ND		3.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Thallium	ND		10		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Vanadium	ND		1.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Zinc	ND		5.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5
Lead	ND		2.0		mg/Kg		04/16/24 06:48	04/17/24 12:31	5

Lab Sample ID: LCSD 570-431005/3-A ^5
Matrix: Solid
Analysis Batch: 431635

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 431005

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver			25.3	24.3		mg/Kg		96	80 - 120	2	20
Arsenic			50.5	47.6		mg/Kg		94	80 - 120	2	20
Barium			50.5	49.0		mg/Kg		97	80 - 120	2	20
Beryllium			50.5	48.9		mg/Kg		97	80 - 120	2	20
Cadmium			50.5	47.9		mg/Kg		95	80 - 120	1	20
Cobalt			50.5	49.3		mg/Kg		98	80 - 120	2	20
Chromium			50.5	48.9		mg/Kg		97	80 - 120	2	20
Copper			50.5	48.4		mg/Kg		96	80 - 120	2	20
Molybdenum			50.5	50.1		mg/Kg		99	80 - 120	2	20
Nickel			50.5	49.1		mg/Kg		97	80 - 120	2	20
Antimony			50.5	51.1		mg/Kg		101	80 - 120	1	20
Selenium			50.5	44.9		mg/Kg		89	80 - 120	3	20
Thallium			50.5	48.0		mg/Kg		95	80 - 120	2	20
Vanadium			50.5	48.4		mg/Kg		96	80 - 120	2	20
Zinc			50.5	47.6		mg/Kg		94	80 - 120	1	20
Lead			50.5	48.8		mg/Kg		97	80 - 120	1	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-180658-A-1-B MS ^5
Matrix: Solid
Analysis Batch: 431628

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 431005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	ND		25.0	24.9		mg/Kg		100	75 - 125
Arsenic	ND		50.0	47.5		mg/Kg		95	75 - 125
Barium	4.3		50.0	53.7		mg/Kg		99	75 - 125
Beryllium	ND		50.0	49.4		mg/Kg		99	75 - 125
Cadmium	ND		50.0	48.3		mg/Kg		97	75 - 125
Cobalt	1.3		50.0	50.3		mg/Kg		98	75 - 125
Chromium	7.6		50.0	61.6		mg/Kg		108	75 - 125
Copper	5.7		50.0	57.6		mg/Kg		104	75 - 125
Molybdenum	ND		50.0	49.7		mg/Kg		99	75 - 125
Nickel	3.2		50.0	52.3		mg/Kg		98	75 - 125
Antimony	ND		50.0	44.7		mg/Kg		89	75 - 125
Selenium	ND		50.0	45.4		mg/Kg		91	75 - 125
Thallium	ND	F1	50.0	35.9	F1	mg/Kg		72	75 - 125
Vanadium	6.2		50.0	58.7		mg/Kg		105	75 - 125
Zinc	13		50.0	61.6		mg/Kg		98	75 - 125
Lead	2.7		50.0	51.6		mg/Kg		98	75 - 125

Lab Sample ID: 570-180658-A-1-C MSD ^5
Matrix: Solid
Analysis Batch: 431628

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 431005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	ND		24.9	22.9		mg/Kg		92	75 - 125	8	20
Arsenic	ND		49.8	44.2		mg/Kg		89	75 - 125	7	20
Barium	4.3		49.8	51.5		mg/Kg		95	75 - 125	4	20
Beryllium	ND		49.8	45.5		mg/Kg		91	75 - 125	8	20
Cadmium	ND		49.8	44.5		mg/Kg		89	75 - 125	8	20
Cobalt	1.3		49.8	46.4		mg/Kg		91	75 - 125	8	20
Chromium	7.6		49.8	57.7		mg/Kg		101	75 - 125	6	20
Copper	5.7		49.8	52.9		mg/Kg		95	75 - 125	9	20
Molybdenum	ND		49.8	49.5		mg/Kg		99	75 - 125	0	20
Nickel	3.2		49.8	48.5		mg/Kg		91	75 - 125	8	20
Antimony	ND		49.8	44.5		mg/Kg		90	75 - 125	0	20
Selenium	ND		49.8	41.3		mg/Kg		83	75 - 125	9	20
Thallium	ND	F1	49.8	32.9	F1	mg/Kg		66	75 - 125	9	20
Vanadium	6.2		49.8	54.7		mg/Kg		98	75 - 125	7	20
Zinc	13		49.8	57.0		mg/Kg		89	75 - 125	8	20
Lead	2.7		49.8	47.7		mg/Kg		91	75 - 125	8	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 570-431178/1-A
Matrix: Solid
Analysis Batch: 431099

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431178

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.080		mg/Kg		04/16/24 13:15	04/16/24 14:59	1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 570-431178/2-A
Matrix: Solid
Analysis Batch: 431099

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431178

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.392	0.350		mg/Kg		89	80 - 120		

Lab Sample ID: LCSD 570-431178/3-A
Matrix: Solid
Analysis Batch: 431099

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 431178

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.392	0.332		mg/Kg		85	80 - 120	5	10

Lab Sample ID: 570-180656-A-1-E MS
Matrix: Solid
Analysis Batch: 431099

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 431178

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND		0.385	0.352		mg/Kg		83	80 - 120		

Lab Sample ID: 570-180656-A-1-F MSD
Matrix: Solid
Analysis Batch: 431099

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 431178

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.385	0.349		mg/Kg		82	80 - 120	1	20

GC Semi VOA

Prep Batch: 431082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-180649-7 - DL	Composite (Samples 1-6)	Total/NA	Soil	3550C	
570-180649-8 - DL	SP # 1	Total/NA	Soil	3550C	
570-180649-9 - DL	SP # 2	Total/NA	Soil	3550C	
570-180649-10 - DL	SP # 3	Total/NA	Soil	3550C	
570-180649-11 - DL	SP # 4	Total/NA	Soil	3550C	
MB 570-431082/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 570-431082/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 570-431082/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
570-180649-7 MS - DL	Composite (Samples 1-6)	Total/NA	Soil	3550C	
570-180649-7 MSD - DL	Composite (Samples 1-6)	Total/NA	Soil	3550C	

Analysis Batch: 431566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-431082/1-A	Method Blank	Total/NA	Solid	8015B	431082
LCS 570-431082/2-A	Lab Control Sample	Total/NA	Solid	8015B	431082
LCSD 570-431082/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	431082

Analysis Batch: 431965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-180649-7 - DL	Composite (Samples 1-6)	Total/NA	Soil	8015B	431082
570-180649-8 - DL	SP # 1	Total/NA	Soil	8015B	431082
570-180649-9 - DL	SP # 2	Total/NA	Soil	8015B	431082
570-180649-10 - DL	SP # 3	Total/NA	Soil	8015B	431082
570-180649-11 - DL	SP # 4	Total/NA	Soil	8015B	431082
570-180649-7 MS - DL	Composite (Samples 1-6)	Total/NA	Soil	8015B	431082
570-180649-7 MSD - DL	Composite (Samples 1-6)	Total/NA	Soil	8015B	431082

Metals

Prep Batch: 431005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-180649-7	Composite (Samples 1-6)	Total/NA	Soil	3050B	
MB 570-431005/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCSD 570-431005/3-A ^5	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-180658-A-1-B MS ^5	Matrix Spike	Total/NA	Solid	3050B	
570-180658-A-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Analysis Batch: 431099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-180649-7	Composite (Samples 1-6)	Total/NA	Soil	7471A	431178
MB 570-431178/1-A	Method Blank	Total/NA	Solid	7471A	431178
LCS 570-431178/2-A	Lab Control Sample	Total/NA	Solid	7471A	431178
LCSD 570-431178/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	431178
570-180656-A-1-E MS	Matrix Spike	Total/NA	Solid	7471A	431178
570-180656-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	431178

Prep Batch: 431178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-180649-7	Composite (Samples 1-6)	Total/NA	Soil	7471A	
MB 570-431178/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 570-431178/2-A	Lab Control Sample	Total/NA	Solid	7471A	

Metals (Continued)

Prep Batch: 431178 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-431178/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
570-180656-A-1-E MS	Matrix Spike	Total/NA	Solid	7471A	
570-180656-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

Analysis Batch: 431628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-180649-7	Composite (Samples 1-6)	Total/NA	Soil	6010B	431005
570-180658-A-1-B MS ^5	Matrix Spike	Total/NA	Solid	6010B	431005
570-180658-A-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	431005

Analysis Batch: 431635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-180649-7	Composite (Samples 1-6)	Total/NA	Soil	6010B	431005
MB 570-431005/1-A ^5	Method Blank	Total/NA	Solid	6010B	431005
LCSD 570-431005/3-A ^5	Lab Control Sample Dup	Total/NA	Solid	6010B	431005

Organic Prep

Analysis Batch: 431085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-180649-1	Bin # RB23103	Total/NA	Soil	Composite	
570-180649-2	Bin # 5247	Total/NA	Soil	Composite	
570-180649-3	Bin # PT1416	Total/NA	Soil	Composite	
570-180649-4	Bin # PT6369	Total/NA	Soil	Composite	
570-180649-5	Bin # 5063	Total/NA	Soil	Composite	
570-180649-6	Bin # 4917	Total/NA	Soil	Composite	

Accreditation/Certification Summary

Client: Northstar Environmental Remediation
Job ID: 570-180649-1
Project/Site: Genesis

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24

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
6010B	3050B	Soil	Antimony
6010B	3050B	Soil	Arsenic
6010B	3050B	Soil	Barium
6010B	3050B	Soil	Beryllium
6010B	3050B	Soil	Cadmium
6010B	3050B	Soil	Chromium
6010B	3050B	Soil	Cobalt
6010B	3050B	Soil	Copper
6010B	3050B	Soil	Lead
6010B	3050B	Soil	Molybdenum
6010B	3050B	Soil	Nickel
6010B	3050B	Soil	Selenium
6010B	3050B	Soil	Silver
6010B	3050B	Soil	Thallium
6010B	3050B	Soil	Vanadium
6010B	3050B	Soil	Zinc
7471A	7471A	Soil	Mercury
8015B	3550C	Soil	1,1'-Biphenyl
8015B	3550C	Soil	Benzene, 1,1'-oxybis-
Composite		Soil	Composited

Method Summary

Client: Northstar Environmental Remediation
Job ID: 570-180649-1
Project/Site: Genesis

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	EET CAL 4
6010B	Metals (ICP)	SW846	EET CAL 4
7471A	Mercury (CVAA)	SW846	EET CAL 4
Composite	Sample Compositing	None	EET CAL 4
3050B	Preparation, Metals	SW846	EET CAL 4
3550C	Ultrasonic Extraction	SW846	EET CAL 4
7471A	Preparation, Mercury	SW846	EET CAL 4

Protocol References:

None = None

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

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Loc 570
180649

Eurofins Calscience
2841 Dow Avenue
Tustin CA 92780
(714) 730-7950

Chain of Custody Record

eurofins | Enviro Americ

Client Information	Sampler: R. DeLaParra	Lab PM: Sheri Fama	Carrier Tracking No(s):	COC No:
Client Contact: Mr Arlin Brewster	Phone: (949) 702-0968	E-Mail: sheri.fama@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Northstar Environmental Remediation	PWSID:			Job #:
Address: 26225 Enterprise Court	Due Date Requested			
City: Lake Forest	TAT Requested (days) ~~Standard~~ ASAP			
State Zip: CA, 92630	Compliance Project: Δ Yes Δ No			
Phone: (949) 274-1719	PO #: 196-004-07			
Email: Arlin.Brewster@NorthstarER.com	WO #:			
Project Name: Genesis	Project #:			
Site: Genesis	SSOW#:			

Analysis Requested

570-180649 Chain of Custody

J - DI Water V - MCAA
K - EDTA W pH 4-5
L EDA Z other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016M Thermlnol	8016B Gasoline + Diesel + Motor Oil	Title 22 Metals	Mercury	8260B - Total VOCs	TCLP - RCRA 8 Metals (6010)	Total Number of containers	Special Instructions/Note EDF file NOT required
			Preservation Code.				1	1	1	1	1	1		
B.in # RB23103	4-15-24	0945	G	S			X		X				1	Composite all
B.in # 5247		0950	G				X		X				1	Bin Samples (6)
B.in # PT1416		1005					X		X				1	+ report as
B.in # PT6369		1000					X		X				1	B.in Composite Sample
B.in # 5063		1020					X		X				1	w/a time of 1025
B.in # 4917		1025					X		X				1	
SP #1		1010					X						1	
SP #2		1022					X						1	
SP #3		1014					X						1	
SP #4		1016					X						1	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time.	Method of Shipment:
Relinquished by:	Date/Time: 4-15-24 @ 1251	Company: NorthStar	Received by:	Date/Time: 4-15-24 17:51	Company: EC
Relinquished by:	Date/Time.	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 2.0 / 2.1 EC14

Ver: 01/16/2019

4/18/2024

UJGP

Login Sample Receipt Checklist

Client: Northstar Environmental Remediation

Job Number: 570-180649-1

Login Number: 180649

List Source: Eurofins Calscience

List Number: 1

Creator: Fama, Sheri M

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.	True	
Sample custody seals, if present, are intact.	True	
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.	True	
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.	False	Sample compositing requested.
Residual Chlorine Checked.	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Arlin Brewster
Northstar Environmental Remediation
26225 Enterprise Court
Lake Forest, California 92630

Generated 6/26/2024 2:23:11 PM

JOB DESCRIPTION

Genesis

JOB NUMBER

570-187307-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Generated
6/26/2024 2:23:11 PM

Authorized for release by
Sheri Fama, Project Manager I
Sheri.Fama@et.eurofinsus.com
(657)210-6368

Table of Contents

Definitions/Glossary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-187307-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job Narrative
570-187307-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/7/2024 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C.

Diesel Range Organics
Method 8015B_DRO: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-449057 and analytical batch 570-452056 recovered outside control limits for the following analytes: 1,1'-Biphenyl.

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

Sample Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-187307-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-187307-1	LTU #1	Solid	06/06/24 18:20	06/07/24 10:10
570-187307-2	LTU #2	Solid	06/06/24 18:22	06/07/24 10:10
570-187307-3	LTU #3	Solid	06/06/24 18:24	06/07/24 10:10

Detection Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-187307-1

Client Sample ID: LTU #1 — Lab Sample ID: 570-187307-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	6100		250		mg/Kg	50		8015B	Total/NA
1,1'-Biphenyl - DL	2200	*1	250		mg/Kg	50		8015B	Total/NA

Client Sample ID: LTU #2 — Lab Sample ID: 570-187307-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis- - DL	7600		250		mg/Kg	50		8015B	Total/NA
1,1'-Biphenyl - DL	2700	*1	250		mg/Kg	50		8015B	Total/NA

Client Sample ID: LTU #3 — Lab Sample ID: 570-187307-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene, 1,1'-oxybis-	3100		50		mg/Kg	10		8015B	Total/NA
1,1'-Biphenyl	890	*1	50		mg/Kg	10		8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-187307-1

Client Sample ID: LTU #1

Lab Sample ID: 570-187307-1

Date Collected: 06/06/24 18:20
Matrix: Solid
Date Received: 06/07/24 10:10

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	6100		250		mg/Kg		06/08/24 15:29	06/24/24 21:05	50
1,1'-Biphenyl	2200	*1	250		mg/Kg		06/08/24 15:29	06/24/24 21:05	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*82*		*60 - 138*	*06/08/24 15:29*	*06/24/24 21:05*	*50*

Client Sample ID: LTU #2

Lab Sample ID: 570-187307-2

Date Collected: 06/06/24 18:22
Matrix: Solid
Date Received: 06/07/24 10:10

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	7600		250		mg/Kg		06/08/24 15:29	06/24/24 21:29	50
1,1'-Biphenyl	2700	*1	250		mg/Kg		06/08/24 15:29	06/24/24 21:29	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*92*		*60 - 138*	*06/08/24 15:29*	*06/24/24 21:29*	*50*

Client Sample ID: LTU #3

Lab Sample ID: 570-187307-3

Date Collected: 06/06/24 18:24
Matrix: Solid
Date Received: 06/07/24 10:10

Method: SW846 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	3100		50		mg/Kg		06/08/24 15:29	06/24/24 19:09	10
1,1'-Biphenyl	890	*1	50		mg/Kg		06/08/24 15:29	06/24/24 19:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*91*		*60 - 138*	*06/08/24 15:29*	*06/24/24 19:09*	*10*

Surrogate Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-187307-1

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	OTCSN1 (60-138)
570-187307-1 - DL	LTU #1	82
570-187307-1 MS - DL	LTU #1	79
570-187307-1 MSD - DL	LTU #1	80
570-187307-2 - DL	LTU #2	92
570-187307-3	LTU #3	91
LCS 570-449057/2-A	Lab Control Sample	78
LCSD 570-449057/3-A	Lab Control Sample Dup	70
MB 570-449057/1-A	Method Blank	66

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Lab Chronicle

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-187307-1

Client Sample ID: LTU #1

Lab Sample ID: 570-187307-1

Date Collected: 06/06/24 18:20

Matrix: Solid

Date Received: 06/07/24 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		10.04 g	10 mL	449057	06/08/24 15:29	NV8K	EET CAL 4
Total/NA	Analysis	8015B	DL	50	1 mL	1 mL	454024	06/24/24 21:05	SP9M	EET CAL 4
	Instrument ID: GC70B									

Client Sample ID: LTU #2

Lab Sample ID: 570-187307-2

Date Collected: 06/06/24 18:22

Matrix: Solid

Date Received: 06/07/24 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C	DL		10.03 g	10 mL	449057	06/08/24 15:29	NV8K	EET CAL 4
Total/NA	Analysis	8015B	DL	50	1 mL	1 mL	454024	06/24/24 21:29	SP9M	EET CAL 4
	Instrument ID: GC70B									

Client Sample ID: LTU #3

Lab Sample ID: 570-187307-3

Date Collected: 06/06/24 18:24

Matrix: Solid

Date Received: 06/07/24 10:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			10.01 g	10 mL	449057	06/08/24 15:29	NV8K	EET CAL 4
Total/NA	Analysis	8015B		10	1 mL	1 mL	454024	06/24/24 19:09	SP9M	EET CAL 4
	Instrument ID: GC70B									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

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

Lab Sample ID: MB 570-449057/1-A
Matrix: Solid
Analysis Batch: 452056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449057

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene, 1,1'-oxybis-	ND		5.0		mg/Kg		06/08/24 15:29	06/18/24 20:02	1
1,1'-Biphenyl	ND		5.0		mg/Kg		06/08/24 15:29	06/18/24 20:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*66*		*60 - 138*	*06/08/24 15:29*	*06/18/24 20:02*	*1*

Lab Sample ID: LCS 570-449057/2-A
Matrix: Solid
Analysis Batch: 454363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449057

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis-			100	84.8		mg/Kg		85	68 - 120		
1,1'-Biphenyl			100	92.2		mg/Kg		92	57 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*78*		*60 - 138*

Lab Sample ID: LCSD 570-449057/3-A
Matrix: Solid
Analysis Batch: 452056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449057

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis-			100	76.1		mg/Kg		76	68 - 120	11	20
1,1'-Biphenyl			100	74.5	*1	mg/Kg		74	57 - 120	21	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*70*		*60 - 138*

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

Lab Sample ID: 570-187307-1 MS
Matrix: Solid
Analysis Batch: 454024

Client Sample ID: LTU #1
Prep Type: Total/NA
Prep Batch: 449057

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene, 1,1'-oxybis- - DL	6100		99.2	6030	4	mg/Kg		-122	68 - 120		
1,1'-Biphenyl - DL	2200	*1	99.2	2180	4	mg/Kg		10	57 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane (Surr) - DL	*79*		*60 - 138*

Lab Sample ID: 570-187307-1 MSD
Matrix: Solid
Analysis Batch: 454024

Client Sample ID: LTU #1
Prep Type: Total/NA
Prep Batch: 449057

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene, 1,1'-oxybis- - DL	6100		99.8	6480	4	mg/Kg		327	68 - 120	7	20
1,1'-Biphenyl - DL	2200	*1	99.8	2330	4	mg/Kg		162	57 - 120	7	20

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane (Surr) - DL	80		60 - 138

QC Association Summary

Client: Northstar Environmental Remediation
Job ID: 570-187307-1
Project/Site: Genesis

GC Semi VOA

Prep Batch: 449057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-187307-1 - DL	LTU #1	Total/NA	Solid	3550C	
570-187307-2 - DL	LTU #2	Total/NA	Solid	3550C	
570-187307-3	LTU #3	Total/NA	Solid	3550C	
MB 570-449057/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 570-449057/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 570-449057/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
570-187307-1 MS - DL	LTU #1	Total/NA	Solid	3550C	
570-187307-1 MSD - DL	LTU #1	Total/NA	Solid	3550C	

Analysis Batch: 452056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-449057/1-A	Method Blank	Total/NA	Solid	8015B	449057
LCSD 570-449057/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	449057

Analysis Batch: 454024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-187307-1 - DL	LTU #1	Total/NA	Solid	8015B	449057
570-187307-2 - DL	LTU #2	Total/NA	Solid	8015B	449057
570-187307-3	LTU #3	Total/NA	Solid	8015B	449057
570-187307-1 MS - DL	LTU #1	Total/NA	Solid	8015B	449057
570-187307-1 MSD - DL	LTU #1	Total/NA	Solid	8015B	449057

Analysis Batch: 454363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-449057/2-A	Lab Control Sample	Total/NA	Solid	8015B	449057

Accreditation/Certification Summary

Client: Northstar Environmental Remediation
Job ID: 570-187307-1
Project/Site: Genesis

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24

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	3550C	Solid	1,1'-Biphenyl
8015B	3550C	Solid	Benzene, 1,1'-oxybis-

Method Summary

Client: Northstar Environmental Remediation
Project/Site: Genesis

Job ID: 570-187307-1

Method	Method Description	Protocol	Laboratory
8015B	Diesel Range Organics (DRO) (GC)	SW846	EET CAL 4
3550C	Ultrasonic Extraction	SW846	EET CAL 4

Protocol References:

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

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Eurofins Calscience
2841 Dow Avenue
Tustin CA 92780
(714) 730-7950

Chain of Custody Record

Loc: 570
187307

eurofins | Environment Testing America

Client Information	Sampler: A. Brewster	Lab PM: Sheri Fama	Carrier Tracking No(s)	COC No.
Client Contact: Mr Arlin Brewster	Phone: 949 274 1719	E-Mail: sheri.fama@eurofinset.com	State of Origin: California	Page: Page 1 of 1
Company: Northstar Environmental Remediation	PWSID:	Analysis Requested		Job #:
Address: 26225 Enterprise Court	Due Date Requested:			Preservation Codes
City: Lake Forest	TAT Requested (days): Standard			
State, Zip: CA, 92630	Compliance Project: Δ Yes Δ No			
Phone: (949) 274-1719	PO #: 196-004-07			
Email: Arlin.Brewster@NorthstarER.com	WO #:			
Project Name: Genesis	Project #:			
Site: Genesis	SSOW#:			Other:

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D - Nitric Acid, E NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J DI Water, K - EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S - H2SO4, T TSP Dodecahydrate, U Acetone, V - MCAA, W pH 4-5, Z - other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015M Therminol	8015B Gasoline + Diesel + Motor Oil	Title 22 Metals	Mercury	8260B Total VOCs	TCLP - RCRA 8 Metals (6010)	Total Number of containers	Special Instructions/Note: EDF file NOT required
			Preservation Code:				I	I	I	I	I	I		
1 LTU #1	6/6/24	1820	C	S	No		X						1	
2 LTU #2	↓	1822	C	S	No		X						1	
3 LTU #3	↓	1824	C	S	No		X						1	
~~LTU #4~~			~~C~~	~~S~~	~~No~~									

570-187307 Chain of Custody

Possible Hazard Identification
[X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [X] Disposal By Lab [ ] Archive For ______ Months

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/7/24 @ 1010	Northstar	[signature]	6/7/24 10:10	EC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No | Cooler Temperature(s) °C and Other Remarks: 2-9/3 o 544

nmg

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Northstar Environmental Remediation

Job Number: 570-187307-1

Login Number: 187307
List Number: 1
Creator: Mouton, Alain

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	True	
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	