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RG #3740 EG #1135 HG #448

WATER WELL COMPLETION REPORT

**Fire Station #51 Test Well
749 Burton Mesa Boulevard
Lompoc, California**

October 4, 2018

TABLE OF CONTENTS

Water Well Completion Report Fire Station #51 Test Well

1. INTRODUCTION.....	1
2. WELL SITING & GEOLOGIC/HYDROLOGIC SUMMARY.....	2
3. TEST HOLE DRILLING.....	3
4. WELL COMPLETION AND DEVELOPMENT.....	4
5. PRELIMINARY TESTING (May 30-June 1, 2017).....	5
5.1. STEP DRAWDOWN TEST (May 30, 2017)	5
5.2. CONSTANT DISCHARGE TEST (June 1, 2017)	6
5.3. HYDROLOGIC CALCULATIONS	7
5.4. WATER SAMPLE ANALYSIS RESULTS (Entire Well Bore).....	8
6. INDIVIDUAL ZONE TESTING (July 13, 2017)	9
6.1. TESTING TOOLS & PROCEDURE	9
6.2. WATER SAMPLE ANALYSIS RESULTS (Six Different Zones).....	9
7. ZONE #6 ONLY TEST: 770'-810' (Nov. 6 THRU Nov. 9, 2017)	10
8. ENTIRE WELL 6 DAY TEST: 450' TO 810' (Jan. 3 THRU Jan. 9, 2018).....	11
9. CONCLUSIONS.....	11

October 4, 2018

FILE:GR18Oct:FireStation#51WellReport

**Vandenberg Community Services District
3745 Constellation Road
Lompoc, California 93436
Attn: Mr. Joe Barget, General Manager**

**Re: Water Well Completion Report
Fire Station #51 Test Water Well Project
Located in south-central portion of property
749 Burton Mesa Boulevard
Lompoc, California
Assessor's Parcel Number 097-371-013**
.....

Dear Mr. Barget:

1. INTRODUCTION

Pursuant to your request, I herewith submit my WATER WELL COMPLETION REPORT for the recently completed 8⁵/₈-inch diameter (OD), SDR 17, PVC cased test water well drilled in the south-central portion of the Santa Barbara County (SBC), old Fire Station property, located on the above described parcel east of Vandenberg Village, California. The new **Fire Station #51 Test Well** was drilled in order to gain hydrologic information of the underlying strata in order to assess this site for the drilling of a larger diameter production water well to be used as a domestic supply for Vandenberg Village Community Services District (VVCSD). I have shown the location of the new well on the two attached maps (see **WELL LOCATION MAP**, Figure 1 and **SITE MAP**, Figure 2).

The general well drilling location was determined based on review of the hydrologic conditions of the area. VVCSD has been considering the drilling of one or more new wells within their service area in order to replace three aging wells located within two existing well fields located within the small unnamed canyon on the east side of Highway 1, southeast of Vandenberg Village. Access for the drilling of new wells within the two existing VVCSD well fields (identified as Well Field #1 to the north and Well Field #3 to the south) is constrained. Other potential well sites outside of the two existing well fields were therefore analyzed. Several candidate drilling areas were identified based on hydrologic conditions, access, environmental constraints, and reasonable post well construction logistics, including availability of grid (PG&E) electrical power and proximity to the pipeline distribution system. Attempts to secure a well drilling site within the Burton Mesa Ecological Reserve (BMER), managed by the State of California Department of Fish and Wildlife (CDFW), was taking considerable time and expense. SBC Department of General Services granted a two-year license to VVCSD to drill a deep test well on the decommissioned SBC Fire Station #51 property to test the local aquifer for production potential and water quality. Because of the uncertainty regarding both potential future production capacity and water quality from the underlying aquifer, it was decided to drill and test a new small diameter test water well on this site prior to the drilling and completion of a much more expensive, large diameter stainless steel production water well. This report provides the details regarding the siting, construction, design, and multiple testing procedures conducted for this new deep test water well on the Fire Station #51 property.

2. WELL SITING & GEOLOGIC/HYDROLOGIC SUMMARY

The existing VVCS D wells (within Well Field #1 and Well Field #3) and the new Fire Station #51 Test Well are all in an area underlain by strata identified as part of the **Lompoc Upland Groundwater Basin**. This Basin is composed mainly of layers of unconsolidated clay, silt, sand, and gravel identified as the Orcutt Formation, the Paso Robles Formation, and the Careaga Formation. Older, typically non-water bearing consolidated sediments underlie the Basin and are not considered good target aquifers for production of significant amounts of potable water.

The main water bearing rocks within the Lompoc Upland Groundwater Basin are the sand and gravel zones within the Paso Robles Formation and the massive fine to coarse grained sand within the Careaga Formation. The Paso Robles Formation sediments were deposited in a terrestrial (non-marine) stream and flood plain environment. The sandy portions of the Careaga Formation were deposited in a shallow marine or near shore environment similar to what is occurring now at places like Pismo Beach or Surf Beach. The strike (trend) of both of these strata are in a general east-west orientation. The layered to interbedded strata are inclined (dip) to the south at a gentle angle of approximately 3° to 8° in the area. The Basin clearly thins to the north and to the west where it “pinches out” against the underlying non-water bearing shale bedrock.

My new well siting recommendation was to stay “on-strike” (general east-west) orientation to the existing well field. Moving more than approximately ½ mile to the north (up dip) from the existing well field would place the proposed new well in an area where the Basin is getting too thin. The SBC Fire Station site is located relatively close, albeit slightly north of the trend of the aquifer between existing VVCS D wells and Mission Hills CSD wells located approximately 2 miles to the east. Production capacity and general water quality from all of these well fields is relatively good. The SBC Fire Station property also had good logistics for future development of multiple new production water wells, provided the proposed Test Well produced reasonable test results. The Fire Station #51 site has room for numerous new future water wells, is suited for development of a future VVCS D maintenance building and treatment infrastructure, has an existing water pipeline and easement from the site westward to the VVCS D Well Field #1, electric power, and other surface logistical advantages over other well sites within the BMER. After several meetings and discussion with you and your Board members, the District decided to pursue acquisition of the SBC Fire Station #51 property.

The final well site was reviewed and approved by you prior to the permitting and move on of the drilling equipment. Once the well site was approved, I prepared the required **WATER WELL DRILLING PERMIT APPLICATION** and **WELL LOCATION MAP** for the well project and submitted it to the Santa Barbara County, Department of Environmental Health Services (EHS) for processing. The Santa Barbara County Permit (WP# 0001924) was approved on March 23, 2017. I have included a copy of the approved well permit within the Appendix of this report.

3. TEST HOLE DRILLING

The Drilling Contractor for this project was **Filipponi & Thompson Drilling Company** of Atascadero, California. The drilling equipment was moved to the site on May 4, 2017. The initial stage of the well project was to drill and set a section of Conductor Casing in order to stabilize the upper portion of the bore hole and act as the required sanitary seal. The 18-inch diameter by ¼-inch wall thickness, A-53 grade mild steel casing was set in a 28-inch diameter bore hole to a total depth of 52 feet. A 6-sack mix of cement and sand slurry was pumped into the annulus between the Conductor Casing and the bore hole. The concrete acts as the required sanitary seal per Santa Barbara County EHS Code. Approximately 5 cubic yards of concrete was pumped into place during this phase of the well construction process. Mr. Lloyd Simms, Santa Barbara County EHS staff was present and witnessed the placement of the sanitary seal.

After placement of the Conductor Casing, the sanitary seal was allowed to cure over the weekend prior to drilling. Drilling of the deep test hole was then initiated on May 8, 2017. The deep test hole was drilled using a 9⁷/₈-inch diameter tri-cone bit utilizing standard mud rotary drilling techniques. Standard high grade bentonite drilling mud, long chain organic polymer additive (Drispac© SuperLo) and water were used as a drilling fluid for this project. The use of bentonite clay (and modest amounts of Drispac) within the drilling mud system was necessary in order to stabilize the bore hole during drilling and to aid in the removal of the drill cuttings from the test hole. Formational samples were collected and penetration rates recorded at 10-foot intervals from the ground surface to the total depth of the test hole to aid me in my determination of the final well depth and design. The test hole was drilled to a depth of 804 feet. The test hole was terminated based on the presence of significant quantities of water bearing sand and knowing that elsewhere in the Basin, the groundwater can contain hydrogen sulfide gas at deeper levels.

After completion of the test hole, a series of geophysical logs were run down the open bore hole to analyze the subsurface conditions. The logging tool was run down the bore hole to a total depth of 804 feet. The geophysical logs consisted of a Spontaneous Potential (SP) curve, a single point curve, and a short (16-inch) and long (64-inch) normal electrical resistivity curve. **Boredata** of Bakersfield, California ran the geophysical log. A copy of the geophysical log is included within the APPENDIX of this report. Review of the formational log and geophysical log indicated that the well penetrated into the top of the Careaga Formation at an approximate depth of 308 feet. The remainder of the lower portion of the bore hole penetrated mainly massive fine to medium grained sand with thin interbeds of fine gravel and clay. I also noted a thin zone (±510' to ±518') with fragments of fresh (unweathered) redwood chips within the fine to medium grained sand. The remainder of the lower portion of the bore hole was composed of massive sand. The test hole was deepened slightly (to a final depth of 840') after the running of the geophysical log in order to provide "over hole" for the placement of the casing string. That portion of the bore that was not logged with a geophysical tool is composed of fine grained sand and silt indicative of passing into the lower (Cebada) member of the Careaga Formation.

**WATER WELL COMPLETION REPORT: VVCS D Fire Station #51 Test Well, Lompoc, California
October 4, 2018**

After review of the formational cuttings, penetration rate information, and the geophysical log, I recommended completion of the test well by placement of 8⁵/₈-inch diameter, SDR 17 (thick wall), PVC casing. A well design was recommended based on the character and depth of the penetrated sediments and review of the geophysical log, in conjunction with maximizing well yield in this area within reasonable economic constraints. The final well completion specifications were then forwarded to the Drilling Contractor.

Based on the above information, I determined that the bore hole penetrated a thick sequence of water bearing materials, dominated by the Careaga Formation. Most of the lower portions of the well bore appeared to be water bearing with good permeability and the potential for high well yields. It is noteworthy that you can not predict detailed water quality by evaluation of the formational cuttings and geophysical log, especially at a resolution of parts per billion of dissolved solids. The formation log and geophysical log did, however, have similar characteristics as those from other VVCS D wells and the Mission Hills CSD wells. Based on review of the test hole and geophysical log, it was my opinion that completion of a new test well was justified. Prediction of final production flow rates from the new well could not be determined until after the well was completed and tested. Based on a discussion with you regarding the project, I recommended completion of the new test well to a total depth of 820 feet utilizing 8⁵/₈-inch diameter PVC casing and high density well screen in order to maximize production from all the available water bearing zones. Three sections of well screen were placed within the well casing string separated by short sections of blank (non-perforated) casing. The well design allows for "zone testing" of three separate areas within the stratigraphic (formational) column that are separated by a thin clay layer. The two clay layers that segregate the better producing zones within the formation can be seen on the geophysical log and are located at a depth of 598' to 600' and from 712' to 715'.

4. WELL COMPLETION AND DEVELOPMENT

The initial 9⁷/₈-inch diameter test hole was then reamed to a larger diameter for placement of the recommended well casing string. In this case, the test hole was reamed to a final diameter of 16 inches from the bottom of the Conductor Casing (52 feet) to a depth of 840 feet, providing for approximately 20 feet of so-called "overhole". After the bore hole was reamed to full size and depth, the drilling fluids were displaced with fresh water to a funnel viscosity slightly above that of water (approximately 26-27 seconds). A combination string of 8⁵/₈-inch (OD) diameter, SDR 17 PVC blank casing and high efficiency PVC well screen was then inserted into the reamed bore hole to a total well completion depth of 820 feet. The well screen has six columns of high density, machine cut slots with an opening of 0.040 inches, providing a total open space of approximately 30.8 square inches per foot of perforated casing. An exact casing schedule and other details of the well construction process for the VVCS D Fire Station #51 Test Well is provided on the **WATER WELL SUMMARY SHEETS** and on the **WATER WELL DRILLERS REPORT** located in the APPENDIX.

After placement of the casing string, the annular space between the outside of the casing and the wall of the bore hole was then filled with a specially graded coarse sand gravel pack. The gravel pack consists of U.S. Standard Sieve Size #8 by #20 material (Lapis Lustre #3) purchased from CEMEX of Marina, California. This special gravel pack material is designed to reduce the potential for formational sand migration into the well casing during pumping, while maintaining good filter permeability. The gravel pack is composed of well sorted, sub-rounded to sub-angular silica rich (quartz rich) sand grains.

The well development process was initiated by running the drill pipe and jetting tool into the well casing and using high pressure compressed air to void the well bore of the residual fluids. Air jetting was continued until the fluid was relatively clear. After the well casing was relatively clear of residual drilling fluids, the contractor injected and swabbed into place approximately 5 gallons of a liquid clay dispersant (Baroid Aqua-Clear). The swabbing process with dispersant both mechanically agitates the annulus and chemically breaks down the residual drilling mud "wall cake" and aids in settling the gravel pack material into place. The well was then air jetted again to remove all remaining drilling fluids and clay dispersant. The drilling rig and other equipment were then removed from the site.

5. PRELIMINARY TESTING (May 30-June 1, 2017)

After the well was fully developed using air and swabbing, Filipponi & Thompson Drilling installed a 60 horsepower (HP) submersible pump within the well bore at a depth of 441 feet below ground surface. Water level measurements during the test were taken by use of an electric wireline sounder. Water production rate was determined by use of a flow metering system. The test pumping procedure consisted of surging and pumping of the well to further develop the aquifer and to improve efficiency. After the well was fully developed, a **step drawdown test**, a 4-hour **constant discharge test**, and a subsequent 1-hour **recovery test** were conducted. Water samples were collected during these tests in order to assess the chemical makeup of the water and to determine if there were indications of organic compounds impacting the local aquifer. All of these preliminary tests were conducted in order to:

- further develop the aquifer;
- collect well test data;
- evaluate the hydrologic properties and potential productivity of the aquifer; and
- to collect a water sample for chemical analysis.

5.1. STEP DRAWDOWN TEST (May 30, 2017)

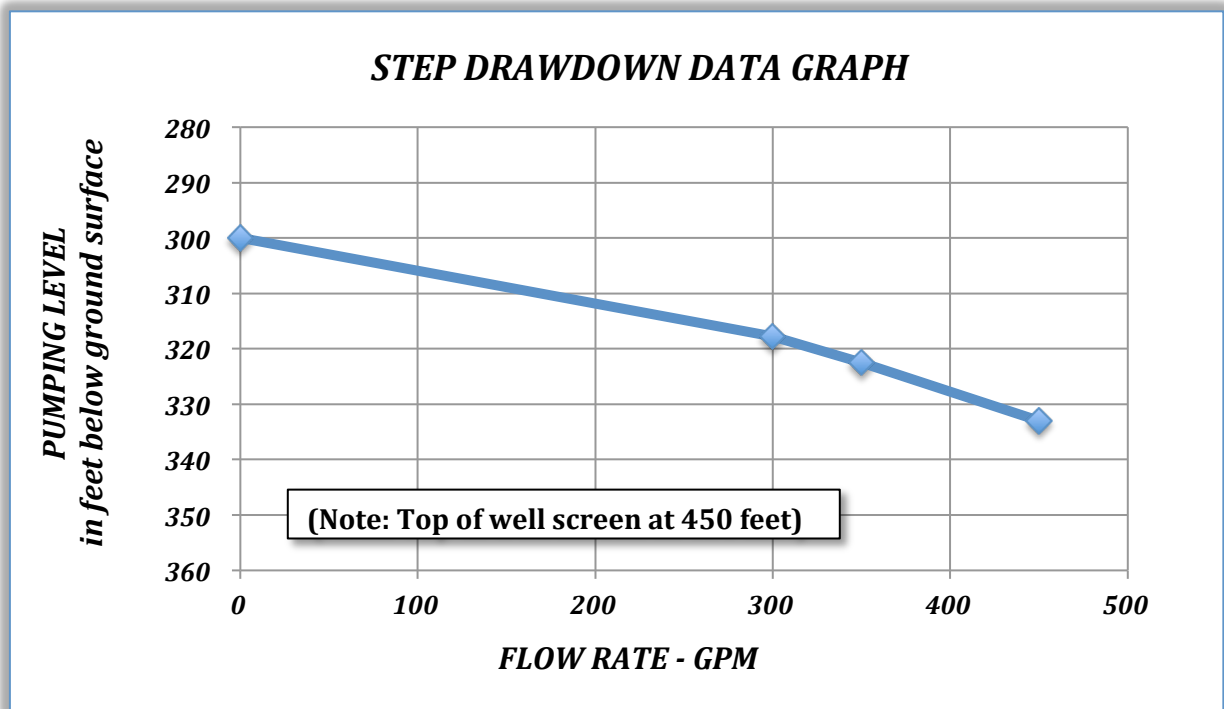
A step drawdown test was conducted on the well in order to gain insights into its production capacity. Three individual steps at various flow rates were conducted on the new test well at a constant flow rate of 300, 350, and 450 gpm for a period of approximately 30 minutes each. The test results are included in the table on the following page:

TABLE 1: Step drawdown Test Data – Fire Station #51 Test Well (30 minutes each step)

FLOW RATE (GPM)	WATER LEVELS (feet)	DRAWDOWN (feet)	SPECIFIC CAPACITY (gpm/foot of drawdown)
0	300.0	0	Static water level
300	317.8	17.8	16.8
350	322.5	22.5	15.6
450	330.0	33.0	13.6

I have plotted the above listed short duration test data onto a graph that illustrates the relationship between flow rates and pumping levels (see **CHART 1** below). You can observe from this chart that the relationship between pumping levels and drawdown appears to be semi-linear and relatively efficient at flow rates up to approximately ±450 gpm, based on short term testing data. Based on review of this test data, I recommended that we conduct the 4-hour constant discharge test at a flow rate of 400 gpm.

CHART 1: Step Drawdown Data Graph – VVCS D Fire Station #51 Test Well (30 minutes each step)



5.2. CONSTANT DISCHARGE TEST (June 1, 2017)

After completion of the step-drawdown test, the well was allowed to “rest” overnight to allow for re-establishment of original static water level conditions. The static water level at the beginning of the constant discharge test was 300.0 feet below the top of the casing. The constant discharge test for the Fire Station #51 Test Well was run at a flow rate of 400 gpm. Pumping of the Fire Station #51 Test Well

caused water levels to drop fairly rapidly during the first few minutes of pumping. Pumping water levels then stabilized for most of the test. The final pumping level was located at a depth of 326.5 feet after 180 minutes (3 hours) and remained there (within 1 inch) for the duration of the 4-hour test. The pump test data is graphically presented on the **HYDROLOGIC CALCULATION GRAPH** included within the Appendix of this report (See Figure 4).

Based on a maximum pumping level of 326.5 feet, total drawdown is calculated to be 26.5 feet (326.5' – 300.0' = 26.5'). The water from the Fire Station #51 Test Well was observed to be total clear almost immediately after the initial startup phase of the testing procedure. There was no indication of any gravel pack material, fine formational sand, or hydrogen sulfide (H₂S) gas throughout the test. A water sample was collected during the test and sent for chemical analysis to **Fruit Growers Laboratory (FGL Environmental)** of Santa Paula, California. The results of these tests are discussed below.

After the 4-hour constant discharge test was completed, a 60-minute recovery test was conducted, whereby the rising water levels within the well were measured (see **RECOVERY TEST DATA SHEET** in the APPENDIX). The water level within the well bore recovered to within 0.6 feet of the original level within 60 minutes. Full recovery of the static water levels is predicted to have occurred within several more hours of recovery. I have graphically shown the recovery data on the **HYDROLOGIC CALCULATION GRAPH** (Figure 4) and the **t/t' RATIO vs. RESIDUAL DRAWDOWN GRAPH** (see Figure 5). The t/t' Ratio vs. Residual Drawdown Graph suggests that the local aquifer was not significantly impacted (dewatered) as a result of the short duration (4 hour) test pumping procedure because of the relationship between the recovery data and the "0 foot" intercept point. Some caution should, however, be exercised regarding dewatering impacts as a result of declining static and pumping water level conditions through prolonged periods of time and/or during drought cycles.

5.3. HYDROLOGIC CALCULATIONS

Review and analysis of the test pumping data allows for calculations of various hydrologic parameters. The **transmissivity** (T) of the Fire Station #51 Test Well was calculated using the modified Theis equation ($T = 264 \times Q/\Delta s$). The well has a calculated transmissivity in excess of 100,000 gallons per foot of available aquifer, where Q is the pumping rate and Δs is the change in drawdown per log cycle of time (see Figure 2). Transmissivity is a measurement of the relative permeability of a particular aquifer; in other words, the ability of permeable earth materials to pass fluids. The transmissivity figure for the subject well is considered to be very good for this area and is most likely due to the presence of thick sections of massive, well sorted medium grained sand within the Careaga Formation.

The **specific capacity** (Q/S) is constantly changing as the well draws down (S) under a constant pumping rate (Q). The specific capacity of the subject well is calculated to be approximately 15.1 gallons per minute per foot of drawdown after 4 hours of pumping at 400 gpm (400 gpm/26.5 feet of drawdown). A higher number means you can pump more water per incremental drop in pumping levels within the well. The specific capacity figure of 15.1 gpm/ft. drawdown is also considered good for this area. Higher

specific capacity figures would most likely occur by construction of a well with larger diameter casing with wire wrap well screen. Wire wrap screen has greater amounts of “open space” within the casing structure allowing for easier (less friction) water entry into the inside of the well casing.

Based on extrapolation of the above described constant discharge data, *theoretical* pumping levels can be predicted for longer periods of time and at differing flow rates. I have extended the drawdown curve to show where pumping levels may be after prolonged periods of time. Because the pumping water levels did not drop significantly during the short duration test, it can be assumed that they will be relatively steady through time. I have also shown the step-drawdown test data points on the Hydrologic Calculation Graph for reference. As an example, pumping the subject well at a flow rate of 450 gpm will produce only a modest amount of drawdown with an estimated pumping level of approximately 330 feet below ground surface under current hydrologic conditions.

It is noteworthy that the uppermost perforated interval for this well is located at a depth of 450 feet. Applying a specific capacity figure ± 15 gpm/ft. of drawdown to a theoretical large diameter production well at this site would therefore allow for pumping of such a well at a flow rate of in excess of 1,000 gpm. It is also noteworthy that the pumping of wells completed into the Careaga Formation at this high of a flow rate can induce the production of fine formational sand because of the fine grained nature of the aquifer. The key to sand free production from wells completed into the Careaga Formation is to maintain entrance velocities of the groundwater into the well bore at very slow speeds. This requires the placement of large diameter (stainless steel) casing with large amounts of open space within the screened interval of the casing string.

5.4. WATER SAMPLE ANALYSIS RESULTS (Entire Well Bore)

A series of water samples were collected by a representative of FGL Environmental on May 31, 2017 and sent for chemical analysis to their lab in Santa Paula, California. This sample series was collected from the well with the entire well screen being produced in an unrestricted manner (no zone segregation). The results of the full Title 22 (Inorganic and Organic) tests are included within the Appendix of this report. In summary, the well water has a relatively low total dissolved solids (TDS) content of 570 mg/L. The well water has elevated amounts of arsenic, iron, and manganese. There are federal and state SECONDARY drinking water standards for iron and manganese so the elevated levels of these two contaminants do not present a health risk for domestic use, although they sometimes impart a metallic taste to the water. There is, however, a federal and state PRIMARY drinking water standard for arsenic. The elevated amount of *arsenic (28 ug/L, parts per billion)* is above the Maximum Contaminant Level (*MCL*) of *10 ug/L* and would require treatment in order to meet potability standards (see FGL report in Appendix).

Testing of the water was also done for volatile organic compounds. The test results showed trace amounts of Bromoform, Chloroform, and Dibromochloromethane. All of the content levels of these constituents were below the Maximum Contaminant Level (MCL) for drinking water as established by the Environmental Protection Agency (EPA) and the State of California. Upon research, it was found that the

presence of these particular organic compounds within groundwater commonly occurs as a result of chemical reaction with chlorine that was used to disinfect the well shortly after its completion. Sampling and retesting of water samples from the well during further prolonged pumping showed Non-Detect (ND) for the above listed organic compounds (see Clinical Laboratory of San Bernardino report dated July 13, 2017). Because of the presence of elevated amounts of arsenic within the local groundwater, additional testing was done to determine if it is emanating from a particular zone of the stratigraphic column within the well bore.

6. INDIVIDUAL ZONE TESTING (July 13, 2017)

6.1. TESTING TOOLS & PROCEDURE

I prepared a set of zone testing specifications for this procedure and submitted them to Fisher Pump of Santa Maria, California so they could setup up the equipment. The equipment used for this procedure was a so-called double swab cup assembly, whereby two snug fitting, round rubber cups cut to approximately the same diameter of the inside of the PVC casing string were placed above and below a 3 horsepower (HP) electric submersible pump with a separation of approximately 3.5 feet between the cups. The double swab cup assembly was run into the well bore and placed at specific depths within the well bore in order to collect samples of the groundwater. The depth of placement of the sampling tool for each of the 6 zones that were tested is shown on the **WELL CONSTRUCTION PROFILE** (see Figure 3). All of these zone are lithologically composed mainly of fine to medium grained sand and were defined based on review of the formational cuttings and geophysical log.

6.2. WATER SAMPLE ANALYSIS RESULTS (Six Different Zones)

Six different finite zones within the well casing were sampled. The depth of these zones were selected based on review of the formational log and the geophysical log. The zone tests were conducted across a broad depth range within the Careaga Formation aquifer. Two samples were collected within each of the three general water bearing zones that are separated by a thin clay layer as described in Section 3, Page 4 of this report. Groundwater was pumped within the six zones at a flow rate of ± 30 gpm for approximately 30 minutes each prior to collection of the water samples so that undiluted water was being sampled. The collected water was analyzed by **Clinical Laboratories of San Bernardino** for each of the constituents as shown on **TABLE 2** within the Appendix. In summary, the four volatile organic compounds that showed trace amounts within the original bulk water sample from the May 31, 2017 test (**Bromoform, Chloroform, Dibromochloromethane, and Total Trihalomethane**), where now **non-detect (ND)** within the zone testing (July 13, 2017) samples. Additional samples were collected and analyzed for **Specific Conductance, TDS, Iron, Manganese, and Arsenic**. While the Specific Conductance and TDS were relatively good, the well water did show elevated amounts of iron, manganese and arsenic within most of the zones. Iron content appears to increase with depth with a high reading of 4,400 ug/L within the deepest (781.5' – 785') zone. Manganese content is fairly consistent

within all six zones, with a range of ± 140 to 170 ug/L. Arsenic content was variable between 18 and 31 ug/L within all the zones except the deepest zone (781.5' – 785'), where it showed a reading of 4.3 ug/L.

7. ZONE #6 ONLY TEST: 770'-810' (Nov. 6 thru Nov. 9, 2017)

As described in Section 6 above, the water quality testing program conducted on July 13, 2017 within the six separate defined areas of the subject well showed the presence of elevated amounts of arsenic within all the zones except the lowest, from 781.5' to 785' (see TABLE 2). After a discussion with VVCSD staff and with approval of the Board, the District decided to re-test the lower portions of the well bore, from 770' to 810' (the bottom of the well screen) to determine if the arsenic content would change after prolonged periods of pumping. A new zone testing tool was built by Fisher Pump and placed within the well bore. This tool had a single, snug fitting rubber swab cup placed at a depth of 770' with a 10 HP submersible pump placed below the packer.

This test was run continuously for approximately 3 days at a flow rate of 80 to 95 gpm under the supervision of VVCSD staff. Water level measurements were also taken during the test. The static water level at the beginning of the test was at a reported depth of 297.9'. Continuous pumping of the well for ± 73 hours produced a final pumping level of 303.5' for a total drawdown of 3.6'. This indicates a specific capacity figure of ± 21.9 gpm/foot of drawdown, slightly above that calculated during the July 13, 2017 test of the entire screened portion of the well. This implies that the efficiency of the well may still be improving slightly through time due to additional aquifer development, or that well efficiency is very good at relatively lower flow rates. It also indicates that the efficiency of the aquifer was not dramatically impacted by pumping from a relatively confined (40 foot) producing zone within the well bore (770' to 810').

Two sets of water samples were collected by VVCSD staff at ± 6 hour intervals during this 3 day test. These samples were sent for chemical analysis to Oilfield Environmental & Compliance, Incorporated and to Clinical Laboratory of San Bernardino of Lompoc, California for comparison. The two sets of test results are included within the Appendix. I have outlined the test pumping data and results of the water chemical analysis reports from this test on the attached Test Pump Data Sheet (see 770' to 810' Zone Test for Arsenic Content Data Sheet in Appendix). I have prepared a Zone Test Data Graph for these test results to illustrate the increase on arsenic content from the produced groundwater through time (see Figure 6 in the Appendix). The test results shows that the arsenic content from the deep portions of the well bore gradually increased over the 3 day period from a low of 5.6 ug/L recorded shortly after the start of the test, to a high of 150 ug/L after 3 days (4,376 minutes). The two testing laboratories had relatively similar results from their samplings. Pumping of the well was terminated after 3 days because the initial test results showed that the produced groundwater was well above the State and EPS Standard of 10 ug/L. The rising arsenic level is interpreted as showing that groundwater slowly migrates up and down the water column (aquifer) because of the massive, unconfined nature of the Careaga Formation.

**8. ENTIRE WELL 6 DAY TEST: 450' to 810'
(Jan. 3 thru Jan 9, 2018)**

After completion and analysis of the 3 day, 770' to 810' zone test, the District requested that we conduct an additional test on the entire well for a longer period of time in order to determine if the arsenic content for the full thickness of the water column may change through time. We had Fisher Pump install a 10 HP submersible pump into the well bore at a depth of 385'. This long duration test was initiated on January 3 and continued until Jan 9, 2018 (six days) at a continuous flow rate of 85 to 95 gpm for a period of 6 days (8,640 minutes). Water samples were collected from the well by VVCSD staff every 6 hours throughout the test for a total of 13 samples. The samples were sent for chemical analysis to Oilfield Environmental & Compliance, Incorporated. A copy of the test results from the lab is included within the Appendix. I have plotted the test results onto an Entire Well (450' to 810') Zone Test Data Sheet for your review. I have also plotted the arsenic content results onto an Entire Well Zone Test Graph to visually see how the arsenic content changed through time (see Figure 7).

In summary, the arsenic content remained fairly constant from the start of the test for approximately 2 days of pumping at ± 90 gpm with a range of approximately 23 ug/L to 27 ug/L. This figure is consistent with the well test sample taken during the original (June 1, 2017) 4-hour constant discharge test for the entire screened section of the well at a higher flow rate of 400 gpm. Continued pumping of the well showed that the arsenic content of the produced groundwater gradually increased through time to a high reading of 34 ug/L after 6 days (8,640 minutes) of continuous pumping.

9. CONCLUSIONS

The Fire Station #51 Test Well produces groundwater mainly from the fine to medium grained sands from the Pliocene age Careaga Formation. These thick, uniform grained size (massive) sand layers accumulated in a shallow marine to near shore (non-marine) depositional environment similar to what can be seen in modern times along the Surf Beach and Pismo Beach coastal shorelines of the Central Coast. There are occasional layers of fine shell fragments found within the formational cuttings, indicative of intermittent shallow marine (sandy beach) origin. I also noted a thin (within a several foot thick) zone of fresh redwood chips located at a depth of 510', indicative of a terrestrial (sand dune type) depositional environment. This formation, and to a lesser extent the overlying Paso Robles Formation are the primary groundwater aquifers for the Lompoc Upland Groundwater Basin. My geologic and hydrologic knowledge of the area indicates that this well site is located in the west-central portions of the Basin. The Basin thins to the west and north where it unconformably laps onto the underlying, non-water bearing, shale bedrock including the Foxen, Sisquoc and Monterey Formations. The Basin thickens, is hydrologically connected to, and most likely provides a partial source of recharge to the Lompoc Plain Groundwater Basin located to the south.

This portion of the Basin has historically been a reliable source of groundwater to wells in the area for many decades. Groundwater levels (both static water level and pumping) and flow rates from this well

**WATER WELL COMPLETION REPORT: VVCS Fire Station #51 Test Well, Lompoc, California
October 4, 2018**

and other wells in the area are relatively stable although they can, and will in the future, change somewhat through time as a result of the amount of pumpage (withdrawal for consumptive use) and recharge (replenishment mainly by percolation of rainfall and surface water runoff) that occurs during heavy rainfall periods. Declining static and pumping water levels are usually an indication of a decline in the water table during periods of prolonged drought and/or reduced well performance due to plugging of the well screen by encrustation or biofouling (commonly the buildup of iron bacteria).

A drop in the general water table due to drought conditions can be observed by review of observation well data. My review of several hydrographs from United States Geologic Survey (USGS) monitoring wells located in the vicinity of Vandenberg Village show that water levels have been relatively steady for many decades. These same hydrographs shows that the local aquifer has declined by approximately 10 feet in the past ± 10 to 12 years, indicative of the impact of the prolonged drought conditions we have been experiencing in recent years. However, review of longer term (many decade) hydrograph data suggests that the local aquifer responds favorably to heavy, multi-year rainfall cycles because of the high permeability characteristics of the local sandy aquifer and shallow subsurface earth materials. Considering that the water saturated portion of the Basin (below the top of the water table) is over 500 feet thick in this area, a 10 foot drop in the water table during a severe drought cycle does not appear to be significant in terms of aquifer reliability at this point in time. Continued monitoring of the local aquifer conditions (pumpage and water level data) will be important in gaining better hydrologic information regarding the long term condition of the Lompoc Upland Groundwater Basin.

The design of the Fire Station #51 Test Well was such that I purposefully placed the top of the well screen at a depth of 450' below ground surface, approximately 150 feet below the top of the existing static water table located at a depth of $\pm 300'$. This well design was meant to approximate the probable well design of a larger diameter well that could be drilled at this site in the future, provided water quality issues related to the presence of arsenic, iron, and manganese within the local groundwater can be economically addressed. The yield from the well is very good with a calculated specific capacity reading of ± 15 gpm/ft. drawdown at moderately high flow rates (400 gpm). Based on this preliminary calculation of well/aquifer efficiency, a larger diameter well at this site should **theoretically** be able to produce groundwater at a rate of 600 to 1,000 gpm or more, provided that it is designed and constructed properly. Larger diameter, stainless steel casing utilizing wire wrap well screen should have a somewhat higher specific capacity figure because of the ability to place well screen with an increased amount of "open space" within the perforated interval of the casing string. Some caution should be exercised regarding prediction of potential flow rates from a future new well in this area that produces groundwater from the Careaga Formation. As mentioned above, primary aquifer is composed of fine to medium grained, massive sand. Other wells in the area are known to produce formational sand and silt during pumping, especially at higher flow rates. High flow rates equate to high entrance velocities of the groundwater passing through the gravel pack and well screen from the aquifer into the inside of the well casing. This can cause the fine sand to be carried into the well bore by the groundwater during pumping. The potential for production

**WATER WELL COMPLETION REPORT: VVCSD Fire Station #51 Test Well, Lompoc, California
October 4, 2018**

of formational sand can normally be mitigated by proper well and gravel pack design in most cases. This is usually done by reducing the slot size on the well screen and installing a finer sieve size (gradation) of gravel pack within the annulus. Fine slot size and finer gravel pack gradation will also create greater “friction” (lower permeability) in the flow pattern of water entering the well bore, thereby effectively reducing specific capacity and potential flow rates. In summary, it is always a trade off between designing a well with a large enough slot size and gravel pack gradation, while at the same time reducing the risk for production of fine formational sand during pumping. This concept is especially important for wells that produce groundwater from the Careaga Formation. It is noteworthy that the Fire Station #51 Test Well has a slot size of 0.040 inches and good quality gravel pack material with a U.S. Sieve Size gradation of #8 by #20 (so-called Lapis Lustre #3). This test well did not produce any significant amounts of fine formational sand or silt during pumping at relatively high flow rates.

The main difficulty with the use of a new large diameter production water well at this site as a source of domestic use water is the presence of elevated amounts of arsenic that are above the federal and state MCL of 10 ug/L. The presence of elevated amounts of arsenic (and iron and manganese) within the local groundwater was not predicted before the siting and construction of the test well because this area is located “on trend” with a similar well design as other wells in the area that do not show high levels of arsenic. I do not have a reasonable explanation as to why this particular area has elevated amounts of arsenic within the groundwater. Individual zone testing of the well showed that the concentration of arsenic appears to be relatively evenly disbursed across the entire water column (18 ug/L to 32 ug/L) with the exception of the lower (Zone #6) located near the bottom of the well bore with a reading of 4.3 ug/L. Testing to determine if pumping of only this lower portion of the well (from 770’ to 810’) would allow for longer term production of groundwater with manageable amounts of arsenic did not prove favorable as the arsenic content gradually increased after several days of pumping (see test results in the Appendix).

Treatment for removal of arsenic within groundwater is a difficult process. You will have to research and consider the economic impact of these treatment options including initial installation of the treatment facility, long term operation and maintenance costs of the system, and handling and disposal of the residual brine water produced by the treatment process.

Depending on what you decide to do with the new Fire Station #51 Test Well, I recommend that you contact the USGS and allow them access to the well for measurement of water level data into the future. Collection and interpretation of long term water table elevation in this and other parts of the Lompoc Upland Groundwater Basin are critical to gaining insights into how the basin is responding to pumping and seasonal recharge.

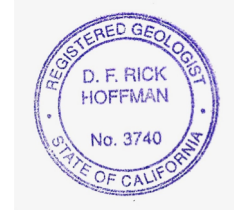
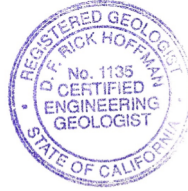
**WATER WELL COMPLETION REPORT: VVCS D Fire Station #51 Test Well, Lompoc, California
October 4, 2018**

I trust this summary report and graphics provides you with the information needed for long term planning decisions regarding use of your new well. If I can be of further assistance to you regarding this report or other geologic or hydrologic concerns, please feel free to call upon me.

Sincerely,

Rick Hoffman

Mr. Rick Hoffman
Certified Engineering Geologist & Hydrogeologist
State of California
RG #3740 EG #1135 HG #448



enclosures

APPENDIX
WATER WELL COMPLETION REPORT
VVCSD Fire Station #51 Test Well
749 Burton Mesa Boulevard, Lompoc, California

LIST OF FIGURES and SUPPLEMENTAL INFORMATION

ORDER OF WORK

WATER WELL SUMMARY SHEETS

Figure 1 WELL LOCATION MAP

Figure 2 SITE MAP

WATER WELL DRILLING PERMIT

Santa Barbara County

Department of Environmental Health Services

WP #0001924

GEOPHYSICAL LOG

Boredata

Bakersfield, California

WELL COMPLETION REPORT

filed by Filipponi & Thompson Drilling Company

State of California WCR2017-001500

Figure 3 WELL CONSTRUCTION PROFILE with Zone Testing Data for Arsenic

TEST PUMPING DATA (June 1, 2017 4-hour test at 400 gpm)

Constant Discharge Test

Recovery Test

Figure 4 HYDROLOGIC CALCULATION GRAPH (June 1, 2017 test)

Figure 5 t/t' RATIO vs. RESIDUAL DRAWDOWN GRAPH (June 1, 2017 test)

WATER CHEMICAL ANALYSIS REPORT (Entire Well Title 22 Test)

FGL Environmental (May 31, 2017 test results)

TABLE 2 ZONE TESTING SUMMARY (July 13, 2017 Six Individual Zones)

WATER CHEMICAL ANALYSIS REPORT (Individual Zone Test Results)

Clinical Lab of San Bernardino (July 16, 2017 test results)

TEST PUMPING DATA (Nov. 6-9, 2017: 3 day zone test at ± 90 gpm)

770' to 810' Zone Test Data Sheet with Arsenic test results

Figure 6 770' to 810' ZONE TEST DATA GRAPH (Nov. 6 thru Nov. 9, 2017 test)

Clinical Lab of San Bernardino (Nov. 6-9, 2017 test results)

OEC Lab (Nov. 6-9, 2017 test results)

TEST PUMPING DATA (Jan. 3-9, 2018: six day zone test at ± 90 gpm)

Entire Well (450' to 810') Test Data Sheet w/Arsenic test results

Figure 7 Entire Well (450' to 810') TEST DATA GRAPH (Jan. 3 thru Jan. 9, 2017)

OEC Lab (Jan. 3 thru Jan 9, 2017 test results)

APPENDIX
WATER WELL COMPLETION REPORT
VVCSD Fire Station #51 Test Well
749 Burton Mesa Boulevard, Lompoc, California

ORDER OF WORK

Preliminary Hydrologic Investigation

Burton Mesa Ecological Reserve Property: Hydrologic & Biologic Assessment
Santa Barbara County: Fire Station #51: Hydrologic Assessment

Test Well Construction

Santa Barbara County EHS Well Permit Process; (see copy in Appendix)
Drill 840' test hole: favorable formational cuttings, mainly Careaga Formation sands
Run Geophysical Log: favorable indications of good production potential (see copy in Appendix)
Set 8" diameter PVC casing string, Lapis #3 gravel pack to 820', develop by air & water jetting
Well design allows for zone testing as required (see Figure 3)

Preliminary Well Testing (June 1, 2017) (Filipponi & Thompson Drilling Company)

Cleanup work, step-drawdown test, 4-hour constant discharge test & recovery test (see Figure 4 & 5)
High Transmissivity: $\pm 100,000$ gpd/ft. aquifer
High Specific Capacity: ± 15.1 gpm/ft. drawdown

Water sampling:

Full Title 22 Testing: May 31, 2017 (see FGL Environmental Test Results)
Water has high: iron, manganese, arsenic (28 ug/L), bromoform, chloroform & dibromomethane

Zone Testing (July 13, 2017) (Fisher Pump)

3 HP pump placed between 2 rubber swab cups lowered into well bore
each zone pumped for $\pm 1/2$ hr. prior to sampling (see WELL CONSTRUCTION PROFILE, Figure 3)
Test Results summary graphic shown on TABLE 2
The 3 volatile organic compounds from June 1, 2017 test showed "non-detect" during pumping
High arsenic in all zones except Zone 6 from 781.5 to 785' (4.3 ug/L) (see Figure 3 & Table 2)

Zone #6 Zone Testing over 3 days (Nov. 6th thru Nov. 9th, 2017) (Fisher Pump)

80 to 95 gpm continuous pumping for 3 days, sampling at ± 12 hour intervals
well sampling showed gradual increase in Arsenic content from 5.6 to 130 ug/L (see Figure 6)

Entire Well (450' to 810') Testing over 6 days (Jan. 3rd thru Jan 9th, 2018) (Fisher Pump)

85 to 95 gpm for 6 days, sampling at ± 12 hour intervals
well sampling showed gradual increase in Ar content from 23 to 34 ug/L (see Figure 7)

APPENDIX
WATER WELL COMPLETION REPORT
VVCS D Fire Station #51 Test Well
749 Burton Mesa Boulevard, Lompoc, California

Well Owner: Vandenberg Village Community Services District
c/o Mr. Joe Barget, General Manager
3745 Constellation Road
Lompoc, California 93436-1495
(805) 733-2475

Well Location: ±150 feet east of driveway entrance to Old Fire Station #51 property
749 Burton Mesa Boulevard
Lompoc, California
Assessor's Parcel Number 097-371-013
GPS Coordinates: N34° 41' 47.5" by W120° 26' 59" (Google Earth reading only)
Surface Elevation: ±340 feet
(see **WELL LOCATION MAP**, Figure 1)

**Well Drilling and
Test Pumping**

Contractor: Filipponi & Thompson Drilling Company
Post Office Box 845
Atascadero, California 93423
contact: **Mr. Ned Thompson, Owner**
(805) 466-1271

Zone Testing

Contractor: Fisher Pump & Well Services
2285 A Street
Santa Maria, California 93455
contact: **Mr. Scott Fisher, Owner**
(805) 346-2422

**Engineering
Geologist:**

Rick Hoffman and Associates
1149 Palomino Road
Santa Barbara, California 93105
contact: **Mr. Rick Hoffman**
(805) 569-1911

WATER WELL COMPLETION REPORT
Fire Station #51 Test Well
Burton Mesa Boulevard, Lompoc, California

Date of Well Completion: May 11, 2017 (placement of sanitary seal)

Total Depth of Completed Well: 820 feet (see Water Well Drillers Report)

Depth of Sanitary Seal: 52 foot concrete sanitary seal, pumped into place (see Well Drillers Report)

Size and Type of Well Casing: 8 5/8 inch diameter (OD), SDR 17 PVC casing & high efficiency PVC well screen
0' - 450' 8 5/8" diameter PVC blank well casing
450' - 590' 8 5/8" diameter PVC well screen with 0.040" slots
590' - 610' 8 5/8" diameter PVC blank well casing
610' - 690' 8 5/8" diameter PVC well screen with 0.040" slots
690' - 730' 8 5/8" diameter PVC blank well casing
730' - 810' 8 5/8" diameter PVC well screen with 0.040" slots
810' - 820' 8 5/8" diameter PVC blank well casing & bottom cap

Size and Type of Gravel Pack: U.S. Standard Sieve Size #8 x #20 (Lapis Lustre #3), CEMEX Company

Test Pumping Results:

Date of Test Pumping: June 1, 2017 Preliminary Testing Procedure
Static Water Level: 300.0 feet below ground surface
Length of Test Pumping: 4 hours
Test Pump Flow Rate: 400 gallons per minute (gpm)
Specific Capacity: 15.1 gallons per foot of drawdown after 400 minutes (see discussion in text)
Transmissibility: >100,000 gallons per day per foot of available aquifer (see discussion in text)

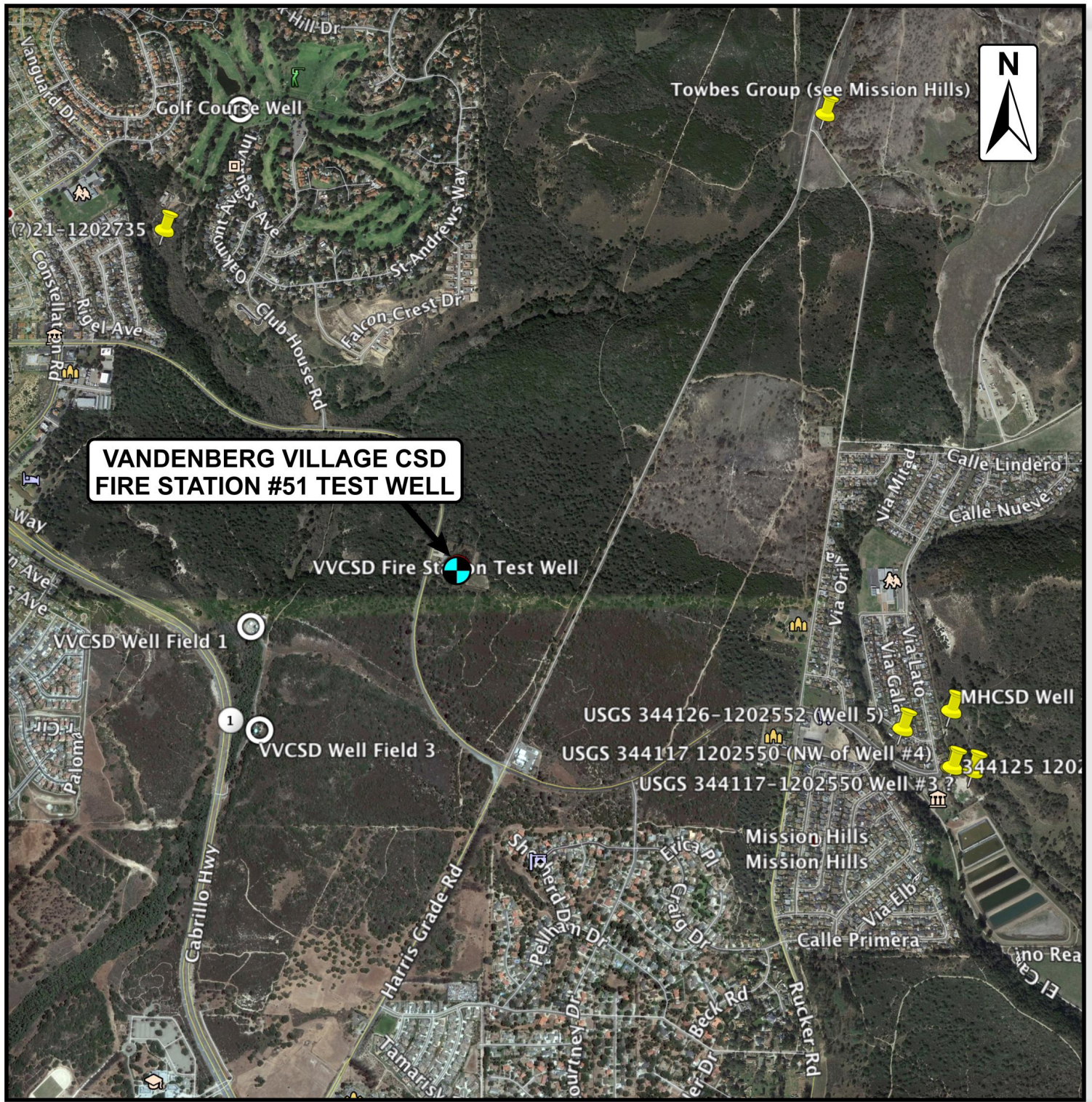
Water Quality

Analysis Results: various test results from multiple contractors depending on type of analysis

Results: initial (entire well) May 31, 2017 test

Total Dissolved Solids: 570 parts per million (MCL 1,000 ppm)
Arsenic content: 28 ug/L (MCL 10 ug/L)
Iron content: 600 ug/L (MCL 300 ug/L)
Manganese content: 150 ug/L (MCL 50 ug/L)

Zone Testing Results: (see Appendix)



**VANDEMBERG VILLAGE CSD
FIRE STATION #51 TEST WELL**



**VANDEMBERG VILLAGE CSD
Fire Station #51 Test Well**

WELL LOCATION MAP

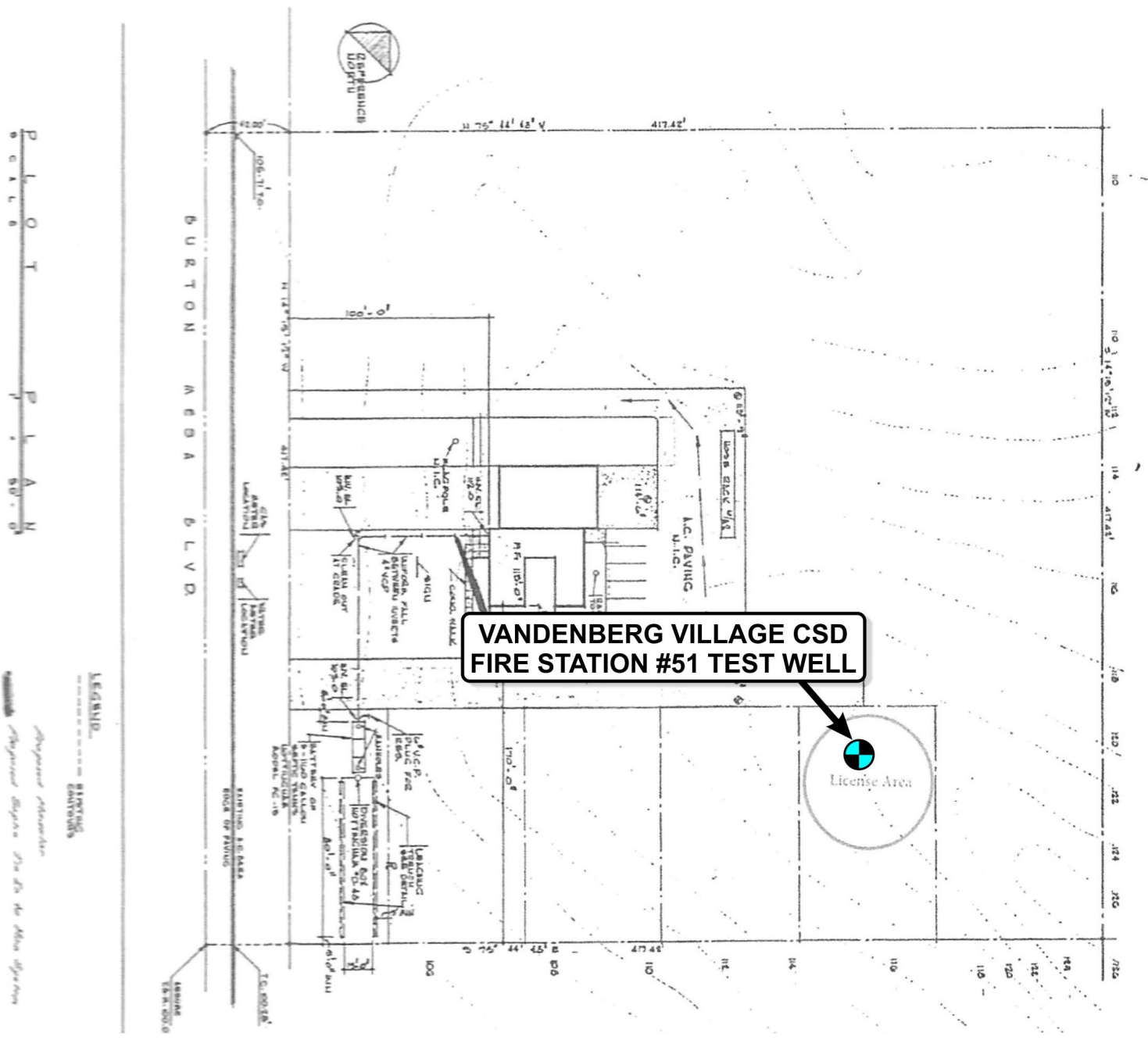
**VANDEMBERG VILLAGE CSD
Old Fire Station #51 Test Well
749 Burton Mesa Blvd., Lompoc, California**

Rick Hoffman and Associates
ENGINEERING GEOLOGISTS & HYDROGEOLOGISTS

1149 Palomino Road, Santa Barbara, CA 93105
TEL. (805) 569-1911 MOBILE: (805) 895-2246
Email: rickhoffman1@cox.net

FIGURE

1



**VANDEMBERG VILLAGE CSD
FIRE STATION #51 TEST WELL**

License Area



**VANDEMBERG VILLAGE CSD
Fire Station #51 Test Well**

SITE MAP

**VANDEMBERG VILLAGE CSD
Fire Station #51 Test Well
749 Burton Mesa Blvd., Lompoc, California**

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FIGURE

2

VVCS Fire Station Test Well #1



Environmental Health Services
 225 Camino del Remedio, Santa Barbara, CA. 93110 ♦ (805) 681-4900
 2125 S. Centerpointe Pkwy., #333 ♦ Santa Maria, CA 93455-1340 ♦ (805) 346-8460

WATER WELL PERMIT APPLICATION

Type of Permit (Please check the appropriate box below)

<input checked="" type="checkbox"/>	Construction	\$740 (3 hrs.) *	[4669]	New or Replacement well.
<input type="checkbox"/>	Modification	\$740 (3 hrs.) *	[4669]	Includes the deepening of a well, reoperation, sealing or replacement of well casing.
<input type="checkbox"/>	Destruction	\$495 (2 hrs.) *	[4668]	Abandonment: The complete filling of a well.

FOR OFFICE USE ONLY	
Rec'd Date:	<u>3-23-17</u>
Rec'd By:	<u>Vandenberg</u>
WP #	<u>0001924</u>
District #	<u>206</u>

* An hourly fee of \$136 will be added for those projects that require staff time in excess of that noted above. Final project approval will not be issued until all fees are paid.

Required Attachments: Plot plan indicating the location of the well with respect to the following items:

- Property lines.
- Drainage pattern of the property.
- Access roads and easements (water, sewer, utility, roadway).
- Existing and/or proposed structures.
- Existing wells within a 100 foot radius of the proposed well.
- Animal or fowl enclosure, pens, paddocks, stockyards within a 100 foot radius of proposed well site
- Sewage disposal systems or works carrying or containing sewage or industrial wastes within a 200 foot radius of the proposed well.
- All perennial, seasonal, natural, or artificial water bodies or watercourses, including location of 100 year floodplain, if applicable.
- Also Required: the Supplemental Form on page 3, completed in full.

OWNER Info:

Well Owner Name (Required): County of Santa Barbara, Gen. Ser. Dist. Primary Phone (805) 568-3070

Owner Mailing Address: 1105 Santa Barbara St., Santa Barbara, CA 93101 c/o Mr. Don Grady
 Street Number and Name City State/ Zip Code

Complete this section if APPLICANT is other than Well Owner

Applicant/ Project Coordinator Name: Rick Hoffman, Geologist

Mailing Address: 1149 Palomino Road, Santa Barbara, California 93105
 Street Number and Name City State / Zip Code

Primary Phone: (805) 569-1911 Email: rickhoffman1@cox.net

WELL Location Info:

Well Location Address: 749 Burton Mesa Blvd., Lompoc, CA 93436
 Street Number and Name City State / Zip Code

Cross Street (or other information defining the Well location, if applicable): Harris Grade Road 1/2 mile to southeast

Assessor's Parcel Number (APN): 0 9 7 - 3 7 1 - 0 1 3 Longitude: N34°41'47.5" Latitude: W120°26'59" Elevation: 340'

A. Is parcel located within the service area of a public water system? No Yes (Identify): Vandenberg Village CSD

A-1. If you answered Yes to question A.: Are you connected to the Public Water System (i.e., do you have a meter?) No Yes

A-2. If you answered No to the question A-1.: Is public water service available? No Yes

Proposed Depth <u>800</u> ft.	Casing Information
Well Bore Diam. <u>16</u> in.	
Sealing Material (Check)	Type: <input type="checkbox"/> Steel <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Other
<input type="checkbox"/> Neat Cement <input type="checkbox"/> Clay	Wall / Gauge <u>SDR 17</u> in. Diameter <u>8 5/8</u> in. Annular Seal Depth <u>50</u> ft.
<input checked="" type="checkbox"/> Cement Grout <input type="checkbox"/> Concrete	Additional Work Description: _____
Note: A 50 ft. annular seal is required for all wells.	

LEGAL DECLARATION

LICENSED CONTRACTOR DECLARATION

I hereby affirm that I am licensed under the provisions of Chapter 9 (commencing with Sec. 7000), Division 3 of the Business and Professions Code (B&PC) as a well drilling contractor (C-57 license) and such license is in full force and effect.

Mr. Greg Filipponi on file Mar. 17, 2017
Print Name of Driller Signature of Driller Date

Lic. No.: C57-432680 Primary Telephone 805-466-1271 Greg Filipponi cell Other Phone: 805-610-3341

Business Name: Filipponi & Thompson Drill Address P.O. Box 845, Atascadero, CA 93423

(Complete A or B)

A. WORKERS' COMPENSATION DECLARATION

I hereby affirm that (check the applicable box):

- I have and will maintain a certificate of consent to self-insure for workers' compensation, as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.
I have and will maintain workers' compensation insurance, as provided for by Section 3700 of the Labor Code, for the performance of work for which this permit is issued. My insurance carrier and policy number are:

Carrier on file Policy No.

Applicant Signature Date

B. CERTIFICATION OF EXEMPTION FROM WORKERS' COMPENSATION INSURANCE

I certify that in the performance of work for which this permit is issued, I shall not employ any person in a manner so as to become subject to the Workers' Compensation Laws of California.

Applicant Signature Rick Hoffman Date Mar. 17, 2017

Notice to Applicant: If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked.

When signed by the Environmental Health Specialist, this application shall be deemed a permit only for the work described and is not a 'permit for development' as that term is used in the California Subdivision Map Act. Please note additional permits (e.g., electrical installation, waste discharge requirements, land use clearance, grading) may also be required from other agencies. THIS PERMIT SHALL EXPIRE upon completion of the task authorized or one year from date of issuance, whichever occurs first. No changes from the approved plan are permitted without prior written approval by Environmental Health Services. Final clearance will not be issued until all fees are paid and a copy of the drillers log is submitted to Environmental Health Services.

I hereby agree to comply with all regulations of the County of Santa Barbara pertaining to well construction, repair, modification, destruction and inactivation. The property owner, well driller, or agent will furnish Environmental Health Services a copy of a completed well log upon completion of well construction.

I certify that I have read this application and declare under penalty of perjury that the information contained herein is true, correct and complete. I hereby authorize representatives of Environmental Health Services to enter the premises for the purpose of inspecting the site and work described herein for compliance with county requirements.

REQUIRED INSPECTIONS/ FINAL CLEARANCE: After permit approval, and prior to covering any components, an inspection must be scheduled directly with the approving Environmental Health Specialist at least two (2) business days in advance for:

- The sealing of the annular space on a well;
The destruction of wells;
Any operation stipulated on the permit to address special or unusual conditions.
Receipt of driller's well log.

Signed RICK HOFFMAN Applicant (Print Name) Rick Hoffman Applicant's Signature Mar. 17, 2017 Date

APPLICATION DISPOSITION: [X] Approved [] Denied

Signed Deanna Talence Environmental Health Specialist 3/23/17 Date

FOR DEPARTMENT USE ONLY

Fixed Fee Rec'd by: Velarde Date: 3-22-17 Amt: \$ 740.5 Credit Card: [X] Check/Receipt/Trans. No.: 2074436 1380

Date plans resubmitted (1) Permit Conditions: Contact EHS at least 48 hrs prior to seal (2)

Final Construction Approved by: Date:

Final Clearance by: Date:

- Copy Required at Assessor's Office
Copy Required at Water District Office

VVCSO Fire Station Test Well #1

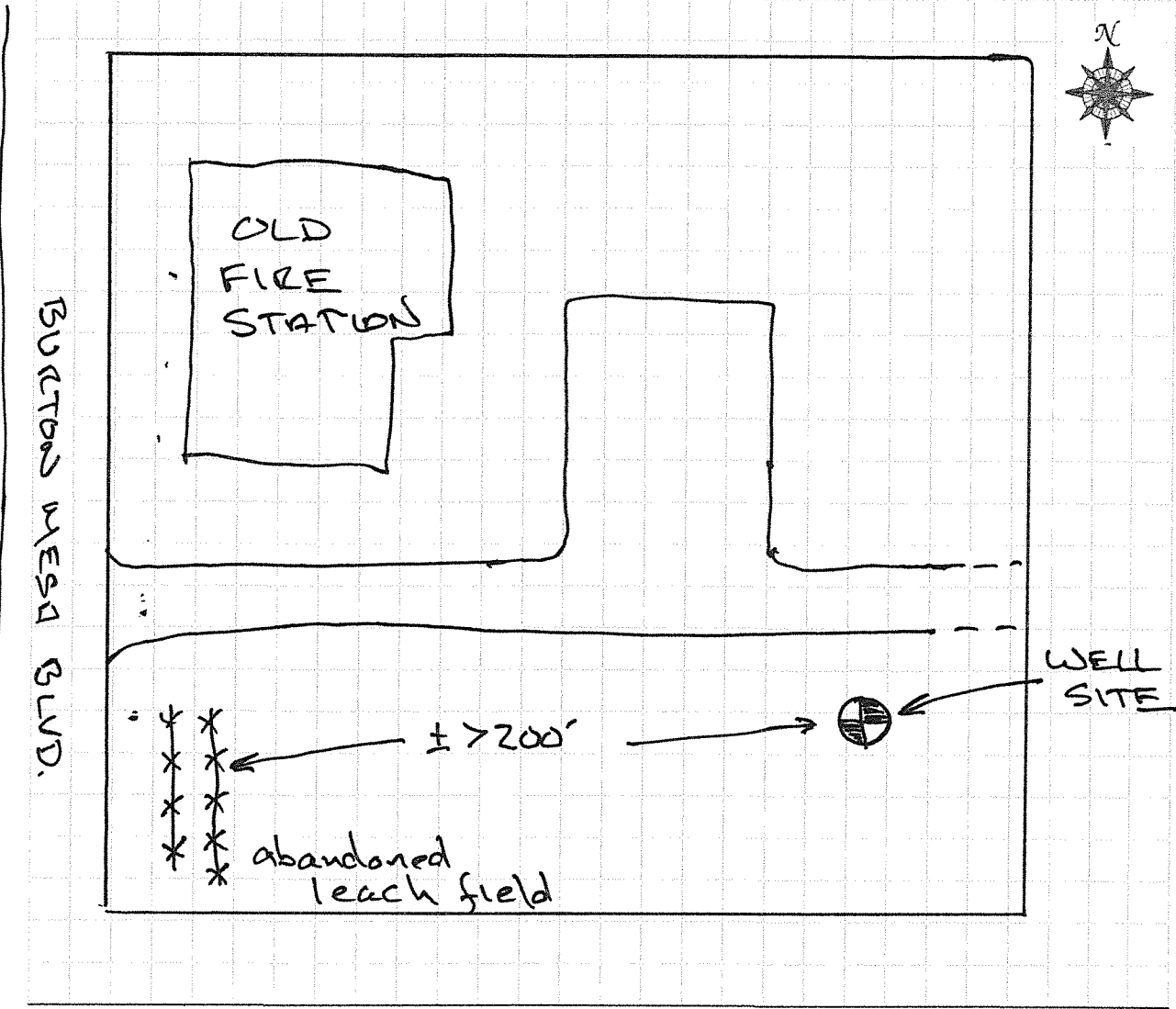
Well Permit Application Plot Plan

(Scale 1/4" Block = 20 ft.)

Permit #:

APN: 097-371-013

Indicate below the exact location of the proposed well with respect to the following items within 200 ft. of the proposed well: property lines, access roads and easements; existing/proposed structures (surface and subsurface); existing wells; existing/proposed industrial, hazardous, solid waste systems, works or tanks; petroleum product system works or tanks; animal enclosures and/or animal waste storage areas; agricultural operations; watercourses, 100-yr. flood plain and drainage patterns of the property; and well site elevations. Show the actual distance between the proposed well and these items.



Dept. Use Only: Site Reviewed By: _____ Date: _____

- Sewer (Sanitary, Storm or Bldg.) – 50 ft.
- Septic Tanks and / or Leachlines – 100 ft.
(include 100% expansion area)
- Seepage Pit / Drywell – 150 ft.
(include 100% expansion area)

- Water Bodies / Courses – 50 ft.
- Underground Petroleum Product Storage Tanks – 100 ft
- Other: _____



VANDENBERG VILLAGE CSD
Old Fire Station #51 Test Well

WELL LOCATION MAP

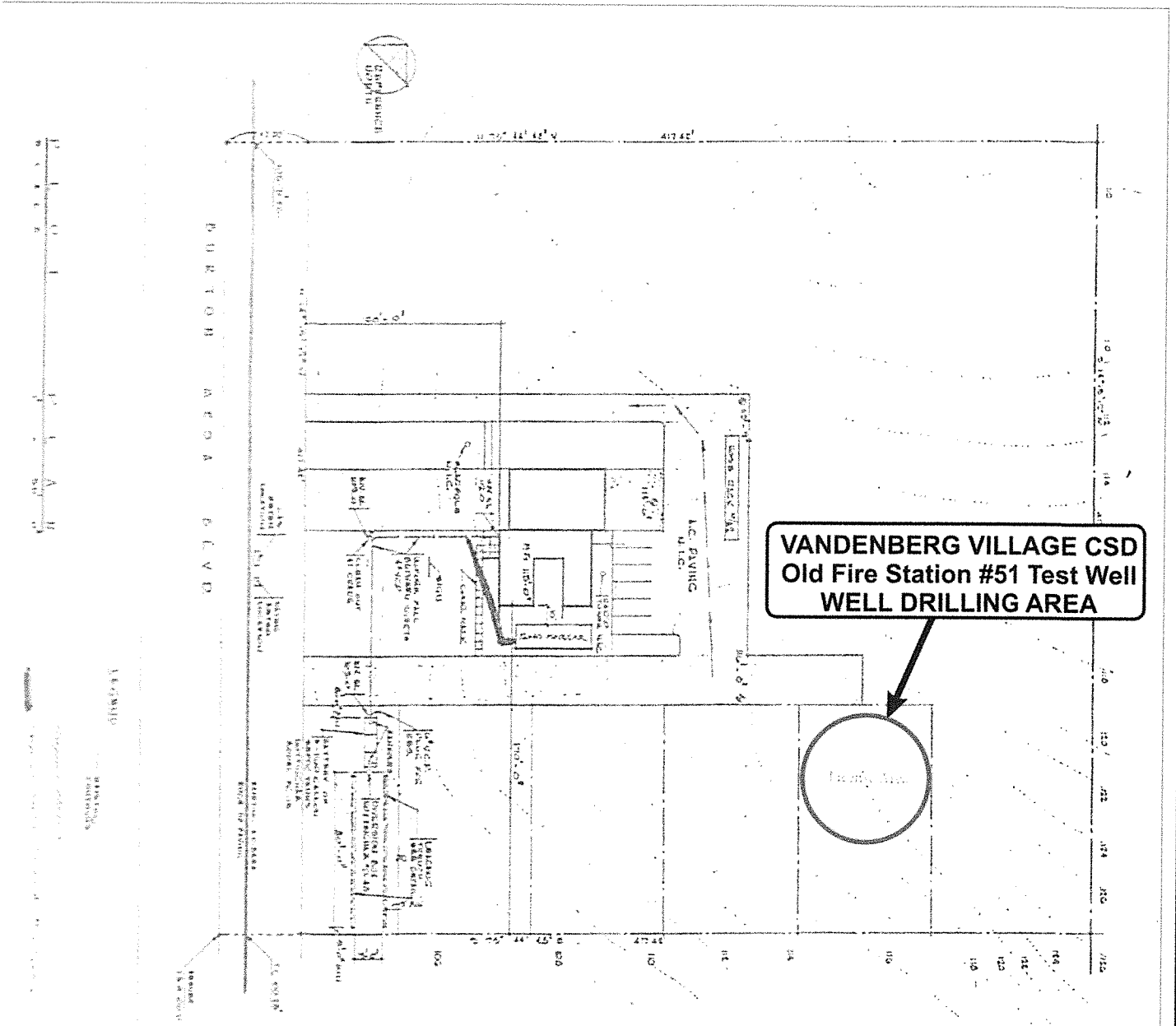
VANDENBERG VILLAGE CSD
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749 Burton Mesa Blvd., Lompoc, California

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FIGURE

1



**VANDENBERG VILLAGE CSD
Old Fire Station #51 Test Well
WELL DRILLING AREA**



**VANDENBERG VILLAGE CSD
Old Fire Station #51 Test Well**

SITE MAP

**VANDENBERG VILLAGE CSD
Fire Station Test Well #1
749 Burton Mesa Blvd., Lompoc, California**

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FIGURE

2



COUNTY OF SANTA BARBARA
Environmental Health Services

X 2074436

Department _____

Date 3/23/17

Received from Rick Hoffman & Assoc for: Co of SB/Gen Services

In Payment of Well Permit Application APN-097-371-013 for 749 Benton Mesa Blvd Corp.

Seven Hundred forty and 100 Dollars \$ 740.00

Received original of the above numbered receipt

CREDIT CARD	
CASH	1380
CHECK	<input checked="" type="checkbox"/>

SIGNATURE OF PAYOR
Valinda
AUTHORIZED SIGNATURE

AC-147

RICK HOFFMAN & ASSOCIATES
DON FREDERICK HOFFMAN
GEORGETTE MARIE HOFFMAN

1380
62-15/311
150

18 Nov. 2017 Date

Pay to the Order of Santa Barbara County EHS \$ 740.00
Seven hundred forty 00/100 Dollars



The Bank of New York Mellon
1 Wall Street
New York, NY 10286

Schwab One®

For WNSP Fire Station 1211 Rick Hoffman NP

⑆03⑆⑆00⑆57⑆ 7026⑆83⑆32⑆ 2⑆380

Husband Clerk

March 18, 2017

FILE:GF17Mar:SBPermitVVCS

**Santa Barbara County
Environmental Health Services
2125 South Centerpointe Parkway
Santa Maria, California 93455-1340**

Attn: Ms. Deanna Talerico, Senior Environmental Health Specialist

**Re: *Water Well Drilling Permit Application
Proposed Vandenberg Village CSD Fire Station #51 Test Well Project
749 Burton Mesa Road
Lompoc, California
Assessor's Parcel Number 097-371-013***

.....

Dear Ms. Talerico:

I am herewith submitting a Water Well Drilling Permit Application, Well Location Map, and other supporting graphics for your review and approval. The new test well is to be located in the south-central portions of the above described parcel, in the unincorporated portion of the Santa Barbara County, California (see Figure 1). The Vandenberg Village Community Services District (VVCS) has secured a license agreement from Santa Barbara County (Real Property Division) to drill and complete a Test Well on property they own that is now an abandoned fire station facility. The proposed Test Well #1 will be used to analyze the hydrologic conditions of this area for the eventual drilling of a larger production water well to serve the customers of the VVCS at a later time. The proposed 8 inch diameter PVC well will be tested for both water quantity (flow capacity) and water quality. When the testing of the new well is completed, it will be securely capped and used in the future as a monitoring well.

There is a now abandoned leach field system located near the southwest corner of the parcel, approximately 200 feet (or more) from the proposed well site. No other nearby septic disposal systems or other potential sources of contamination are known to exist within 200 feet of the well site. F & T Drilling Company will be the Contractor for this project. The drilling contractor intends to move onto the new well site in the next 2 to 3 weeks. Please let me know if you wish to inspect the well site or if you can approve of it via review on Google Earth. I have sent along a paper copy of the Water Well Drilling Permit Application along with payment via US Mail, which you should receive in a few days.

.....

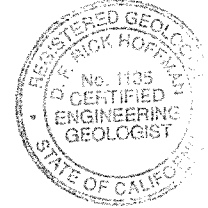
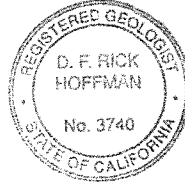
March 18, 2017

If you have any questions regarding these Well Permit Applications, please feel free to contact me. I look forward to seeing you soon.

Sincerely,

Rick Hoffman

Mr. Rick Hoffman
Certified Engineering Geologist & Hydrogeologist
State of California
RG #3740 EG #1135 HG #448



enclosures

cc: Mr. Joe Barget, District Manager, Vandenberg Village Community Services District

225 Camino Del Remedio, Santa Barbara, CA. 93110 ♦ (805) 681-4900
 2125 S. Centerpointe Pkwy., #333 ♦ Santa Maria, CA 93455-1340 ♦ (805) 346-8460

**ENVIRONMENTAL HEALTH SERVICES DIVISION
 WELL PERMIT FIELD INVESTIGATION RECORD**

Well Permit Application Received: Date: 3/23/17 Well Permit Number: SR WP 1924

Owner _____ APN 097371013

Site Investigation by: D Talenico Date: 3/23/17

Findings: (Check Applicable Boxes and Give Clearance)

- Overhead Powerlines _____
- Sewer Lines _____
- Leachfield/Septic Tank 7200 ft
(> 50 feet)
(> 100 feet)
- Cesspool/Drywell _____
(> 150 feet)
- Animal Enclosures _____
(100 Feet)
- Creek/Watercourse _____
(100 yr Floodplain)
- Petroleum Tank/Pipeline _____
(50 feet)
- Other _____

Comments: old septic lines abandoned now, all over 200 ft from proposed well

Construction Inspection Record:

Date: _____ Driller _____
 Registered Professional _____

Destruction:

Casing Depth Below Grade: _____
 Depth of Seal: _____

Casing Information:

- Diameter _____ Gage _____
- Steel Standard linepipe Structural Steel
 - ABS PVC Standard 14 NSF
 - Other: _____

Borehole:

Total Depth of Well: _____

Annular Seal: _____
 (20' Ag & SPWS; 50' >5 conn. & commercial)

Well Bore Diameter: _____

Sealing Material: _____
 (6 Sack concrete, neat cement, sand-cement, Bentonite, theroset plastic concrete)

Casing Schedule:

TYPE

Conductor Casing:

<u>0 ft.</u>	-	=	Borehole:-	_____
_____	-	=	Sealing Material:	_____
_____	-	=	Conductor Casing:	_____
_____	-	=	Depth: _____	Diameter _____
_____	-	=	Capped	_____

Amount: _____

Method of Pour: Gravity or Pumper

Use of Tremie Pipe: Yes N/A
 Required if wet or > 30 ft deep



ELECTRIC - GAMMA RAY-TEMPERATURE LOG

Test Borehole

Phone: (888) 908-5226 Fax: (661) 505-6561 Web: www.boredata.com Email: ccorbell@boredata.com

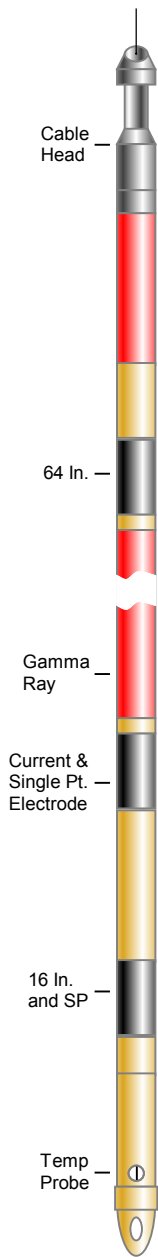
Filing No.	COMPANY Filipponi and Thompson	
	WELL Vandenberg Village CSD Old Fire Station #51 Test Well	
	FIELD Lompoc	
	STATE California	COUNTY Santa Barbara
Job No. 2336	LOCATION: 749 Burton Mesa Blvd	
	APN: 097-371-013	
SEC: _____ TWP: _____ RGE: _____		LAT.: 34.69669 LONG.: -120.44993
		OTHER SERVICES: None

Permanent Datum: **Ground Level** Elev.: _____ Ft. Elevs.: K.B. _____ Ft.
 Log Measured From: **Ground Level**, **0** Ft. Above Perm. Datum D.F. _____ Ft.
 Drilling Measured From: **Kelly Bushing** G.L. _____ Ft.

Run	One							
Date	May 08, 2017							
Depth-Driller	803	Ft		Ft		Ft	Ft	
Depth-Logger	804	Ft		Ft		Ft	Ft	
Top Logged Interval	7	Ft		Ft		Ft	Ft	
Btm Logged Interval	804	Ft		Ft		Ft	Ft	
Casing-Driller	18	In @	52	Ft	In @	Ft	In @	Ft
Casing - Logger In@Ft	18	In @	52	Ft	In @	Ft	In @	Ft
Bit Size	9.875	In @	803	Ft	In @	Ft	In @	Ft
Time On Bottom	18:00							
Type Fluid in Hole	Bentonite							
Density	Viscosity							
pH	Fluid Loss		ml		ml		ml	
Source of Sample	Circ							
Rm @ Mea. Temp	10.2	@	75	°F	@	°F	@	°F
Rmf @ Mea. Temp	10.2	@	75	°F	@	°F	@	°F
Rmc @ Mea. Temp		@		°F	@	°F	@	°F
Source Rmf	Rmc	Meas						
Rm @ BHT		@		°F	@	°F	@	°F
Time Since Circ.	1.5	Hr		Hr		Hr	Hr	
Max. Rec. Temp.	82.3	°F		°F		°F	°F	
Van No.	Location	BD-1	VTU					
Recorded By	Craig Corbell							
Witnessed By								

This Eagle Plot Heading Conforms To API RP 31A

ELECTRIC - GAMMA RAY-TEMPERATURE LOG TOOL



SPONTANEOUS POTENTIAL LOGS:

SP Logs record potentials or voltages developed between the borehole fluid and the surrounding formation and are representations of lithology and water quality. Recording of SP logs are limited to water-filled or mud-filled open holes.

NORMAL RESISTIVITY LOGS:

Normal Resistivity Logs record the electrical resistivity of the borehole environment with lower resistivities indicative of clays and higher resistivities being sands and gravels. Normal resistivity logs are affected by bed thickness, Borehole diameter and borehole fluid.

SINGLE POINT RESISTIVITY LOGS:

Single Point Resistivity Logs record the electrical resistance from points within the borehole to an electrical ground at land surface. Single-point resistance logs are useful in the determination of lithology, water quality, and location of fracture zones.

GAMMA RAY LOGS:

Gamma Ray Logs record the amount of natural gamma radiation emitted by the rocks surrounding the borehole. The most significant naturally occurring sources of gamma radiation are potassium 40 and daughter products of the uranium and thorium decay series. Clay and shale bearing rocks commonly emit relatively high gamma radiation because they include weathering products of potassium feldspar and mica and tend to concentrate uranium and thorium by ion absorption and exchange.

TEMPERATURE LOGS:

Temperature Logs record the water temperature in the borehole. Temperature logs are useful for delineating water-bearing zones and identifying vertical flow in the borehole between zones of differing hydraulic head penetrated by wells. Borehole flow between zones is indicated by temperature gradients that are less than the regional geothermal gradient.

ELECTRIC LOG SPECIFICATIONS:

Diameter	1.73 Inches
Length	8.37 Feet
Weight	21.7 Lbs.
Max. Temp	158° F
Resist. Range	0 - 10,000 ohm-m
Gamma Ray	1.97 inches long x .98 inches diameter Scintillation crystal

NOTICE

All interpretations are opinions based on inferences from electrical and other measurements and we do not guarantee the accuracy or correctness of any verbal or written interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by one of our officers, agents or employees. These interpretations are also subject to our General Terms and Conditions as set out in our current Price Schedule.

REMARKS

Filippini and Thompson
Vandenberg Village CSD Old Fire Station #51 Test Well
May 08, 2017

ELECTRIC - GAMMA RAY-TEMPERATURE LOG

Mult. Pages
2"/100'

DEPTHS
(Feet)

< - S.P. (5 mV/div) S.P. + >

0 Gamma Ray(api) 150

100 64 Inch Normal (ohm²/m) x10 1000

64 Inch Normal (ohm²/m) 100

100 16 Inch Normal (ohm²/m) x10 1000

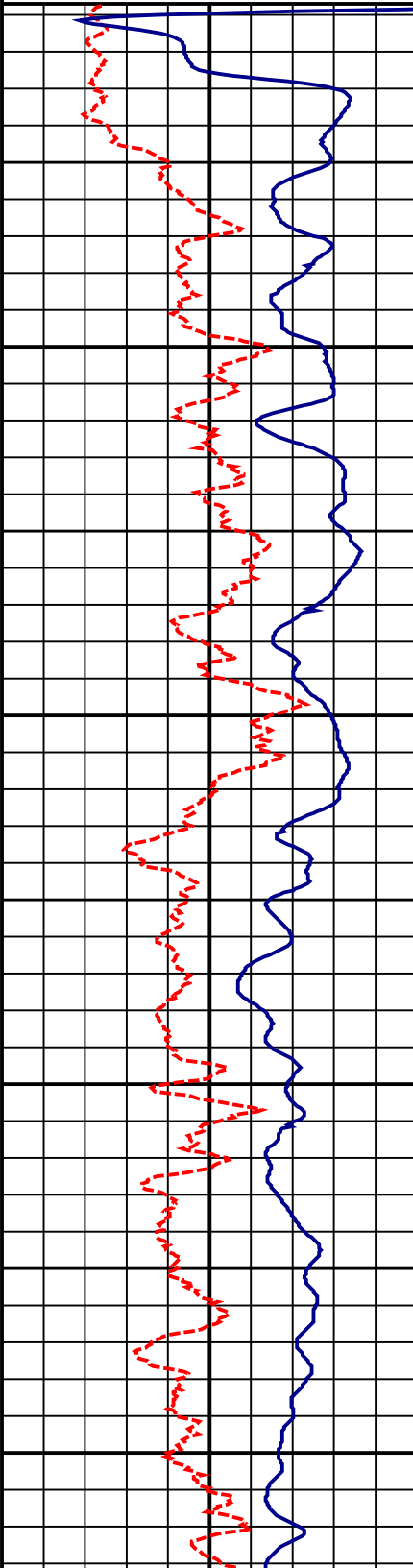
16 Inch Normal (ohm²/m) 100

Single Point(ohms)

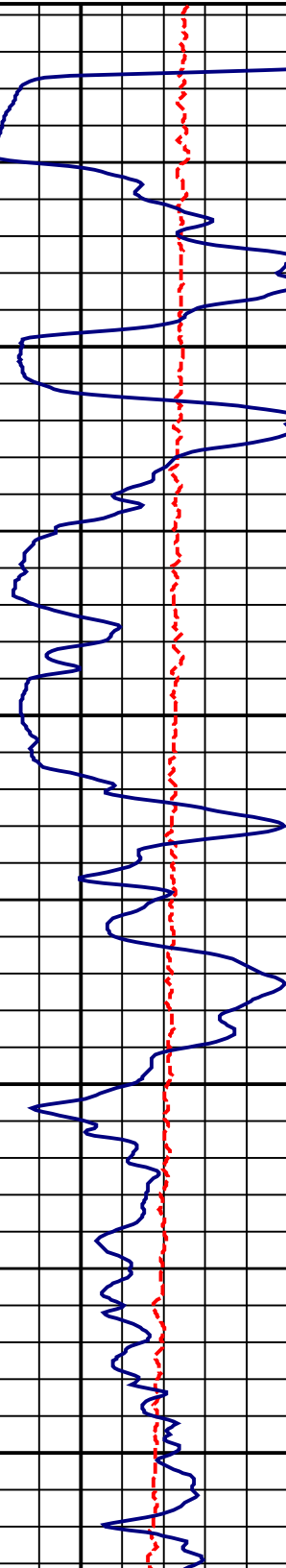
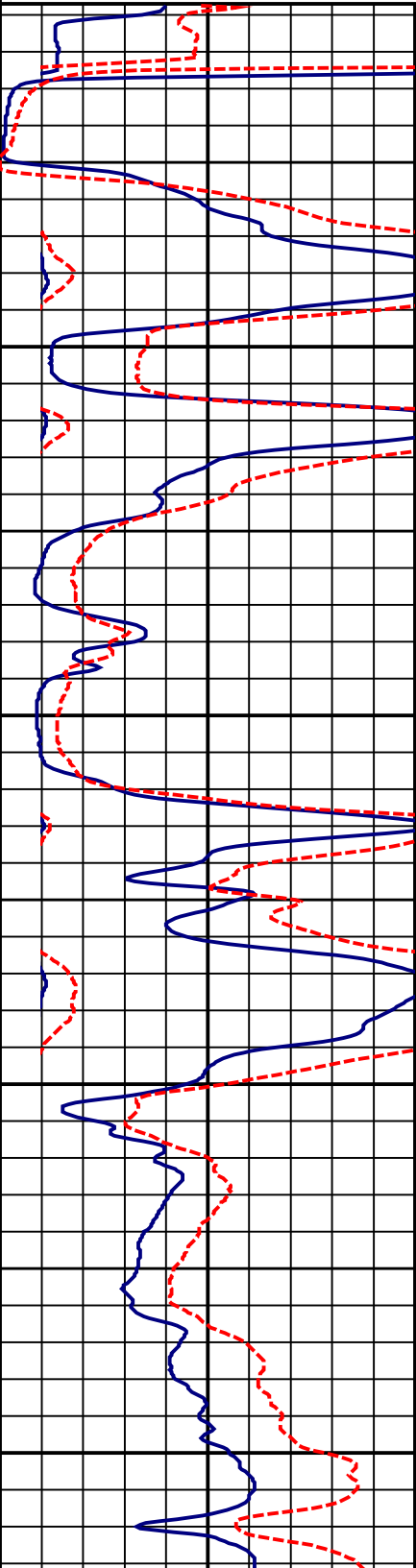
30

Temperature (°F)

85



50'
100'
150'
200'
250'
300'
350'
400'



Filippini and Thompson
Vandenberg Village CSD Old Fire Station #51 Test Well
May 08, 2017

ELECTRIC - GAMMA RAY-TEMPERATURE LOG

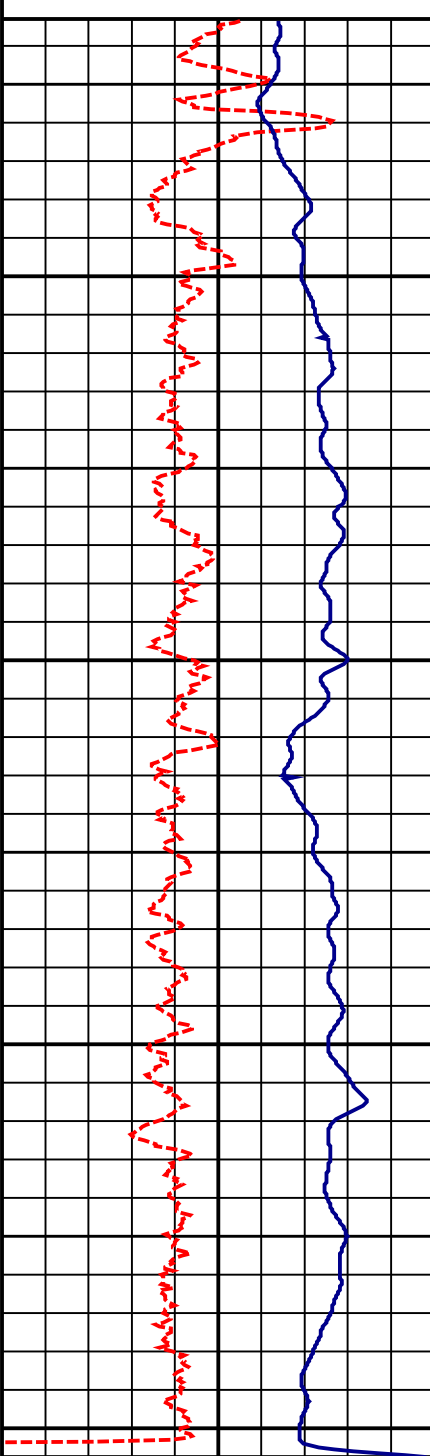
Mult. Pages
2"/100'

DEPTHS
(Feet)

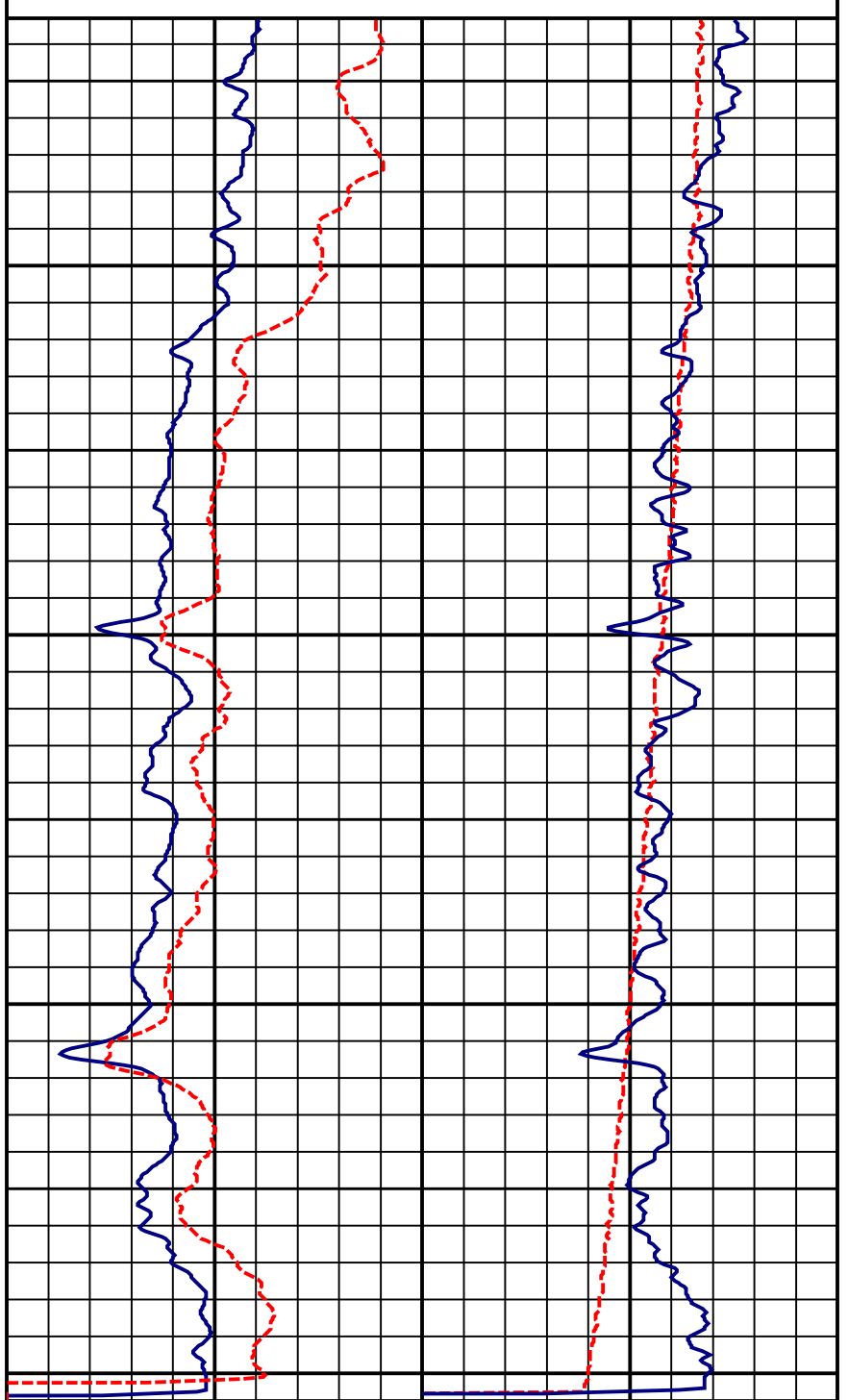
< - S.P. (5 mV/div) S.P. + >

0 Gamma Ray(api) 150

100	64 Inch Normal (ohm ² /m) x10	1000		
0	64 Inch Normal (ohm ² /m)	100		
100	16 Inch Normal (ohm ² /m) x10	1000	0	Single Point(ohms)
0	16 Inch Normal (ohm ² /m)	100	75	Temperature (°F)
				85



433'
450'
500'
550'
600'
650'
700'
750'
800'



Log Depth 806'

PL

JUN 14 2017

State of California
Well Completion Report
WCR Form Submitted 06/02/2017
WCR2017-001500

Owner's Well Number _____ Date Work Began 05/04/2017 Date Work Ended 05/15/2017
Local Permit Agency Santa Barbara County Environmental Health Services
Secondary Permit Agency _____ Permit Number 0001924 Permit Date 03/23/2017

Well Owner (must remain confidential pursuant to Water Code 13752)		
Name <u>JOE BARGET VANDENBERG VILLAGE CSD</u>		
Mailing Address <u>3757 CONSTILLATION ROAD</u>		
City <u>LOMPOC</u>	State <u>CA</u>	Zip <u>93436</u>

Planned Use and Activity	
Activity	<u>New Well</u>
Planned Use	<u>Water Supply Domestic</u>

Well Location					
Address <u>749 BURTON MESA BLVD</u>			APN <u>097-371-013</u>		
City <u>LOMPOC</u>	Zip <u>93436</u>	County <u>Santa Barbara</u>	Township _____		
Latitude <u>34</u> <u>41</u> <u>47.5</u> <u>N</u>	Longitude <u>-120</u> <u>26</u> <u>59</u> <u>W</u>		Range _____		
Deg. Min. Sec.	Deg. Min. Sec.		Section _____		
Dec. Lat. _____		Dec. Long. _____		Baseline Meridian _____	
Vertical Datum _____		Horizontal Datum <u>WGS84</u>		Ground Surface Elevation _____	
Location Accuracy _____		Location Determination Method _____		Elevation Accuracy _____	
				Elevation Determination Method _____	

Borehole Information	
Orientation <u>Vertical</u>	Specify _____
Drilling Method <u>Direct Rotary</u>	Drilling Fluid <u>Bentonite</u>
Total Depth of Boring <u>840</u>	Feet
Total Depth of Completed Well <u>820</u>	Feet

Water Level and Yield of Completed Well			
Depth to first water _____	(Feet below surface)		
Depth to Static _____			
Water Level <u>297</u> (Feet)	Date Measured <u>05/15/2017</u>		
Estimated Yield* <u>400</u>	Test Type <u>Air Lift</u>		
Test Length <u>12</u>	Total Drawdown _____	(Feet)	
*May not be representative of a well's long term yield.			

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	25	BROWN SAND
25	28	WHITE SANDY CLAY
28	105	LIGHT BROWN SAND WITH COURSE SANDS
105	108	GRAY CLAY
108	145	CHATTERING SAND WITH COURSE SAND AND SOME CLAY
145	173	GRAY CLAY WITH SAND
173	190	SAND AND GRAVEL
190	248	SANDY GRAY CLAY
248	308	SAND AND GRAVEL
308	310	CLAY
310	510	SAND WITH COARSE SANDS
510	512	FINE AND COARSE SANDS WITH REDWOOD
512	518	FINE AND COARSE SANDS
518	525	FINE AND COARSE SANDS WITH SILTY BROWN SHALE LAYERS
525	554	DARK GRAY SANDS
554	561	GRAY SANDS WITH SEA SHELLS
561	746	GRAY SANDS WITH SOME SMALL GRAVELS
746	812	GRAY SANDS WITH SOME COARSE SAND
812	817	SILTY BROWN CLAY
817	840	FINE GRAY SAND/ SILT

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specifications	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if any (Inches)	Description
1	0	52	Conductor or Fill Pipe	Low Carbon Steel	Grade: ASTM A53	0.25	18			
2	52	450	Blank	Other	N/A	0.25	18			PVC SDR 17
2	450	590	Screen	Other	N/A	0.25	18	Saw Cut	0.04	PVC 8 INCH SDR17
2	590	610	Blank	Other	N/A	0.25	18	Saw Cut		PVC 8 INCH SDR17
2	610	690	Screen	Other	N/A	0.25	18	Saw Cut	0.04	PVC 8 INCH SDR17
2	690	730	Blank	Other	N/A	0.25	18	Saw Cut		PVC 8 INCH SDR17
2	730	810	Screen	Other	N/A	0.25	18	Saw Cut	0.04	PVC 8 INCH SDR17
2	810	820	Blank	Other	N/A	0.25	18	Saw Cut		PVC 8 INCH SDR17

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	50	Cement	10.3 Sack Mix		
50	840	Other Fill	See description.	LAPIS #3	LAPIS #3

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	52	28
52	840	16

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name FILIPPONI-THOMPSON DRILLING INC
 Person, Firm or Corporation
P O BOX 845 ATASCADERO CA 93423
 Address City State Zip
 Signed *Neil M. Thompson* 06/02/2017 432680
 C-57 Licensed Water Well Contractor Date Signed C-57 License Number

DWR Use Only

--	--

Site Number / State Well Number

						N
--	--	--	--	--	--	---

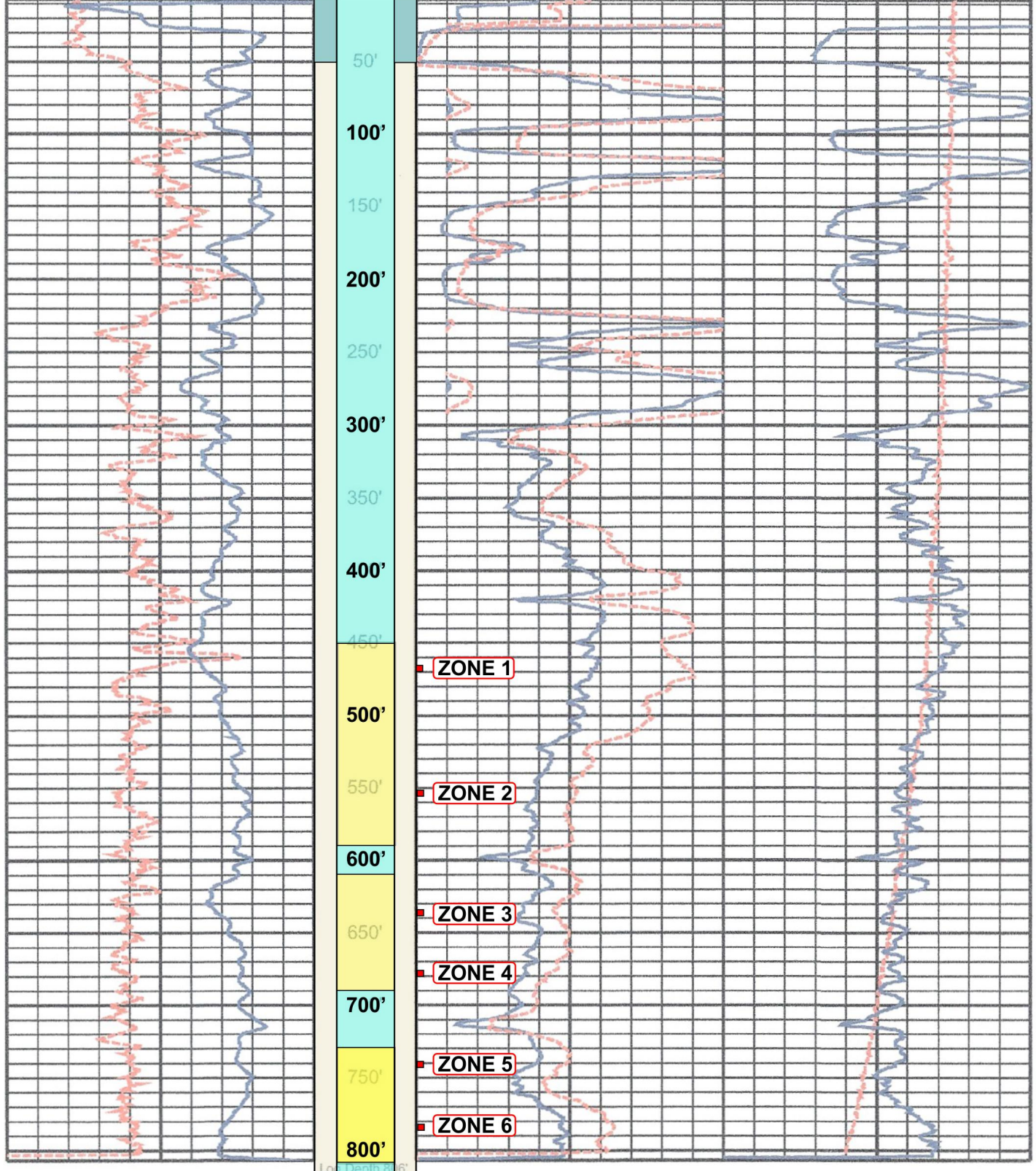
										W
--	--	--	--	--	--	--	--	--	--	---

Latitude Deg/Min/Sec

Longitude Deg/Min/Sec

TRS:

APN:



CASING LEGEND

- Concrete Sanitary Seal: 0' to 52'
- 8" SDR 17 PVC Blank Casing
- 8" SDR 17 PVC Well Screen w/0.040" slots
- 16" diameter Bore Hole: annulus filled with Lapis #3 from 50' to 830'

ZONE TEST INTERVALS (July 13, 2017)

- ZONE 1:** 466.5' to 470'
- ZONE 2:** 551.5' to 554'
- ZONE 3:** 634.5' TO 638'
- ZONE 4:** 676.5' TO 680'
- ZONE 5:** 739.5' to 743'
- ZONE 6:** 781.5' to 785'

ARSENIC CONTENT (ug/L)

- 31 ug/L**
- 21 ug/L**
- 24 ug/L**
- 18 ug/L**
- 32 ug/L**
- 4.3 ug/L**

WELL CONSTRUCTION PROFILE

Vandenberg Village CSD - Fire Station Test Well Project
 749 Burton Mesa Blvd., Lompoc, California

Rick Hoffman and Associates
 ENGINEERING GEOLOGISTS & HYDROGEOLOGISTS

1149 Palomino Road, Santa Barbara, CA 93105
 TEL. (805) 569-1911 MOBILE: (805) 895-2246
 Email: rickhoffman1@cox.net

FIGURE

3

TEST PUMPING DATA

JUNE 1, 2017

CONSTANT DISCHARGE TEST
Vandenberg Village CSD
Fire Station #51 Test Well

WELL OWNER:	Vandenberg Village CSD
WELL NAME:	Fire Station #51 Test Well
DATE OF TEST PUMPING PROCEDURE:	June 1, 2017
DEPTH OF WELL:	820 feet
DEPTH OF PUMP SETTING:	60 horsepower pump set at 441 feet
YIELD METHOD:	calibrated flow meter
TECHNICIAN:	F&T Drilling Company
DATUM POINT:	top of casing

DATE	TIME	TIME SINCE START (min.)	FLOW RATE (gpm)	WATER LEVEL below top of casing (feet)	DRAWDOWN (feet) (pumping level minus SWL)	REMARKS
6/1/17	9:30	0	0	300.0	0.0	static water level
	9:32	2	400	324.5	24.5	water clear, no odor or sediment
	9:34	4	400	324.8	24.8	
	9:36	6	400	325.1	25.1	
	9:38	8	400	325.2	25.2	
	9:40	10	400	325.2	25.2	
	9:45	15	400	325.4	25.4	
	9:50	20	400	325.5	25.5	
	9:55	25	400	325.6	25.6	
	10:00	30	400	325.7	25.7	
	10:05	35	400	325.8	25.8	
	10:10	40	400	325.9	25.9	
	10:15	45	400	326.0	26.0	
	10:20	50	400	326.0	26.0	
	10:25	55	400	326.0	26.0	
	10:30	60	400	326.0	26.0	
	10:45	75	400	326.1	26.1	
	11:00	90	400	326.1	26.1	
	11:15	105	400	326.2	26.2	
	11:30	120	400	326.2	26.2	
	11:45	135	400	326.3	26.3	
	12:00	150	400	326.2	26.2	
	12:15	165	400	326.4	26.4	
	12:30	180	400	326.5	26.5	water sample: Ar = 28 ug/L
	12:45	195	400	326.5	26.5	
	13:00	210	400	326.5	26.5	
	13:15	225	400	326.5	26.5	
	13:30	240	400	326.5	26.5	end of constant discharge test

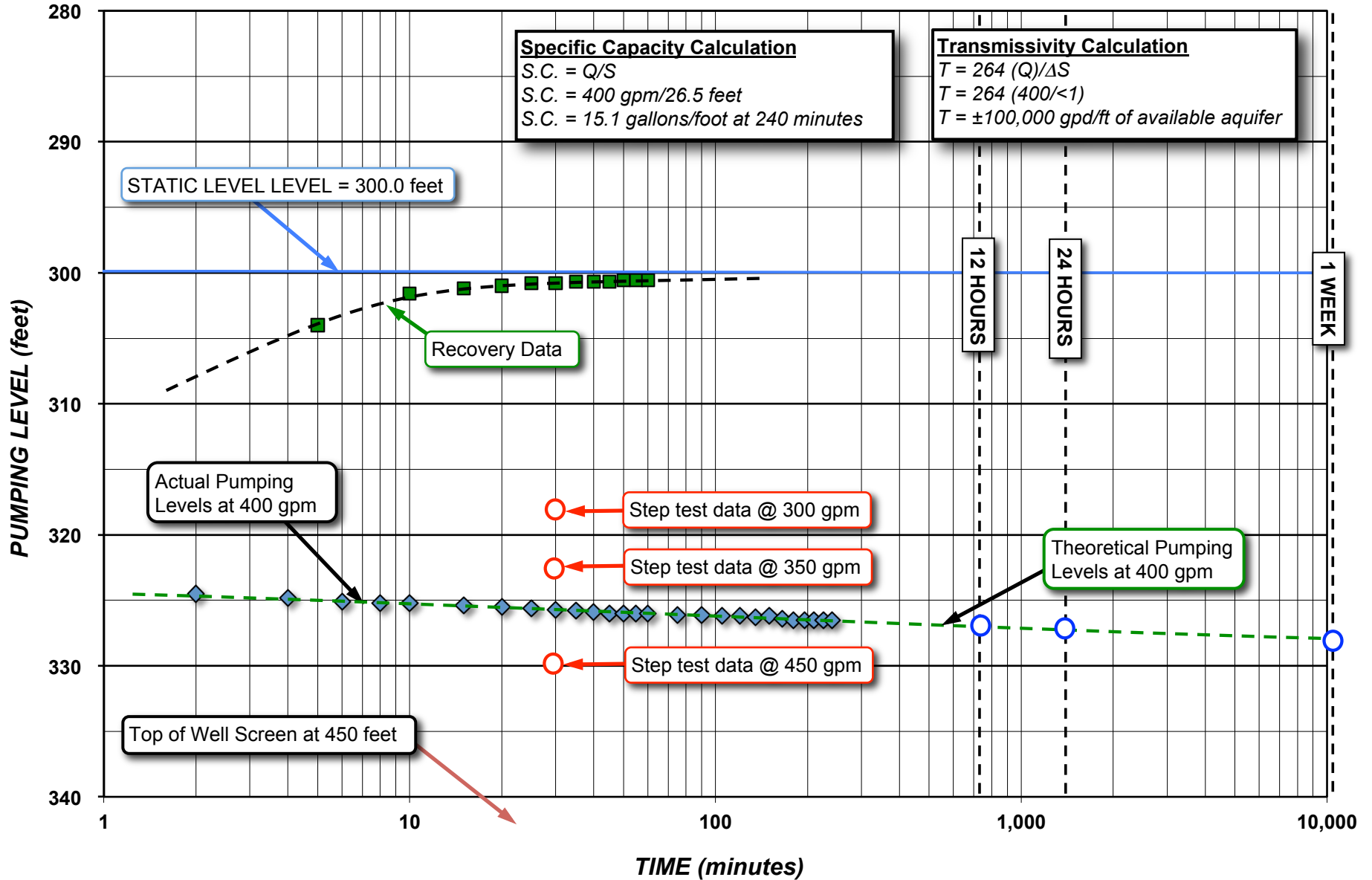
RECOVERY TEST
Vandenberg Village CSD
Fire Station #51 Test Well

WELL OWNER: Vandenberg Village CSD
WELL NAME: Fire Station #51 Test Well
ORIGINAL STATIC WATER LEVEL (in feet): 300
DEPTH OF WELL (in feet): 820 feet

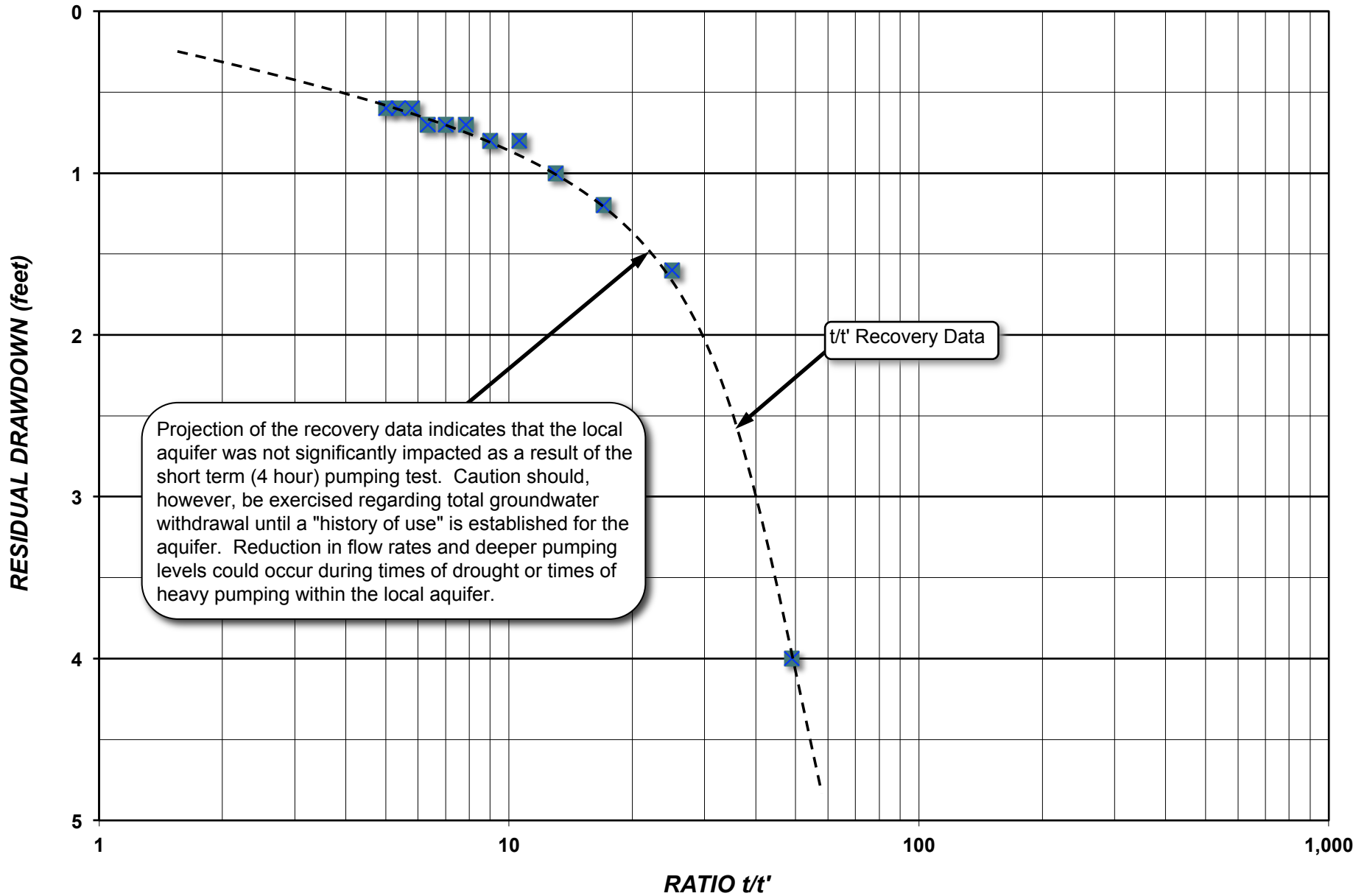
DATE	TIME	TIME SINCE START OF TEST (minutes) t	TIME SINCE END OF TEST (minutes) t'	RATIO t/t'	WATER LEVEL (feet)	RESIDUAL DRAWDOWN (feet)	Remarks
6/1/17	13:30	240	0		326.6	26.6	Start of Recovery Test
	13:35	245	5	49.0	304.0	4.0	
	13:40	250	10	25.0	301.6	1.6	
	13:45	255	15	17.0	301.2	1.2	
	13:50	260	20	13.0	301.0	1.0	
	13:55	265	25	10.6	300.8	0.8	
	14:00	270	30	9.0	300.8	0.8	
	14:05	275	35	7.9	300.7	0.7	
	14:10	280	40	7.0	300.7	0.7	
	14:15	285	45	6.3	300.7	0.7	
	14:20	290	50	5.8	300.6	0.6	
	14:25	295	55	5.4	300.6	0.6	
	14:30	300	60	5.0	300.6	0.6	end of recovery test

HYDROLOGIC CALCULATION GRAPH

Fire Station #51 Test Well



***t/t'* RATIO vs. RESIDUAL DRAWDOWN GRAPH**
Fire Station #51 Test Well



June 21, 2017

Vandenberg Village CSD
 3757 Constellation Road
 Lompoc, CA 93436

Lab ID : SP 1706534
 Customer : 2-14885

Laboratory Report

Introduction: This report package contains total of 33 pages divided into 3 sections:

Case Narrative (4 pages) : An overview of the work performed at FGL.
 Sample Results (8 pages) : Results for each sample submitted.
 Quality Control (21 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
Travel Blank	05/31/2017	05/31/2017	SP 1706534-000	LBW
Old Fire Station Test Well	05/31/2017	05/31/2017	SP 1706534-001	GW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived on ice. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	06/01/2017:208120 All analysis quality controls are within established criteria.
	06/01/2017:206464 All preparation quality controls are within established criteria.
200.8	06/01/2017:208127 All analysis quality controls are within established criteria.
	06/01/2017:206457 All preparation quality controls are within established criteria, except: The following note applies to Aluminum, Selenium: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
245.1	06/02/2017:208134 All analysis quality controls are within established criteria.
	06/02/2017:206503 All preparation quality controls are within established criteria.

June 21, 2017
Vandenberg Village CSD

Lab ID : SP 1706534
 Customer : 2-14885

Organic QC

504	06/02/2017:206506 All preparation quality controls are within established criteria.
504.1	06/05/2017:208138 All analysis quality controls are within established criteria.
505	06/03/2017:208115 All analysis quality controls are within established criteria.
	06/02/2017:206406 All preparation quality controls are within established criteria.
507	06/07/2017:208349 All analysis quality controls are within established criteria.
	06/05/2017:206565 All preparation quality controls are within established criteria, except: The following note applies to Metribuzin: 410 Relative Percent Difference (RPD) not within Maximum Allowable Value (MAV). Data was accepted based on the LCS or CCV recovery.
515.3	06/08/2017:208448 All analysis quality controls are within established criteria.
	06/06/2017:206667 All preparation quality controls are within established criteria.
524.2	06/01/2017:208289 All analysis quality controls are within established criteria, except: The following note applies to 1,1,2,2-Tetrachloroethane, Trichlorotrifluoroethane F-113, 1,2,3-Trichlorobenzene, 1,2-Dichlorobenzene, 1,4-Dichlorobenz: 360 CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.
	06/01/2017:206661 All preparation quality controls are within established criteria, except: The following note applies to Bromomethane (Methyl Bromide), Chloroethane (Ethyl Chloride), Vinyl Chloride, Freon-11: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	The following note applies to Naphthalene: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
524MTCP	06/02/2017:208192 All analysis quality controls are within established criteria.
524M-TCP	06/02/2017:206561 All preparation quality controls are within established criteria.
531.1	06/08/2017:208517 All analysis quality controls are within established criteria.
	06/07/2017:206733 All preparation quality controls are within established criteria.
547	06/02/2017:208073 All analysis quality controls are within established criteria.
	06/02/2017:206474 All preparation quality controls are within established criteria.
548.1	06/09/2017:208479 All analysis quality controls are within established criteria.

June 21, 2017
Vandenberg Village CSD

Lab ID : SP 1706534
 Customer : 2-14885

Organic QC

548.1	06/06/2017:206663 All preparation quality controls are within established criteria.
549	06/06/2017:206655 All preparation quality controls are within established criteria.
549.2	06/09/2017:208531 All analysis quality controls are within established criteria.
632	06/12/2017:208630 All analysis quality controls are within established criteria.
	06/02/2017:205153 All preparation quality controls are within established criteria, except: The following note applies to Diuron: 436 Blank Spike (BS) not within Acceptance Range (AR). Data was accepted based on the LCS or CCV recovery.

Radio QC

900.0	06/06/2017:208378 All analysis quality controls are within established criteria.
	06/05/2017:206557 All preparation quality controls are within established criteria.
Ra - 05	06/13/2017:208747 All analysis quality controls are within established criteria.
	06/08/2017:206549 All preparation quality controls are within established criteria.

Inorganic - Wet Chemistry QC

2120B	06/01/2017:208140 All analysis quality controls are within established criteria.
	06/01/2017:206526 All preparation quality controls are within established criteria.
2130B	06/01/2017:208106 All analysis quality controls are within established criteria.
	06/01/2017:206492 All preparation quality controls are within established criteria.
2150B	05/31/2017:206527 All preparation quality controls are within established criteria.
2320B	06/01/2017:208095 All analysis quality controls are within established criteria.
	06/01/2017:206428 All preparation quality controls are within established criteria, except: The following note applies to Bicarbonate: 440 Sample nonhomogeneity may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

June 21, 2017
Vandenberg Village CSD

Lab ID : SP 1706534
Customer : 2-14885

Inorganic - Wet Chemistry QC

2510B	06/02/2017:208102 All analysis quality controls are within established criteria.
	06/02/2017:206486 All preparation quality controls are within established criteria.
2540CE	06/01/2017:206462 All preparation quality controls are within established criteria.
300.0	06/01/2017:208136 All analysis quality controls are within established criteria.
	06/01/2017:206519 All preparation quality controls are within established criteria.
314.0	06/08/2017:208451 All analysis quality controls are within established criteria.
	06/07/2017:206777 All preparation quality controls are within established criteria.
5540C	06/01/2017:208253 All analysis quality controls are within established criteria.
	06/01/2017:206610 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.**



Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2017-06-21

June 21, 2017

Lab ID : SP 1706534-000
 Customer ID : 2-14885

Vandenberg Village CSD

3757 Constellation Road
 Lompoc, CA 93436

Sampled On : May 31, 2017-00:00
 Sampled By : Rick Hoffman
 Received On : May 31, 2017-16:00
 Matrix : Lab. Blank Water

Description : Travel Blank
 Project : Old Fire Station Test Well - Title 22

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
EPA 504.1								
1,3-Dibromopropane [‡]	94.1	70-130	%		504	06/02/17:206506	504.1	06/05/17:208138
DBCP	ND	0.01	ug/L		504	06/02/17:206506	504.1	06/05/17:208138
EDB	ND	0.02	ug/L		504	06/02/17:206506	504.1	06/05/17:208138
SRL 524M-TCP								
1,2,3-Trichloropropane	ND	0.005	ug/L		524M-TCP	06/02/17:206561	524MTCP	06/02/17:208192

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.



June 21, 2017

Lab ID : SP 1706534-001

Customer ID : 2-14885

Vandenberg Village CSD

3757 Constellation Road

Lompoc, CA 93436

Sampled On : May 31, 2017-12:30

Sampled By : Rick Hoffman

Received On : May 31, 2017-16:00

Matrix : Ground Water

Description : Old Fire Station Test Well

Project : Old Fire Station Test Well - Title 22

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
General Mineral								
Total Hardness as CaCO3	216	--	mg/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Calcium	60	1	mg/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Magnesium	16	1	mg/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Potassium	3	1	mg/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Sodium	76	1	mg/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Total Cations	7.7	--	meq/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Boron	0.1	0.1	mg/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Copper	ND	10	ug/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Iron	600	30	ug/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Manganese	150	10	ug/L		200.7	06/01/17:206464	200.7	06/01/17:208120
Zinc	100	20	ug/L		200.7	06/01/17:206464	200.7	06/01/17:208120
SAR	2.3	--	--		200.7	06/01/17:206464	200.7	06/01/17:208120
Total Alkalinity (as CaCO3)	80	10	mg/L		2320B	06/01/17:206428	2320B	06/01/17:208095
Hydroxide as OH	ND	10	mg/L		2320B	06/01/17:206428	2320B	06/01/17:208095
Carbonate as CO3	ND	10	mg/L		2320B	06/01/17:206428	2320B	06/01/17:208095
Bicarbonate as HCO3	100	10	mg/L		2320B	06/01/17:206428	2320B	06/01/17:208095
Sulfate	141	0.5	mg/L		300.0	06/01/17:206519	300.0	06/01/17:208136
Chloride	115	2*	mg/L		300.0	06/01/17:206519	300.0	06/01/17:208136
Nitrate as NO3	1.8	0.5	mg/L		300.0	06/01/17:206519	300.0	06/01/17:208136
Nitrite as N	ND	0.2	mg/L		300.0	06/01/17:206519	300.0	06/01/17:208136
Nitrate + Nitrite as N	0.4	0.1	mg/L		300.0	06/01/17:206519	300.0	06/01/17:208136
Fluoride	0.2	0.1	mg/L		300.0	06/01/17:206519	300.0	06/01/17:208136
Total Anions	7.9	--	meq/L		2320B	06/01/17:206428	2320B	06/01/17:208095
pH (Field)	6.7	--	units		4500-H B	05/31/17:206413	4500HB	05/31/17:208249
Specific Conductance	830	1	umhos/cm		2510B	06/02/17:206486	2510B	06/02/17:208102
Total Dissolved Solids	570	20	mg/L		2540CE	06/01/17:206462	2540C	06/02/17:208061
MBAS Screen	Negative	0.1	mg/L		5540C	06/01/17:206610	5540C	06/01/17:208253
Aggressiveness Index	10.8	--	--		4500-H B	05/31/17:206413	4500HB	05/31/17:208249
Langelier Index (20°C)	-1.1	--	--		4500-H B	05/31/17:206413	4500HB	05/31/17:208249
Nitrate Nitrogen	0.4	--	mg/L		300.0	06/01/17:206519	300.0	06/01/17:208136
Metals, Total								
Aluminum	10	10	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Antimony	ND	1	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Arsenic	28	2	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Barium	30.4	0.2	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127

June 21, 2017
 Description : Old Fire Station Test Well

Lab ID : SP 1706534-001
 Customer ID : 2-14885

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total								
Beryllium	ND	1	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Cadmium	ND	0.2	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Chromium	4	1	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Lead	ND	0.5	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Mercury	ND	0.02	ug/L		245.1	06/02/17:206503	245.1	06/02/17:208134
Nickel	2	1	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Selenium	4	1	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Silver	ND	1	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Thallium	ND	0.2	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Vanadium	3	2	ug/L		200.8	06/01/17:206457	200.8	06/01/17:208127
Wet Chemistry								
Color	ND	5	units		2120B	06/01/17:206526	2120B	06/01/17:208140
Odor	ND	1	TON		2150B	05/31/17:206527	2150B	05/31/17:208141
Turbidity	3.0	0.1	NTU		2130B	06/01/17:206492	2130B	06/01/17:208106
Perchlorate	ND	2	ug/L		314.0	06/07/17:206777	314.0	06/08/17:208451

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.



June 21, 2017

Lab ID : SP 1706534-001

Customer ID : 2-14885

Vandenberg Village CSD

3757 Constellation Road

Lompoc, CA 93436

Sampled On : May 31, 2017-12:30

Sampled By : Rick Hoffman

Received On : May 31, 2017-16:00

Matrix : Ground Water

Description : Old Fire Station Test Well

Project : Old Fire Station Test Well - Title 22

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
EPA 504.1								
1,3-Dibromopropane [‡]	92.9	70-130	%		504	06/02/17:206506	504.1	06/05/17:208138
DBCP	ND	0.01	ug/L		504	06/02/17:206506	504.1	06/05/17:208138
EDB	ND	0.02	ug/L		504	06/02/17:206506	504.1	06/05/17:208138
EPA 505								
Tetrachloro-m-xylene [‡]	103	70-130	%		505	06/02/17:206406	505	06/03/17:208115
Alachlor	ND	0.2	ug/L		505	06/02/17:206406	505	06/03/17:208115
Aldrin	ND	0.075	ug/L		505	06/02/17:206406	505	06/03/17:208115
Chlordane	ND	0.1	ug/L		505	06/02/17:206406	505	06/03/17:208115
Dieldrin	ND	0.01	ug/L		505	06/02/17:206406	505	06/03/17:208115
Endrin	ND	0.01	ug/L		505	06/02/17:206406	505	06/03/17:208115
Heptachlor	ND	0.01	ug/L		505	06/02/17:206406	505	06/03/17:208115
Heptachlor Epoxide	ND	0.01	ug/L		505	06/02/17:206406	505	06/03/17:208115
Hexachlorobenzene	ND	0.01	ug/L		505	06/02/17:206406	505	06/03/17:208115
Hexachlorocyclopentadiene	ND	0.1	ug/L		505	06/02/17:206406	505	06/03/17:208115
Lindane (Gamma BHC)	ND	0.05	ug/L		505	06/02/17:206406	505	06/03/17:208115
Methoxychlor	ND	0.1	ug/L		505	06/02/17:206406	505	06/03/17:208115
Toxaphene	ND	0.5	ug/L		505	06/02/17:206406	505	06/03/17:208115
PCB 1016	ND	0.5	ug/L		505	06/02/17:206406	505	06/03/17:208115
PCB 1221	ND	0.5	ug/L		505	06/02/17:206406	505	06/03/17:208115
PCB 1232	ND	0.5	ug/L		505	06/02/17:206406	505	06/03/17:208115
PCB 1242	ND	0.5	ug/L		505	06/02/17:206406	505	06/03/17:208115
PCB 1248	ND	0.5	ug/L		505	06/02/17:206406	505	06/03/17:208115
PCB 1254	ND	0.5	ug/L		505	06/02/17:206406	505	06/03/17:208115
PCB 1260	ND	0.5	ug/L		505	06/02/17:206406	505	06/03/17:208115
EPA 507								
Triphenylphosphate [‡]	79.6	70-130	%		507	06/05/17:206565	507	06/07/17:208349
Alachlor	ND	1	ug/L		507	06/05/17:206565	507	06/07/17:208349
Atrazine	ND	0.5	ug/L		507	06/05/17:206565	507	06/07/17:208349
Bromacil	ND	2	ug/L		507	06/05/17:206565	507	06/07/17:208349
Butachlor	ND	0.38	ug/L		507	06/05/17:206565	507	06/07/17:208349
Diazinon	ND	2	ug/L		507	06/05/17:206565	507	06/07/17:208349
Dimethoate	ND	2	ug/L		507	06/05/17:206565	507	06/07/17:208349
Metolachlor	ND	1	ug/L		507	06/05/17:206565	507	06/07/17:208349
Metribuzin	ND	0.5	ug/L		507	06/05/17:206565	507	06/07/17:208349
Molinate	ND	2	ug/L		507	06/05/17:206565	507	06/07/17:208349

June 21, 2017
 Description : Old Fire Station Test Well

Lab ID : SP 1706534-001
 Customer ID : 2-14885

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
EPA 507								
Prometryne	ND	2	ug/L		507	06/05/17:206565	507	06/07/17:208349
Propachlor	ND	0.5	ug/L		507	06/05/17:206565	507	06/07/17:208349
Simazine	ND	0.5	ug/L		507	06/05/17:206565	507	06/07/17:208349
Thiobencarb	ND	1	ug/L		507	06/05/17:206565	507	06/07/17:208349
Cyanazine	ND	0.5	ug/L		507	06/05/17:206565	507	06/07/17:208349
EPA 515								
2,4-DCAA [‡]	88.9	70-130	%		515.3	06/06/17:206667	515.3	06/08/17:208448
Bentazon	ND	2	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
2,4-D	ND	2	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
Dalapon	ND	10	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
Dicamba	ND	1	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
Dinoseb	ND	1	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
Pentachlorophenol	ND	0.2	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
Picloram	ND	1	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
2,4,5-TP (Silvex)	ND	1	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
2,4,5-T	ND	1	ug/L		515.3	06/06/17:206667	515.3	06/08/17:208448
EPA 524.2								
4-Bromofluorobenzene [‡]	91.3	70-130	%		524.2	06/01/17:206661	524.2	06/01/17:208289
1,2-Dichlorobenzene-d4 [‡]	88.0	70-130	%		524.2	06/01/17:206661	524.2	06/01/17:208289
Benzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Bromobenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Bromochloromethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Bromodichloromethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Bromoform	1.1	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Bromomethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
n-Butylbenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
sec-Butylbenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
tert-Butylbenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Carbon Tetrachloride	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Chlorobenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Chloroethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Chloroform	0.8	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Chloromethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
2-Chlorotoluene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
4-Chlorotoluene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Dibromochloromethane	0.6	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Dibromomethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,2-Dichlorobenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289

June 21, 2017
 Description : Old Fire Station Test Well

Lab ID : SP 1706534-001
 Customer ID : 2-14885

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
EPA 524.2								
1,3-Dichlorobenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,4-Dichlorobenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Dichlorodifluoromethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,1-Dichloroethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,2-Dichloroethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,1-Dichloroethylene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
cis-1,2-Dichloroethylene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
trans-1,2-Dichloroethylene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,2-Dichloropropane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,3-Dichloropropane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Dichloromethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
2,2-Dichloropropane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,1-Dichloropropene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,3-Dichloropropene (Total)	ND	--	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
cis-1,3-Dichloropropene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
trans-1,3-Dichloropropene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Di-isopropyl ether (DIPE)	ND	3	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Ethyl Benzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Ethyl tert-Butyl Ether (ETBE)	ND	3	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Hexachlorobutadiene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Isopropylbenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
p-Isopropyltoluene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Methyl tert-Butyl Ether (MTBE)	ND	1	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Naphthalene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
n-Propylbenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Styrene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Tert-amyl-methyl Ether (TAME)	ND	3	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Tetrachloroethylene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Toluene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,2,3-Trichlorobenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,2,4-Trichlorobenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,1,1-Trichloroethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,1,2-Trichloroethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Trichloroethylene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Trichlorofluoromethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,1,2-Trichlorotrifluoroethane	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289

June 21, 2017
 Description : Old Fire Station Test Well

Lab ID : SP 1706534-001
 Customer ID : 2-14885

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
EPA 524.2								
1,2,4-Trimethylbenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
1,3,5-Trimethylbenzene	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Vinyl Chloride	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Xylenes (Total)	ND	--	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Xylenes m,p	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Xylenes o	ND	0.5	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
Total Trihalomethanes	2.5	--	ug/L		524.2	06/01/17:206661	524.2	06/01/17:208289
EPA 531.1								
Aldicarb	ND	3	ug/L		531.1	06/07/17:206733	531.1	06/08/17:208517
Aldicarb Sulfone	ND	2	ug/L		531.1	06/07/17:206733	531.1	06/08/17:208517
Aldicarb Sulfoxide	ND	3	ug/L		531.1	06/07/17:206733	531.1	06/08/17:208517
Carbaryl	ND	5	ug/L		531.1	06/07/17:206733	531.1	06/08/17:208517
Carbofuran	ND	5	ug/L		531.1	06/07/17:206733	531.1	06/08/17:208517
3-Hydroxycarbofuran	ND	3	ug/L		531.1	06/07/17:206733	531.1	06/08/17:208517
Methomyl	ND	2	ug/L		531.1	06/07/17:206733	531.1	06/08/17:208517
Oxamyl	ND	5	ug/L		531.1	06/07/17:206733	531.1	06/08/17:208517
EPA 547								
Glyphosate	ND	20	ug/L		547	06/02/17:206474	547	06/02/17:208073
EPA 548.1								
Endothall	ND	40	ug/L		548.1	06/06/17:206663	548.1	06/09/17:208479
EPA 549								
Diquat	ND	2	ug/L		549	06/06/17:206655	549.2	06/09/17:208531
EPA 632								
Diuron	ND	0.1	ug/L		632	06/02/17:205153	632	06/12/17:208630
SRL 524M-TCP								
1,2,3-Trichloropropane	ND	0.005	ug/L		524M-TCP	06/02/17:206561	524MTCP	06/02/17:208192

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

June 21, 2017

Lab ID : SP 1706534-001
 Customer ID : 2-14885

Vandenberg Village CSD

3757 Constellation Road
 Lompoc, CA 93436

Sampled On : May 31, 2017-12:30
 Sampled By : Rick Hoffman
 Received On : May 31, 2017-16:00
 Matrix : Ground Water

Description : Old Fire Station Test Well
 Project : Old Fire Station Test Well - Title 22

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	1.48 ± 1.62	2.10	pCi/L		900.0	06/05/17-09:15 2P1706557	900.0	06/06/17-09:20 2A1708378
Ra 228	0.000 ± 0.261	0.192	pCi/L		Ra - 05	06/08/17-19:00 2P1706549	Ra - 05	06/13/17-19:30 2A1708747

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
 MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
 AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
 If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
 Uranium is less than or equal to 20 pCi/L
 Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

June 21, 2017
Vandenberg Village CSD

Lab ID : SP 1706534
Customer : 2-14885

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic 1,2-Dibromoethane(EDB)	504	06/02/17:206506SBL	Blank	ug/L		ND	<0.02	
			LCS	ug/L	0.2478	108 %	70-130	
			LCS	ug/L	0.2527	111 %	70-130	
			BS	ug/L	0.2556	105 %	70-130	
			BSD	ug/L	0.2522	108 %	70-130	
			BSRPD	ug/L	0.5920	1.7%	≤30	
1,3-Dibromopropane	504	06/02/17:206506SBL	Blank	ug/L	0.5868	100 %	70-130	
			LCS	ug/L	0.5816	101 %	70-130	
			LCS	ug/L	0.5932	103 %	70-130	
			BS	ug/L	0.6000	104 %	70-130	
			BSD	ug/L	0.5920	97.4 %	70-130	
			BSRPD	ug/L	0.5920	7.7%	≤30	
DBCP	504	06/02/17:206506SBL	Blank	ug/L		ND	<0.01	
			LCS	ug/L	0.2478	109 %	70-130	
			LCS	ug/L	0.2527	110 %	70-130	
			BS	ug/L	0.2556	102 %	70-130	
			BSD	ug/L	0.2522	102 %	70-130	
			BSRPD	ug/L	0.5920	1.6%	≤30	
13DBP	504.1	06/05/17:208138SBL	CCV	ug/L	9.975	97.5 %	70-130	
			CCV	ug/L	7.481	108 %	70-130	
DBCP	504.1	06/05/17:208138SBL	CCV	ug/L	5.000	99.0 %	70-130	
			CCV	ug/L	2.000	102 %	70-130	
EDB	504.1	06/05/17:208138SBL	CCV	ug/L	5.000	103 %	70-130	
			CCV	ug/L	2.000	84.5 %	70-130	
Alachlor	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.2	
			LCS	ug/L	5.898	99.0 %	84-135	
			MS	ug/L	6.011	115 %	73-137	
			MSD	ug/L	5.843	131 %	73-137	
			MSRPD	ug/L	1.170	10.3%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	150.0	97.7 %	70-130	
			CCV	ug/L	100.0	112 %	70-130	
Aldrin	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.075	
			LCS	ug/L	0.5898	102 %	69-134	
			MS	ug/L	0.6011	97.6 %	21-166	
			MSD	ug/L	0.5843	99.8 %	21-166	
			MSRPD	ug/L	1.170	0.6%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	15.00	103 %	70-130	
			CCV	ug/L	10.00	99.2 %	70-130	
Chlordane	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.1	
Dieldrin	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.01	
			LCS	ug/L	0.5898	87.7 %	82-131	
			MS	ug/L	0.6011	86.7 %	66-141	
			MSD	ug/L	0.5843	91.5 %	66-141	
			MSRPD	ug/L	1.170	2.6%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	15.00	92.1 %	70-130	
			CCV	ug/L	10.00	87.1 %	70-130	
Endrin	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.01	
			LCS	ug/L	0.5898	83.3 %	83-120	
			MS	ug/L	0.6011	86.1 %	58-134	
			MSD	ug/L	0.5843	92.5 %	58-134	
			MSRPD	ug/L	1.170	4.3%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	15.00	94.7 %	70-130	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Endrin	505	06/03/17:208115SBL	CCV	ug/L	10.00	82.7 %	70-130	
Heptachlor	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.01	
			LCS	ug/L	0.5898	94.3 %	71-131	
			MS	ug/L	0.6011	90.9 %	73-135	
			MSD	ug/L	0.5843	93.3 %	73-135	
			MSRPD	ug/L	1.170	0.2%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	15.00	98.0 %	70-130	
			CCV	ug/L	10.00	93.4 %	70-130	
Heptachlor Epoxide	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.01	
			LCS	ug/L	0.5898	96.2 %	75-129	
			MS	ug/L	0.6011	92.0 %	65-134	
			MSD	ug/L	0.5843	96.4 %	65-134	
			MSRPD	ug/L	1.170	1.9%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	15.00	96.3 %	70-130	
			CCV	ug/L	10.00	94.6 %	70-130	
Hexachlorobenzene	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.01	
			LCS	ug/L	0.5898	98.6 %	69-134	
			MS	ug/L	0.6011	96.1 %	71-136	
			MSD	ug/L	0.5843	98.6 %	71-136	
			MSRPD	ug/L	1.170	0.3%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	15.00	100 %	70-130	
			CCV	ug/L	10.00	97.2 %	70-130	
Hexachlorocyclopentadiene	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.1	
			LCS	ug/L	0.5898	99.4 %	48-144	
			MS	ug/L	0.6011	96.8 %	60-152	
			MSD	ug/L	0.5843	99.4 %	60-152	
			MSRPD	ug/L	1.170	0.2%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	15.00	104 %	70-130	
			CCV	ug/L	10.00	98.6 %	70-130	
Lindane	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.05	
			LCS	ug/L	0.5898	122 %	76-131	
			MS	ug/L	0.6011	119 %	72-132	
			MSD	ug/L	0.5843	127 %	72-132	
			MSRPD	ug/L	1.170	3.1%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	15.00	124 %	70-130	
			CCV	ug/L	10.00	121 %	70-130	
Methoxychlor	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L		ND	<0.1	
			LCS	ug/L	2.949	88.6 %	73-137	
			MS	ug/L	3.006	90.4 %	59-145	
			MSD	ug/L	2.921	97.2 %	59-145	
			MSRPD	ug/L	1.170	4.4%	≤30	
	505	06/03/17:208115SBL	CCV	ug/L	75.00	99.3 %	70-130	
			CCV	ug/L	50.00	88.9 %	70-130	
PCB 1016/1242 - 1	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.5	
PCB 1221 - 1	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.5	
PCB 1232 - 1	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.5	
PCB 1242	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.5	
PCB 1248 - 1	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.5	
PCB 1254 - 1	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.5	
PCB 1260 - 1	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.5	
Tetrachloro-m-xylene	505	06/02/17:206406SBL (SP 1706517-001)	Blank	ug/L	1.157	95.5 %	70-130	
			LCS	ug/L	1.181	99.2 %	70-130	
			MS	ug/L	1.203	97.8 %	N/A	
			MSD	ug/L	1.170	100 %	N/A	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic Tetrachloro-m-xylene	505	06/02/17:206406SBL	MSRPD	ug/L	1.170	0.1%	≤30.0	
	505	06/03/17:208115SBL	CCV CCV	ug/L ug/L	30.03 20.02	104 % 95.9 %	70-130 70-130	
Toxaphene	505	06/02/17:206406SBL	Blank	ug/L		ND	<0.5	
Alachlor	507	06/05/17:206565caa	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	93.0 %	70-130	
			BS	ug/L	2.500	78.9 %	47-147	
			BSD	ug/L	2.500	81.4 %	47-147	
			BSRPD	ug/L	12.50	0.063	≤1	
507	06/07/17:208349SG	CCV	ug/L	1000	95.2 %	80-120		
		CCV	ug/L	500.0	105 %	80-120		
Atrazine	507	06/05/17:206565caa	Blank	ug/L		ND	<0.5	
			LCS	ug/L	2.500	75.7 %	70-130	
			BS	ug/L	2.500	65.4 %	52-154	
			BSD	ug/L	2.500	76.4 %	52-154	
			BSRPD	ug/L	12.50	0.27	≤0.5	
507	06/07/17:208349SG	CCV	ug/L	1000	85.6 %	80-120		
		CCV	ug/L	500.0	91.5 %	80-120		
Bromacil	507	06/05/17:206565caa	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	84.1 %	70-130	
			BS	ug/L	2.500	47.0 %	38-170	
			BSD	ug/L	2.500	84.0 %	38-170	
			BSRPD	ug/L	12.50	0.92	≤2	
507	06/07/17:208349SG	CCV	ug/L	1000	94.4 %	80-120		
		CCV	ug/L	500.0	102 %	80-120		
Butachlor	507	06/05/17:206565caa	Blank	ug/L		ND	<0.38	
			LCS	ug/L	2.500	88.2 %	70-130	
			BS	ug/L	2.500	63.9 %	37-150	
			BSD	ug/L	2.500	75.3 %	37-150	
			BSRPD	ug/L	12.50	0.28	≤0.38	
507	06/07/17:208349SG	CCV	ug/L	1000	86.9 %	80-120		
		CCV	ug/L	500.0	82.2 %	80-120		
Cyanazine	507	06/05/17:206565caa	Blank	ug/L		ND	<0.5	
			LCS	ug/L	2.500	83.1 %	70-130	
			BS	ug/L	2.500	69.8 %	41-152	
			BSD	ug/L	2.500	71.6 %	41-152	
			BSRPD	ug/L	12.50	0.045	≤0.5	
507	06/07/17:208349SG	CCV	ug/L	1000	89.0 %	80-120		
		CCV	ug/L	500.0	106 %	80-120		
Diazinon	507	06/05/17:206565caa	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	108 %	70-130	
			BS	ug/L	2.500	98.0 %	56-128	
			BSD	ug/L	2.500	104 %	56-128	
			BSRPD	ug/L	12.50	0.15	≤2	
507	06/07/17:208349SG	CCV	ug/L	1000	104 %	80-120		
		CCV	ug/L	500.0	95.2 %	80-120		
Dimethoate	507	06/05/17:206565caa	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	86.9 %	70-130	
			BS	ug/L	2.500	72.9 %	49-168	
			BSD	ug/L	2.500	76.3 %	49-168	
			BSRPD	ug/L	12.50	0.084	≤2	
507	06/07/17:208349SG	CCV	ug/L	1000	108 %	80-120		
		CCV	ug/L	500.0	109 %	80-120		
EPN/Triphenylphosphate	507	06/05/17:206565caa	Blank	ug/L	12.50	76.3 %	70-130	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic EPN/Triphenylphosphate	507	06/05/17:206565caa	LCS	ug/L	12.50	89.3 %	70-130	
			BS	ug/L	12.50	73.3 %	70-130	
			BSD	ug/L	12.50	87.5 %	70-130	
			BSRPD	ug/L	12.50	17.6%	≤30	
Metolachlor	507	06/05/17:206565caa	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	76.5 %	70-130	
			BS	ug/L	2.500	66.5 %	45-154	
			BSD	ug/L	2.500	78.4 %	45-154	
	507	06/07/17:208349SG	BSRPD	ug/L	12.50	0.30	≤1	
			CCV	ug/L	1000	90.5 %	80-120	
			CCV	ug/L	500.0	106 %	80-120	
Metribuzin	507	06/05/17:206565caa	Blank	ug/L		ND	<0.5	
			LCS	ug/L	2.500	85.8 %	70-130	
			BS	ug/L	2.500	75.5 %	30-169	
			BSD	ug/L	2.500	110 %	30-169	
	507	06/07/17:208349SG	BSRPD	ug/L	12.50	0.85	≤0.5	410
			CCV	ug/L	1000	88.0 %	80-120	
			CCV	ug/L	500.0	94.4 %	80-120	
Molinate	507	06/05/17:206565caa	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	95.4 %	70-130	
			BS	ug/L	2.500	83.5 %	19-191	
			BSD	ug/L	2.500	93.9 %	19-191	
	507	06/07/17:208349SG	BSRPD	ug/L	12.50	0.26	≤2	
			CCV	ug/L	1000	80.3 %	80-120	
			CCV	ug/L	500.0	82.1 %	80-120	
Prometryne	507	06/05/17:206565caa	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	80.3 %	70-130	
			BS	ug/L	2.500	73.0 %	44-152	
			BSD	ug/L	2.500	77.8 %	44-152	
	507	06/07/17:208349SG	BSRPD	ug/L	12.50	0.12	≤2	
			CCV	ug/L	1000	91.5 %	80-120	
			CCV	ug/L	500.0	98.8 %	80-120	
Propachlor	507	06/05/17:206565caa	Blank	ug/L		ND	<0.5	
			LCS	ug/L	2.500	99.4 %	70-130	
			BS	ug/L	2.500	85.9 %	36-179	
			BSD	ug/L	2.500	88.9 %	36-179	
	507	06/07/17:208349SG	BSRPD	ug/L	12.50	0.075	≤0.5	
			CCV	ug/L	1000	86.1 %	80-120	
			CCV	ug/L	500.0	83.9 %	80-120	
Simazine	507	06/05/17:206565caa	Blank	ug/L		ND	<0.5	
			LCS	ug/L	2.500	84.7 %	70-130	
			BS	ug/L	2.500	69.9 %	49-167	
			BSD	ug/L	2.500	77.5 %	49-167	
	507	06/07/17:208349SG	BSRPD	ug/L	12.50	0.19	≤0.5	
			CCV	ug/L	1000	85.2 %	80-120	
			CCV	ug/L	500.0	102 %	80-120	
Thiobencarb	507	06/05/17:206565caa	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	91.0 %	70-130	
			BS	ug/L	2.500	79.4 %	50-148	
			BSD	ug/L	2.500	83.3 %	50-148	
	507	06/07/17:208349SG	BSRPD	ug/L	12.50	0.097	≤1	
			CCV	ug/L	1000	94.7 %	80-120	
			CCV	ug/L	500.0	101 %	80-120	
Triphenylphosphate	507	06/07/17:208349SG	CCV	ug/L	7501	99.0 %	80-120	

June 21, 2017
Vandenberg Village CSD

Lab ID : SP 1706534
 Customer : 2-14885

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Triphenylphosphate	507	06/07/17:208349SG	CCV	ug/L	2500	112 %	80-120	
2,4,5-T	515.3	06/08/17:208448SG	CCV CCV	ug/L ug/L	40.00 80.00	103 % 113 %	70-130 70-130	
2,4,5-TP (Silvex)	515.3	06/06/17:206667SG (SP 1706517-001)	Blank LCS MS MSD MSRPD	ug/L ug/L ug/L ug/L ug/L	4.000 4.000 4.000 4.000 20.00	ND 83.2 % 87.2 % 88.6 % 0.057	<1 70-130 70-130 70-130 ≤1	
	515.3	06/08/17:208448SG	CCV CCV	ug/L ug/L	40.00 80.00	87.5 % 102 %	70-130 70-130	
2,4,5-Trichlorophenoxyacetic A	515.3	06/06/17:206667SG (SP 1706517-001)	Blank LCS MS MSD MSRPD	ug/L ug/L ug/L ug/L ug/L	4.000 4.000 4.000 4.000 20.00	ND 113 % 109 % 111 % 0.082	<1 70-130 70-130 70-130 ≤1	
2,4-D	515.3	06/06/17:206667SG (SP 1706517-001)	Blank LCS MS MSD MSRPD	ug/L ug/L ug/L ug/L ug/L	8.000 8.000 8.000 8.000 20.00	ND 98.7 % 97.4 % 94.1 % 0.27	<2 70-130 70-130 70-130 ≤2	
	515.3	06/08/17:208448SG	CCV CCV	ug/L ug/L	80.00 160.0	91.7 % 100 %	70-130 70-130	
2,4-DCAA	515.3	06/06/17:206667SG (SP 1706517-001)	Blank LCS MS MSD MSRPD	ug/L ug/L ug/L ug/L ug/L	20.00 20.00 20.00 20.00 20.00	87.1 % 120 % 102 % 117 % 13.6%	70-130 70-130 N/A N/A ≤30.	
	515.3	06/08/17:208448SG	CCV CCV	ug/L ug/L	200.0 400.0	121 % 104 %	70-130 70-130	
Bentazon	515.3	06/06/17:206667SG (SP 1706517-001)	Blank LCS MS MSD MSRPD	ug/L ug/L ug/L ug/L ug/L	8.000 8.000 8.000 8.000 20.00	ND 117 % 109 % 97.1 % 0.95	<2 70-130 70-130 70-130 ≤2	
	515.3	06/08/17:208448SG	CCV CCV	ug/L ug/L	80.00 160.0	95.2 % 116 %	70-130 70-130	
Dalapon	515.3	06/06/17:206667SG (SP 1706517-001)	Blank LCS MS MSD MSRPD	ug/L ug/L ug/L ug/L ug/L	52.00 52.00 52.00 52.00 20.00	2.3 130 % 98.7 % 91.2 % 7.6%	10 70-130 70-130 70-130 ≤30.0	
	515.3	06/08/17:208448SG	CCV CCV	ug/L ug/L	520.0 1040	121 % 88.8 %	70-130 70-130	
Dicamba	515.3	06/06/17:206667SG (SP 1706517-001)	Blank LCS MS MSD MSRPD	ug/L ug/L ug/L ug/L ug/L	4.000 4.000 4.000 4.000 20.00	ND 95.7 % 88.9 % 99.4 % 0.42	<1 70-130 70-130 70-130 ≤1	
	515.3	06/08/17:208448SG	CCV CCV	ug/L ug/L	40.00 80.00	105 % 93.6 %	70-130 70-130	
Dinoseb	515.3	06/06/17:206667SG (SP 1706517-001)	Blank LCS MS MSD	ug/L ug/L ug/L ug/L	8.000 8.000 8.000 8.000	ND 96.7 % 90.5 % 96.1 %	<1 70-130 70-130 70-130	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic Dinoseb	515.3	06/06/17:206667SG	MSRPD	ug/L	20.00	6.0%	≤30.0	
	515.3	06/08/17:208448SG	CCV	ug/L	80.00	90.8 %	70-130	
Pentachlorophenol	515.3	06/06/17:206667SG (SP 1706517-001)	Blank	ug/L		ND	<0.2	
			LCS	ug/L	4.000	105 %	70-130	
			MS	ug/L	4.000	94.5 %	70-130	
			MSD	ug/L	4.000	101 %	70-130	
	MSRPD	ug/L	20.00	6.4%	≤30.0			
515.3	06/08/17:208448SG	CCV	ug/L	40.00	102 %	70-130		
			CCV	ug/L	80.00	100 %	70-130	
Picloram	515.3	06/06/17:206667SG (SP 1706517-001)	Blank	ug/L		ND	<1	
			LCS	ug/L	4.000	113 %	70-130	
			MS	ug/L	4.000	101 %	70-130	
			MSD	ug/L	4.000	98.0 %	70-130	
	MSRPD	ug/L	20.00	0.11	≤1			
515.3	06/08/17:208448SG	CCV	ug/L	40.00	105 %	70-130		
			CCV	ug/L	80.00	105 %	70-130	
1,1,1,2-Tetrachloroethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	115 %	12-178	
			MSD	ug/L	10.00	127 %	12-178	
			MSRPD	ug/L	10.00	9.8%	≤39	
524.2	06/01/17:208289VRG	CCV	ug/L	10.00	119 %	70-130		
1,1,1-Trichloroethane(TCA)	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	135 %	9-176	
			MSD	ug/L	10.00	144 %	9-176	
			MSRPD	ug/L	10.00	6.3%	≤33	
524.2	06/01/17:208289VRG	CCV	ug/L	10.00	112 %	70-130		
1,1,2,2-Tetrachloroethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	119 %	23-180	
			MSD	ug/L	10.00	136 %	23-180	
			MSRPD	ug/L	10.00	13.7%	≤34	
524.2	06/01/17:208289VRG	CCV	ug/L	10.00	138 %	70-130	360	
1,1,2-Trichloroethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	110 %	25-173	
			MSD	ug/L	10.00	116 %	25-173	
			MSRPD	ug/L	10.00	5.5%	≤29	
524.2	06/01/17:208289VRG	CCV	ug/L	10.00	117 %	70-130		
1,1-Dichloroethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	114 %	15-161	
			MSD	ug/L	10.00	122 %	15-161	
			MSRPD	ug/L	10.00	6.1%	≤36	
524.2	06/01/17:208289VRG	CCV	ug/L	10.00	107 %	70-130		
1,1-Dichloroethylene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	82.8 %	0-162	
			MSD	ug/L	10.00	86.6 %	0-162	
			MSRPD	ug/L	10.00	4.4%	≤33	
524.2	06/01/17:208289VRG	CCV	ug/L	10.00	70.4 %	70-130		
1,1-Dichloropropene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	115 %	0-171	
			MSD	ug/L	10.00	124 %	0-171	
			MSRPD	ug/L	10.00	7.7%	≤31	
524.2	06/01/17:208289VRG	CCV	ug/L	10.00	93.9 %	70-130		
1,2,3-Trichlorobenzene	524.2	06/01/17:206661VRG	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	100 %	14-181	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic 1,2,3-Trichlorobenzene	524.2	(SP 1706515-001)	MSD	ug/L	10.00	140 %	14-181	
			MSRPD	ug/L	10.00	33.1%	≤34	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	137 %	70-130	360
1,2,4-Trichlorobenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	88.9 %	10-180	
			MSD	ug/L	10.00	122 %	10-180	
				MSRPD	ug/L	10.00	31.3%	≤32
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	114 %	70-130	
1,2,4-Trimethylbenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	117 %	2-192	
			MSD	ug/L	10.00	140 %	2-192	
			MSRPD	ug/L	10.00	17.8%	≤39	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	129 %	70-130
1,2-Dichlorobenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	117 %	13-191	
			MSD	ug/L	10.00	143 %	13-191	
			MSRPD	ug/L	10.00	19.7%	≤35	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	131 %	70-130
1,2-Dichlorobenzene-d4	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L	10.00	95.9 %	70-130	
			MS	ug/L	10.00	103 %	70-130	
			MSD	ug/L	10.00	121 %	70-130	
			MSRPD	ug/L	10.00	15.3%	≤20	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	121 %	70-130
1,2-Dichloroethane (EDC)	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	112 %	18-162	
			MSD	ug/L	10.00	122 %	18-162	
			MSRPD	ug/L	10.00	9.1%	≤33	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	117 %	70-130
1,2-Dichloropropane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	114 %	10-163	
			MSD	ug/L	10.00	120 %	10-163	
			MSRPD	ug/L	10.00	5.9%	≤34	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	112 %	70-130
1,3,5-Trimethylbenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	123 %	0-210	
			MSD	ug/L	10.00	142 %	0-210	
			MSRPD	ug/L	10.00	14.3%	≤40	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	121 %	70-130
1,3-Dichlorobenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	120 %	17-182	
			MSD	ug/L	10.00	137 %	17-182	
			MSRPD	ug/L	10.00	13.3%	≤39	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	126 %	70-130
1,3-Dichloropropane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	111 %	0-178	
			MSD	ug/L	10.00	120 %	0-178	
			MSRPD	ug/L	10.00	7.6%	≤29	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	121 %	70-130
1,4-Dichlorobenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	127 %	19-183	
			MSD	ug/L	10.00	146 %	19-183	
			MSRPD	ug/L	10.00	14.3%	≤37	
		524.2	06/01/17:208289VRG	CCV	ug/L	10.00	139 %	70-130
2,2-Dichloropropane	524.2	06/01/17:206661VRG	Blank	ug/L		ND	<0.5	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic 2,2-Dichloropropane	524.2	(SP 1706515-001)	MS	ug/L	10.00	129 %	0-288	
			MSD	ug/L	10.00	138 %	0-288	
			MSRPD	ug/L	10.00	6.9%	≤33	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	108 %	70-130	
2-Chlorotoluene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	123 %	17-180	
			MSD	ug/L	10.00	141 %	17-180	
			MSRPD	ug/L	10.00	13.2%	≤38	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	123 %	70-130	
4-Bromofluorobenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L	10.00	96.8 %	70-130	
			MS	ug/L	10.00	112 %	70-130	
			MSD	ug/L	10.00	115 %	70-130	
			MSRPD	ug/L	10.00	2.5%	≤30	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	117 %	70-130	
4-Bromofluorobenzene (BFB)	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	117 %	70-130	
4-Chlorotoluene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	126 %	11-177	
			MSD	ug/L	10.00	146 %	11-177	
			MSRPD	ug/L	10.00	14.7%	≤41	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	129 %	70-130	
Benzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	109 %	12-158	
			MSD	ug/L	10.00	117 %	12-158	
			MSRPD	ug/L	10.00	7.0%	≤36	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	102 %	70-130	
Bromobenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	113 %	23-177	
			MSD	ug/L	10.00	127 %	23-177	
			MSRPD	ug/L	10.00	11.5%	≤40	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	119 %	70-130	
Bromochloromethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	105 %	4-186	
			MSD	ug/L	10.00	115 %	4-186	
			MSRPD	ug/L	10.00	8.6%	≤30	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	111 %	70-130	
Bromodichloromethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	131 %	11-164	
			MSD	ug/L	10.00	139 %	11-164	
			MSRPD	ug/L	10.00	6.3%	≤34	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	129 %	70-130	
Bromoform	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	116 %	0-235	
			MSD	ug/L	10.00	128 %	0-235	
			MSRPD	ug/L	10.00	9.7%	≤39	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	113 %	70-130	
Bromomethane (Methyl Bromide)	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	222 %	0-196	435
			MSD	ug/L	10.00	246 %	0-196	435
			MSRPD	ug/L	10.00	10.3%	≤40	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	135 %	70-130	360
Carbon Tetrachloride	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	132 %	5-175	
			MSD	ug/L	10.00	139 %	5-175	
			MSRPD	ug/L	10.00	5.2%	≤32	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	105 %	70-130	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic Chlorobenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	111 %	14-175	
			MSD	ug/L	10.00	120 %	14-175	
			MSRPD	ug/L	10.00	7.6%	≤35	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	110 %	70-130	
Chloroethane (Ethyl Chloride)	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	258 %	0-184	435
			MSD	ug/L	10.00	290 %	0-184	435
			MSRPD	ug/L	10.00	11.6%	≤40	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	148 %	70-130	360
Chloroform	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	130 %	15-163	
			MSD	ug/L	10.00	139 %	15-163	
			MSRPD	ug/L	10.00	7.0%	≤36	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	124 %	70-130	
Chloromethane(Methyl Chloride)	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	181 %	0-224	
			MSD	ug/L	10.00	207 %	0-224	
			MSRPD	ug/L	10.00	13.3%	≤39	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	112 %	70-130	
cis-1,2-Dichloroethylene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	113 %	16-172	
			MSD	ug/L	10.00	117 %	16-172	
			MSRPD	ug/L	10.00	3.2%	≤34	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	106 %	70-130	
cis-1,3-Dichloropropene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	9.550	118 %	5-158	
			MSD	ug/L	9.550	121 %	5-158	
			MSRPD	ug/L	10.00	2.1%	≤38	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	111 %	70-130	
Dibromochloromethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	108 %	1-180	
			MSD	ug/L	10.00	113 %	1-180	
			MSRPD	ug/L	10.00	4.9%	≤34	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	109 %	70-130	
Dibromomethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	106 %	11-168	
			MSD	ug/L	10.00	114 %	11-168	
			MSRPD	ug/L	10.00	6.9%	≤28	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	116 %	70-130	
Dichlorodifluoromethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	152 %	0-334	
			MSD	ug/L	10.00	177 %	0-334	
			MSRPD	ug/L	10.00	15.2%	≤39	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	101 %	70-130	
Dichloromethane	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	103 %	20-157	
			MSD	ug/L	10.00	109 %	20-157	
			MSRPD	ug/L	10.00	5.9%	≤36	
Ethyl tert-Butyl Ether	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<3	
			MS	ug/L	10.00	123 %	11-165	
			MSD	ug/L	10.00	130 %	11-165	
			MSRPD	ug/L	10.00	0.69	≤3	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	122 %	70-130	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic Ethylbenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	112 %	9-174	
			MSD	ug/L	10.00	123 %	9-174	
			MSRPD	ug/L	10.00	9.8%	≤37	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	103 %	70-130	
Freon-11	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	229 %	0-232	
			MSD	ug/L	10.00	247 %	0-232	435
			MSRPD	ug/L	10.00	7.5%	≤35	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	115 %	70-130	
Hexachlorobutadiene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	114 %	14-200	
			MSD	ug/L	10.00	144 %	14-200	
			MSRPD	ug/L	10.00	23.3%	≤40	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	115 %	70-130	
Isopropyl Ether	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<3	
			MS	ug/L	10.00	136 %	8-165	
			MSD	ug/L	10.00	144 %	8-165	
			MSRPD	ug/L	10.00	0.76	≤3	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	133 %	70-130	360
Isopropylbenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	111 %	4-159	
			MSD	ug/L	10.00	126 %	4-159	
			MSRPD	ug/L	10.00	12.8%	≤37	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	102 %	70-130	
Methyl tert-Butyl Ether	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	110 %	70-130	
Methyl tert-Butyl Ether (MTBE)	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<1.0	
			MS	ug/L	10.00	105 %	11-168	
			MSD	ug/L	10.00	117 %	11-168	
			MSRPD	ug/L	10.00	10.7%	≤29	
Methylene Chloride	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	106 %	70-130	
Naphthalene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	85.9 %	0-189	
			MSD	ug/L	10.00	122 %	0-189	
			MSRPD	ug/L	10.00	34.7%	≤32	435
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	121 %	70-130	
n-Butylbenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	125 %	4-186	
			MSD	ug/L	10.00	154 %	4-186	
			MSRPD	ug/L	10.00	20.8%	≤37	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	120 %	70-130	
n-Propylbenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	125 %	0-174	
			MSD	ug/L	10.00	143 %	0-174	
			MSRPD	ug/L	10.00	13.5%	≤37	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	116 %	70-130	
p-Isopropyltoluene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	123 %	0-193	
			MSD	ug/L	10.00	147 %	0-193	
			MSRPD	ug/L	10.00	18.1%	≤40	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	117 %	70-130	
sec-Butylbenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	126 %	0-177	
			MSD	ug/L	10.00	150 %	0-177	
			MSRPD	ug/L	10.00	17.3%	≤40	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
sec-Butylbenzene	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	117 %	70-130	
Styrene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	109 %	0-198	
			MSD	ug/L	10.00	124 %	0-198	
			MSRPD	ug/L	10.00	12.6%	≤37	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	124 %	70-130	
TAME	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<3	
			MS	ug/L	10.00	120 %	15-162	
			MSD	ug/L	10.00	131 %	15-162	
			MSRPD	ug/L	10.00	1.1	≤3	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	124 %	70-130	
tert-Butylbenzene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	118 %	9-179	
			MSD	ug/L	10.00	138 %	9-179	
			MSRPD	ug/L	10.00	15.5%	≤38	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	109 %	30-130	
Tetrachloroethylene (PCE)	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	113 %	14-186	
			MSD	ug/L	10.00	121 %	14-186	
			MSRPD	ug/L	10.00	6.5%	≤33	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	97.0 %	70-130	
Toluene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	110 %	3-174	
			MSD	ug/L	10.00	118 %	3-174	
			MSRPD	ug/L	10.00	6.9%	≤37	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	102 %	30-130	
trans-1,2-Dichloroethylene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	99.2 %	5-165	
			MSD	ug/L	10.00	105 %	5-165	
			MSRPD	ug/L	10.00	5.2%	≤40	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	89.0 %	70-130	
trans-1,3-Dichloropropene	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	9.200	115 %	0-169	
			MSD	ug/L	9.200	123 %	0-169	
			MSRPD	ug/L	10.00	7.4%	≤31	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	114 %	70-130	
Trichloroethylene (TCE)	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	116 %	11-167	
			MSD	ug/L	10.00	121 %	11-167	
			MSRPD	ug/L	10.00	4.6%	≤35	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	102 %	70-130	
Trichlorofluoromethane F-11	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	96.0 %	70-130	
Trichlorotrifluoroethane F-113	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	111 %	0-183	
			MSD	ug/L	10.00	115 %	0-183	
			MSRPD	ug/L	10.00	3.5%	≤33	
	524.2	06/01/17:208289VRG	CCV	ug/L	5.000	165 %	70-130	360
Vinyl Chloride	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5	
			MS	ug/L	10.00	226 %	0-208	435
			MSD	ug/L	10.00	246 %	0-208	435
			MSRPD	ug/L	10.00	8.3%	≤40	
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	114 %	30-130	
Xylenes m,p	524.2	06/01/17:206661VRG	Blank	ug/L		ND	<0.5	
			MS	ug/L	20.00	120 %	0-193	

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note			
Organic Xylenes m,p	524.2	(SP 1706515-001)	MSD	ug/L	20.00	132 %	0-193				
			MSRPD	ug/L	10.00	9.6%	≤37				
	524.2	06/01/17:208289VRG	CCV	ug/L	20.00	114 %	70-130				
Xylenes o	524.2	06/01/17:206661VRG (SP 1706515-001)	Blank	ug/L		ND	<0.5				
			MS	ug/L	10.00	113 %	0-188				
			MSD	ug/L	10.00	127 %	0-188				
			MSRPD	ug/L	10.00	11.5%	≤36				
	524.2	06/01/17:208289VRG	CCV	ug/L	10.00	112 %	70-130				
1,2,3-Trichloropropane	524MTCP	06/02/17:208192VRG	CCV	ng/L	20.00	91.0 %	80-120				
			CCV	ng/L	20.00	99.3 %	80-120				
			CCV	ng/L	20.00	96.6 %	80-120				
	524M-TCP	06/02/17:206561VRG (SP 1706534-001)	Blank	ng/L		ND	<5				
			LCS	ng/L	20.00	95.1 %	80-120				
			MS	ng/L	20.00	101 %	80-120				
			MSD	ng/L	20.00	106 %	80-120				
			MSRPD	ng/L	20.00	0.94	≤5				
3-Hydroxycarbofuran	531.1	06/07/17:206733SG (CH 1773783-001)	Blank	ug/L		ND	<3				
			LCS	ug/L	20.00	103 %	80-120				
			MS	ug/L	20.00	102 %	65-135				
			MSD	ug/L	20.00	95.8 %	65-135				
				MSRPD	ug/L	20.00	6.1%	≤16.8			
		531.1	06/08/17:208517SG	CCV	ug/L	20.00	104 %	80-120			
			CCV	ug/L	10.00	101 %	80-120				
Aldicarb	531.1	06/07/17:206733SG (CH 1773783-001)	Blank	ug/L		ND	<3				
			LCS	ug/L	20.00	99.0 %	80-120				
			MS	ug/L	20.00	97.8 %	65-135				
			MSD	ug/L	20.00	100 %	65-135				
				MSRPD	ug/L	20.00	2.7%	≤11.2			
	531.1	06/08/17:208517SG	CCV	ug/L	20.00	112 %	80-120				
			CCV	ug/L	10.00	80.6 %	80-120				
Aldicarb Sulfone	531.1	06/08/17:208517SG	CCV	ug/L	20.00	95.9 %	80-120				
			CCV	ug/L	10.00	95.5 %	80-120				
Aldicarb Sulfone/Sulfoxide	531.1	06/07/17:206733SG (CH 1773783-001) (CH 1773783-001)	Blank	ug/L		ND	<3				
			Blank	ug/L		ND	<2				
			LCS	ug/L	20.00	93.0 %	80-120				
			LCS	ug/L	20.00	95.2 %	80-120				
			MS	ug/L	20.00	81.2 %	65-135				
			MS	ug/L	20.00	86.9 %	65-135				
			MSD	ug/L	20.00	83.4 %	65-135				
			MSD	ug/L	20.00	77.2 %	65-135				
			MSRPD	ug/L	20.00	4.1%	≤13.8				
						MSRPD	ug/L	20.00	5.0%	≤7.28	
						MSRPD	ug/L	20.00	5.0%	≤7.28	
Aldicarb Sulfoxide	531.1	06/08/17:208517SG	CCV	ug/L	20.00	87.6 %	80-120				
			CCV	ug/L	10.00	86.4 %	80-120				
Carbaryl	531.1	06/08/17:208517SG	CCV	ug/L	20.00	101 %	80-120				
			CCV	ug/L	10.00	97.1 %	80-120				
Carbaryl/Naphthol	531.1	06/07/17:206733SG (CH 1773783-001)	Blank	ug/L		ND	<5				
			LCS	ug/L	20.00	99.2 %	80-120				
			MS	ug/L	20.00	99.9 %	65-135				
			MSD	ug/L	20.00	103 %	65-135				
			MSRPD	ug/L	20.00	0.55	≤5				
						MSRPD	ug/L	20.00	0.55	≤5	
Carbofuran	531.1	06/07/17:206733SG	Blank	ug/L		ND	<5				
			LCS	ug/L	20.00	100 %	80-120				
			MS	ug/L	20.00	96.2 %	65-135				

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic Carbofuran	531.1	(CH 1773783-001)	MSD	ug/L	20.00	98.0 %	65-135	
			MSRPD	ug/L	20.00	0.37	≤5	
	531.1	06/08/17:208517SG	CCV	ug/L	20.00	116 %	80-120	
			CCV	ug/L	10.00	97.9 %	80-120	
Methomyl	531.1	06/07/17:206733SG (CH 1773783-001)	Blank	ug/L		ND	<2	
			LCS	ug/L	20.00	98.9 %	80-120	
			MS	ug/L	20.00	96.4 %	65-135	
			MSD	ug/L	20.00	97.0 %	65-135	
	531.1	06/08/17:208517SG	MSRPD	ug/L	20.00	0.6%	≤53.1	
			CCV	ug/L	20.00	101 %	80-120	
	531.1	06/08/17:208517SG	CCV	ug/L	10.00	99.5 %	80-120	
			CCV	ug/L	10.00	99.5 %	80-120	
Oxamyl	531.1	06/07/17:206733SG (CH 1773783-001)	Blank	ug/L		ND	<5	
			LCS	ug/L	20.00	96.8 %	80-120	
			MS	ug/L	20.00	90.5 %	65-135	
			MSD	ug/L	20.00	90.6 %	65-135	
	531.1	06/08/17:208517SG	MSRPD	ug/L	20.00	0.030	≤5	
			CCV	ug/L	20.00	99.6 %	80-120	
	531.1	06/08/17:208517SG	CCV	ug/L	10.00	99.8 %	80-120	
			CCV	ug/L	10.00	99.8 %	80-120	
Glyphosate	547	06/02/17:206474SG (VI 1742124-001)	Blank	ug/L		ND	<20	
			LCS	ug/L	200.0	95.2 %	71-129	
			MS	ug/L	200.0	99.4 %	56-139	
			MSD	ug/L	200.0	104 %	56-139	
	547	06/02/17:208073SG	MSRPD	ug/L	200.0	4.6%	≤15	
			CCV	ug/L	100.0	104 %	80-120	
	547	06/02/17:208073SG	CCV	ug/L	200.0	101 %	80-120	
			CCV	ug/L	200.0	101 %	80-120	
Endothall	548.1	06/06/17:206663SG (SP 1706534-001)	Blank	ug/L		ND	<40	
			LCS	ug/L	133.3	49.6 %	30-96	
			MS	ug/L	133.3	34.9 %	15-87	
			MSD	ug/L	133.3	33.2 %	15-87	
	548.1	06/09/17:208479SG	MSRPD	ug/L	133.3	2.3	≤40	
			CCV	ug/L	1000	95.1 %	70-130	
	548.1	06/09/17:208479SG	CCV	ug/L	2500	107 %	70-130	
			CCV	ug/L	2500	107 %	70-130	
Diquat Dibromide	549	06/06/17:206655SG (VI 1742333-001)	Blank	ug/L		ND	<2	
			LCS	ug/L	20.00	56.0 %	34-114	
			MS	ug/L	20.00	53.5 %	0-86	
			MSD	ug/L	20.00	48.4 %	0-86	
	549.2	06/09/17:208531SG	MSRPD	ug/L	20.00	10.1%	≤13	
			CCV	ug/L	500.0	115 %	80-120	
	549.2	06/09/17:208531SG	CCV	ug/L	1000	95.0 %	80-120	
			CCV	ug/L	1000	95.0 %	80-120	
Diuron	632	06/02/17:205153caa	Blank	ug/L		ND	<0.1	
			LCS	ug/L	1.000	70.1 %	53-105	
			BS	ug/L	1.000	48.9 %	53-105	
			BSD	ug/L	1.000	58.4 %	53-105	
	632	06/12/17:208630SG	BSRPD	ug/L	1.000	17.8%	≤51	436
			CCV	ug/L	1000	98.8 %	90-110	
	632	06/12/17:208630SG	CCV	ug/L	500.0	96.3 %	90-110	
			CCV	ug/L	500.0	96.3 %	90-110	
Definition								
CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.								
Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.								
LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.								
MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.								
MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.								

June 21, 2017
Vandenberg Village CSD

Lab ID : SP 1706534
Customer : 2-14885

Quality Control - Organic

Definition	
BS	: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
BSD	: Blank Spike Duplicate of BS/BS pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
BSRPD	: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
Explanation	
360	: CCV above Acceptance Range (AR). Samples which were non detect for this analyte were accepted.
410	: Relative Percent Difference (RPD) not within Maximum Allowable Value (MAV). Data was accepted based on the LCS or CCV recovery.
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
436	: Blank Spike (BS) not within Acceptance Range (AR). Data was accepted based on the LCS or CCV recovery.

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals Boron	200.7	(SP 1706534-001)	MS	mg/L	4.000	110 %	75-125	
			MSD	mg/L	4.000	100 %	75-125	
			MSRPD	mg/L	4000	9.1%	≤20.0	
	200.7	06/01/17:208120AC	CCV	ppm	5.000	101 %	90-110	
CCB			ppm		0.013	0.1		
CCV			ppm	5.000	101 %	90-110		
CCB			ppm		0.018	0.1		
Calcium	200.7	(SP 1706534-001)	MS	mg/L	12.00	95.6 %	75-125	
			MSD	mg/L	12.00	87.4 %	75-125	
			MSRPD	mg/L	4000	1.4%	≤20.0	
	200.7	06/01/17:208120AC	CCV	ppm	25.00	102 %	90-110	
CCB			ppm		-0.008	1		
CCV			ppm	25.00	102 %	90-110		
CCB			ppm		-0.005	1		
Copper	200.7	(SP 1706534-001)	MS	ug/L	800.0	110 %	75-125	
			MSD	ug/L	800.0	99.8 %	75-125	
			MSRPD	ug/L	4000	9.7%	≤20.0	
	200.7	06/01/17:208120AC	CCV	ppm	1.000	100 %	90-110	
CCB			ppm		0.0004	0.01		
CCV			ppm	1.000	101 %	90-110		
CCB			ppm		0.0002	0.01		
Iron	200.7	(SP 1706534-001)	MS	ug/L	4000	107 %	75-125	
			MSD	ug/L	4000	99.4 %	75-125	
			MSRPD	ug/L	4000	6.2%	≤20.0	
	200.7	06/01/17:208120AC	CCV	ppm	5.000	102 %	90-110	
CCB			ppm		0.0023	0.03		
CCV			ppm	5.000	103 %	90-110		
CCB			ppm		0.0053	0.03		
Magnesium	200.7	(SP 1706534-001)	MS	mg/L	12.00	106 %	75-125	
			MSD	mg/L	12.00	95.9 %	75-125	
			MSRPD	mg/L	4000	4.1%	≤20.0	
	200.7	06/01/17:208120AC	CCV	ppm	25.00	99.4 %	90-110	
CCB			ppm		0.0003	1		
CCV			ppm	25.00	100 %	90-110		
CCB			ppm		0.002	1		
Manganese	200.7	(SP 1706534-001)	MS	ug/L	800.0	110 %	75-125	
			MSD	ug/L	800.0	99.5 %	75-125	
			MSRPD	ug/L	4000	8.8%	≤20.0	
	200.7	06/01/17:208120AC	CCV	ppm	1.000	101 %	90-110	
CCB			ppm		0.00009	0.01		
CCV			ppm	1.000	102 %	90-110		
CCB			ppm		0.00009	0.01		
Potassium	200.7	(SP 1706534-001)	MS	mg/L	12.00	112 %	75-125	
			MSD	mg/L	12.00	101 %	75-125	
			MSRPD	mg/L	4000	7.7%	≤20.0	
	200.7	06/01/17:208120AC	CCV	ppm	25.00	98.7 %	90-110	
CCB			ppm		0.09	1		
CCV			ppm	25.00	99.8 %	90-110		
CCB			ppm		0.08	1		
Sodium	200.7	(SP 1706534-001)	MS	mg/L	12.00	101 %	75-125	
			MSD	mg/L	12.00	91.1 %	75-125	
			MSRPD	mg/L	4000	1.3%	≤20.0	
	200.7	06/01/17:208120AC	CCV	ppm	25.00	99.2 %	90-110	
CCB			ppm		0.44	1		
CCV			ppm	25.00	100 %	90-110		

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Sodium	200.7	06/01/17:208120AC	CCB	ppm		0.41	1	
Zinc	200.7	(SP 1706534-001)	MS MSD MSRPD	ug/L ug/L ug/L	800.0 800.0 4000	114 % 104 % 8.2%	75-125 75-125 ≤20.0	
	200.7	06/01/17:208120AC	CCV CCB CCV CCB	ppm ppm ppm ppm	1.000 1.000 1.000	104 % 0.0011 104 % 0.0018	90-110 0.02 90-110 0.02	
Aluminum	200.8	(SP 1706534-001)	MS MSD MSRPD	ug/L ug/L ug/L	5.000 5.000 5.000	93.8 % 139 % 2.2	75-125 75-125 ≤10	435
	200.8	06/01/17:208127AC	ICV ICB CCV CCB	ppb ppb ppb ppb	50.00 50.00 50.00	105 % 0.06 106 % 0.1	90-110 10 90-110 10	
Antimony	200.8	(SP 1706534-001)	MS MSD MSRPD	ug/L ug/L ug/L	5.000 5.000 5.000	109 % 121 % 10.1%	75-125 75-125 ≤20	
	200.8	06/01/17:208127AC	ICV ICB CCV CCB	ppb ppb ppb ppb	50.00 50.00 50.00	98.1 % 0.12 92.6 % 0.05	90-110 1 90-110 1	
Arsenic	200.8	(SP 1706534-001)	MS MSD MSRPD	ug/L ug/L ug/L	5.000 5.000 5.000	131 % 158 % 3.9%	<¼ <¼ ≤20	
	200.8	06/01/17:208127AC	ICV ICB CCV CCB	ppb ppb ppb ppb	50.00 50.00 50.00	100 % 0.04 93.3 % 0.02	90-110 2 90-110 2	
Barium	200.8	(SP 1706534-001)	MS MSD MSRPD	ug/L ug/L ug/L	5.000 5.000 5.000	101 % 148 % 6.3%	75-125 <¼ ≤20	
	200.8	06/01/17:208127AC	ICV ICB CCV CCB	ppb ppb ppb ppb	50.00 50.00 50.00	97.7 % 0.008 95.5 % 0.013	90-110 0.2 90-110 0.2	
Beryllium	200.8	(SP 1706534-001)	MS MSD MSRPD	ug/L ug/L ug/L	5.000 5.000 5.000	97.2 % 107 % 9.8%	75-125 75-125 ≤20	
	200.8	06/01/17:208127AC	ICV ICB CCV CCB	ppb ppb ppb ppb	50.00 50.00 50.00	95.8 % 0.018 101 % 0.001	90-110 0.2 90-110 0.2	
Cadmium	200.8	(SP 1706534-001)	MS MSD MSRPD	ug/L ug/L ug/L	5.000 5.000 5.000	105 % 119 % 11.9%	75-125 75-125 ≤20	
	200.8	06/01/17:208127AC	ICV ICB CCV CCB	ppb ppb ppb ppb	50.00 50.00 50.00	101 % 0.002 95.9 % 0.001	90-110 0.2 90-110 0.2	
Chromium	200.8	(SP 1706534-001)	MS MSD MSRPD	ug/L ug/L ug/L	5.000 5.000 5.000	118 % 125 % 3.0%	75-125 75-125 ≤20	
	200.8	06/01/17:208127AC	ICV	ppb	50.00	98.0 %	90-110	

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note	
Metals									
Chromium	200.8	06/01/17:208127AC	ICB	ppb		0.003	1		
			CCV	ppb	50.00	92.8 %	90-110		
			CCB	ppb		0.004	1		
Lead	200.8	(SP 1706534-001)	MS	ug/L	5.000	108 %	75-125		
			MSD	ug/L	5.000	119 %	75-125		
			MSRPD	ug/L	5.000	9.0%	≤20		
	200.8	06/01/17:208127AC	ICV	ppb	50.00	95.5 %	90-110		
			ICB	ppb		0.005	0.5		
			CCV	ppb	50.00	91.8 %	90-110		
CCB	ppb		0.003	0.5					
Nickel	200.8	(SP 1706534-001)	MS	ug/L	5.000	106 %	75-125		
			MSD	ug/L	5.000	117 %	75-125		
			MSRPD	ug/L	5.000	7.2%	≤20		
	200.8	06/01/17:208127AC	ICV	ppb	50.00	97.9 %	90-110		
			ICB	ppb		-0.01	1		
			CCV	ppb	50.00	92.5 %	90-110		
CCB	ppb		-0.007	1					
Selenium	200.8	(SP 1706534-001)	MS	ug/L	5.000	122 %	75-125	435	
			MSD	ug/L	5.000	133 %	75-125		
			MSRPD	ug/L	5.000	5.5%	≤20		
	200.8	06/01/17:208127AC	ICV	ppb	50.00	102 %	90-110		
			ICB	ppb		0.21	1		
			CCV	ppb	50.00	96.6 %	90-110		
CCB	ppb		0.1	1					
Silver	200.8	(SP 1706534-001)	MS	ug/L	5.000	91.2 %	75-125		
			MSD	ug/L	5.000	104 %	75-125		
			MSRPD	ug/L	5.000	0.62	≤1		
	200.8	06/01/17:208127AC	ICV	ppb	50.00	100 %	90-110		
			ICB	ppb		0.0080	0.25		
			CCV	ppb	50.00	105 %	90-110		
CCB	ppb		0.0070	0.25					
Thallium	200.8	(SP 1706534-001)	MS	ug/L	5.000	111 %	75-125		
			MSD	ug/L	5.000	122 %	75-125		
			MSRPD	ug/L	5.000	10.0%	≤20		
	200.8	06/01/17:208127AC	ICV	ppb	50.00	98.3 %	90-110		
			ICB	ppb		0.002	0.2		
			CCV	ppb	50.00	93.9 %	90-110		
CCB	ppb		0.002	0.2					
Vanadium	200.8	(SP 1706534-001)	MS	ug/L	5.000	114 %	75-125		
			MSD	ug/L	5.000	123 %	75-125		
			MSRPD	ug/L	5.000	0.44	≤2		
	200.8	06/01/17:208127AC	ICV	ppb	50.00	97.8 %	90-110		
			ICB	ppb		0.01	2		
			CCV	ppb	50.00	92.3 %	90-110		
CCB	ppb		0.01	2					
Mercury	245.1	06/02/17:206503AC	Blank	ug/L		ND	<0.02		
			LCS	ug/L	0.2000	93.6 %	85-115		
			MS	ug/L	0.2000	93.6 %	75-125		
			MSD	ug/L	0.2000	92.0 %	75-125		
	245.1	06/02/17:208134AC	(STK1736042-002)	MSRPD	ug/L	0.2000	1.6%	≤20	
				CCV	ppt	200.0	97.2 %	90-110	
				CCB	ppt		1.8	20	
				CCV	ppt	200.0	99.3 %	90-110	
CCB	ppt		-0.8	20					

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Color	2120B	(SP 1706544-001)	Dup	units		0.0	5	
	2120B	06/01/17:208140jmg	CCB CCV	units units	10.00	0.00 100 %	5.0 90-110	
Turbidity	2130B	(SP 1706534-001)	Dup	NTU		0.7%	20	
	2130B	06/01/17:208106jba	CCV	NTU	10.00	109 %	90-110	
			CCB	NTU		0.090	0.1	
			CCV	NTU	10.00	109 %	90-110	
			CCB	NTU		0.093	0.1	
Odor	2150B	(CC 1781917-001)	Dup	TON		0.0	1	
Alkalinity (as CaCO3)	2320B	(STK1736579-001)	Dup	mg/L		8.1	10	
	2320B	06/01/17:208095AMB	CCV	mg/L	234.9	95.5 %	90-110	
CCV			mg/L	234.9	102 %	90-110		
Bicarbonate	2320B	(STK1736579-001)	Dup	mg/L		19.6%	10	440
Carbonate	2320B	(STK1736579-001)	Dup	mg/L		0.0	10	
Hydroxide	2320B	(STK1736579-001)	Dup	mg/L		0.0	10	
Conductivity	2510B	06/02/17:208102JMG	ICB	umhos/cm		0.07	1	
			ICV	umhos/cm	999.0	100 %	95-105	
			CCV	umhos/cm	999.0	101 %	95-105	
E. C.	2510B	06/02/17:206486jmg (CC 1781949-001)	Blank	umhos/cm		ND	<1	
			Dup	umhos/cm		0.0%	5	
Total Dissolved Solids (TFR)	2540CE	06/01/17:206462CTL (STK1736604-001) (STK1736603-002)	Blank	mg/L		ND	<20	
			LCS	mg/L	997.8	99.4 %	90-110	
			Dup	mg/L		1.9%	5	
			Dup	mg/L		2.2%	5	
Chloride	300.0	06/01/17:206519MCA (VI 1742026-004) (STK1735679-007)	Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	108 %	90-110	
			MS	mg/L	50.00	104 %	85-121	
			MSD	mg/L	50.00	105 %	85-121	
			MSRPD	mg/L	10.00	1.1%	≤19	
			MS	mg/L	50.00	99.2 %	85-121	
			MSD	mg/L	50.00	100 %	85-121	
			MSRPD	mg/L	10.00	1.0%	≤19	
	300.0	06/01/17:208136MCA	ICB	mg/L		0.00	1	
			ICV	mg/L	25.00	106 %	90-110	
			CCB	mg/L		0.12	1	
			CCV	mg/L	25.00	106 %	90-110	
Fluoride	300.0	06/01/17:206519MCA (VI 1742026-004) (STK1735679-007)	Blank	mg/L		ND	<0.1	
			LCS	mg/L	2.500	109 %	90-110	
			MS	mg/L	5.000	105 %	87-120	
			MSD	mg/L	5.000	106 %	87-120	
			MSRPD	mg/L	10.00	1.4%	≤16	
			MS	mg/L	5.000	104 %	87-120	
			MSD	mg/L	5.000	105 %	87-120	
			MSRPD	mg/L	10.00	1.1%	≤16	
	300.0	06/01/17:208136MCA	ICB	mg/L		0.000	0.1	
			ICV	mg/L	2.500	108 %	90-110	
			CCB	mg/L		0.000	0.1	
			CCV	mg/L	2.500	108 %	90-110	
Nitrate	300.0	06/01/17:206519MCA (VI 1742026-004)	Blank	mg/L		ND	<0.5	
			LCS	mg/L	20.00	110 %	90-110	
			MS	mg/L	40.00	106 %	85-119	
			MSD	mg/L	40.00	107 %	85-119	
			MSRPD	mg/L	10.00	1.2%	≤19	
			MS	mg/L	40.00	105 %	85-119	

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note	
Wet Chem Nitrate	300.0	(STK1735679-007)	MSD	mg/L	40.00	106 %	85-119		
			MSRPD	mg/L	10.00	1.1%	≤19		
	300.0	06/01/17:208136MCA	ICB	mg/L		0.000	0.5		
			ICV	mg/L	20.00	108 %	90-110		
CCB			mg/L		0.000	0.5			
			CCV	mg/L	20.00	108 %	90-110		
Nitrite	300.0	06/01/17:206519MCA (VI 1742026-004)	Blank	mg/L		ND	<0.5		
			LCS	mg/L	15.00	108 %	90-110		
			MS	mg/L	30.00	104 %	74-126		
			MSD	mg/L	30.00	106 %	74-126		
			MSRPD	mg/L	10.00	1.3%	≤20		
			MS	mg/L	30.00	104 %	74-126		
		300.0	06/01/17:208136MCA	MSD	mg/L	30.00	106 %	74-126	
	MSRPD			mg/L	10.00	1.2%	≤20		
	ICB			mg/L		0.000	0.5		
	ICV			mg/L	15.00	107 %	90-110		
			CCB	mg/L		0.000	0.5		
			CCV	mg/L	15.00	108 %	90-110		
Sulfate	300.0	06/01/17:206519MCA (VI 1742026-004)	Blank	mg/L		ND	<0.5		
			LCS	mg/L	50.00	109 %	90-110		
			MS	mg/L	100.0	105 %	82-124		
			MSD	mg/L	100.0	106 %	82-124		
			MSRPD	mg/L	10.00	1.4%	≤23		
			MS	mg/L	100.0	100 %	82-124		
		300.0	06/01/17:208136MCA	MSD	mg/L	100.0	101 %	82-124	
	MSRPD			mg/L	10.00	1.1%	≤23		
	ICB			mg/L		0.095	0.5		
	ICV			mg/L	50.00	107 %	90-110		
			CCB	mg/L		0.266	0.5		
			CCV	mg/L	50.00	108 %	90-110		
Perchlorate	314.0	06/07/17:206777MCA (SP 1706534-001)	Blank	ug/L		ND	<2		
			LCS	ug/L	25.00	99.9 %	85-115		
			MS	ug/L	25.00	88.2 %	80-120		
			MSD	ug/L	25.00	94.1 %	80-120		
	MSRPD	ug/L	25.00	6.5%	≤15				
		314.0	06/08/17:208451MCA	CCB	ppb		0.00	2.0	
CCV	ppb			10.00	99.1 %	85-115			
			CCB	ppb		0.00	2.0		
			CCV	ppb	10.00	99.7 %	85-115		
MBAS	5540C	06/01/17:208253AMM	CCB	mg/L		0.000	0.1		
			CCV	mg/L	10.00	100 %	99-101		
MBAS Screen	5540C	(CC 1781918-002)	MS	mg/L	10.00	100 %	90-110		
			MSD	mg/L	10.00	100 %	90-110		
			MSRPD	mg/L	10.00	0.0	≤0.1		

Definition	
ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.

June 21, 2017
Vandenberg Village CSD

Lab ID : SP 1706534
Customer : 2-14885

Quality Control - Inorganic

Definition	
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
<1/4	: High Sample Background - Spike concentration was less than one fourth of the sample concentration.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
Explanation	
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
440	: Sample nonhomogeneity may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	06/06/17:208378aat	CCV CCB	cpm cpm	8391	39.2 % 0.0600	35-47 0.17	
Gross Alpha	900.0	06/05/17:206557aat (SP 1706610-001)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	 108.2 108.2 108.2 108.2	 0.32 84.4 % 63.6 % 73.9 % 14.9%	 3 75-125 60-140 60-140 ≤30	
Beta	Ra - 05	06/13/17:208747emv	CCV CCB	cpm cpm	8763	88.2 % 0.4600	84-94 0.51	
Ra 228	Ra - 05	06/08/17:206549emv	RgBlk LRS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	 37.65 37.65 37.65 37.65	 0.11 87.7 % 96.9 % 103 % 5.7%	 3 65-108 75-125 75-125 ≤25	
Definition								
CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.								
CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.								
Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.								
RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.								
LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.								
LRS : Laboratory Recovery Standard - Prepared to establish the batch recovery factor used in result calculations.								
MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.								
MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.								
BS : Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.								
BSD : Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.								
MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.								
BSRPD : BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation and analysis.								
DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.								



June 20, 2017

Vandenberg Village CSD
3757 Constellation Road
Lompoc, CA 93436

Subject: Subcontract Analysis for FGL Lab No. SP 1706534

Enclosed please find results for the following sample(s) which were received by FGL.

- Sub Organic-EPA 525

Please note that this analysis was performed by Eurofins Eaton Analytical, Inc. (ELAP Certified Laboratory)

Thank you for using FGL Environmental.

Sincerely,

Cindy Aguirre



Digitally signed by Cindy Aguirre
Title: Customer Service Rep
Date: 2017-06-20

Enclosure

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

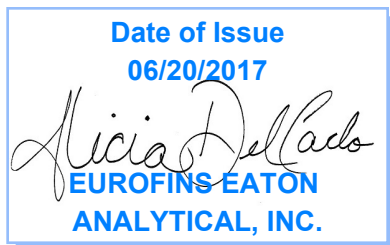


AT-1807

Laboratory Report

for

FGL Environmental, Inc.
853 Corporation Street
Santa Paula, CA 93060
Attention: Cindy Aguirre
Fax: 805-525-4172



MP6E: Alicia Del Carlo
Project Manager

Report: 663939
Project: DRINKING
Group: ORGANICS - EPA 500's

* Accredited in accordance with TNI 2009 and ISO/IEC 17025:2005.

* Laboratory certifies that the test results meet all **TNI 2009 and ISO/IEC 17025:2005** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
Arizona	AZ0778	Montana	Cert 0035
Arkansas	Certified	Nebraska	Certified
California-Monrovia-ELAP	2813	Nevada	CA00006-2016
California-Colton- ELAP	2812	New Hampshire *	2959
California-Folsom- ELAP	2820	New Jersey *	CA 008
California-Fresno- ELAP	2966	New Mexico	Certified
Colorado	Certified	New York *	11320
Connecticut	PH-0107	North Carolina	06701
Delaware	CA 006	North Dakota	R-009
Florida *	E871024	Oregon (Primary AB) *	ORELAP 4034
Georgia	947	Pennsylvania *	68-565
Guam	16-003r	Puerto Rico	Certified
Hawaii	Certified	Rhode Island	LAO00326
Idaho	Certified	South Carolina	87016
Illinois *	200033	South Dakota	Certified
Indiana	C-CA-01	Tennessee	TN02839
Kansas *	E-10268	Texas *	T104704230-15-9
Kentucky	90107	Utah *	CA000062016-10
Louisiana *	LA16003	Vermont	VT0114
Maine	CA0006	Virginia *	460260
Maryland	224	Washington	C838
Commonwealth of Northern Marianas Is.	MP0004	Wyoming	Certified
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264

* NELAP/TNI Recognized Accreditation Bodies

ISO 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO 17025 as verified by the ANSI-ASQ National Accreditation Board/ANAB. Refer to Certificate and scope of accreditation (AT 1807) found at: <http://www.eatonanalytical.com>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environmental (Drinking Water)	Environmental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
Bicarbonate Alkalinity as HCO3	SM 2320B	x	x	x
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cryptosporidium	EPA 1623	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli (MTF/EC+MUG)		x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DCBP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Giardia	EPA 1623	x		x
Glyphosate	EPA 547	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environmental (Drinking Water)	Environmental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	CDC Legionella	x		x
Mercury	EPA 245.1	x	x	x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
NDMA	EPA 521	x		x
NDMA	TQ In house method based on EPA 521 (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphate	SM 4500P E			x
Ortho Phosphorous	SM 4500P E	x		
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalert (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Semi-VOC	EPA 625		x	x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2/EPA 524.3	x		x
VOC	EPA 624		x	x
VOC	EPA SW 846 8260	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x

Acknowledgement of Samples Received

Addr: **FGL Environmental, Inc.**
 853 Corporation Street
 Santa Paula, CA 93060

Client ID: FGL
 Folder #: 663939
 Project: DRINKING (SP 1706534)
 Sample Group: ORGANICS - EPA 500's

Attn: Cindy Aguirre
 Phone: 805-392-2012

Project Manager: Alicia Del Carlo
 Phone: 559-797-1931
 Sampler: Rick Hoffman

The following samples were received from you on **June 02, 2017** at **1226**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, Inc..

Sample #	Sample ID	Sample Date
201706020341	TRAVEL BLANK - Hold	05/31/2017 0000
	@525_FGL_SHORT TBC	
201706020342	Old Fire Station Test Well	05/31/2017 1230
	@525_FGL_SHORT	

Test Description

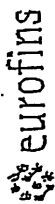
@525_FGL_SHORT -- Semivolatiles by GCMS

@525_FGL_SHORT TBC -- Semivolatiles by GCMS

**Subcontract to
Eurofins Eaton Analytical, Inc.**

663932

<p>Client: Fruit Growers Laboratory, Inc. Address: FGL Environmental, Inc. 853 Corporation St. Santa Paula, CA 93060-3005</p> <p>Phone: _____ Fax: _____</p> <p>Contact Person: _____</p> <p>Project Name: SP 1706534 - (2-14885)</p> <p>Purchase Order Number: _____</p> <p>Sampler(s) Rick Hoffman</p> <p>Compositor Setup Date: ___/___/___ Time: ___/___/___</p>	<p>Method of Sampling: Composite(C) Grab(G)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Samp Num</th> <th style="width: 40%;">Location Description</th> <th style="width: 10%;">Date Sampled</th> <th style="width: 10%;">Time Sampled</th> <th style="width: 15%;">Type of Sample</th> <th style="width: 15%;">Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)</th> <th style="width: 5%;">Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)</th> <th style="width: 5%;">Sub Organic-EPA 525</th> <th style="width: 10%;">Date</th> <th style="width: 10%;">Time</th> <th style="width: 5%;">Relinquished</th> <th style="width: 5%;">Date</th> <th style="width: 5%;">Time</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Travel Blank</td> <td>05/31/17</td> <td>00:00</td> <td>LBW</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1</td> <td>Old Fire Station Test Well</td> <td>05/31/17</td> <td>12:30</td> <td>GW</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>Relinquished: 4 Date: 6/1/17 Time: 17:30</p> <p>Received By: GSO Date: 6/2/17 Time: 12:46</p> <p>Relinquished: _____ Date: _____ Time: _____</p> <p>Received By: <i>[Signature]</i> Date: 6/2/17 Time: 12:46</p>	Samp Num	Location Description	Date Sampled	Time Sampled	Type of Sample	Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)	Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)	Sub Organic-EPA 525	Date	Time	Relinquished	Date	Time	0	Travel Blank	05/31/17	00:00	LBW			1						1	Old Fire Station Test Well	05/31/17	12:30	GW			1																																																																																																																																																																																																																					
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Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number: 66399

SAMPLES REC'D DAY OF COLLECTION?

SAMPLE TEMP RECEIVED: 56.9A

(Observation = 1.8 °C) (Corr. Factor = -0.2 °C) (Final = 1.6 °C)

IR Gun ID = _____ (Observation = _____ No Ice _____) Condition of Ice: Frozen _____ Partially Frozen _____ Thawed _____ N/A _____
TYPE OF ICE: Real _____ Synthetic _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: ON TRAC

Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤5°C, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: <10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: <10°C (if received after 2 hours of sample collection)

If out of temperature range for both chemistry and Microbiology samples and temperature does not conform, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observations _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)	2 = (Observations _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)
3 = (Observations _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)	4 = (Observations _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)

4) UCMR3: 524.3.: (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)
(non-GLEC)

522: (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)

≤10°C (if received within 48 hours of sample collection (not the same business day); ≤5°C (if received after 48 hours of sample collection. Measure temperatures for each method above.

6) LT2: Giardia / Cryptosporidium: <20 °C, not frozen (received after 8 hours of sample collection)

E. Coll: <10°C, not frozen (if received after 2 hours of sample collection)

Giardia/Crypto: (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)

E. Coll: (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)

6) Dioxin (1613 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)

Note: If samples are out of temperature range, let the ASM's know. ASM's will determine whether to proceed with analysis or not.

RECEIVED BY: _____ SIGNATURE

DATE: _____ TIME: 1224

COMPANY/TITLE: Eurofins Eaton Analytical



800-322-5555 www.gso.com

Ship From

FRUIT GROWERS LABORATORY, INC.
BRANDON QUELL
853 CORPORATION ST
SANTA PAULA, CA 93060

Tracking #: 536344675

PDS



Ship To

EUROFINS EATON ANALYTICAL
ATTN: MONICA VANNATTA
750 ROYAL OAKS DRIVE STE#100
MONROVIA, CA 91016

NWK
MONROVIA

E

COD: \$0.00

Weight: 36 lb(s)

Reference:

SP1706534-6/1/17-BQ

Delivery Instructions:

D91006A



Signature Type: REQUIRED

67616510

Print Date: 6/1/2017 4:18 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

Tel: (626) 386-1100
Fax: (626) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments

Report: 663939
Project: DRINKING (SP 1706534)
Group: ORGANICS - EPA 500's

FGL Environmental, Inc.
Cindy Aguirre
853 Corporation Street
Santa Paula, CA 93060

Flags Legend:

LK - The associated blank spike recovery was above method acceptance limits. This target analyte was not detected in the sample.

Tel: (626) 386-1100
Fax: (626) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 663939
Project: DRINKING (SP 1706534)
Group: ORGANICS - EPA 500's

FGL Environmental, Inc.
Cindy Aguirre
853 Corporation Street
Santa Paula, CA 93060

Samples Received on:
06/02/2017 1226

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
----------	---------	-----------	--------	-------------	-------	-----

Tel: (626) 386-1100
 Fax: (666) 988-3757
 1 800 566 LABS (1 800 566 5227)

Laboratory Data

Report: 663939
 Project: DRINKING (SP 1706534)
 Group: ORGANICS - EPA 500's

FGL Environmental, Inc.
 Cindy Aguirre
 853 Corporation Street
 Santa Paula, CA 93060

Samples Received on:
 06/02/2017 1226

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution	
Old Fire Station Test Well (201706020342)					Sampled on 05/31/2017 1230					
EPA 525.2 - Semivolatiles by GCMS										
06/12/17	06/16/17	4:35	1002226	1003631	(EPA 525.2)	Benzo(a)pyrene	ND	ug/L	0.02	1
06/12/17	06/16/17	4:35	1002226	1003631	(EPA 525.2)	Di-(2-Ethylhexyl)adipate	ND (LK)	ug/L	0.6	1
06/12/17	06/16/17	4:35	1002226	1003631	(EPA 525.2)	Di(2-Ethylhexyl)phthalate	ND	ug/L	0.6	1
06/12/17	06/16/17	4:35	1002226	1003631	(EPA 525.2)	1,3-Dimethyl-2-nitrobenzene	83	%		1
06/12/17	06/16/17	4:35	1002226	1003631	(EPA 525.2)	Acenaphthene-d10	81	%		1
06/12/17	06/16/17	4:35	1002226	1003631	(EPA 525.2)	Chrysene-d12	82	%		1
06/12/17	06/16/17	4:35	1002226	1003631	(EPA 525.2)	Perylene-d12	88	%		1
06/12/17	06/16/17	4:35	1002226	1003631	(EPA 525.2)	Phenanthrene-d10	80	%		1

Rounding on totals after summation.
 (c) - indicates calculated results

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory QC Summary

Report: 663939
Project: DRINKING (SP 1706534)
Group: ORGANICS - EPA 500's

FGL Environmental, Inc.

Semivolatiles by GCMS

Prep Batch: 1002226 Analytical Batch: 1003631

201706020341 TRAVEL BLANK - Hold
201706020342 Old Fire Station Test Well

Analysis Date: 06/16/2017

Analyzed by: JWC
Analyzed by: JWC

Tel: (626) 386-1100
 Fax: (626) 988-3757
 1 800 566 LABS (1 800 566 5227)

Report: 663939
 Project: DRINKING (SP 1706534)
 Group: ORGANICS - EPA 500's

FGL Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
Semivolatiles by GCMS by EPA 525.2									
Prep Batch: 1002226 Analytical Batch: 1003631				Analysis Date: 06/15/2017					
LCS1	1,3-Dimethyl-2-nitrobenzene (S)			93.6	%	94	(70-130)		
LCS2	1,3-Dimethyl-2-nitrobenzene (S)			93.7	%	94	(70-130)		
MBLK	1,3-Dimethyl-2-nitrobenzene (S)			90.0	%	90	(70-130)		
MRL_CHK	1,3-Dimethyl-2-nitrobenzene (S)			88.5	%	89	(70-130)		
MS_201706011232	1,3-Dimethyl-2-nitrobenzene (S)			92.2	%	92	(70-130)		
LCS1	Acenaphthene-d10 (I)			92.1	%	92	(50-150)		
LCS2	Acenaphthene-d10 (I)			87.7	%	88	(50-150)		
MBLK	Acenaphthene-d10 (I)			93.7	%	94	(50-150)		
MRL_CHK	Acenaphthene-d10 (I)			83.4	%	83	(50-150)		
MS_201706011232	Acenaphthene-d10 (I)			105	%	105	(50-150)		
LCS1	Benzo(a)pyrene		2	2.21	ug/L	111	(70-130)		
LCS2	Benzo(a)pyrene		2	2.18	ug/L	109	(70-130)	20	1.4
MBLK	Benzo(a)pyrene			<0.01	ug/L				
MRL_CHK	Benzo(a)pyrene		0.02	0.0190	ug/L	95	(50-150)		
MS_201706011232	Benzo(a)pyrene	ND	2	2.03	ug/L	101	(70-130)		
LCS1	Chrysene-d12 (I)			99.7	%	100	(50-150)		
LCS2	Chrysene-d12 (I)			92.3	%	92	(50-150)		
MBLK	Chrysene-d12 (I)			96.8	%	97	(50-150)		
MRL_CHK	Chrysene-d12 (I)			81.2	%	81	(50-150)		
MS_201706011232	Chrysene-d12 (I)			105	%	105	(50-150)		
LCS1	Di-(2-Ethylhexyl)adipate		2	2.62	ug/L	131	(70-130)		
LCS2	Di-(2-Ethylhexyl)adipate		2	2.58	ug/L	129	(70-130)	20	1.5
MBLK	Di-(2-Ethylhexyl)adipate			<0.15	ug/L				
MRL_CHK	Di-(2-Ethylhexyl)adipate		0.3	0.302	ug/L	101	(50-150)		
MS_201706011232	Di-(2-Ethylhexyl)adipate	ND	2	2.23	ug/L	111	(70-130)		
LCS1	Di(2-Ethylhexyl)phthalate		2	2.30	ug/L	115	(70-130)		
LCS2	Di(2-Ethylhexyl)phthalate		2	2.32	ug/L	116	(70-130)	20	0.43
MBLK	Di(2-Ethylhexyl)phthalate			<0.15	ug/L				
MRL_CHK	Di(2-Ethylhexyl)phthalate		0.6	0.689	ug/L	115	(50-150)		
MS_201706011232	Di(2-Ethylhexyl)phthalate	ND	2	2.01	ug/L	100	(70-130)		
LCS1	Perylene-d12 (S)			101	%	101	(70-130)		
LCS2	Perylene-d12 (S)			98.9	%	99	(70-130)		
MBLK	Perylene-d12 (S)			82.3	%	82	(70-130)		
MRL_CHK	Perylene-d12 (S)			80.3	%	80	(70-130)		
MS_201706011232	Perylene-d12 (S)			94.8	%	95	(70-130)		

Spike recovery is already corrected for native results.
 Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
 Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
 RPD not calculated for LCS2 when different a concentration than LCS1 is used.
 RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
 (S) - Indicates surrogate compound.
 (I) - Indicates internal standard compound.

Tel: (626) 386-1100
 Fax: (626) 988-3757
 1 800 566 LABS (1 800 566 5227)

Report: 663939
Project: DRINKING (SP 1706534)
Group: ORGANICS - EPA 500's

FGL Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Phenanthrene-d10 (I)			94.2	%	94	(50-150)		
LCS2	Phenanthrene-d10 (I)			86.4	%	86	(50-150)		
MBLK	Phenanthrene-d10 (I)			91.6	%	92	(50-150)		
MRL_CHK	Phenanthrene-d10 (I)			84.4	%	84	(50-150)		
MS_201706011232	Phenanthrene-d10 (I)			104	%	104	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

June 26, 2017

Vandenberg Village CSD
3757 Constellation Road
Lompoc, CA 93436

Subject: Subcontract Analysis for FGL Lab No. SP 1706534

Enclosed please find results for the following sample(s) which were received by FGL.

- Subcontracted - Dioxin, 2,3,7,8 - TCDD by EPA 1613

Please note that this analysis was performed by Vista Analytical Laboratory

Thank you for using FGL Environmental.

Sincerely,

Cindy Aguirre  Digitally signed by Cindy Aguirre
Title: Customer Service Rep
Date: 2017-06-26

Enclosure

June 24, 2017

Vista Work Order No. 1700685

Ms. Cindy Aguirre
FGL Environmental, Inc.
853 Corporation St.
Santa Paula, CA 93060-3005

Dear Ms. Aguirre,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on June 02, 2017. This sample set was analyzed on a standard turn-around time, under your Project Name 'SP 1706534 - (2-14885)'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1700685

Case Narrative

Sample Condition on Receipt:

One groundwater sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1613

This sample was extracted and analyzed for 2,3,7,8-TCDD by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

TABLE OF CONTENTS

Case Narrative.....	1
Table of Contents.....	3
Sample Inventory.....	4
Analytical Results.....	5
Qualifiers.....	9
Certifications.....	10
Sample Receipt.....	13

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700685-01	Old Fire Station Test Well	31-May-17 12:30	02-Jun-17 10:36	Amber Glass NM Bottle, 1L

ANALYTICAL RESULTS

Sample ID: Method Blank					EPA Method 1613B			
Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.792			IS 13C-2,3,7,8-TCDD	95.1	31 - 137	
					CRS 37Cl-2,3,7,8-TCDD	103	42 - 164	

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

Sample ID: OPR					EPA Method 1613B		
Matrix: Aqueous	QC Batch: B7F0062	Lab Sample: B7F0062-BS1		Date Analyzed: 23-Jun-17 01:59 Column: ZB-5MS			
Sample Size: 1.00 L	Date Extracted: 15-Jun-2017 7:48						
Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	179	200	89.7	73 - 146	IS 13C-2,3,7,8-TCDD	99.8	25 - 141
					CRS 37Cl-2,3,7,8-TCDD	107	37 - 158

LCL-UCL - Lower control limit - upper control limit

Sample ID: Old Fire Station Test Well					EPA Method 1613B				
Client Data		Sample Data			Laboratory Data				
Name:	FGL Environmental, Inc.	Matrix:	Groundwater		Lab Sample:	1700685-01	Date Received:	02-Jun-2017 10:36	
Project:	SP 1706534 - (2-14885)	Sample Size:	0.996 L		QC Batch:	B7F0062	Date Extracted:	15-Jun-2017 7:48	
Date Collected:	31-May-2017 12:30				Date Analyzed :	23-Jun-17 06:38	Column:	ZB-5MS	
Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	1.45			IS 13C-2,3,7,8-TCDD	92.5	31 - 137		
					CRS 37Cl-2,3,7,8-TCDD	101	42 - 164		

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	See Cover Letter
Conc.	Concentration
NA	Not applicable
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Vista Work Order #: 1700685 TAT 21

Samples Arrival:	Date/Time 6/2/17 1036		Initials: SR		Location: WR-2		
					Shelf/Rack: N/A		
Logged In:	Date/Time 06/03/17 0814		Initials: MAM		Location: WR-2		
					Shelf/Rack: B2		
Delivered By:	FedEx	UPS	On Trac	<u>GSO</u>	DHL	Hand Delivered	Other
Preservation:	<u>Ice</u>		<u>Blue Ice</u>			Dry Ice	None
Temp °C: 0.2 (uncorrected)			Time: 1041				
Temp °C: -0.5 (corrected)			Probe used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Thermometer ID: DT-3			

		YES	NO	NA		
Adequate Sample Volume Received?		✓				
Holding Time Acceptable?		✓				
Shipping Container(s) Intact?		✓				
Shipping Custody Seals Intact?				✓		
Shipping Documentation Present?		✓				
Airbill	Trk # 536344701	✓				
Sample Container Intact?		✓				
Sample Custody Seals Intact?				✓		
Chain of Custody / Sample Documentation Present?		✓				
COC Anomaly/Sample Acceptance Form completed?			✓	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				✓		
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma	None	Yes	<u>No</u>	NA
Shipping Container	Vista	<u>Client</u>	Retain	<u>Return</u>	Dispose	

Comments:

Subcontract to Vista Analytical Laboratory

Client: Fruit Growers Laboratory, Inc. Address: FGL Environmental, Inc. 853 Corporation St. Santa Paula, CA 93060-3005 Phone: _____ Fax: _____ Contact Person: _____ Project Name: SP 1706534 - (2-14885) Purchase Order Number: _____				Map Ref													
Sampler(s) Rick Hoffman Compositor Setup Date: ___/___/___ Time: ___/___				Method of Sampling: Composite(C) Grab(G) Type of Sample: **SEE REVERSE SIDE** Potable(P) Non-Potable(NP) Ag Water(AgW) Bacti Type: Other(O) System(SYS) Source(SR) Waste(W) Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL) Subcontracted - Dioxin, 2,3,7,8 - TCDD by EPA 1613 1000ml(AGT)													
Lab Number: _____																	
Samp Num	Location Description	Date Sampled	Time Sampled	Method of Sampling	Type of Sample	Potable	Bacti Type	Bacti Reason	Other	Special	Subcontracted	Dioxin	TCDD	EPA	1613	1000ml	AGT
1	Old Fire Station Test Well	05/31/17	12:30	G	GW						↓						
Remarks: Extra volume Attention Marlene Majer				Relinquished: Date: 6/13/17 Time: 17:30 Received By: GSO Date: ↓ Time: ↓	Relinquished: GSO Date: _____ Time: _____ Received By: WJ Sparks Date: 6/14/17 Time: 1043	Relinquished: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____											

1700 685 1.9°C

Sample Log-in Checklist

 Vista Work Order #: 1700685 TAT std

Samples Arrival:	Date/Time 6/14/17 1040	Initials: WWS	Location: WR-2
			Shelf/Rack: N/3
Logged In:	Date/Time 06/14/17 1104	Initials: WWS	Location: WR-2
			Shelf/Rack: B2
Delivered By:	FedEx	UPS	On Trac
		<u>GSO</u>	DHL
			Hand Delivered
			Other
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
			None
Temp °C: 1.7 (uncorrected)	Time: 1042		Thermometer ID: IR-1
Temp °C: 1.9 (corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

		YES	NO	NA
Adequate Sample Volume Received? <u>1 Liter</u>		✓		
Holding Time Acceptable?		✓		
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?				✓
Shipping Documentation Present?		✓		
Airbill	Trk # <u>536485398</u>	✓		
Sample Container Intact?		✓		
Sample Custody Seals Intact?				✓
Chain of Custody / Sample Documentation Present?		✓		
COC Anomaly/Sample Acceptance Form completed?			✓	✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				✓
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma	None	Yes
		<u>Client</u>		No
				<u>Return</u>
Shipping Container	Vista		Retain	Dispose

 Comments: Back up volume

June 15, 2017

Vandenberg Village CSD
3757 Constellation Road
Lompoc, CA 93436

Subject: Subcontract Analysis for FGL Lab No. SP 1706534

Enclosed please find results for the following sample(s) which were received by FGL.

- Subcontracted - Asbestos

Please note that this analysis was performed by LA Testing

Thank you for using FGL Environmental.

Sincerely,

Cindy Aguirre  Digitally signed by Cindy Aguirre
Title: Customer Service Rep
Date: 2017-06-15

Enclosure



LA Testing

520 Mission Street South Pasadena, CA 91030
Phone/Fax: (323) 254-9960 / (323) 254-9982
<http://www.LATesting.com> / pasadenalab@latestesting.com

LA Testing Order ID: 321713078
Customer ID: FGLE25
Customer PO:
Project ID:

Attn: Cindy Aguirre
FGL Environmental
853 Corporation St
Santa Paula, CA 93060

Phone: (805) 392-2024
Fax:
Collected: 05/31/2017
Received: 06/01/2017
Analyzed: 06/14/2017

Proj: SP 1706534 - (2-14885)

Test Report: Determination of Asbestos Structures >10µm in Drinking Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm ²)	Area Analyzed (mm ²)	ASBESTOS				
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration MFL (million fibers per liter)	Confidence Limits
1 321713078-0001	6/1/2017 02:10 PM	30	1288	0.2227	None Detected	ND	0.19	<0.19	0.00 - 0.71

Analyst(s)

Sherrie Ahmad (1)

Jerry Drapala Ph.D, Laboratory Manager
or Other Approved Signatory

Any questions please contact Jerry Drapala.

Initial report from: 06/15/2017 10:29:32

Sample collection and containers provided by the client, acceptable bottle blank level is defined as ≤0.01MFL>10µm. ND=None Detected. This report relates only to those items tested. This report may not be reproduced, except in full, without written permission by LA Testing. Samples received in good condition unless otherwise noted.

Samples analyzed by LA Testing South Pasadena, CA CA ELAP 2283

#321713078

Subcontract to
LA Testing

#321713078

Map Ref

Client: Fruit Growers Laboratory, Inc. Address: FGL Environmental, Inc. 853 Corporation St. Santa Paula, CA 93060-3005 Phone: _____ Fax: _____ Contact Person: _____ Project Name: SP 1706534 - (2-14885) Purchase Order Number: _____ Sampler(s) Rick Hoffman Compositor Setup Date: ___/___/___ Time: ___:___/___:___																							
Lab Number:		Date Sampled		Time Sampled																			
1	Old Fire Station Test Well	05/31/17	12:30																				
Method of Sampling: Composite(C) Grab(G)																							
Type of Sample **SEE REVERSE SIDE**																							
Potable(P) Non-Potable(NP) Ag Water(AgW)																							
Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)																							
Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)																							
Subcontracted - Asbestos-Drinking Water 32oz(P)																							
<table border="1"> <tr> <td>Relinquished</td> <td>Date:</td> <td>Time:</td> <td>Relinquished</td> <td>Date:</td> <td>Time:</td> </tr> <tr> <td>Received By: <i>[Signature]</i></td> <td>5/31/17</td> <td>17:30</td> <td>Received By: <i>ELW</i></td> <td>6/1/17</td> <td><i>7:00</i></td> </tr> <tr> <td>Received By: <i>GSO</i></td> <td></td> <td></td> <td>Received By: <i>[Signature]</i></td> <td></td> <td></td> </tr> </table>						Relinquished	Date:	Time:	Relinquished	Date:	Time:	Received By: <i>[Signature]</i>	5/31/17	17:30	Received By: <i>ELW</i>	6/1/17	<i>7:00</i>	Received By: <i>GSO</i>			Received By: <i>[Signature]</i>		
Relinquished	Date:	Time:	Relinquished	Date:	Time:																		
Received By: <i>[Signature]</i>	5/31/17	17:30	Received By: <i>ELW</i>	6/1/17	<i>7:00</i>																		
Received By: <i>GSO</i>			Received By: <i>[Signature]</i>																				



Client: Vandenberg Village CSD Address: 3757 Constellation Road Lompoc, CA 93436				4523:05/25/2017		TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information																											
Phone: (805)733-2475 Fax: Contact Person: Joe Barget Project Name: Old Fire Station Test Well Purchase Order Number: Quote Number: SP 20170523-02				Method of Sampling: Composite(C) Grab(G)		Type of Sample	Potable(P)	Non-Potable(NP)	Ag Water(AgW)	Bacti Type: Other(O)	System(SYS)	Source(SR)	Waste(W)	Bacti Reason: Routine(ROUT)	Repeat(RPT)	Replace(RPL)	Other(O)	Special(SPL)	EPA 504.1-DBCP,EDB 40ml(VOA)	EPA 524.2 40ml(VOA)-HCl	Sub Organic-EPA 525	***Only Run Travel Blank if Needed*** 1000ml(AGT)-HCl	SRL 524M-TCP 40ml(VOA)	General Mineral 16oz(P)	Metals, Total-Al,Sb,As,Ba,Be,Cd,Cr,Pb,Hg,Ni,Se,Ag,Tl,V 250ml(P)-HNO3	Wet Chemistry-Color,Odor,Turbidity 500 ml(AGT)	Field Test-Field pH !!pH = 15 MINUTE HOLD TIME!!	Field - pH Date	Field - pH Time	Wet Chemistry-Perchlorate	***Fill Half Full, Agitate, Then Place on Ice*** 16oz(P)	EPA 505 40ml(VOA)	
Samp Num	Location Description	Date Sampled	Time Sampled	Method of Sampling	Type of Sample	Potable(P)	Non-Potable(NP)	Ag Water(AgW)	Bacti Type: Other(O)	System(SYS)	Source(SR)	Waste(W)	Bacti Reason: Routine(ROUT)	Repeat(RPT)	Replace(RPL)	Other(O)	Special(SPL)	EPA 504.1-DBCP,EDB 40ml(VOA)	EPA 524.2 40ml(VOA)-HCl	Sub Organic-EPA 525	***Only Run Travel Blank if Needed*** 1000ml(AGT)-HCl	SRL 524M-TCP 40ml(VOA)	General Mineral 16oz(P)	Metals, Total-Al,Sb,As,Ba,Be,Cd,Cr,Pb,Hg,Ni,Se,Ag,Tl,V 250ml(P)-HNO3	Wet Chemistry-Color,Odor,Turbidity 500 ml(AGT)	Field Test-Field pH !!pH = 15 MINUTE HOLD TIME!!	Field - pH Date	Field - pH Time	Wet Chemistry-Perchlorate	***Fill Half Full, Agitate, Then Place on Ice*** 16oz(P)	EPA 505 40ml(VOA)		
0	Travel Blank			G	LBW													2	4	1	4												
1	Old Fire Station Test Well	5/31/17	1230 PM	G	GW													2	4	1	4	1	1	1	6.72	5/31/17	1230		1	2			
Remarks: Multiple Chains				Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:
				Rich Hoff	5/31/17	1230 PM	[Signature]	5/31/17	1600																								
				Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:	Received By:	Date:	Time:
				[Signature]	5/31/17	1412	[Signature]	5/31/17	1000																								

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
Phone: (805) 392-2000
Env Fax: (805) 525-4172 / Ag Fax: (805) 392-2063

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
Phone: (209) 942-0182
Fax: (209) 942-0423

Office & Laboratory
563 E. Lindo
Chico, CA 95926
Phone: (530) 343-5818
Fax: (530) 343-3807

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
Phone: (805) 783-2940
Fax: (805) 783-2912

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
Phone: (559) 734-9473
Fax: (559) 734-8435



				4523:05/25/2017				TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information																								
Client: Vandenberg Village CSD Address: 3757 Constellation Road Lompoc, CA 93436 Phone: (805)733-2475 Fax: Contact Person: Joe Barget Project Name: Old Fire Station Test Well Purchase Order Number: Quote Number: SP 20170523-02				Method of Sampling: Composite(C) Grab(G) Type of Sample **SEE REVERSE SIDE** Potable(P) Non-Potable(NP) Ag Water(AgW) Bacti Type: Other(O) System(SYS) Source(SR) Waste(W) Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)																												
Sampler(s) RICK HOFFMAN 1149 Palomino Rd Santa Barbara, CA 93105 Sampling Fee: _____ Pickup Fee: _____ Compositor Setup Date: ___/___/___ Time: ___/___/___																																
Lab Number: SP 1700534 (2017) 2-14885																																
Samp Num	Location Description	Date Sampled	Time Sampled	Method of Sampling	Type of Sample	Potable(P)	Non-Potable(NP)	Ag Water(AgW)	Bacti Type	Other(O)	System(SYS)	Source(SR)	Waste(W)	Bacti Reason	Repeat(RPT)	Replace(RPL)	Other(O)	Special(SPL)	EPA 507 1000ml(AGT)	EPA 515 250ml(AGT)	EPA 531.1 125ml(AGT)-Monochloroacetic Buffer	EPA 547 125ml(AGT)	EPA 548.1 1000ml(AGT)	EPA 549-Diquat 1000ml(AST)	EPA 632 1000ml(AGT)	Subcontracted - Asbestos-Drinking Water 32oz(P)	Subcontracted - Dioxin, 2,3,7,8 - TCDD by EPA 1613 1000ml(AGT)	Radio Chemistry-Gross Alpha,Ra 228 32oz(P), 32oz(P)-HNO3, 32oz(P), 32oz(P)-HNO3	Sampling-Sampling Fee/Pickup Fee	Please circle one		
0	Travel Blank	5/31/17	12:30 PM	G	LBW																											
1	Old Fire Station Test Well	5/31/17	1:10 PM	G	GW														1	1	1	1	1	1	1	2	1,2,1,1	X				
Remarks: Multiple Chains				Relinquished Date: Time: Rick Hoffman 5/31/17 1:10 PM Received By: Date: Time: [Signature] 5/31/17 1:10 PM				Relinquished Date: Time: [Signature] 5/31/17 1:00 PM Received By: Date: Time: [Signature] 5/31/17 1:00 PM				Relinquished Date: Time: Received By: Date: Time:																				

Corporate Offices & Laboratory
 853 Corporation Street
 Santa Paula, CA 93060
 Phone: (805) 392-2000
 Env Fax: (805) 525-4172 / Ag Fax: (805) 392-2063

Office & Laboratory
 2500 Stagecoach Road
 Stockton, CA 95215
 Phone: (209) 942-0182
 Fax: (209) 942-0423

Office & Laboratory
 563 E. Lindo
 Chico, CA 95926
 Phone: (530) 343-5818
 Fax: (530) 343-3807

Office & Laboratory
 3442 Empresa Drive, Suite D
 San Luis Obispo, CA 93401
 Phone: (805) 783-2940
 Fax: (805) 783-2912

Office & Laboratory
 9415 W. Goshen Avenue
 Visalia, CA 93291
 Phone: (559) 734-9473
 Fax: (559) 734-8435

Subcontract to Eurofins Eaton Analytical, Inc.

				Map Ref:								
Client: Fruit Growers Laboratory, Inc. Address: FGL Environmental, Inc. 853 Corporation St. Santa Paula, CA 93060-3005 Phone: _____ Fax: _____ Contact Person: _____ Project Name: SP 1706534 - (2-14885) Purchase Order Number: _____				Method of Sampling: Composite(C) Grab(G) Type of Sample **SEE REVERSE SIDE** Potable(P) Non-Potable(NP) Ag Water(AgW) Bacti Type: Other(O) System(SYS) Source(SR) Waste(W) Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL) Sub Organic-EPA 525 ****Only Run Travel Blank if Needed*** 1000ml(AGT)-HCl								
Sampler(s) Rick Hoffman Compositor Setup Date: __/__/__ Time: __/__/__												
Lab Number: _____												
Samp Num	Location Description	Date Sampled	Time Sampled		G	LBW	GW					
0	Travel Blank	05/31/17	00:00	G	LBW			1				
1	Old Fire Station Test Well	05/31/17	12:30	G	GW			1				
Remarks:				Relinquished _____	Date: _____	Time: _____	Relinquished _____	Date: _____	Time: _____	Relinquished _____	Date: _____	Time: _____
				Received By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____

Subcontract to LA Testing

Client: Fruit Growers Laboratory, Inc. Address: FGL Environmental, Inc. 853 Corporation St. Santa Paula, CA 93060-3005 Phone: _____ Fax: _____ Contact Person: _____ Project Name: SP 1706534 - (2-14885) Purchase Order Number: _____				Method of Sampling: Composite(C) Grab(G) Type of Sample **SEE REVERSE SIDE** Potable(P) Non-Potable(NP) Ag Water(AgW) Bacti Type: Other(O) System(SYS) Source(SR) Waste(W) Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)		Subcontracted - Asbestos-Drinking Water 32oz(P)												Map Ref												
Sampler(s) Rick Hoffman Compositor Setup Date: ___/___/___ Time: ___/___																														
Lab Number: _____																														
Samp Num	Location Description	Date Sampled	Time Sampled	G	GW																									
1	Old Fire Station Test Well	05/31/17	12:30	G	GW																									
Remarks:				Relinquished			Date:			Time:			Relinquished			Date:			Time:			Relinquished			Date:			Time:		
				Received By:			Date:			Time:			Received By:			Date:			Time:			Received By:			Date:			Time:		

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:

- 1. Number of ice chests/packages received: 1
- 2. Shipper tracking numbers _____
- 3. Were samples received in a chilled condition?
Temps: ROI / 6 / _____ / _____ / _____ / _____ / _____
- 4. Surface water (SWTR) bact samples: A sample that has a temperature upon receipt of >10C, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.
- 5. Do the number of bottles received agree with the COC? Yes No N/A
- 6. Verify sample date, time, sampler Yes No N/A
- 7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.) Yes No
- 8. Were sample custody seals intact? Yes No N/A

Sample Verification, Labeling and Distribution:

- 1. Were all requested analyses understood and acceptable? Yes No
- 2. Did bottle labels correspond with the client's ID's? Yes No
- 3. Were all bottles requiring sample preservation properly preserved? Yes No N/A FGL
[Exception: Oil & Grease, VOA and CrVI verified in lab]
- 4. VOAs checked for Headspace? Yes No N/A
- 5. Were all analyses within holding times at time of receipt? Yes No
- 6. Have rush or project due dates been checked and accepted? Yes No N/A

Include a copy of the COC for lab delivery. (Bacti. Inorganics and Radio)

Sample Receipt, Login and Verification completed by:

Reviewed and
Approved By

Inez Covarrubias



Digitally signed by Inez Covarrubias
Title: Sample Receiving
Date: 06/01/2017-09:27:20

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

1. Person Contacted: _____ Phone Number: _____
Initiated By: _____ Date: _____
Problem: _____

Resolution: _____

2. Person Contacted: _____ Phone Number: _____
Initiated By: _____ Date: _____
Problem: _____

Resolution: _____

(2014885)
Vandenberg Village CSD
SP 1706534
IV/SP-06/01/2017-09:27:20

INDIVIDUAL ZONE TESTING SUMMARY

July 13, 2017

VANDENBERG VILLAGE CSD

Fire Station #51 Test Well - Zone Testing Summary - July 13, 2017 Analysis

	Specific Conductance	TDS (total dissolved solids)	Iron	Manganese	Arsenic	Bromoform	Chloroform	Dibromo-chloromethane	Total Trihalomethanes
MCL (maximum contaminant levels)	1600 umhos/cm	1000 mg/L	300 ug/L	50 ug/L	10 ug/L	100 ug/L	100 ug/L	100 ug/L	100 ug/L
ZONE INTERVAL									
Whole Screened Section: 450' - 810' (May 31, 2017 sample)	830	570	600	150	28	1.1	0.8	0.6	2.5
ZONE 1: 466.5' - 470' (July 13, 2017 sample)	800	430	770	150	31				
ZONE 2: 551.5' - 554'					21	ND	ND	ND	ND
ZONE 3: 634.5' - 638'	810	470	1300	170	24				
ZONE 4: 676.5' - 680'					18	ND	ND	ND	ND
ZONE 5: 739.5' - 743'	800	420	4400	140	32				
ZONE 6: 781.5' - 785'					4.3	ND	ND	ND	ND

ND = non detect

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



Vandenberg Village CSD
3757 Constellation
Lompoc CA, 93436

Project: Routine
Sub Project: Test Well Zone Testing
Project Manager: Water Quality Supervisor

Work Order: 17G1382
Received: 07/16/17 00:00
Reported: 08/03/17

Zone 6 **17G1382-01 (Water)** **Sample Date:** 07/13/17 11:21 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
<u>Metals</u>									
Arsenic (As)	SM3113-B	4.3	4.0	10	ug/L	07/31/17	08/02/17	1731018	
<u>Trihalomethanes Analyses</u>									
Bromodichloromethane	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Bromoform	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Chloroform (Trichloromethane)	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Dibromochloromethane	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Total Trihalomethanes (TTHM)	EPA 524.2	ND	1.0	80	ug/L	07/20/17	07/20/17	1729143	
Surrogate: Bromofluorobenzene	EPA 524.2	85 %				07/20/17	07/20/17	1729143	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	84 %				07/20/17	07/20/17	1729143	
<u>Haloacetic Acids Analyses</u>									
Dibromoacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Dichloroacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Monobromoacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Monochloroacetic Acid	EPA 552.2	ND	2.0		ug/L	07/24/17	07/25/17	1730003	
Trichloroacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Total Haloacetic Acids (HAA5)	EPA 552.2	ND	1.0	60	ug/L	07/24/17	07/25/17	1730003	
Surrogate: 2,3-Dibromopropionic Acid	EPA 552.2	93 %				07/24/17	07/25/17	1730003	

Clinical Laboratory of San Bernardino, Inc.

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Vandenberg Village CSD
3757 Constellation
Lompoc CA, 93436

Project: Routine
Sub Project: Test Well Zone Testing
Project Manager: Water Quality Supervisor

Work Order: 17G1382
Received: 07/16/17 00:00
Reported: 08/03/17

Zone 5 **17G1382-02 (Water)** **Sample Date:** 07/13/17 12:05 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
General Chemical Analyses									
Alkalinity, Total (as CaCO ₃)	SM 2320 B	86	5.0		mg/L	07/26/17	07/26/17	1729014	
Bicarbonate (HCO ₃)	SM 2320 B	110	5.0		mg/L	07/26/17	07/26/17	1729014	
Carbonate (CO ₃)	SM 2320B	ND	5.0		mg/L	07/26/17	07/26/17	1729014	
Chloride (Cl)	EPA 300.0	110	1.0	500	mg/L	07/14/17	07/16/17	1728198	
Cyanide (CN)	SM4500CNF	ND	100	150	ug/L	07/20/17	07/20/17	1729134	
Specific Conductance (E.C.)	SM 2510B	800	2.0	1600	umhos/cm	07/26/17	07/26/17	1729014	
Fluoride (F)	EPA 300.0	0.18	0.10	2	mg/L	07/14/17	07/16/17	1728198	
Hydroxide (OH)	SM 2320B	ND	5.0		mg/L	07/26/17	07/26/17	1729014	
MBAS (LAS Mole. Wt 340.0)	SM 5540C	ND	0.10	0.5	mg/L	07/18/17	07/19/17	1729075	HT-06
Nitrate as N (NO ₃ -N)	EPA 300.0	0.59	0.40	10	mg/L	07/16/17	07/16/17	1728198	HT-06
Nitrate + Nitrite (as N)	EPA 300.0	0.59	0.40	10	mg/L	07/16/17	07/16/17	1728198	HT-06
Nitrite as N (NO ₂ -N)	EPA 300.0	ND	0.40	1	mg/L	07/16/17	07/16/17	1728198	HT-06
Perchlorate (ClO ₄)	EPA 314.0	ND	4.0	6	ug/L	07/26/17	07/26/17	1730128	
pH (Lab)	SM 4500HB	6.8			pH Units	07/17/17	07/17/17	1729014	
Sulfate (SO ₄)	EPA 300.0	110	0.50	500	mg/L	07/14/17	07/16/17	1728198	
Total Filterable Residue/TDS	SM 2540C	420	5.0	1000	mg/L	07/20/17	07/21/17	1729136	
Metals									
Aluminum (Al)	EPA 200.7	530	50	200	ug/L	07/25/17	07/25/17	1730045	
Antimony (Sb)	SM3113-B	ND	6.0	6	ug/L	07/26/17	07/28/17	1730109	
Arsenic (As)	SM3113-B	22	4.0	10	ug/L	07/31/17	08/02/17	1731018	
Barium (Ba)	EPA 200.7	ND	100	1000	ug/L	07/25/17	07/25/17	1730045	
Beryllium (Be)	EPA 200.7	ND	1.0	4	ug/L	07/24/17	07/24/17	1730024	
Boron (B)	EPA 200.7	140	100		ug/L	07/25/17	07/25/17	1730045	
Cadmium (Cd)	EPA 200.7	ND	1.0	5	ug/L	07/24/17	07/24/17	1730024	
Calcium (Ca)	EPA 200.7	59	1.0		mg/L	07/25/17	07/26/17	1730072	
Chromium (+6)	EPA 218.6	ND	1.0	10	ug/L	07/13/17	07/17/17	1728168	
Chromium (Total Cr)	EPA 200.7	ND	10	50	ug/L	07/24/17	07/24/17	1730024	
Copper (Cu)	EPA 200.7	ND	50	1000	ug/L	07/25/17	07/25/17	1730045	
Iron (Fe)	EPA 200.7	4400	100	300	ug/L	07/25/17	07/25/17	1730045	
Lead (Pb)	SM3113-B	ND	5.0		ug/L	07/31/17	07/31/17	1731019	
Magnesium (Mg)	EPA 200.7	17	1.0		mg/L	07/25/17	07/26/17	1730072	
Manganese (Mn)	EPA 200.7	140	20	50	ug/L	07/25/17	07/25/17	1730045	
Mercury (Hg)	EPA 245.1	ND	1.0	2	ug/L	07/20/17	07/24/17	1729138	
Nickel (Ni)	EPA 200.7	ND	10	100	ug/L	07/24/17	07/24/17	1730024	
Potassium (K)	EPA 200.7	3.5	1.0		mg/L	07/25/17	07/26/17	1730072	
Selenium (Se)	SM3113-B	ND	5.0	50	ug/L	08/01/17	08/01/17	1731050	
Silver (Ag)	EPA 200.7	ND	10	100	ug/L	07/24/17	07/24/17	1730024	
Sodium (Na)	EPA 200.7	79	1.0		mg/L	07/25/17	07/26/17	1730072	
Thallium (Tl)	EPA 200.9	ND	1.0	2	ug/L	07/28/17	07/28/17	1730166	

Clinical Laboratory of San Bernardino, Inc.

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Vandenberg Village CSD
3757 Constellation
Lompoc CA, 93436

Project: Routine
Sub Project: Test Well Zone Testing
Project Manager: Water Quality Supervisor

Work Order: 17G1382
Received: 07/16/17 00:00
Reported: 08/03/17

Zone 5 **17G1382-02 (Water)** **Sample Date:** 07/13/17 12:05 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
Metals									
Vanadium (V)	EPA 200.9	3.6	3.0		ug/L	07/25/17	07/26/17	1730037	
Zinc (Zn)	EPA 200.7	ND	50	5000	ug/L	07/25/17	07/25/17	1730045	
Anion / Cation Balance									
Hardness, Total (as CaCO3)	Calculated	220			mg/L	07/25/17	07/26/17	[CALC]	
Total Anions	Calculated	7.2			meq/L	07/25/17	07/26/17	[CALC]	
Total Cations	Calculated	7.88			meq/L	07/25/17	07/26/17	[CALC]	
% difference	Calculated	8.9				07/25/17	07/26/17	[CALC]	

Zone 4 **17G1382-03 (Water)** **Sample Date:** 07/13/17 12:49 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
Metals									
Arsenic (As)	SM3113-B	18	4.0	10	ug/L	07/31/17	08/02/17	1731018	
Trihalomethanes Analyses									
Bromodichloromethane	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Bromoform	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Chloroform (Trichloromethane)	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Dibromochloromethane	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Total Trihalomethanes (TTHM)	EPA 524.2	ND	1.0	80	ug/L	07/20/17	07/20/17	1729143	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	122 %				07/20/17	07/20/17	1729143	
Surrogate: Bromofluorobenzene	EPA 524.2	81 %				07/20/17	07/20/17	1729143	
Haloacetic Acids Analyses									
Dibromoacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Dichloroacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Monobromoacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Monochloroacetic Acid	EPA 552.2	ND	2.0		ug/L	07/24/17	07/25/17	1730003	
Trichloroacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Total Haloacetic Acids (HAA5)	EPA 552.2	ND	1.0	60	ug/L	07/24/17	07/25/17	1730003	
Surrogate: 2,3-Dibromopropionic Acid	EPA 552.2	95 %				07/24/17	07/25/17	1730003	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



Vandenberg Village CSD
3757 Constellation
Lompoc CA, 93436

Project: Routine
Sub Project: Test Well Zone Testing
Project Manager: Water Quality Supervisor

Work Order: 17G1382
Received: 07/16/17 00:00
Reported: 08/03/17

Zone 3 **17G1382-04 (Water)** **Sample Date:** 07/13/17 13:35 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
General Chemical Analyses									
Alkalinity, Total (as CaCO3)	SM 2320 B	79	5.0		mg/L	07/26/17	07/26/17	1729014	
Bicarbonate (HCO3)	SM 2320 B	97	5.0		mg/L	07/26/17	07/26/17	1729014	
Carbonate (CO3)	SM 2320B	ND	5.0		mg/L	07/26/17	07/26/17	1729014	
Chloride (Cl)	EPA 300.0	110	1.0	500	mg/L	07/14/17	07/16/17	1728198	
Cyanide (CN)	SM4500CNF	ND	100	150	ug/L	07/20/17	07/20/17	1729134	
Specific Conductance (E.C.)	SM 2510B	810	2.0	1600	umhos/cm	07/26/17	07/26/17	1729014	
Fluoride (F)	EPA 300.0	0.18	0.10	2	mg/L	07/14/17	07/16/17	1728198	
Hydroxide (OH)	SM 2320B	ND	5.0		mg/L	07/26/17	07/26/17	1729014	
MBAS (LAS Mole. Wt 340.0)	SM 5540C	ND	0.10	0.5	mg/L	07/18/17	07/19/17	1729075	HT-06
Nitrate as N (NO3-N)	EPA 300.0	0.46	0.40	10	mg/L	07/16/17	07/16/17	1728198	HT-06
Nitrate + Nitrite (as N)	EPA 300.0	0.46	0.40	10	mg/L	07/16/17	07/16/17	1728198	HT-06
Nitrite as N (NO2-N)	EPA 300.0	ND	0.40	1	mg/L	07/16/17	07/16/17	1728198	HT-06
Perchlorate (ClO4)	EPA 314.0	ND	4.0	6	ug/L	07/26/17	07/26/17	1730128	
pH (Lab)	SM 4500HB	6.7			pH Units	07/17/17	07/17/17	1729014	
Sulfate (SO4)	EPA 300.0	130	0.50	500	mg/L	07/14/17	07/16/17	1728198	
Total Filterable Residue/TDS	SM 2540C	470	5.0	1000	mg/L	07/20/17	07/21/17	1729136	
Metals									
Aluminum (Al)	EPA 200.7	190	50	200	ug/L	07/25/17	07/25/17	1730045	
Antimony (Sb)	SM3113-B	ND	6.0	6	ug/L	07/26/17	07/28/17	1730109	
Arsenic (As)	SM3113-B	24	4.0	10	ug/L	07/31/17	08/02/17	1731018	
Barium (Ba)	EPA 200.7	ND	100	1000	ug/L	07/25/17	07/25/17	1730045	
Beryllium (Be)	EPA 200.7	ND	1.0	4	ug/L	07/24/17	07/24/17	1730024	
Boron (B)	EPA 200.7	160	100		ug/L	07/25/17	07/25/17	1730045	
Cadmium (Cd)	EPA 200.7	ND	1.0	5	ug/L	07/24/17	07/24/17	1730024	
Calcium (Ca)	EPA 200.7	60	1.0		mg/L	07/25/17	07/26/17	1730072	
Chromium (+6)	EPA 218.6	ND	1.0	10	ug/L	07/13/17	07/17/17	1728168	
Chromium (Total Cr)	EPA 200.7	ND	10	50	ug/L	07/24/17	07/24/17	1730024	
Copper (Cu)	EPA 200.7	ND	50	1000	ug/L	07/25/17	07/25/17	1730045	
Iron (Fe)	EPA 200.7	1300	100	300	ug/L	07/25/17	07/25/17	1730045	
Lead (Pb)	SM3113-B	ND	5.0		ug/L	07/31/17	07/31/17	1731019	
Magnesium (Mg)	EPA 200.7	17	1.0		mg/L	07/25/17	07/26/17	1730072	
Manganese (Mn)	EPA 200.7	170	20	50	ug/L	07/25/17	07/25/17	1730045	
Mercury (Hg)	EPA 245.1	ND	1.0	2	ug/L	07/20/17	07/24/17	1729138	
Nickel (Ni)	EPA 200.7	ND	10	100	ug/L	07/24/17	07/24/17	1730024	
Potassium (K)	EPA 200.7	3.5	1.0		mg/L	07/25/17	07/26/17	1730072	
Selenium (Se)	SM3113-B	ND	5.0	50	ug/L	08/01/17	08/01/17	1731050	
Silver (Ag)	EPA 200.7	ND	10	100	ug/L	07/24/17	07/24/17	1730024	
Sodium (Na)	EPA 200.7	80	1.0		mg/L	07/25/17	07/26/17	1730072	
Thallium (Tl)	EPA 200.9	ND	1.0	2	ug/L	07/28/17	07/28/17	1730166	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



Vandenberg Village CSD
3757 Constellation
Lompoc CA, 93436

Project: Routine
Sub Project: Test Well Zone Testing
Project Manager: Water Quality Supervisor

Work Order: 17G1382
Received: 07/16/17 00:00
Reported: 08/03/17

Zone 3 **17G1382-04 (Water)** **Sample Date:** 07/13/17 13:35 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
Metals									
Vanadium (V)	EPA 200.9	ND	3.0		ug/L	07/25/17	07/26/17	1730037	
Zinc (Zn)	EPA 200.7	ND	50	5000	ug/L	07/25/17	07/25/17	1730045	
Anion / Cation Balance									
Hardness, Total (as CaCO3)	Calculated	220			mg/L	07/25/17	07/26/17	[CALC]	
Total Anions	Calculated	7.41			meq/L	07/25/17	07/26/17	[CALC]	
Total Cations	Calculated	7.97			meq/L	07/25/17	07/26/17	[CALC]	
% difference	Calculated	7.3				07/25/17	07/26/17	[CALC]	

Zone 2 **17G1382-05 (Water)** **Sample Date:** 07/13/17 14:23 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
Metals									
Arsenic (As)	SM3113-B	21	4.0	10	ug/L	07/31/17	08/02/17	1731018	
Trihalomethanes Analyses									
Bromodichloromethane	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Bromoform	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Chloroform (Trichloromethane)	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Dibromochloromethane	EPA 524.2	ND	1.0		ug/L	07/20/17	07/20/17	1729143	
Total Trihalomethanes (TTHM)	EPA 524.2	ND	1.0	80	ug/L	07/20/17	07/20/17	1729143	
Surrogate: Bromofluorobenzene	EPA 524.2	75 %				07/20/17	07/20/17	1729143	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	80 %				07/20/17	07/20/17	1729143	
Haloacetic Acids Analyses									
Dibromoacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Dichloroacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Monobromoacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Monochloroacetic Acid	EPA 552.2	ND	2.0		ug/L	07/24/17	07/25/17	1730003	
Trichloroacetic Acid	EPA 552.2	ND	1.0		ug/L	07/24/17	07/25/17	1730003	
Total Haloacetic Acids (HAA5)	EPA 552.2	ND	1.0	60	ug/L	07/24/17	07/25/17	1730003	
Surrogate: 2,3-Dibromopropionic Acid	EPA 552.2	96 %				07/24/17	07/25/17	1730003	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



Vandenberg Village CSD
3757 Constellation
Lompoc CA, 93436

Project: Routine
Sub Project: Test Well Zone Testing
Project Manager: Water Quality Supervisor

Work Order: 17G1382
Received: 07/16/17 00:00
Reported: 08/03/17

Zone 1 **17G1382-06 (Water)** **Sample Date:** 07/13/17 15:16 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
General Chemical Analyses									
Alkalinity, Total (as CaCO₃)	SM 2320 B	77	5.0		mg/L	07/26/17	07/26/17	1729014	
Bicarbonate (HCO₃)	SM 2320 B	94	5.0		mg/L	07/26/17	07/26/17	1729014	
Carbonate (CO ₃)	SM 2320B	ND	5.0		mg/L	07/26/17	07/26/17	1729014	
Chloride (Cl)	EPA 300.0	120	1.0	500	mg/L	07/14/17	07/16/17	1728198	
Cyanide (CN)	SM4500CNF	ND	100	150	ug/L	07/20/17	07/20/17	1729134	
Specific Conductance (E.C.)	SM 2510B	800	2.0	1600	umhos/cm	07/26/17	07/26/17	1729014	
Fluoride (F)	EPA 300.0	0.18	0.10	2	mg/L	07/14/17	07/16/17	1728198	
Hydroxide (OH)	SM 2320B	ND	5.0		mg/L	07/26/17	07/26/17	1729014	
MBAS (LAS Mole. Wt 340.0)	SM 5540C	ND	0.10	0.5	mg/L	07/18/17	07/19/17	1729075	HT-06
Nitrate as N (NO ₃ -N)	EPA 300.0	ND	0.40	10	mg/L	07/16/17	07/16/17	1728198	HT-06
Nitrate + Nitrite (as N)	EPA 300.0	ND	0.40	10	mg/L	07/16/17	07/16/17	1728198	HT-06
Nitrite as N (NO ₂ -N)	EPA 300.0	ND	0.40	1	mg/L	07/16/17	07/16/17	1728198	HT-06
Perchlorate (ClO ₄)	EPA 314.0	ND	4.0	6	ug/L	07/26/17	07/26/17	1730128	
pH (Lab)	SM 4500HB	6.7			pH Units	07/17/17	07/17/17	1729014	
Sulfate (SO₄)	EPA 300.0	130	0.50	500	mg/L	07/14/17	07/16/17	1728198	
Total Filterable Residue/TDS	SM 2540C	430	5.0	1000	mg/L	07/20/17	07/21/17	1729136	
Metals									
Aluminum (Al)	EPA 200.7	150	50	200	ug/L	07/25/17	07/25/17	1730045	
Antimony (Sb)	SM3113-B	ND	6.0	6	ug/L	07/26/17	07/28/17	1730109	
Arsenic (As)	SM3113-B	31	4.0	10	ug/L	07/31/17	08/02/17	1731018	
Barium (Ba)	EPA 200.7	ND	100	1000	ug/L	07/25/17	07/25/17	1730045	
Beryllium (Be)	EPA 200.7	ND	1.0	4	ug/L	07/24/17	07/24/17	1730024	
Boron (B)	EPA 200.7	150	100		ug/L	07/25/17	07/25/17	1730045	
Cadmium (Cd)	EPA 200.7	ND	1.0	5	ug/L	07/24/17	07/24/17	1730024	
Calcium (Ca)	EPA 200.7	59	1.0		mg/L	07/25/17	07/26/17	1730072	
Chromium (+6)	EPA 218.6	ND	1.0	10	ug/L	07/13/17	07/17/17	1728168	
Chromium (Total Cr)	EPA 200.7	ND	10	50	ug/L	07/24/17	07/24/17	1730024	
Copper (Cu)	EPA 200.7	ND	50	1000	ug/L	07/25/17	07/25/17	1730045	
Iron (Fe)	EPA 200.7	770	100	300	ug/L	07/25/17	07/25/17	1730045	
Lead (Pb)	SM3113-B	ND	5.0		ug/L	07/31/17	07/31/17	1731019	
Magnesium (Mg)	EPA 200.7	18	1.0		mg/L	07/25/17	07/26/17	1730072	
Manganese (Mn)	EPA 200.7	150	20	50	ug/L	07/25/17	07/25/17	1730045	
Mercury (Hg)	EPA 245.1	ND	1.0	2	ug/L	07/20/17	07/24/17	1729138	
Nickel (Ni)	EPA 200.7	ND	10	100	ug/L	07/24/17	07/24/17	1730024	
Potassium (K)	EPA 200.7	3.6	1.0		mg/L	07/25/17	07/26/17	1730072	
Selenium (Se)	SM3113-B	ND	5.0	50	ug/L	08/01/17	08/01/17	1731050	
Silver (Ag)	EPA 200.7	ND	10	100	ug/L	07/24/17	07/24/17	1730024	
Sodium (Na)	EPA 200.7	79	1.0		mg/L	07/25/17	07/26/17	1730072	
Thallium (Tl)	EPA 200.9	ND	1.0	2	ug/L	07/28/17	07/28/17	1730166	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



Vandenberg Village CSD

3757 Constellation
Lompoc CA, 93436

Project: Routine

Sub Project: Test Well Zone Testing

Project Manager: Water Quality Supervisor

Work Order: 17G1382

Received: 07/16/17 00:00

Reported: 08/03/17

Zone 1 **17G1382-06 (Water)** **Sample Date:** 07/13/17 15:16 **Sampler:** Jeff Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Vanadium (V)	EPA 200.9	ND	3.0		ug/L	07/25/17	07/26/17	1730037	
Zinc (Zn)	EPA 200.7	ND	50	5000	ug/L	07/25/17	07/25/17	1730045	

Anion / Cation Balance

Hardness, Total (as CaCO3)	Calculated	220			mg/L	07/25/17	07/26/17	[CALC]	
Total Anions	Calculated	7.64			meq/L	07/25/17	07/26/17	[CALC]	
Total Cations	Calculated	7.96			meq/L	07/25/17	07/26/17	[CALC]	
% difference	Calculated	4.1				07/25/17	07/26/17	[CALC]	

HT-06 Sample was received and analyzed outside of recommended hold time.

pH (Lab) was analyzed ASAP but received and analyzed past the 15 minute hold time.

ND Analyte NOT DETECTED at or above the reporting limit

Gregory Nelson

Project Manager

17G1382

Clinical Lab of San Bernardino, Inc.

Chain of Custody

WO _____

21881 Barton Road Grand Terrace CA 92313 909 825-7693 / 516-A N 8th St. Lompoc CA 93436 805 737-7300

Client		Destination Laboratory		Analysis Requested										Comments	Turn Around Time (TAT)						
VAN DEN BERG VILLAGE CSD		[] Clinical Grand Terrace / ELAP 1088		GENERAL MINERAL	INORGANIC	ARSENIC	HALOACETIC ACID	THM	CHROME VI												
Address: 3757 CONSTELLATION RD		[] Clinical Lompoc / ELAP 1678																			
Lompoc CA 93436		[] Other:																			
Client Contact: MIKE GARNER																					
Phone No.: 805 733 2407 FAX No.: 805 733 2109																					
System No.:		Container ID	Matrix	Sample Type	No. of Preserved Cont.										Total Containers						
Project: TEST WELL ZONE TESTING					Unpreserved	ZnCl ₂ H ₆ O ₄															
Sampled By: JEFF COLE					Na ₂ SO ₃	NaOH	HCl	HNO ₃	C ₆ H ₈ O ₆	NH ₄ Cl	Na ₂ S ₂ O ₃										
Comments:																					
Date	Time	Sample Identification																			
7-13-17	1121	ZONE 6																			
7-13-17	1205	ZONE 5																			
7-13-17	1249	ZONE 4																			
7-13-17	135	ZONE 3																			
7-13-17	223	ZONE 2																			
7-13-17	316	ZONE 1																			
		NO ₃ , NO ₂ , NO ₃ /NO ₂ Sum																			
		MBAS OK Out of Hold Time																			
		per client; per Jen/Lompoc																			
		BAL																			
Matrix: DW - Drinking Water GW - Ground Water SW - Surface Water W - Water WW - Wastewater SWR - Stormwater Runoff S - Sludge O - Other _____																					
Use for Bacteria Samples / Sample Type: 1-Routine 2-Repeat 3-Replacement 4-Special D-Distribution W-Well										TAT: (10) Ten Day (5) Five Day Rush (2) Two Day Rush											
Relinquished By (Sign)	Print Name / Company		Date / Time	Received By (Sign)	Print Name / Company																
	JEFF COLE VVCS D		7-13-17 335		CLSB # 7/13/17 1540																
	JEN KOZUMBA / CLSB		07/14/17 120		CLSB																
(Lab Use Only) Lompoc Lab Receipt Temp.: _____ °C																					
Shipped Via: [] Fed Ex [] Golden State Overnight [] UPS [] OnTrac [] USPS [] Other _____																					
Condition: [] On Wet Ice [] On Blu Ice [] Intact [] Custody Seals Samples / COC Checked By: _____ Work Order Logged By: _____																					
Receipt Comments: _____ Clinical Lab Receipt Temp.: _____ °C																					

Clinical Laboratory of San Bernardino II

Client: **Vandenberg Village**
3757 Constellation Rd.
Lompoc, CA 93436

Contact: **Mike Garner**
Phone: **(805) 733-2475**
Email: **Vandenberg Village Group**
System No. **4210017**

Project: **General Physical**

Sampler: **Jeff Cole**
Date Sampled: **July 13, 2017**
Date/Time Setup: **July 13, 2017 @ 16:50**
Date/Time Read: **July 13, 2017 @ 16:50**
Date Reported: **July 13, 2017**

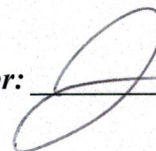
Results

<i>Laboratory ID</i>	<i>Sample Time</i>	<i>Sample Location</i>	<i>Field pH</i>	<i>Field Temp (C)</i>	<i>Color SM 2120B (CU)</i>	<i>Odor EPA 140.1 (TON)</i>	<i>Turbidity EPA 180.1 (NTU)</i>
		Test Well Zone 5	6.39	68	15	1	9.28
		Test Well Zone 3	6.36	68	10	2	5.50
		Test Well Zone 1	6.29	69	5	2	3.95

Sample Types

1 = routine
2 = repeat
3 = replacement
4 = special
W = well
D = distribution

Laboratory Director: _____



Clinical Laboratory of San Bernardino II

GENERAL PHYSICAL REPORT

Certification #1678

516A North 8th Street

Lompoc, Ca 93436

Purveyor VANDENBERG VILLAGE CSD **Sampler** JEFF COLE
Street Address 3757 CONSTELLATION RD Lompoc CA 93436
Date- Time Sampled 7-13-17 **Date-Time submitted to Lab** 7-13-17

Ref	Sample Location	pH	Temp	Time	Color	Odor	Turbidity
1	TEST WELL ZONE 5	6.39	68°				
2	TEST WELL ZONE 3	6.36	68°				
3	TEST WELL ZONE 1	6.29	69°				
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Date Completed 7/13/17 1650 **Analyst** [Signature]
Approved Lab Director _____ **Date Approved** _____

Analysis are performed in accordance with the Standard Methods of Water /Wastewater(20th Ed)
 Relinquished By JEFF COLE Company WVCS D Date-Time 7-13-17 Recd _____ Time 335
 Relinquished By _____ Company _____ Date-Time [Signature] Recd CLSB Time 7/13/17

1540

TEST PUMPING DATA

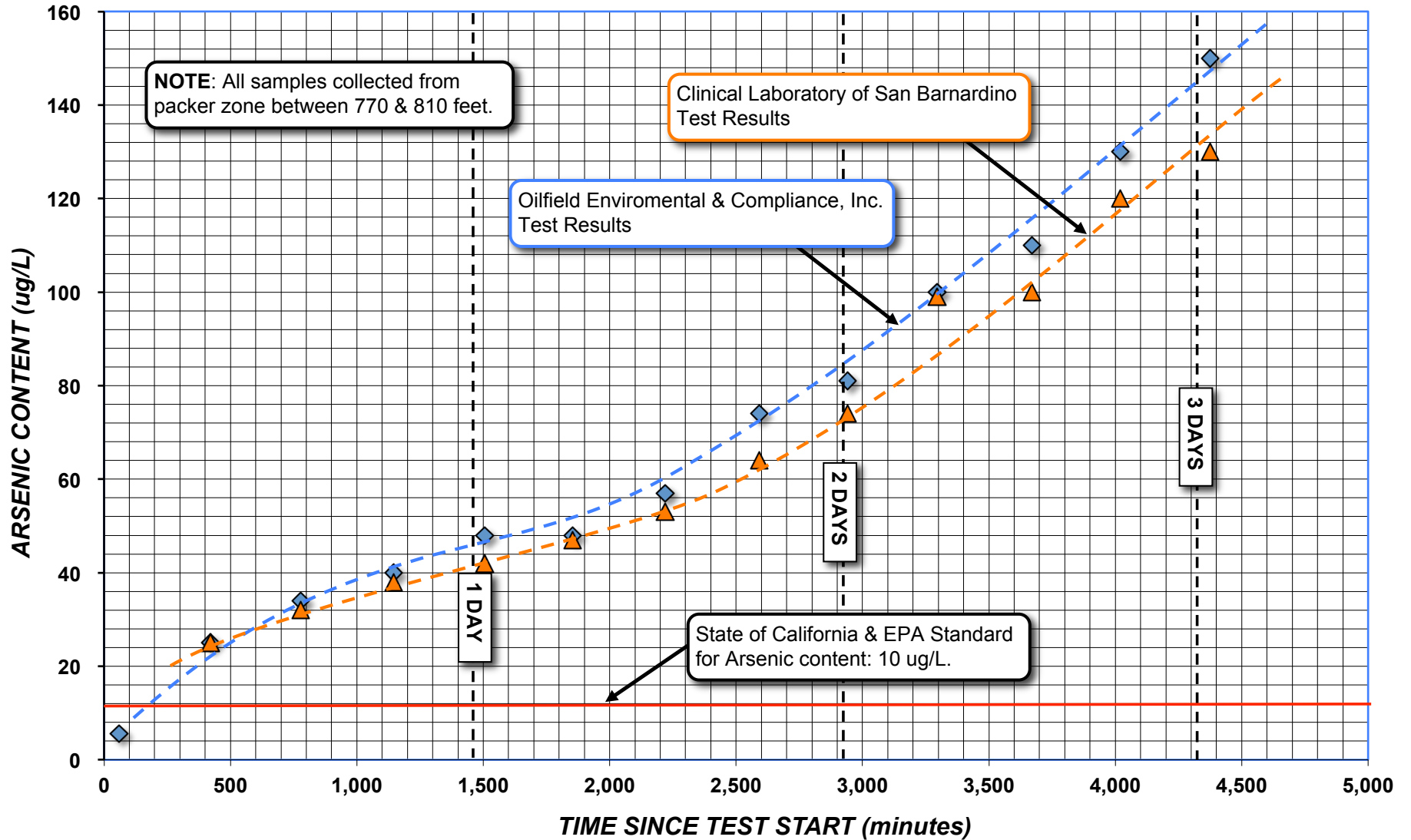
Nov. 6 thru Nov. 9, 2017

Vandenberg Village CSD - Fire Station #51 Test Well
770' to 810' Zone Test Data Sheet
Arsenic Content: Nov. 6th thur Nov. 9th, 2017

WELL OWNER:	Vandenberg Village CSD
WELL NAME:	Fire Station #51 Test Well
DATE OF TEST PUMPING PROCEDURE:	Nov. 6th thru Nov. 9, 2017
DEPTH OF WELL:	820 feet
ZONE TEST INTERVAL (below packer)	770 to 810 feet
FLOW RATE DURING TEST	80 to 95 gpm
TECHNICIAN:	Vandenberg Village CSD staff
DATUM POINT:	top of casing

DATE	TIME	TIME SINCE START (min.)	ZONE TEST #	CLINICAL LABORATORY OF SAN BERNARDINO TEST DATA	OILFIELD ENVIRONMENTAL & COMPLIANCE TEST DATA
				ARSENIC CONTENT (ug/L) parts per billion	ARSENIC CONTENT (ug/L) parts per billion
11/6/17	8:00 AM	0		no sample	no sample
11/6/17	9:00 AM	60	1	no sample	5.6
11/6/17	3:00 PM	420	2	25	25
11/7/17	8:58 PM	778	3	32	34
11/7/17	3:07 AM	1147	4	38	40
11/7/17	9:05 AM	1505	5	42	48
11/7/17	2:53 PM	1853	6	47	48
11/8/17	9:00 PM	2220	7	53	57
11/8/17	3:10 AM	2590	8	64	74
11/8/17	9:00 AM	2940	9	74	81
11/8/17	2:55 PM	3295	10	99	100
11/9/17	9:10 PM	3670	11	100	110
11/9/17	3:00 AM	4020	12	120	130
1/0/00	8:56 AM	4376	13	130	150

Vandenberg Village CSD - Fire Station #51 Test Well
 770' to 810' Zone Test Data Graph
 Arsenic Content: Nov. 6th thur Nov. 9th, 2017



Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



Vandenberg Village CSD
3757 Constellation
Lompoc CA, 93436

Project: Routine
Sub Project: VVCSD Test Well
Project Manager: Water Quality Supervisor

Work Order: 17K0980
Received: 11/10/17 09:07
Reported: 11/28/17

Test Well 2 **17K0980-01 (Water)** **Sample Date:** 11/06/17 15:00 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **25** 2.0 10 ug/L 11/28/17 11/28/17 1748034

Test Well 3 **17K0980-02 (Water)** **Sample Date:** 11/06/17 20:58 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **32** 2.0 10 ug/L 11/28/17 11/28/17 1748034

Test Well 4 **17K0980-03 (Water)** **Sample Date:** 11/07/17 3:04 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **38** 2.0 10 ug/L 11/28/17 11/28/17 1748034

Test Well 5 **17K0980-04 (Water)** **Sample Date:** 11/07/17 9:05 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **42** 2.0 10 ug/L 11/28/17 11/28/17 1748034

Test Well 6 **17K0980-05 (Water)** **Sample Date:** 11/07/17 14:53 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **47** 4.0 10 ug/L 11/28/17 11/28/17 1748034

Test Well 7 **17K0980-06 (Water)** **Sample Date:** 11/07/17 21:00 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **53** 4.0 10 ug/L 11/28/17 11/28/17 1748034

Gregory Nelson
Project Manager

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



Vandenberg Village CSD
3757 Constellation
Lompoc CA, 93436

Project: Routine
Sub Project: VVCSD Test Well
Project Manager: Water Quality Supervisor

Work Order: 17K0980
Received: 11/10/17 09:07
Reported: 11/28/17

Test Well 8 **17K0980-07 (Water)** **Sample Date:** 11/08/17 3:10 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **64** 4.0 10 ug/L 11/28/17 11/28/17 1748034

Test Well 9 **17K0980-08 (Water)** **Sample Date:** 11/08/17 9:00 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **74** 4.0 10 ug/L 11/28/17 11/28/17 1748034

Test Well 10 **17K0980-09 (Water)** **Sample Date:** 11/08/17 14:55 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **99** 4.0 10 ug/L 11/28/17 11/28/17 1748034

Test Well 11 **17K0980-10 (Water)** **Sample Date:** 11/08/17 21:00 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **100** 10 10 ug/L 11/28/17 11/28/17 1748034

Test Well 12 **17K0980-11 (Water)** **Sample Date:** 11/09/17 3:00 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **120** 10 10 ug/L 11/28/17 11/28/17 1748034

Test Well 13 **17K0980-12 (Water)** **Sample Date:** 11/09/17 8:56 **Sampler:** Jeffrey Cole

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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Metals

Arsenic (As) SM3113-B **130** 10 10 ug/L 11/28/17 11/28/17 1748034

ND Analyte NOT DETECTED at or above the reporting limit

Gregory Nelson
Project Manager

0-0-812

17K0980

Clinical Lab of San Bernardino, Inc. Chain of Custody

21881 Barton Road Grand Terrace CA 92313 909 825-7693 / 516-A N 8th St. Lompoc CA 93436 805 737-7300

Client		Destination Laboratory		Analysis Requested									
VANDERBERG VILLAGE CSD		[] Clinical Grand Terrace / ELAP 1088		ARSENIC									
Address: 3757 CONSTELLATION RD		[] Clinical Lompoc / ELAP 1678											
Lompoc, CA 93436		[] Other:											
Client Contact: MIKE GARNER													
Phone No.: 805 733 2475 FAX No.: 805 733 2109													
System No.: 420017													
Project: VUCSD TEST WELL													
Sampled By: Jeffery's Cell													
Comments:													

Date	Time	Sample Identification	Container ID	Matrix	Sample Type	No. of Preserved Cont.										Total Containers	Comments	Turn Around Time (TAT)
						Unpreserved	Na2S2O3	NH4Cl	C6H8O6	HNO3	HCl	NaOH	Na2SO3	ZnC4H6O4				
11-6-17	1500	TEST WELL 2													1			
11-6-17	2050	TEST WELL 3													1			
11-7-17	0801	TEST WELL 4													1			
11-7-17	0905	TEST WELL 5													1			
11-7-17	1453	TEST WELL 6													1			
11-7-17	2100	TEST WELL 7													1			
11-8-17	0310	TEST WELL 8													1			
11-8-17	0900	TEST WELL 9													1			
11-8-17	1455	TEST WELL 10													1			
11-8-17	2100	TEST WELL 11													1			
11-9-17	0300	TEST WELL 12													1			
11-9-17	0850	TEST WELL 13													1			

Relinquished By (Sign)	Print Name / Company	Date / Time	Received By (Sign)	Print Name / Company
<i>Jeffery's Cell</i>	JEFF COLE VUCSD	11/9/17 0830	<i>M. Madsen</i>	M. MADSEN
<i>M. Madsen</i>	M. MADSEN CLSBA#	11/9/17 9:55	<i>Jeanette Hernandez</i>	J. A. CISB
		11/10 9:07		

Matrix: DW - Drinking Water GW - Ground Water SW - Surface Water W - Water WW - Wastewater SWR - Stormwater Runoff S - Sludge O - Other

Use for Bacteria Samples / Sample Type: 1-Routine 2-Repeat 3-Replacement 4-Special D-Distribution W-Well TAT: (10) Ten Day (5) Five Day Rush (2) Two Day Rush

(Lab Use Only) Lompoc Lab Receipt Temp.: 7 °C

Shipped Via: [] Fed Ex [] Golden State Overnight [] UPS [] OnTrac [] USPS [] Other

Condition: [] On Wet Ice [] On Blu Ice [] Intact [] Custody Seals Samples / COC Checked By: _____ Work Order Logged By: _____

Receipt Comments: _____ Clinical Lab Receipt Temp.: 5.3 °C



Oilfield Environmental & Compliance, Inc.

Mike Garner
Vandenberg Village CSD
3757 Constellation Road
Lompoc, CA 93436

Report: November 7, 2017 13:12

Work Order: 1704078

Project: Well Monitoring
Number: VVCSD Test Well

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on November 06, 2017 09:42 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Elizabeth Minemann, Project Manager

eminemann@oecusa.com



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD Test Well
Project Manager: Mike Garner

Reported:
11/07/2017 13:12

SAMPLE SUMMARY

Sample ID	Laboratory ID	Client Matrix	Lab Matrix	Date Sampled	Date Received
Test Well 1	1704078-01	Water	Water	11/06/17 08:51	11/06/17 09:42

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.



Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD Test Well
Project Manager: Mike Garner

Reported:
11/07/2017 13:12

**ANALYTICAL REPORT FOR SAMPLES
1704078-01 (Water)
Test Well 1**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	5.6	2.0	ug/L	1	B7K0133	11/06/17	11/06/17	EPA 200.8	
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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.



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
 3757 Constellation Road
 Lompoc CA, 93436

Project: Well Monitoring
 Project Number: VVCSD Test Well
 Project Manager: Mike Garner

Reported:
 11/07/2017 13:12

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7K0133 - EPA 200.8 Preparation: EPA 200.8 11/06/17 11:07										
Blank (B7K0133-BLK1) Analyzed: 11/06/17 16:04										
Arsenic	ND	2.0	ug/L							
LCS (B7K0133-BS1) Analyzed: 11/06/17 16:07										
Arsenic	133	2.0	ug/L	125		106	85-115			
LCS Dup (B7K0133-BSD1) Analyzed: 11/06/17 16:10										
Arsenic	134	2.0	ug/L	125		107	85-115	1.06	20	
Duplicate (B7K0133-DUP1) Source: 1704007-01 Analyzed: 11/06/17 16:27										
Arsenic	ND	2.0	ug/L		ND				20	
Matrix Spike (B7K0133-MS1) Source: 1704007-01 Analyzed: 11/06/17 16:13										
Arsenic	155	2.0	ug/L	125	ND	124	70-130			
Matrix Spike Dup (B7K0133-MSD1) Source: 1704007-01 Analyzed: 11/06/17 16:15										
Arsenic	143	2.0	ug/L	125	ND	114	70-130	7.83	20	
Post Spike (B7K0133-PS1) Source: 1704007-01 Analyzed: 11/06/17 16:18										
Arsenic	138		ug/L	125	1.01	109	75-125			

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.



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD Test Well
Project Manager: Mike Garner

Reported:
11/07/2017 13:12

Notes and Definitions

RL Reporting Limit (Quantitation Limit)
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference

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.



Oilfield Environmental and Compliance

307 Roemer Way Suite 300, Santa Maria, CA 93454

Phone: (805) 922-4772 Fax: (805) 925-3376 www.oecusa.com

101 Adkisson Way, Taft, CA 93268

Phone: (661) 762-9143

CHAIN OF CUSTODY

Page 1 of 1

Company: <u>VANDENBERG VILLAGE CSD</u>					Project Name/ #: <u>VVCSO TEST WELL</u>									
Address: <u>3757 CONSTELLATION RD</u>					Site:									
City/State/ZIP: <u>Lompoc Ca 93436</u>					Analysis Requested					Special Instructions:				
Phone: <u>805 733 2475</u> Fax: <u>805 733 2109</u> E-mail: <u>MGARNER@VVCSO.ORG</u>														
Report To: <u>MIKE GARNER</u> Sampler: <u>JEFF COLE</u>					ARSENIC									
Report Format(s): FAX- <input checked="" type="checkbox"/> PDF (std)- <input checked="" type="checkbox"/> Col/LUFT EDF- <input type="checkbox"/> EDD- <input type="checkbox"/>														
Turnaround Time: 10 Days- <input type="checkbox"/> 5 Days (std)- <input type="checkbox"/> 3 Days- <input type="checkbox"/> 2 Days- <input type="checkbox"/> 1 Day- <input checked="" type="checkbox"/> ASAP- <input type="checkbox"/>														
NOTE: Samples received after 4:00PM will be considered as received the next business day														
OEC Sample ID	Date/Time Sampled	Matrix** (see key)	# of Cont.	Client Sample ID	ARSENIC									
<u>1704078-1A</u>	<u>11-6-17</u> <u>OBS1</u>	<u>GW</u>	<u>1</u>	<u>TEST WELL 1</u>										

Relinquished By: <u>[Signature]</u>	Date: <u>11-6-17</u>	Time: <u>0942</u>	Matrix Key**: A = air / vapor AQ = aqueous DW = drinking water F = filter GW = ground water P = product / oil PW = product water S = solid / sediment SW = surface water WP = wipe WW = waste water	Comments/PO#: <u>REC'D @ 19.2°C</u>
Received By: <u>[Signature]</u>	Date: <u>11/06/17</u>	Time: <u>0942</u>		
Relinquished By: _____	Date: _____	Time: _____		
Received By: _____	Date: _____	Time: _____		
Relinquished By: _____	Date: _____	Time: _____		
Received By: _____	Date: _____	Time: _____		



CLIENT: VUCSD

WORK ORDER: 1704078

TEMPERATURE: 19.2 °C

SAMPLE RECEIPT

COC RECEIVED DATE/TIME: 11/06/17 @ 0942

LOGIN DATE/TIME: 11/06/17 @ 1110

Acceptable Range: 0°C to 6°C [see exception notes below]

REFRIGERATOR(S): 8

SAMPLE TRANSPORT		SAMPLE RECEIPT, CONDITION, PRESERVATION		(*) PROBLEM CHAIN REQUIRED			(**) OEC PRES. ID
<input type="checkbox"/> OEC Courier/Sampler	<input type="checkbox"/> Samples Received on Ice Within Temperature Range [Acceptable]	Completed COC(s) Received With Samples	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A		
<input checked="" type="checkbox"/> Delivery (Other than OEC)	<input checked="" type="checkbox"/> Samples Received Outside Temperature Range [Acceptable]	Correct Container(s)/Preserve for Analysis	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A		
<input type="checkbox"/> After-Hours Outside Drop-Off [Brought Inside]	<input checked="" type="checkbox"/> Direct from Field, on ice	Container(s) Intact and in Good Condition	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A		
Initials/Date/Time: _____	<input type="checkbox"/> Ambient: Air or Filter Matrix	Container Label(s) Consistent with COC	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A		
<input type="checkbox"/> Shipment Carrier: _____	<input type="checkbox"/> Received Ambient, Placed on Ice for Transport	OEC Preservation Added **	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> N/A		
Tracking #: _____	<input type="checkbox"/> Sample Temperature Acceptable for Analysis Requested	Sample Quantity Sufficient & Appropriate	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> N/A		
CUSTODY SEALS <input checked="" type="checkbox"/> None Present	<input type="checkbox"/> Samples Received Outside Temperature Range [Exception] ^v	VOA Containers Free of Headspace	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> N/A	^v See Comments below or Problem Chain	
Cooler(s): <input type="checkbox"/> Present, Intact <input type="checkbox"/> Present, Not Intact <input type="checkbox"/> None	<input type="checkbox"/> Insufficient Ice or Unknown Cause	Tedlar Bag(s) Free of Condensation	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> N/A		
Sample(s): <input type="checkbox"/> Present, Intact <input type="checkbox"/> Present, Not Intact <input type="checkbox"/> None	<input type="checkbox"/> Excessive Free Liquid in Sample Bags or Cooler	<input type="checkbox"/> * or <input type="checkbox"/> ↓ (Comments) Expedited PM Notification [Init/Date/Time]: _____					

CONTAINERS, COC CHANGES, AND/OR CORRECTIONS						
OEC CONTAINER ID	CONTAINER DESCRIPTION	PRESERVATIVE	CHECKS: Cl ⁻ , S ⁻ &/or pH	MATRIX	COMMENTS	INITIALS
1A	1-250 mL Poly	HNO ₃	MEZ	W		

RECEIPT LOGIN BY: [Signature]

RECEIPT REVIEWED BY: [Signature]

Page 1 of 1

Rev. 03/09/2017



Oilfield Environmental & Compliance, Inc.

Mike Garner
Vandenberg Village CSD
3757 Constellation Road
Lompoc, CA 93436

Report: November 7, 2017 16:37

Work Order: 1704103

Project: Well Monitoring
Number: VVCSD TEST WELL

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on November 07, 2017 09:50 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Elizabeth Minemann, Project Manager

eminemann@oecusa.com

California ELAP Certification # 2438
307 Roemer Way, Suite 300, Santa Maria, CA 93454

Client Connect: client.oec.com/reports
www.oecusa.com

TEL: (805) 922-4772
FAX: (805) 925-3376



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TEST WELL
Project Manager: Mike Garner

Reported:
11/07/2017 16:37

SAMPLE SUMMARY

Sample ID	Laboratory ID	Client Matrix	Lab Matrix	Date Sampled	Date Received
TEST WELL 2	1704103-01	Water	Water	11/06/17 15:00	11/07/17 09:50
TEST WELL 3	1704103-02	Water	Water	11/06/17 20:59	11/07/17 09:50
TEST WELL 4	1704103-03	Water	Water	11/07/17 03:04	11/07/17 09:50
TEST WELL 5	1704103-04	Water	Water	11/07/17 09:05	11/07/17 09:50

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



Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TEST WELL
Project Manager: Mike Garner

Reported:
11/07/2017 16:37

**ANALYTICAL REPORT FOR SAMPLES
1704103-01 (Water)
TEST WELL 2**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	25	2.0	ug/L	1	B7K0133	11/07/17	11/07/17	EPA 200.8	
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**1704103-02 (Water)
TEST WELL 3**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	34	2.0	ug/L	1	B7K0133	11/07/17	11/07/17	EPA 200.8	
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**1704103-03 (Water)
TEST WELL 4**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	40	2.0	ug/L	1	B7K0133	11/07/17	11/07/17	EPA 200.8	
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**1704103-04 (Water)
TEST WELL 5**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	48	2.0	ug/L	1	B7K0133	11/07/17	11/07/17	EPA 200.8	
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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.



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
 3757 Constellation Road
 Lompoc CA, 93436

Project: Well Monitoring
 Project Number: VVCSD TEST WELL
 Project Manager: Mike Garner

Reported:
 11/07/2017 16:37

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7K0133 - EPA 200.8 Preparation: EPA 200.8 11/06/17 11:07										
Blank (B7K0133-BLK1) Analyzed: 11/06/17 16:04										
Arsenic	ND	2.0	ug/L							
LCS (B7K0133-BS1) Analyzed: 11/06/17 16:07										
Arsenic	133	2.0	ug/L	125		106	85-115			
LCS Dup (B7K0133-BSD1) Analyzed: 11/06/17 16:10										
Arsenic	134	2.0	ug/L	125		107	85-115	1.06	20	
Duplicate (B7K0133-DUP1) Source: 1704007-01 Analyzed: 11/06/17 16:27										
Arsenic	ND	2.0	ug/L		ND				20	
Matrix Spike (B7K0133-MS1) Source: 1704007-01 Analyzed: 11/06/17 16:13										
Arsenic	155	2.0	ug/L	125	ND	124	70-130			
Matrix Spike Dup (B7K0133-MSD1) Source: 1704007-01 Analyzed: 11/06/17 16:15										
Arsenic	143	2.0	ug/L	125	ND	114	70-130	7.83	20	
Post Spike (B7K0133-PS1) Source: 1704007-01 Analyzed: 11/06/17 16:18										
Arsenic	138		ug/L	125	1.01	109	75-125			

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.



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TEST WELL
Project Manager: Mike Garner

Reported:
11/07/2017 16:37

Notes and Definitions

RL Reporting Limit (Quantitation Limit)
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference

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.



CLIENT: VANDENBERG VILLAGE CSD

WORK ORDER: 1704103

TEMPERATURE: 12.7 °C
Acceptable Range: 0°C to 6°C [see exception notes below]

SAMPLE RECEIPT

COC RECEIVED DATE/TIME: 11/07/17 0950

LOGIN DATE/TIME: 11/07/17 1013

REFRIGERATOR(S): 0

SAMPLE TRANSPORT		SAMPLE RECEIPT, CONDITION, PRESERVATION		(*) PROBLEM CHAIN REQUIRED		YES	NO	N/A	(**) OEC PRES. ID
<input type="checkbox"/> OEC Courier/Sampler		<input type="checkbox"/> Samples Received on Ice Within Temperature Range [Acceptable]	Completed COC(s) Received With Samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>		
<input checked="" type="checkbox"/> Delivery (Other than OEC)		<input type="checkbox"/> Samples Received Outside Temperature Range [Acceptable]	Correct Container(s)/Preserve for Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>		
<input type="checkbox"/> After-Hours Outside Drop-Off [Brought Inside]		<input type="checkbox"/> Direct from Field, on ice	Container(s) Intact and in Good Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>		
Initials/Date/Time: _____		<input type="checkbox"/> Ambient: Air or Filter Matrix	Container Label(s) Consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>		
<input type="checkbox"/> Shipment Carrier: _____		<input type="checkbox"/> Received Ambient, Placed on Ice for Transport	OEC Preservation Added **	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>		
Tracking #: _____		<input type="checkbox"/> Sample Temperature Acceptable for Analysis Requested	Sample Quantity Sufficient & Appropriate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>		
CUSTODY SEALS	<input checked="" type="checkbox"/> None Present	<input checked="" type="checkbox"/> Samples Received Outside Temperature Range [Exception] v	VOA Containers Free of Headpace	<input type="checkbox"/>	<input type="checkbox"/>	v	<input checked="" type="checkbox"/>		See Comments below or Problem Chain
Cooler(s): <input type="checkbox"/> Present, Intact <input type="checkbox"/> Present, Not Intact <input type="checkbox"/> None		<input checked="" type="checkbox"/> Insufficient Ice or UNKNOWN Cause	Tedlar Bag(s) Free of Condensation	<input type="checkbox"/>	<input type="checkbox"/>	v	<input checked="" type="checkbox"/>		
Sample(s): <input type="checkbox"/> Present, Intact <input type="checkbox"/> Present, Not Intact <input type="checkbox"/> None		<input type="checkbox"/> Excessive Free Liquid in Sample Bags or Cooler	<input type="checkbox"/> *OR <input type="checkbox"/> (Comments) Expedited PM Notification [Init/Date/Time]: _____						

CONTAINERS, COC CHANGES, AND/OR CORRECTIONS

OEC CONTAINER ID	CONTAINER DESCRIPTION	PRESERVATIVE	CHECKS: Cl, S* &/or pH	MATRIX	COMMENTS	INITIALS
<u>Q-04A</u>	<u>1-250ml POLY</u>	<u>HNO3</u>	<u>PH 2</u>	<u>W</u>		

Rev. 08/09/2017

RECEIPT LOGIN BY: [Signature]

RECEIPT REVIEWED BY: [Signature] 11/7/17



Oilfield Environmental & Compliance, Inc.

Mike Garner
Vandenberg Village CSD
3757 Constellation Road
Lompoc, CA 93436

Report: November 9, 2017 11:06

Work Order: 1704129

Project: Well Monitoring
Number: VVCSD TEST WELL - SBCO STA51

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on November 08, 2017 09:47 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Meredith Sprister, Project Manager

msprister@oecusa.com



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TEST WELL - SBCO STA51
Project Manager: Mike Garner

Reported:
11/09/2017 11:06

SAMPLE SUMMARY

Sample ID	Laboratory ID	Client Matrix	Lab Matrix	Date Sampled	Date Received
TEST WELL 6	1704129-01	Water	Water	11/07/17 14:53	11/08/17 09:47
TEST WELL 7	1704129-02	Water	Water	11/07/17 21:00	11/08/17 09:47
TEST WELL 8	1704129-03	Water	Water	11/08/17 03:10	11/08/17 09:47
TEST WELL 9	1704129-04	Water	Water	11/08/17 09:00	11/08/17 09:47

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.



Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TEST WELL - SBCO STA51
Project Manager: Mike Garner

Reported:
11/09/2017 11:06

**ANALYTICAL REPORT FOR SAMPLES
1704129-01 (Water)
TEST WELL 6**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	48	2.0	ug/L	1	B7K0219	11/08/17	11/08/17	EPA 200.8	
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**1704129-02 (Water)
TEST WELL 7**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	57	2.0	ug/L	1	B7K0219	11/08/17	11/08/17	EPA 200.8	
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**1704129-03 (Water)
TEST WELL 8**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	74	2.0	ug/L	1	B7K0219	11/08/17	11/08/17	EPA 200.8	
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**1704129-04 (Water)
TEST WELL 9**

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	81	2.0	ug/L	1	B7K0219	11/08/17	11/08/17	EPA 200.8	
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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.



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
 3757 Constellation Road
 Lompoc CA, 93436

Project: Well Monitoring
 Project Number: VVCSD TEST WELL - SBCO STA51
 Project Manager: Mike Garner

Reported:
 11/09/2017 11:06

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7K0219 - EPA 200.8 Preparation: EPA 200.8 11/08/17 10:40										
Blank (B7K0219-BLK1)										
Arsenic	ND	2.0	ug/L							Analyzed: 11/08/17 16:29
LCS (B7K0219-BS1)										
Arsenic	140	2.0	ug/L	125		112	85-115			Analyzed: 11/08/17 16:36
LCS Dup (B7K0219-BSD1)										
Arsenic	125	2.0	ug/L	125		100	85-115	11.1	20	Analyzed: 11/08/17 16:38
Duplicate (B7K0219-DUP1) Source: 1704099-01										
Arsenic	ND	2.0	ug/L		ND				20	Analyzed: 11/08/17 17:05
Matrix Spike (B7K0219-MS1) Source: 1704099-01										
Arsenic	138	2.0	ug/L	125	ND	110	70-130			Analyzed: 11/08/17 16:40
Matrix Spike Dup (B7K0219-MSD1) Source: 1704099-01										
Arsenic	137	2.0	ug/L	125	ND	109	70-130	0.921	20	Analyzed: 11/08/17 16:42
Post Spike (B7K0219-PS1) Source: 1704099-01										
Arsenic	127		ug/L	125	1.48	100	75-125			Analyzed: 11/08/17 16:45

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.



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TEST WELL - SBCO STA51
Project Manager: Mike Garner

Reported:
11/09/2017 11:06

Notes and Definitions

RL Reporting Limit (Quantitation Limit)
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference

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.



CLIENT: VANDENBERG VILLAGE CSD
 COC RECEIVED DATE/TIME: 11/08/17 0947

WORK ORDER: 1704129
 LOGIN DATE/TIME: 11/08/17 1027

TEMPERATURE: 19.7 °C
 Acceptable Range: 0°C to 6°C [see exception notes below]

SAMPLE RECEIPT

REFRIGERATOR(S): (8)

SAMPLE TRANSPORT		SAMPLE RECEIPT, CONDITION, PRESERVATION		(*) PROBLEM CHAIN REQUIRED		YES	NO	N/A	(**) OEC PRES. ID
<input type="checkbox"/> OEC Courier/Sampler		<input type="checkbox"/> Samples Received on Ice Within Temperature Range [Acceptable]	Completed COC(s) Received With Samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Delivery (Other than OEC)		<input type="checkbox"/> Samples Received Outside Temperature Range [Acceptable]	Correct Container(s)/Preserve for Analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>	
<input type="checkbox"/> After-Hours Outside Drop-Off [Brought Inside]		<input type="checkbox"/> Direct from Field, on Ice	Container(s) Intact and in Good Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>	
Initials/Date/Time: _____		<input type="checkbox"/> Ambient: Air or Filter Matrix	Container Label(s) Consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>	
<input type="checkbox"/> Shipment Carrier: _____		<input type="checkbox"/> Received Ambient, Placed on Ice for Transport	OEC Preservation Added **	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>	
Tracking #: _____		<input type="checkbox"/> Sample Temperature Acceptable for Analysis Requested	Sample Quantity Sufficient & Appropriate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*	<input type="checkbox"/>	
CUSTODY SEALS <input checked="" type="checkbox"/> None Present		<input checked="" type="checkbox"/> Samples Received Outside Temperature Range [Exception] ^v	VOA Containers Free of Headspace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	v	<input checked="" type="checkbox"/>	** See Comments below or Problem Chain
Cooler(s): <input type="checkbox"/> Present, Intact <input type="checkbox"/> Present, Not Intact <input type="checkbox"/> None		<input checked="" type="checkbox"/> Insufficient Ice or Unknown Cause	Tedlar Bag(s) Free of Condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	v	<input checked="" type="checkbox"/>	
Sample(s): <input type="checkbox"/> Present, Intact <input type="checkbox"/> Present, Not Intact <input type="checkbox"/> None		<input type="checkbox"/> Excessive Free Liquid in Sample Bags or Cooler	<input type="checkbox"/> * OR <input type="checkbox"/> ↓ (Comments) Expedited PM Notification [Init/Date/Time]: _____						

CONTAINERS, COC CHANGES, AND/OR CORRECTIONS						
OEC CONTAINER ID	CONTAINER DESCRIPTION	PRESERVATIVE	CHECKS: Cl ⁻ , S ²⁻ &/or pH	MATRIX	COMMENTS	INITIALS
01-04A	+125 1-250ml POLYEA	HNO ₃	pH < 2	W	(8)	

Rev. 08/09/2017

RECEIPT LOGIN BY: [Signature]

RECEIPT REVIEWED BY: CKC



Oilfield Environmental & Compliance, Inc.

Mike Garner
Vandenberg Village CSD
3757 Constellation Road
Lompoc, CA 93436

Report: November 10, 2017 13:58

Work Order: 1704160

Project: Well Monitoring
Number: VVCSD TESTWELL - SBCO STA51

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on November 09, 2017 10:35 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Meredith Sprister, Project Manager

msprister@oecusa.com



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TESTWELL - SBCO STA51
Project Manager: Mike Garner

Reported:
11/10/2017 13:58

SAMPLE SUMMARY

Sample ID	Laboratory ID	Client Matrix	Lab Matrix	Date Sampled	Date Received
TEST WELL 10	1704160-01	Water	Water	11/08/17 14:55	11/09/17 10:35
TEST WELL 11	1704160-02	Water	Water	11/08/17 21:00	11/09/17 10:35
TEST WELL 12	1704160-03	Water	Water	11/09/17 03:00	11/09/17 10:35
TEST WELL 13	1704160-04	Water	Water	11/09/17 08:56	11/09/17 10:35

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.



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TESTWELL - SBCO STA51
Project Manager: Mike Garner

Reported:
11/10/2017 13:58

ANALYTICAL REPORT FOR SAMPLES 1704160-01 (Water) TEST WELL 10

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	100	2.0	ug/L	1	B7K0257	11/09/17	11/09/17	EPA 200.8	
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1704160-02 (Water) TEST WELL 11

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	110	2.0	ug/L	1	B7K0257	11/09/17	11/09/17	EPA 200.8	
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1704160-03 (Water) TEST WELL 12

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	130	2.0	ug/L	1	B7K0257	11/09/17	11/09/17	EPA 200.8	
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1704160-04 (Water) TEST WELL 13

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	150	2.0	ug/L	1	B7K0257	11/09/17	11/09/17	EPA 200.8	
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Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
 3757 Constellation Road
 Lompoc CA, 93436

Project: Well Monitoring
 Project Number: VVCSD TESTWELL - SBCO STA51
 Project Manager: Mike Garner

Reported:
 11/10/2017 13:58

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7K0257 - EPA 200.8 Preparation: EPA 200.8 11/09/17 11:07

Blank (B7K0257-BLK1)

Arsenic ND 2.0 ug/L Analyzed: 11/09/17 13:58

LCS (B7K0257-BS1)

Arsenic 116 2.0 ug/L 125 92.8 85-115 Analyzed: 11/09/17 14:00

LCS Dup (B7K0257-BSD1)

Arsenic 123 2.0 ug/L 125 98.0 85-115 5.42 20 Analyzed: 11/09/17 14:03

Duplicate (B7K0257-DUP1)

Arsenic 107 2.0 ug/L 102 5.11 20 **Source: 1704160-01** Analyzed: 11/09/17 14:16

Matrix Spike (B7K0257-MS1)

Arsenic 256 2.0 ug/L 125 102 124 70-130 **Source: 1704160-01** Analyzed: 11/09/17 14:05

Post Spike (B7K0257-PS1)

Arsenic 254 ug/L 125 101 122 75-125 **Source: 1704160-01** Analyzed: 11/09/17 14:09

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Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD
3757 Constellation Road
Lompoc CA, 93436

Project: Well Monitoring
Project Number: VVCSD TESTWELL - SBCO STA51
Project Manager: Mike Garner

Reported:
11/10/2017 13:58

Notes and Definitions

RL Reporting Limit (Quantitation Limit)
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference

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TEST PUMPING DATA

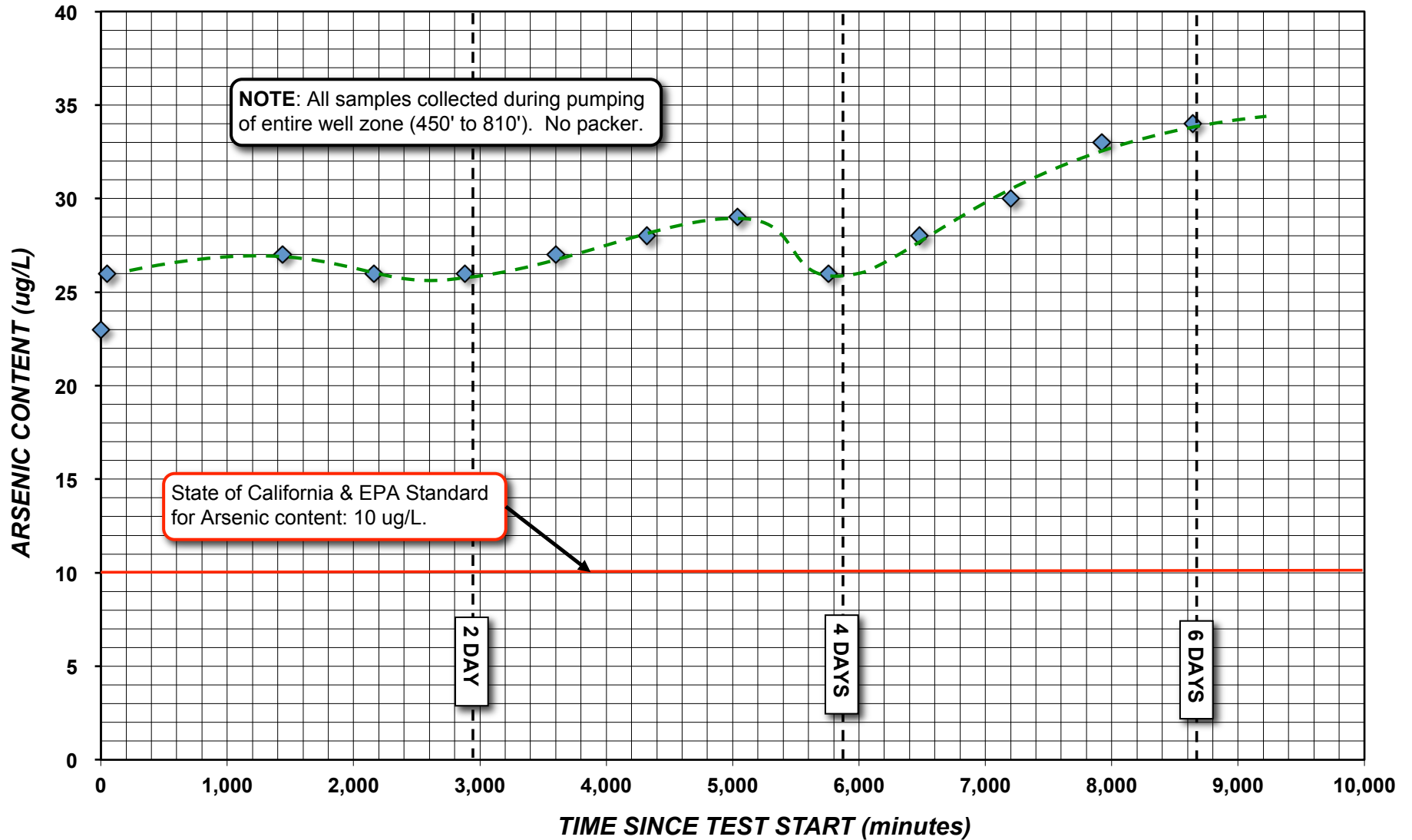
Jan. 3 thru Jan. 9, 2018

Vandenberg Village CSD - Fire Station #51 Test Well
Entire Well (450' to 810') Zone Test for
Arsenic Content: Jan 3rd thur Jan 9th, 2018

WELL OWNER:	Vandenberg Village CSD
WELL NAME:	Fire Station #51 Test Well
DATE OF TEST PUMPING PROCEDURE:	Jan 3rd - Jan 9th Entire Well Test (450' - 810')
DEPTH OF WELL:	820 feet
DEPTH OF PUMP SETTING:	10 horsepower pump set at 385 feet
PACKER INTERVAL:	none
FLOW RATE DURING 3 DAY TEST:	85 to 95 gpm
TECHNICIAN:	Vandenberg Village CSD staff
DATUM POINT:	top of casing

DATE	TIME	TIME SINCE START (min.)	ZONE TEST #	ARSENIC CONTENT ug/L (parts per billion)
1/3/18	8:00 AM	0	1	23
1/3/18	8:51 AM	51	2	26
1/4/18	8:00 AM	1440	3	27
1/4/18	8:00 PM	2160	4	26
1/5/18	8:00 AM	2880	5	26
1/5/18	8:00 PM	3600	6	27
1/6/18	8:00 AM	4320	7	28
1/6/18	8:00 PM	5040	8	29
1/7/18	8:00 AM	5760	9	26
1/7/18	8:00 PM	6480	10	28
1/8/18	8:00 AM	7200	11	30
1/8/18	8:00 PM	7920	12	33
1/9/18	8:00 AM	8640	13	34

Vandenberg Village CSD - Fire Station #51 Test Well
 Entire Well (450' to 810') Zone Test Graph:
 Arsenic Content: Nov. 6th thur Nov. 9th, 2017





Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD 3757 Constellation Road Lompoc CA, 93436	Project: VVCSD Test Well Project Number: SBCO STA 51 Project Manager: Mike Garner	Reported: 01/08/2018 09:22
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ANALYTICAL REPORT FOR SAMPLES

1800260-01 (Water)

1/3/18 8 am

1-385

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	23	2.0	ug/L	1	B8A0083	01/04/18	01/05/18	EPA 200.8	
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1800260-02 (Water)

1/3/18 8 pm

2-385

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	26	2.0	ug/L	1	B8A0083	01/04/18	01/05/18	EPA 200.8	
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1800260-03 (Water)

1/4/18 8 am

3-385

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	27	2.0	ug/L	1	B8A0083	01/04/18	01/05/18	EPA 200.8	
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Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD 3757 Constellation Road Lompoc CA, 93436	Project: VVCSD Test Well Project Number: SBCO STA 51 Project Manager: Mike Garner	Reported: 01/08/2018 09:15
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ANALYTICAL REPORT FOR SAMPLES

1800271-01 (Water)

4-385

1/4/18 8 pm

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	26	2.0	ug/L	1	B8A0083	01/05/18	01/05/18	EPA 200.8	
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1800271-02 (Water)

5-385

1/5/18 8 am

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	26	2.0	ug/L	1	B8A0083	01/05/18	01/05/18	EPA 200.8	
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307 Roemer Way, Suite 300, Santa Maria, CA 934

Client Connect:

client.oec.com/reports
www.oecusa.com

TEL: (805) 922-4772
FAX: (805) 925-3376



Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD 3757 Constellation Road Lompoc CA, 93436	Project: VVCSD Test Well Project Number: SBCO STA 51 Project Manager: Mike Garner	Reported: 01/09/2018 08:59
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ANALYTICAL REPORT FOR SAMPLES

1800283-01 (Water)

6-385

1/5/18 8 pm

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	27	2.0	ug/L	1	B8A0130	01/08/18	01/08/18	EPA 200.8	
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1800283-02 (Water)

7-385

1/6/18 8 am

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	28	2.0	ug/L	1	B8A0130	01/08/18	01/08/18	EPA 200.8	
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1800283-03 (Water)

8-385

1/6/18 8 pm

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	29	2.0	ug/L	1	B8A0130	01/08/18	01/08/18	EPA 200.8	
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1800283-04 (Water)

9-385

1/7/18 8 am

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	26	2.0	ug/L	1	B8A0130	01/08/18	01/08/18	EPA 200.8	
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1800283-05 (Water)

10-385

1/7/18 8 pm

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	28	2.0	ug/L	1	B8A0130	01/08/18	01/08/18	EPA 200.8	
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Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD 3757 Constellation Road Lompoc CA, 93436	Project: VVCS D Test Well Project Number: SBCO STA 51 Project Manager: Mike Garner	Reported: 01/09/2018 08:59
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1800283-06 (Water)

11-385

1/8/18 8 am

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	30	2.0	ug/L	1	B8A0130	01/08/18	01/08/18	EPA 200.8	
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Oilfield Environmental & Compliance, Inc.

Vandenberg Village CSD 3757 Constellation Road Lompoc CA, 93436	Project: VVCSD Test Well Project Number: SBCO STA 51 Project Manager: Mike Garner	Reported: 01/10/2018 15:54
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ANALYTICAL REPORT FOR SAMPLES

1800299-01 (Water)

12-385

1/8/18 8pm

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	33	2.0	ug/L	1	B8A0175	01/09/18	01/10/18	EPA 200.8	
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1800299-02 (Water)

13-385

1/9/18 8am

Analyte	Result	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Metals by EPA 200 Series Methods

Arsenic	34	2.0	ug/L	1	B8A0175	01/09/18	01/10/18	EPA 200.8	
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