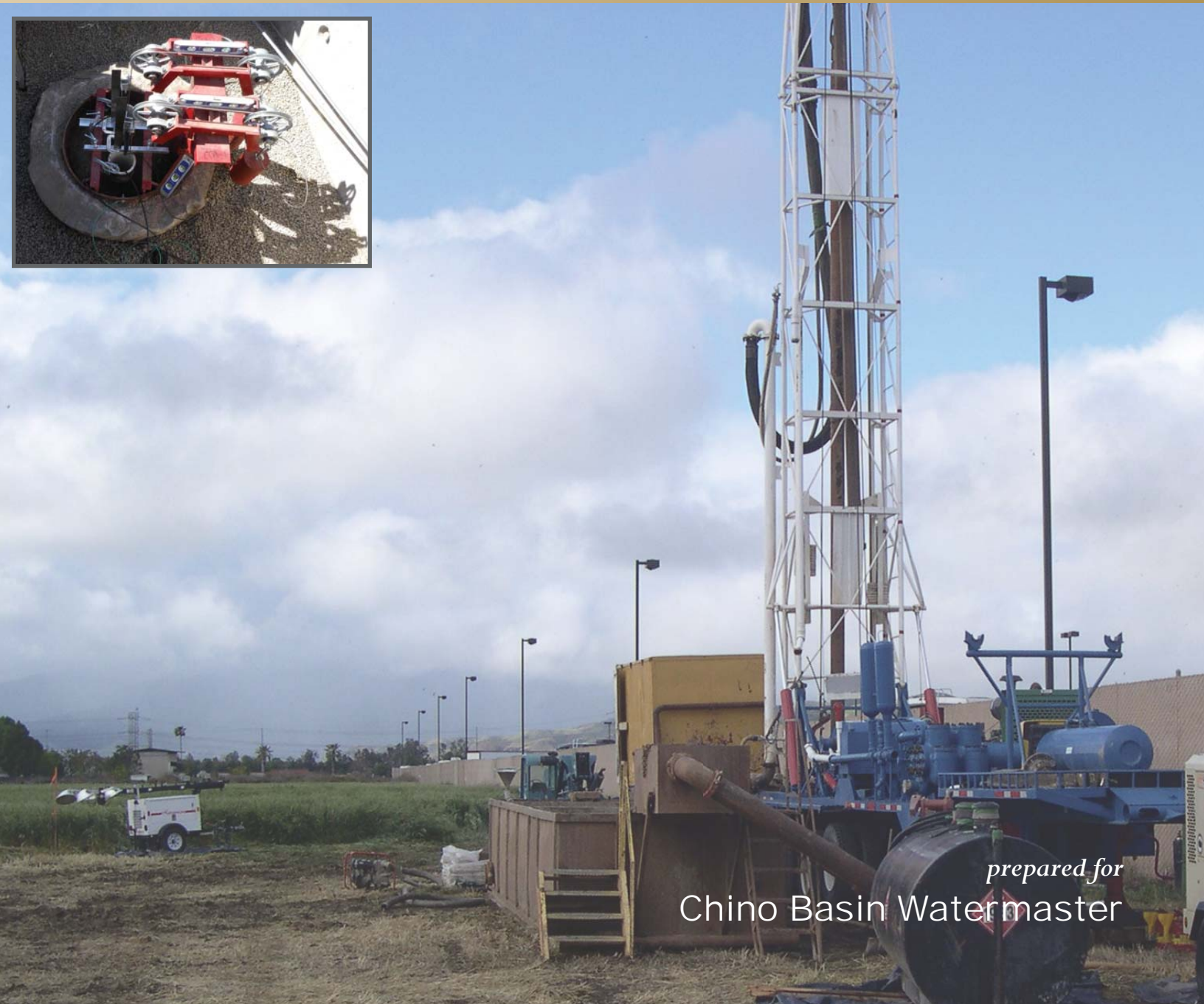


Results of Drilling and Construction of the Chino Creek Extensometer



prepared for
Chino Basin Watermaster

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WILDERMUTH™
ENVIRONMENTAL INC.

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Acronyms, Abbreviations, and Initialisms

µg/L	micrograms per liter
µmhos/cm	micromhos per centimeter
ACU	Apparent Color Unit
ASTM	American Society for Testing Materials
Best	Best Drilling and Pump, Inc.
CBWM	Chino Basin Watermaster
CCPA	Chino Creek Piezometer A
CCR	California Code of Regulations
CCWF	Chino Creek Well Field
CCX	Chino Creek Extensometer
CDA	Chino Desalter Authority
CU	Color Units
EC	Electrical Conductivity
ft-bgs	feet below ground surface
ID	Inside Diameter
InSAR	Interferometric Synthetic Aperture Radar
LLC	Limited Liability Company
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
MPN	Most Probable Number
NTU	Nephelometric Turbidity Units
OD	Outside Diameter
pCi/L	picocuries per liter
SEIR	Subsequent Environmental Impact Report
TDS	Total Dissolved Solids
TON	Threshold Odor Number
USCS	Unified Soil Classification System
WEI	Wildermuth Environmental, Inc.



1.1 Background

The Chino Basin Watermaster (Watermaster) retained Wildermuth Environmental, Inc. (WEI) to design and perform construction oversight for the Chino Creek Extensometer (CCX). The CCX is a nested piezometer, Chino Creek Piezometer A (CCPA), that consists of two piezometers screened at different depths and a cable extensometer within each piezometer. This report summarizes the methods and results of the drilling, construction, and development of the CCPA and the installation of the two cable extensometers.

The CCX is located about 950 feet east of Euclid Avenue and 320 feet south of Kimball Avenue within the City of Chino, California as shown on Figure 1a. Specifically, the CCX is located on a 400 square-foot property south of the Chino Airport that is managed by the County of San Bernardino Department of Airports. The Watermaster is leasing the property from the County of San Bernardino.

1.2 Construction Summary

All construction activity was contained within a temporary construction work area of approximately 7,800 square feet as shown on Figure 1b.

Best Drilling and Pump, Inc. (Best) of Colton, California was retained to install the CCPA. And, Best obtained the well permit for the CCPA from the County of San Bernardino, included in this report as Appendix A.

WEI installed the CCX extensometer components. Construction of the CCX began on April 24, 2012 and was completed on July 23, 2012. Table 1 summarizes the construction activities chronologically.

1.3 Purpose

The Chino Basin Desalter Authority (CDA) operates a well field and a groundwater treatment facility in the City of Chino. The CDA is expanding the well field, which will include at least five additional wells—the so-called Chino Creek Well Field (CCWF). The objectives of the CCWF are (i) to pump additional groundwater for treatment at the Chino-I Desalter facility and (ii) to cause groundwater level drawdown that will achieve “hydraulic control” in the area. Achieving “hydraulic control” is a primary objective of the Watermaster’s Peace II Agreement.

The underlying geology in this area (rich in silts and clays) and the historical data from ground-leveling surveys (2003-2011) have indicated that this area is prone to subsidence and has potential for ground fissuring. The additional drawdown associated with CCWF pumping could trigger land subsidence and ground fissuring, potentially damaging overlying infrastructure.

Based on the monitoring and mitigation requirements, as stated in the final Subsequent Environmental Impact Report (SEIR) of the Peace II Agreement, the Watermaster is obligated to expand its current subsidence monitoring program into the vicinity of the CCWF. The program includes monitoring by remote sensing (InSAR), ground-level surveys, and

extensometers. The CCX is the first extensometer to be installed in this area pursuant to the Peace II SEIR. The monitoring program is to begin prior to startup of the CCWF such that CCWF-related subsidence, if any, can be identified and mitigated as necessary.

The CCX will measure the physical deformation (compaction) of aquifer system sediments as pumping at the desalter well field causes drawdown. Monitoring pumping at proximate wells, aquifer system groundwater levels, and land-surface deformation at CCX will reveal cause-and-effect relationships of pumping, drawdown, and subsidence. The Watermaster Land Subsidence Committee will periodically analyze these data, which will provide the criteria for managing pumping, drawdown, and subsidence in the event that subsidence mitigation should become necessary.

1.4 Site Hydrogeology

The CCX project site lies within the Chino Basin—the western portion of a broad, alluvial-filled valley located between the San Gabriel/San Bernardino Mountains to the north (Transverse Ranges) and the elevated Perris Block/San Jacinto Mountains to the south (Peninsular Ranges). The Chino Basin is underlain by impermeable sedimentary and crystalline bedrock formations that are exposed at the surface in the surrounding mountains and hills. The overlying saturated sediments in the vicinity of the CCX are divided into two major aquifer systems (WEI, 2007). The shallow aquifer system is generally characterized by unconfined to semi-confined groundwater conditions with sand and gravel layers of relatively high-permeability. The shallow aquifer system extends from the water table to a depth of approximately 200 feet below ground surface (ft-bgs) in the vicinity of the CCX. The deep aquifer system is generally characterized by confined groundwater conditions and lower-permeability sand and gravel layers. The thickness of the deep aquifer system is probably over 1,000 feet in this vicinity, but is not accurately known since the contact between the deep aquifer system and the sedimentary bedrock is not well defined. The upper part of the deep aquifer system is generally characterized by an abundance of fine-grained sediments (e.g. silt and clay), confined groundwater conditions, lower permeability, and better water quality than the shallow aquifer system. The lower part of deep aquifer system is generally characterized by an abundance of coarse-grained sediments (e.g. sand and gravel), but due to their greater age, consolidation, and state of weathering, these sediments have lower permeability than the coarse-grained sediments in the shallow aquifer system and the upper part of the lower aquifer system.

The CCX was designed to monitor piezometric levels and aquifer-system deformation in the shallow aquifer system and the deep aquifer system separately.

Section 2 – Chino Creek Piezometer A Construction

2.1 Conductor Casing and Sanitary Seal Installation

On April 24, 2012, Barney's Hole Digging Service, Inc. of Long Beach, California, under contract with Best, used a truck-mounted auger drill rig to advance a 36-inch diameter conductor casing borehole to a depth of approximately 51 ft-bgs. A 20-inch diameter, 3/8-inch thick conductor casing was installed to 50 ft-bgs. The conductor casing was manufactured from low carbon (mild) steel in accordance with American Society for Testing and Materials (ASTM) specification number A139/A139M – 04(2010) (ASTM-a).

As the borehole was advanced, soil samples were collected at changes in the formation and were described by the onsite geologist in accordance with the Unified Soil Classification System (USCS). The soils consisted of interbedded clay and silt from ground surface to 50 ft-bgs. Groundwater was encountered at approximately 42 ft-bgs.

Centering guides were welded to the bottom, middle, and top of the conductor casing, and the conductor casing was lowered into the borehole. The annular space between the borehole wall and the conductor casing was filled with 10.3-sack sand-cement slurry to approximately 5 ft-bgs. A copy of the slurry material delivery slip is included in Appendix B. The cement slurry was allowed to cure for 24 hours prior to the commencement of subsequent drilling activities at the site.

2.2 Pilot Borehole Drilling and Testing

This section describes the drilling and testing of the pilot borehole. Best mobilized the drilling rig and ancillary equipment to the project site and began the drilling and testing of the pilot borehole on April 26, 2012. Pilot borehole drilling and testing were completed on April 28, 2012.

2.2.1 Drilling Equipment, Method, and Procedures

A Failing JED-A flooded reverse circulation rotary drill rig was used to advance the pilot borehole to a total depth of 635 ft-bgs. Ancillary equipment included two aboveground baffled fluid tanks, a generator, an air compressor, a 15,500-gallon water storage tank, and a backhoe/forklift. The pilot borehole was drilled from the bottom of the conductor casing to approximately 635 ft-bgs using a 12.25-inch diameter tri-cone drill bit mounted on three 20-foot long drill collars. Drill cuttings were carried up through the drill strings, pumped into the baffled mud/fluid tanks, and allowed to settle and accumulate on the bottom of the tanks prior to the fluids being re-circulated back into the borehole. Materials that accumulated on the bottom of the fluid tanks were removed by a backhoe and stockpiled near the drill location until final disposal offsite. At the completion of the project, Best removed the stockpiled drill cuttings from the site and disposed of them at an offsite disposal facility.

During the drilling of the pilot borehole, Best monitored the drilling fluid properties approximately once every four hours. Drilling fluid properties included weight, viscosity, pH, and sand content. The fluid properties were documented by Best on daily logs, which are included in Appendix C. Baroid AQUAGEL GOLD SEAL[®] was added to the drilling fluids



during the drilling of the pilot borehole to help viscosify the freshwater drilling fluids and to stabilize the borehole wall.

2.2.2 Borehole Logging and Soil Sampling Procedures

WEI personnel collected formation samples from a splitter-box at approximately one to five-foot intervals to observe and document the subsurface lithology. Each sample was described by the onsite geologist in accordance with the USCS. Following examination, the samples were placed in a sample container, marked with depth and borehole name, and archived at WEI's office. The well log for CCPA, which includes detailed descriptions of the borehole lithology and construction, is included in Appendix D.

2.2.3 Borehole Drift Surveys

Borehole drift surveys were conducted at 100-foot intervals using a Totco drift indicator from 150 ft-bgs to total borehole depth. The survey targets were on three-degree paper bull's-eye discs on which drift was indicated by two plump-bob marks. All of the drift surveys completed in the CCPA borehole were within the specified maximum allowed deviation of one-half degree per 100-feet.

2.2.4 Geophysical Surveys

On May 3, 2012, a suite of geophysical surveys were conducted throughout the entire length of the pilot borehole. Geophysical surveys provide continuous in-situ data, and when analyzed with the borehole lithologic logs, can help to identify the depth ranges of the lithologic formations, the relative formation properties, and changes in groundwater quality. Prior to conducting the geophysical surveys, the borehole fluids were conditioned and cleaned by circulating the fluids for approximately one hour. Pacific Surveys LLC of Claremont, California, under contract to Best, completed the following suite of geophysical surveys within the CCPA borehole:

- Electric logs consisting of 16-inch short-normal and 64-inch long-normal resistivity
- Spontaneous potential
- Laterolog 3 (focused resistivity)
- Natural gamma-ray
- Temperature
- Sonic logs consisting of acoustic (sonic), sonic porosity, and variable density

The geophysical survey reports from the CCPA are included in Appendix E.

2.2.5 Borehole Drilling and Testing Data Summary

Figure 2 is a summary graphic of the borehole lithology and geophysical surveys (also shown on Figure 2 are the CCPA construction details). The sediments encountered during drilling were generally consistent with the hydrogeologic conceptual model of the Chino Basin in this area (WEI, 2007). Sediments that are typical of the shallow, unconfined, aquifer system were encountered from the ground surface to a depth of about 130 ft-bgs. These sediments consisted of alternating layers of dark greyish-brown to dark yellowish-brown sands, clays, silts, and gravels. From 130-215 ft-bgs, sediments that are typical of the confining layer that

separates the shallow and deep aquifer systems were encountered. These sediments consisted of mostly light-yellowish and olive-brown clays with some silt and sand. Sediments that are typical of the deep, confined, aquifer system were encountered from 215 ft-bgs to the bottom of the borehole at 635 ft-bgs. These sediments consisted of interbedded layers of sands, gravels, and clays. The geophysical surveys were generally consistent with the borehole sediments described during pilot borehole drilling.

2.3 Final Piezometer Design and Construction

The final CCPA design was based on the borehole lithology, the geophysical surveys, and data from nearby wells. The nested piezometers were designed to be screened across coarse-grained sediments—one casing in the shallow, unconfined aquifer system (CCPA-1); the other casing in the deep, confined aquifer system (CCPA-2). Upon completion of the final CCPA design, the pilot borehole was enlarged to specified depths and diameters and the piezometer and annular materials were emplaced as shown on Figure 3.

2.3.1 Borehole Reaming

The pilot borehole was reamed to a final diameter of 17.5-inches from the bottom of the conductor casing at 50 ft-bgs to 316 ft-bgs. From 316 ft-bgs to a depth of 635 ft-bgs, the borehole was re-drilled to a final diameter of 12.25-inches. Throughout the reaming and re-drilling of the borehole, Best monitored the drilling fluid properties approximately once every four hours. Drilling fluid properties included weight, viscosity, pH, and sand content. The fluid properties were documented by Best on daily logs which are included in Appendix C.

2.3.2 Borehole Deviation and Caliper Surveys

Following borehole reaming, the borehole drilling fluids were cleaned of sediments by circulating the drilling fluids for approximately one hour. Deviation and caliper surveys were then conducted. The purpose of the deviation survey was to verify that the borehole was sufficiently straight and plumb to permit the installation of both casings and verify the casings would be sufficiently straight to allow the cable components of the extensometers to move vertically through the casings with minimal friction against the casing wall. The deviation survey showed the reamed borehole was drilled straight and plumb with 0.95 to 1-foot of total displacement. No significant changes in drift direction were measured.

The caliper survey was performed to measure the diameter of the borehole and to approximate the borehole volume prior to installation of the annular materials. The caliper survey revealed a relatively consistent diameter borehole from 50 to 316 ft-bgs. Some caving of the borehole wall was observed, increasing the borehole diameter by about seven-inches between 50 and 80 ft-bgs, 110 and 140 ft-bgs, and 290 and 316 ft-bgs. From 316 to 635 ft-bgs, the reamed borehole diameter was relatively consistent with only minor caving. Copies of the deviation and caliper survey reports are included in Appendix E.

2.3.3 Casing and Screen Installation

The piezometer casing and screens were manufactured by Sinclair Well Products, Inc. of Cerritos, California. The blank and screened casing was Schedule-80 white PVC pipe with an inside diameter (ID) of 3.786-inches. The screen has 0.020-inch horizontal slots. Each casing

and screen section is joined by a flush threaded fitting with a Buna-N O-Ring on the male end of the pipe. All casing and screen materials conformed to the physical properties described in ASTM F480 (ASTM-b) and ASTM D1784, Class 12454B (ASTM-c). The table below shows a summary of the construction of the CCPA casings and screens. Figure 3 shows the as-built construction of the CCPA.

CCPA Construction Summary

Well Name	Borehole		Casing					Screen					
	Depth (ft-bgs)	Final Diameter (in)	Casing No.	Depth (ft-bgs)	Inside Diameter (in)	Material	Wall Thickness (in)	Depth (ft-bgs)	Inside Diameter (in)	Type	Slot Size (in)	Material	Wall Thickness (in)
CCPA	316	17.5	1	140	3.786	Schedule 80 PVC	0.337	100-130	3.786	Slot	0.020	Schedule 80 PVC	0.337
	635	12.25	2	610	3.786	Schedule 80 PVC	0.337	235-295	3.786	Slot	0.020	Schedule 80 PVC	0.337

Figure 4 shows the casing sump construction for both CCPA casings. At the bottom of both casings, a flush threaded reducing couple connected to a specialized ten-foot long sump. The sump consisted of a five-foot long, six-inch nominal diameter, blank PVC casing section with a flush-threaded reducing couple that connects to a five-foot long, four-inch nominal diameter, stainless-steel casing with a welded end plate. The six-inch diameter section was installed to increase resistance to vertical movement of the bottom of the casing within the borehole. Stainless steel was used to support the anchor weights of the cable extensometers. See Section 3 for extensometer construction details.

Centralizers were installed five-feet above and below the screen intervals of each casing and at 50-foot intervals along the blank sections of the casings. The casing and screen materials delivery certificates are provided in Appendix B. Assembly and installation of the casing and screen materials were observed by WEI geologists.

2.3.4 Annular Material Installation

The annular materials were designed and emplaced to allow the CCPA casings to function as piezometers and extensometers. To function as extensometers, the annular materials need to (1) “lock” the bottom of the casings to the sediment formation and (2) allow for vertical deformation of the casings as the sediment formation deforms between the bottom of the casings and ground surface.

Three types of annular seals were used in the CCPA:

1. 10.3-sack sand-cement slurry
2. A mixture of 50 percent 8 x 20 gradation (No. 3) clean-graded, kiln dried Monterey sand (CEMEX) and 50 percent Baroid BENSEAL[®] bentonite
3. Sodium bentonite pellets (3/8-inch Pel-Plug[®])

Two types of sands were used in the CCPA:

1. The filter pack consisted of 8 x 20 gradation (No. 3) clean-graded, kiln dried Monterey sand (CEMEX). During the filter pack placement, liquid bleach (10% sodium hypochlorite solution) was added into the hopper-gravel pump to help disinfect the

filter pack and assist in degrading any drilling mud. The sieve analysis of the filter pack is included in Appendix B.

2. 40 x 100 gradation (No. 60) clean-graded, kiln dried Monterey sand (CEMEX) was used between the filter pack and sodium bentonite seals to prevent the bentonite from infiltrating into the filter pack pore space.

Figure 3 shows the as-built construction of CCPA. Table 2 summarizes the depths of the annular materials used to construct CCPA and compares the estimated annular volume to the actual volumes of annular materials installed. Minor discrepancies between estimated and actual volumes of annular materials were observed, which can be attributed to factors including the inaccuracy of the caliper survey, minor swelling of formation clays, or minor sloughing of the borehole wall.

At the bottom of the borehole, a 10.3-sack sand-cement slurry plug was installed by pumping the slurry through a tremie from 635 to 585 ft-bgs. This cement plug ensures that the bottom of CCPA-2 will remain stationary relative to the adjacent soils, as the overlying soils compact or expand. The cement plug was allowed to cure for 24-hours prior to installation of the remaining annular material.

The annular material installation sequence for the 50 percent solids/bentonite grout, filter pack, fine-sand layers, and bentonite seals consisted of: 1) pouring the annular material into a hopper-gravel pump; 2) pumping the annular material with fresh water through a 2.75-inch diameter temporary tremie pipe into the annular space; 3) removing one section of the tremie pipe at a time as the height of annular material rises in the annulus; and 4) frequently tagging the top of the annular material to verify its depth. Annular material installation was observed by WEI geologists.

A Well Completion Report for CCPA was filed with the California Department of Water Resources and is included as Appendix H.

2.4 Development and Well-Head Completion

Following construction, the casings were developed by a combination of airlifting, swabbing, and pumping. Groundwater samples were collected and analyzed at the conclusion of development. Video surveys were conducted within each casing after development. Finally, the well-head was completed.

2.4.1 Mechanical Development

Two days after construction was completed, Best ran an open-ended airline to the bottom of each piezometer. Airlifting with an open-ended tool allows thick fluids and fine-grained materials to be circulated out of the casing and near-casing zone. Subsequently, Best began mechanical development using a double-rubber packer swabbing and airlifting tool.

The swabbing and airlifting tool was fitted with a double packer assembly spaced nine-feet apart. The swab flanges had less than 0.5-inches of clearance within the piezometer screens, allowing for the effective movement of water throughout the screened interval. Simultaneous swabbing and airlifting began at the top of the screened interval and continued in intervals of ten-feet to the bottom of the screened intervals, and then back to the top of the screened

intervals. Vigorous swabbing and airlifting were used to mechanically dislodge and remove heavy drilling mud on the screens and in the near-casing zone. Twenty-four hours of swabbing and airlifting were performed on each casing. At the completion of swabbing and airlifting, the casings were again airlifted using the open-ended tool. Purged water was initially contained in baffled fluid tanks and was then pumped into a 15,500-gallon water storage tank. The purge water was disposed of at an offsite facility at the completion of development. WEI personnel observed the initiation of mechanical development and were in daily communication with Best throughout the development process. Development logs are included in Appendix F.

2.4.2 Development by Pumping

After mechanical development, pumping development commenced utilizing a 1.5-horsepower Grundfos submersible pump and a discharge line fitted with a totalizing flow meter and valves to control the flow rate. During pumping development, discharge rates, water levels, pH, temperature, electrical conductivity (EC), total dissolved solids (TDS), and turbidity were recorded hourly on field data sheets by Best and/or WEI. These records are included in Appendix F. Well development was considered complete when the turbidity of the effluent was less than 10 nephelometric turbidity units (NTU) and measurements of pH, temperature, EC, and TDS had stabilized. Stabilization of parameters was defined as three consecutive measurements within the limits presented in the following table:

Water Quality Parameter Stabilization Criteria			
Temperature	Electrical Conductivity	pH	Turbidity
± 3% of reading (minimum of ± 0.2° C)	±3% of reading	± 0.1 pH units	Less than 10 NTU

A total of ten-hours of pumping development occurred at CCPA-1 and 13-hours at CCPA-2. WEI performed daily field observation during the pump development. Both casings produced water of 5 NTU or less for at least three consecutive readings at the completion of pumping development.

2.4.3 Groundwater Quality

Groundwater samples were collected by WEI personnel at the completion of development at each casing. Subsequent sampling would be difficult because the casings were equipped with a cable extensometer. With this in mind, the samples collected during the completion of development were analyzed for a full Title 22 suite of analytes plus perchlorate, hexavalent chromium, boron, phosphorous, and strontium. Boron, phosphorous, and strontium were added to aid in the design of the Chino Desalter Authority's reverse osmosis (RO) treatment system for the Chino Creek Well Field. Groundwater samples are routinely collected and analyzed for perchlorate and hexavalent chromium because of their widespread occurrence throughout Chino Basin and because these constituents can originate from both geogenic and anthropogenic sources.

The samples were collected in laboratory-supplied containers and were submitted to MWH Laboratories (now d.b.a. Eurofins Eaton Analytical) for analyses. Table 3 summarizes the water quality results for selected constituents from CCPA-1 and CCPA-2 including the general

chemistry, inorganic constituents, microbial analyses, radioactivity, and volatile organic chemicals (VOCs). The complete laboratory reports are presented in Appendix G. Major ion analysis indicates that the groundwater collected from both casings is calcium-type water with no dominant anion.

Chloride, nitrate, sulfate, and TDS concentrations were above the United States Environmental Protection Agency (USEPA) and California Primary and/or Secondary Maximum Detection Limits (MCLs) in the groundwater collected from CCPA-1. The chloride concentration was typical of the nearby wells screened in the shallow aquifer system. The nitrate concentration of 310 mg/L was higher than that of shallow wells in the area, which are typically below 60 mg/L. The sulfate concentration of 800 mg/L was higher than that of shallow wells in the area, which are typically below 300 mg/l. The TDS concentration of 4,400 mg/L was higher than that of shallow wells in the area, which are typically below 2,000 mg/l. All other constituents tested at CCPA-1 were below the applicable MCLs. The CCPA is within Watermaster's depiction of the Chino Airport VOC plume in the shallow aquifer (WEI, 2011), though it is in an area where no prior data exists for the shallow aquifer. TCE and its breakdown compounds were not detected within CCPA-1. The shallow wells near CCPA-1 typically have TCE concentrations above 0.7 ug/L.

Nitrate and TDS concentrations were above the USEPA and California Primary and/or Secondary MCLs in the groundwater collected from CCPA-2. The nitrate concentration of 55 mg/L was higher than that of deep wells in the area, which are typically below 12 mg/L. The TDS concentration of 1,100 mg/L was higher than that of deep wells in the area, which are typically below 500 mg/l. All other constituents tested at CCPA-2 were below the applicable MCLs. The CCPA is near the eastern edge of Watermaster's depiction of the Chino Airport VOC plume within the deep aquifer (WEI, 2011), though it is in an area where no prior data exists for the deep aquifer. TCE and its breakdown compounds were not detected within CCPA-2. The deep wells near CCPA-2 typically have TCE concentrations above 0.5 ug/L.

2.4.4 Video Survey

On May 25, 2012, following development of each piezometer, Pacific Surveys conducted a "Dual-Cam" video survey inside each casing. The video equipment included a real-time monitor that recorded the camera depth readout superimposed on the video picture. The static water level was observed at approximately 40 ft-bgs in CCPA-1 and approximately 56.4 ft-bgs in CCPA-2. Both screen intervals in CCPA-1 and CCPA-2 were visible, and showed visible gravel pack in the screen slots. There were approximately 8-feet of soft/silty fill material in the bottom of the CCPA-1 sump, and approximately 7-feet of soft/silty fill material in the bottom of the CCPA-2 sump. Visibility was poor between approximately 582 and 603 ft-bgs in CCPA-2. The screen depths of CCPA-1 and CCPA-2 were observed to be within 1-foot or less of the design. The bottom fill was bailed out of both casings on May 29, 2012 and subsequent video surveys were performed on June 25, 2012. These video surveys showed that soft fill remained in the bottom of both casings. CCPA-1 had approximately 6-feet of soft fill but the camera was able to advance to the bottom of the casing. CCPA-2 had approximately 17-feet of soft fill and approximately 2-feet of fill through which the camera could not advance. Because the piezometers appear to be adding silt from the formation when the water column is vigorously disturbed, no further development was performed. The second run of video surveys provided a final inspection of the casings and screens. The visible



sections of both CCPA casings and screens were intact with no structural defects or damage. Video Survey Reports and survey copies on disk are provided in Appendix I.

2.4.5 Well-Head Completion and Site Restoration

The CCPA casings were completed below grade in an underground vault. Figure 5 shows the below-grade concrete vault design and Figure 6 shows the as-built underground vault and well-head completion. The vault was a pre-cast concrete vault enclosure manufactured by Jensen Precast of Fontana, California. It was approximately six-feet wide, by six-feet long, by four-feet deep. The vault has traffic-rated, spring-assisted, double doors with a 16,000-pound wheel load.

One-inch diameter crushed gravel was also used to cover the bottom of the interior of the vault. The conductor casing was cut to two-inches above the gravel fill at the bottom of the vault; the well casings were cut to 11-inches above the gravel fill at the bottom of the vault (23-inches bgs). The annulus between the conductor casing and the borehole was filled with one-inch diameter crushed gravel from approximately five-feet to approximately one-foot above the bottom of the vault. Four four-inch diameter bollards were placed about 18-inches from each corner of the vault. The bollard construction schematic is shown in Figure 7.

Upon completion of the construction of the CCPA, Best removed all rubbish and materials from the drill site that did not pertain to the functionality of the CCPA to restore the site its condition prior to construction.

Section 3 – Chino Creek Extensometer Installation

Upon completion of the CCPA, WEI staff installed a cable extensometer within each piezometer. The extensometers measure the vertical expansion and/or compression of aquifer-system sediments across the length of each casing.

The major components of each cable extensometer are: a down-hole weight that rests on the bottom of the piezometer casing; a stainless steel cable that is attached to the down-hole weight and extends to above the top of the piezometer casing; a steel bridge welded to the conductor casing which acts as a ground-surface datum; a balance-beam and rocker arm attached to the conductor casing; a counter weight that is attached to the top of the cable and is draped over the rocker arm to impose tension on the cable; and, monitoring equipment to measure and record the vertical deformation of the aquifer system and the piezometric levels.

The monitoring equipment includes two linear potentiometers to measure the displacement between the cable and the ground-surface datum (i.e. vertical deformation of the aquifer system) and two gauged pressure transducers on vented direct-read cables to measure piezometric levels and water temperature. Also installed are an air-temperature sensor, a data logger to record all measurements, and a deep-cycle 12 volt battery to power the facility.

Section 4 – References

American Society for Testing Materials (ASTM-a) Specification No. A139: *Specification for Electric-Fusion (Arc)-Welded Steel Pipe (NPS 4 and Over)*.

American Society for Testing and Materials (ASTM-b) Specification No. F480: *Standard Specifications for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80*.

American Society for Testing Materials (ASTM-c) Specification No. D1784 – 11: *Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds*.

Wildermuth Environmental, Inc. (2007). *2007 CBWM Groundwater Model Documentation and Evaluation of the Peace II Project Description*. Final Report. Lake Forest: WEI.

Wildermuth Environmental, Inc. (December, 2011). *Chino Basin Optimum Basin Management Program, 2010 State of the Basin Atlas*. Lake Forest: WEI.

Table 1
Chronological Summary of Construction Activities

Event Date(s)	Event Description
Pilot Hole Drilling	
April 24, 2012	Drilled a 36-inch diameter conductor borehole and set a 50-foot long, 20-inch diameter conductor casing.
April 25, 2012	Mobilized drilling rig and ancillary equipment to the CCPA site.
April 26-28, 2012	Completed drilling of the 12.25-inch diameter pilot borehole from 50 to 635 ft-bgs; Conducted geophysical surveys within the pilot borehole.
April 29-30, 2012	No onsite activity (well design).
Well Construction and Development	
May 1-3, 2012	Reamed the borehole to 17.5-inches in diameter from 50 to 316 ft-bgs and performed wiper-pass to 12.25-inches in diameter from 316 to 635 ft-bgs.
May 3, 2012	Conducted caliper and deviation surveys.
May 4-5, 2012	Installed well and annular material.
May 6, 2012	No onsite activity.
May 7-11, 2011	Performed mechanical well development at CCPA-1 and CCPA-2.
May 12-13, 2012	No onsite activity.
May 14, 2012	Continued mechanical development at CCPA-1.
May 15-16, 2012	Performed development by pumping at CCPA-2.
May 16, 2012	Collected groundwater samples from CCPA-2.
May 15-17, 2012	Performed development by pumping at CCPA-1.
May 17, 2012	Collected groundwater samples from CCPA-1.
May 18, 2012	Started demobilizing drill rig and ancillary equipment from the CCPA site.
May 19-20, 2012	No onsite activity.
May 21-24, 2012	Completed demobilizing drill rig and ancillary equipment from the CCPA site.
Well Head Completion	
May 25, 2012	Completed run 1 of video logs at CCPA-1 and CCPA-2.
May 26-27, 2012	No onsite activity.
May 31, 2012	Bailed sediment from the sumps of CCPA-1 and CCPA-2.
June 1-19, 2012	No onsite activity.
June 25, 2012	Completed run 2 of video logs at CCPA-1 and CCPA-2.
June 26-27, 2012	Installed underground vault and completed the well head.
June 28-July 24, 2012	Installed the vertical extensometer components of the facility.
July 23, 2012	Installed bollards around the underground vault.

Table 2
Summary of the CCPA Annular Material

Depth <i>ft-bgs</i>	Annular Material	Calculated Annular Volume <i>cu-ft</i> ¹	Annular Material Volume Installed <i>cu-ft</i> ²
5 to 50	10.3-sack sand-cement slurry between the conductor casing and borehole wall	212 ³	216
7 to 79	50/50 mixture of Monterey Sands 8x20 gradation (No. 3) and Baroid BENSEAL bentonite between the piezometer casings and the conductor casing and borehole wall	134	135
79 to 86	Pel-Plug Bentonite (3/8 inch diameter)	12	8
86 to 90	Monterey Sands transition sand 40x100 gradation (No. 60)	6	not recorded
90 to 139	Monterey Sands filter pack 8x20 gradation (No. 3)	84	85
139 to 145	Pel-Plug Bentonite (3/8 inch diameter)	10	8
145 to 215	50/50 mixture of Monterey Sands 8x20 gradation (No. 3) and Baroid BENSEAL bentonite	116	119
215 to 220	Pel-Plug Bentonite (3/8 inch diameter)	9	8
220 to 225	Monterey Sands transition sand 40x100 gradation (No. 60)	8	9
225 to 306	Monterey Sands filter pack 8x20 gradation (No. 3)	139	131
306 to 311	Pel-Plug Bentonite (3/8 inch diameter)	10	8
311 to 585	50/50 mixture of Monterey Sands 8x20 gradation (No. 3) and Baroid BENSEAL bentonite	237	191
585 to 620	10.3 sack sand-cement slurry	28	40

¹ Calculated from caliper log data unless otherwise indicated.

² Calculated from weight and bulk density of materials.

³ Calculated from diameter of borehole and casings.

**Table 3
Summary of Water Quality Results: CCPA**

Analyte	Unit	Water Quality Results ^{1,2}		Detection Limit	US EPA Primary MCL ³	US EPA Secondary MCL ⁴	California Primary MCL ⁵	California Secondary MCL ⁶	California Notification Level ⁷
		CCPA-1	CCPA-2						
General Chemistry	Aggressive Index	-	13	13	0.1				
	Alkalinity	mg/L	310	220	2				
	Apparent Color	ACU	<3	<3	3		15		15
	Odor	TON	2	1	1		3		3
	pH	-	7.5	7.6	0.1		8.5		
	Specific Conductance	umhos/cm	4,500	1,500	2				1,600
	Total Dissolved Solids (TDS)	mg/L	4,400	1,100	10		500		500
	Bicarbonate as HCO ₃	mg/L	380	270	2				
	Carbonate as CO ₃	mg/L	<2	<2	2				
	Hardness as CaCO ₃	mg/L	2400	660	3				
	Hydroxide as OH	mg/L	<2	<2	2				
	Chloride (Cl)	mg/L	390	110	1		250		500
	Foaming Agents (MBAS)	mg/L	0.41	<0.05	0.05		0.5		0.5
	Sulfate	mg/L	800	230	0.5		250		250
Inorganic Constituents	Aluminum (Al)	mg/L	<0.02	<0.02	0.02		0.2	1	0.2
	Arsenic (As)	mg/L	0.0028	0.0012	0.001	0.01		0.01	
	Boron (B)	mg/L	0.1	0.099	0.05				1
	Chromium (Cr) - Total	ug/L	6.4	5.2	1	100		50	
	Hexavalent Chromium	ug/L	3.6	4.4	0.02				
	Iron (Fe)	mg/L	<0.02	<0.02	0.02		0.3		0.3
	Magnesium (Mg)	mg/L	130	26	0.1				
	Nitrate as Nitrogen	mg/L	310	55	0.1	10		10	
	Perchlorate	ug/L	<0.5	<0.5	0.5			6	
	Phosphorus (P)	mg/L	<0.02	<0.031	0.02				
	Potassium (K)	mg/L	7.5	4.2	1				
	Sodium (Na)	mg/L	130	66	1				
	Strontium (Sr)	mg/L	4.8	2.1	0.01				
Microbial Analyses/Indicators	Total Coliform Bacteria	MPN/100ml	3.6	2.2	1.1				
	Turbidity	NTU	0.12	0.093	0.05		5		5
Radio-active	Gross Alpha	pci/L	13.4	4.47	1.01	15		15	
	Uranium (U)	pci/L	17	5.1	0.7			20	
VOCs	1,1-Dichloroethane	ug/L	<0.5	<0.5	0.5			5	
	1,1-Dichloroethene	ug/L	<0.5	<0.5	0.5	7		6	
	1,2,3-Trichloropropane	ug/L	<0.005	<0.005	0.005				0.005
	1,2-Dichloroethane	ug/L	<0.5	<0.5	0.5	5		0.5	
	Cis-1,2-Dichloroethene	ug/L	<0.5	<0.5	0.5	70		6	
	Tetrachloroethene (PCE)	ug/L	<0.5	<0.5	0.5	5		5	
Trichloroethene (TCE)	ug/L	<0.5	<0.5	0.5	5		5		

ACU: Apparent Color Unit

MBAS: Methylene Blue Active Substances

MCL: Maximum Contaminant Level

MPN: Most Probable Number

NTU: Nephelometric Turbidity Units

TON: Threshold Odor Number

VOCs: Volatile Organic Compounds

¹ Bold font indicates result is greater than or equal to at least one MCL or Notification Level

² "<" result indicates value below the detection limit. The value entered is the detection limit for that constituent

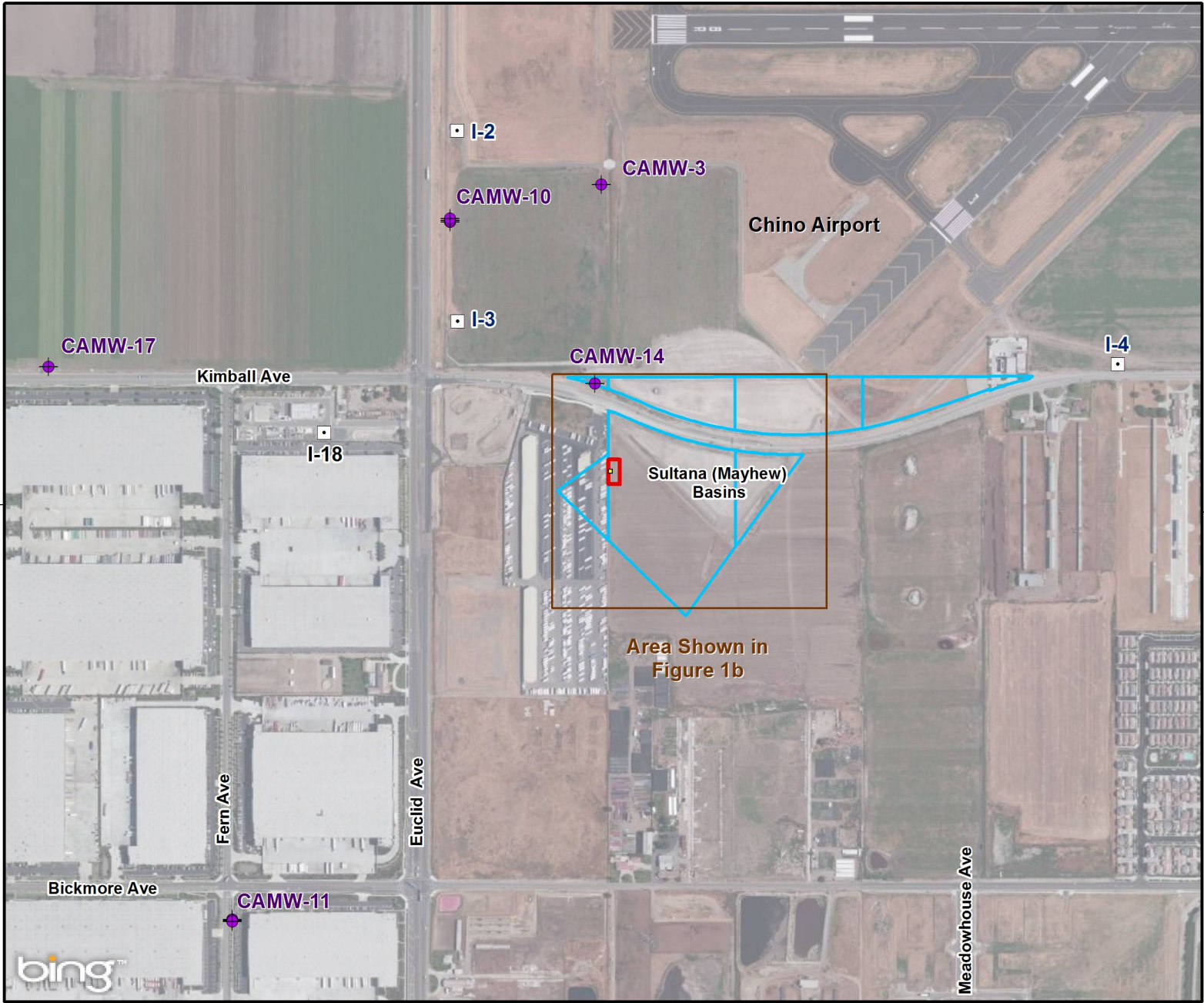
³ Primary EPA Maximum Contaminant Levels (MCL) are federally enforceable limits for chemicals in drinking water. The MCL value represents the maximum allowable concentration in a drinking water supply.

⁴ Secondary EPA MCLs apply to chemicals in drinking water that adversely affect its odor, taste, or appearance, but are not based on direct health effects associated with the chemical. Secondary MCLs are considered desirable goals, but are not federally enforceable.

⁵ Primary CA MCLs are analogous to Primary EPA MCLs and are enforceable at the state level. If the California Department of Health Services (DHS) has adopted a more stringent primary MCL than the EPA MCL, the primary CA MCL would be enforceable.

⁶ Secondary CA MCLs are analogous to Secondary EPA MCLs and are applicable at the state level. If the CA DHS has adopted a more stringent secondary MCL than the secondary EPA MCL, the secondary CA MCL would be applied.

⁷ California Action Levels (ALs) are health-based criteria similar to US EPA Health Advisories. CA ALs are not enforceable, but are levels at which the CA DHS strongly urges water purveyors to take corrective actions.








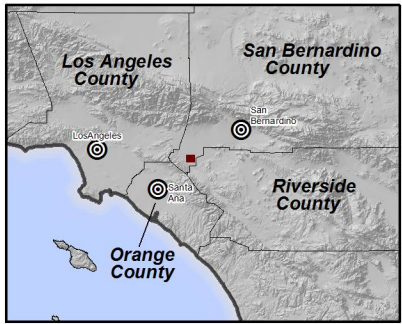
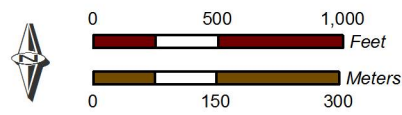
-  Temporary Construction Work Area
-  Approximate Lease Area
-  Parcels Managed by San Bernardino County
-  Chino Airport Monitoring Well
-  Chino Desalter Well


Image courtesy of USGS © 2013 Microsoft Corporation Image courtesy of LAR-IAC



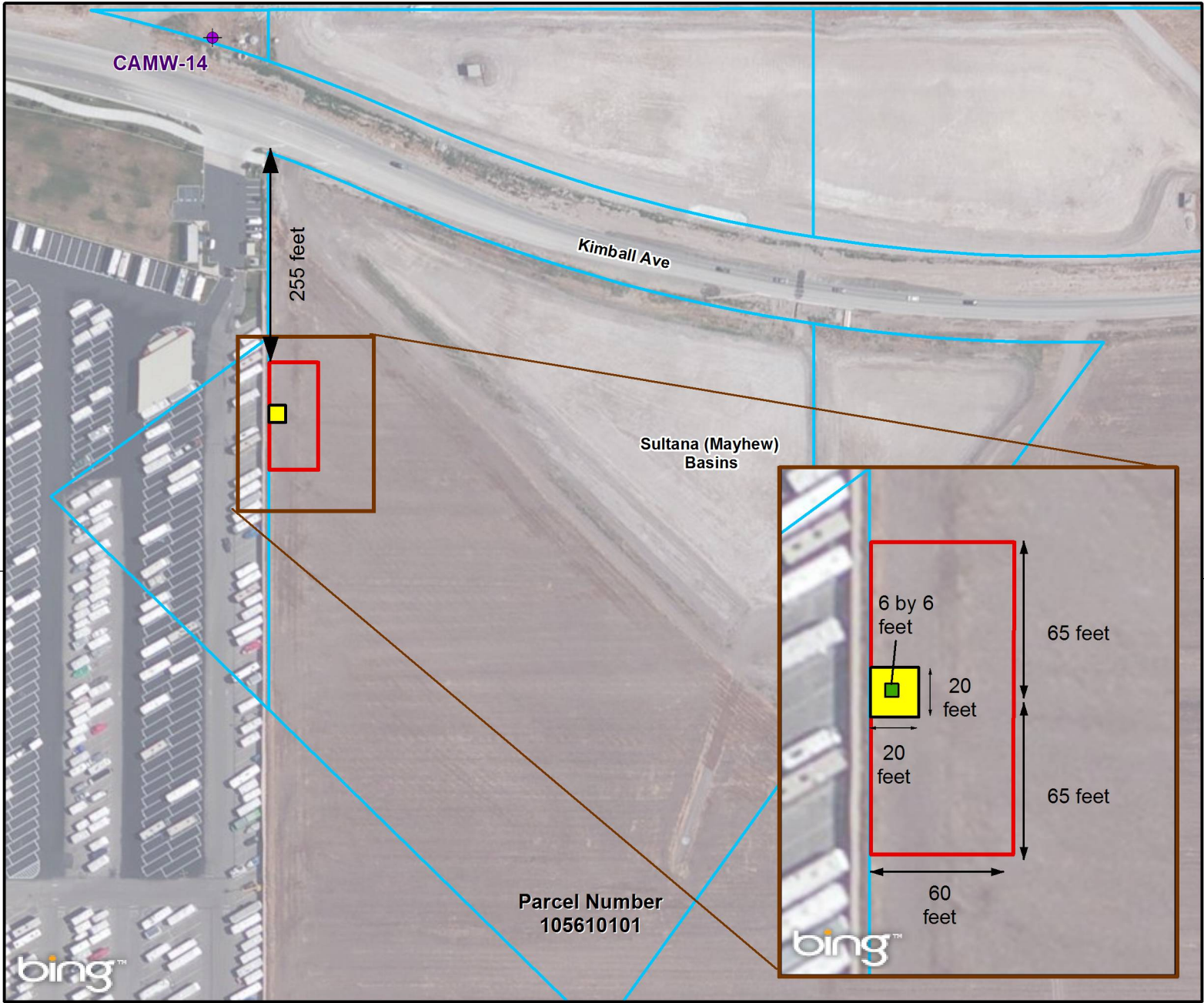
Prepared by:

 www.wildermuthenvironmental.com
 Author: TCR
 Date: 6/14/2013
 Name: Figure_Location1a



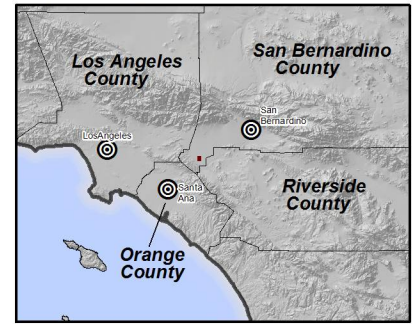

 Results of Drilling and Construction of the
 Chino Creek Extensometer

Location of the
 Chino Creek Extensometer
 Figure 1a

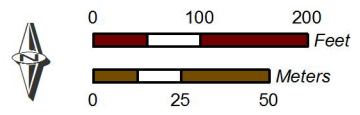


- Chino Creek Extensometer Facility
- Temporary Construction Work Area
- Approximate Lease Area
- Parcels Managed by San Bernardino County
- ✦ Chino Airport Monitoring Well

Image courtesy of USGS © 2013 Microsoft Corporation Image courtesy of LAR-IAC



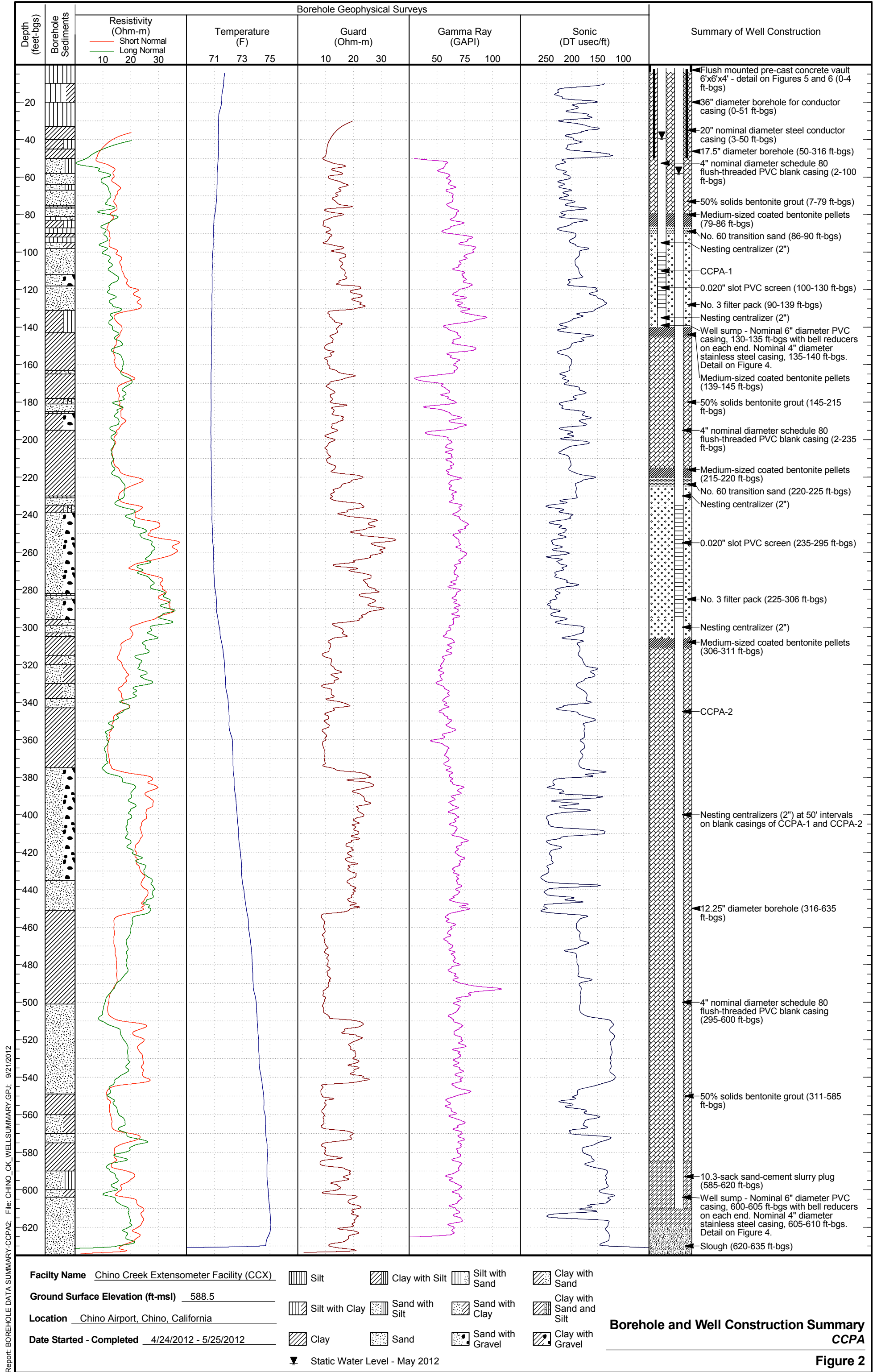
Prepared by:
WILDERMUTH
 ENVIRONMENTAL INC.
www.wildermuthenvironmental.com
 Author: TCR
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 Name: Figure_Location1b



**Results of Drilling and Construction of the
 Chino Creek Extensometer**

**Detailed Location of the
 Chino Creek Extensometer**

Figure 1b

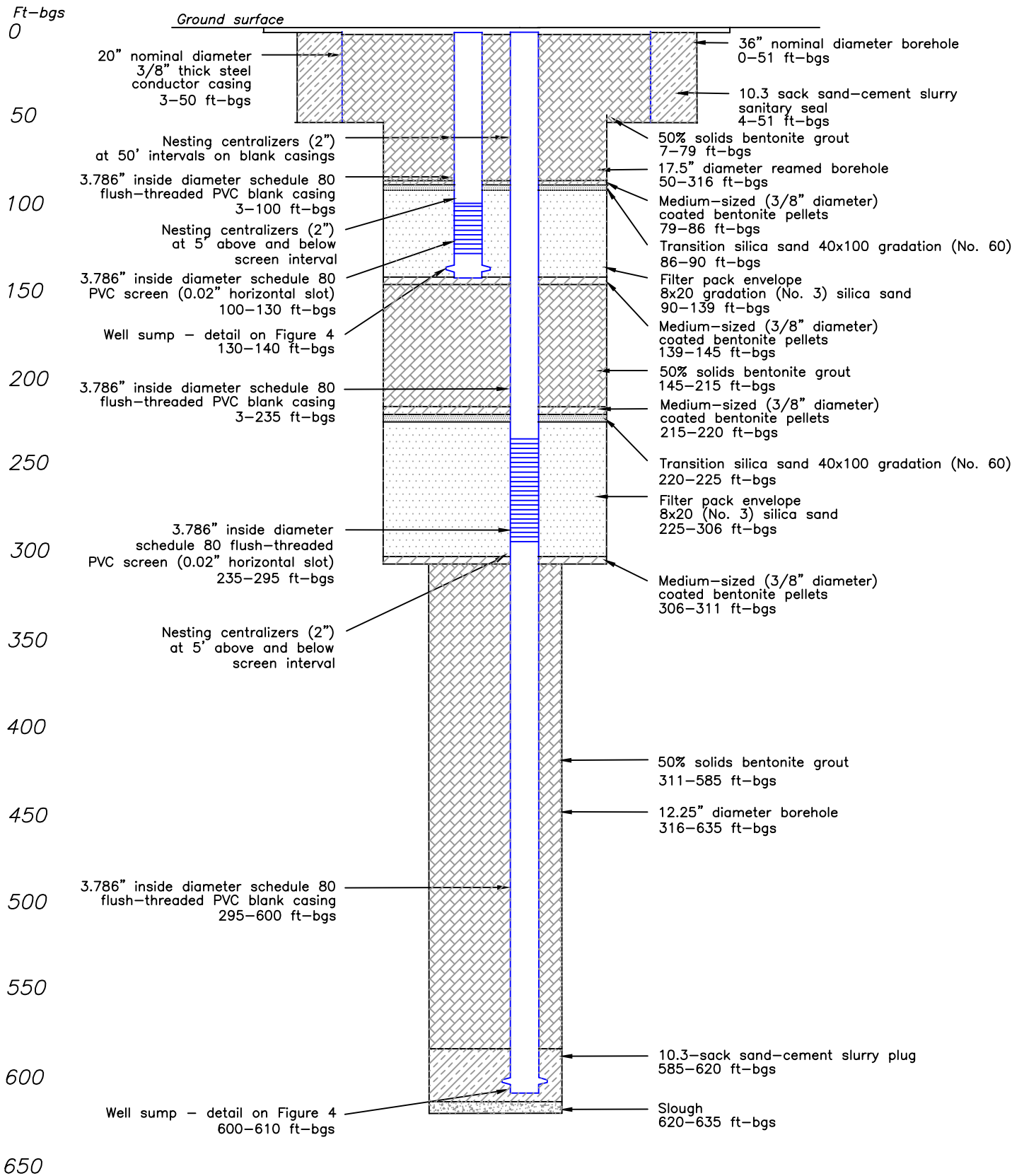


Report: BOREHOLE DATA SUMMARY-CCPA2; File: CHINO_OK_WELLSUMMARY.GPJ; 9/21/2012

Borehole and Well Construction Summary
CCPA

Figure 2

Surface completion is 6'x6'x4' flush mounted pre-cast concrete vault – detail on Figures 5 and 6.



Not to Scale

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Date: 20121018
File: Figure_3_Well Design.dwg

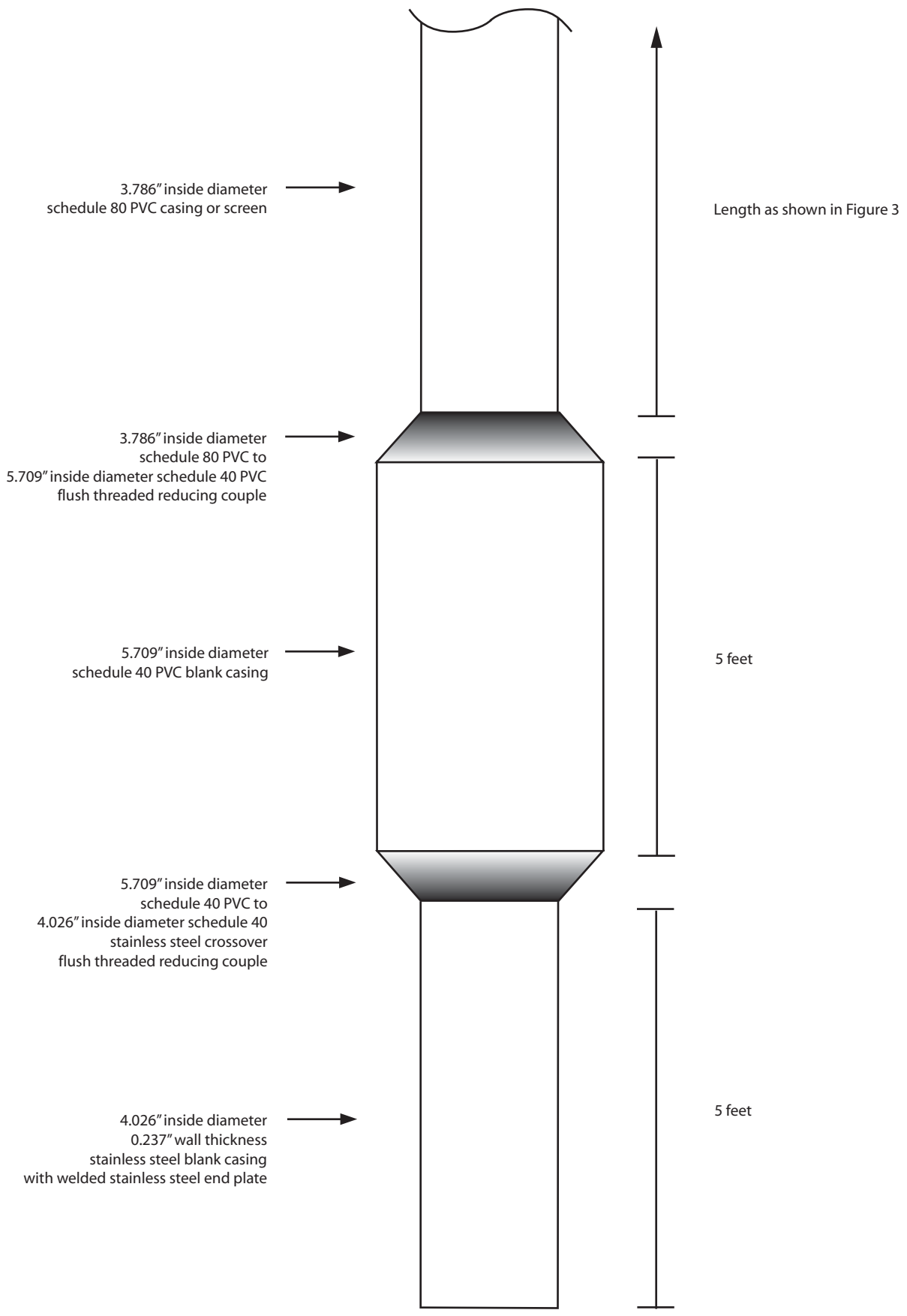
As-Built Diagram

Chino Creek Piezometer A

Prepared for:



Figure 3



Not to Scale

Produced by:



Author: TCR
Date: 20121018
File: Figure_4_Sump_detail.ai

Sump Schematic

Chino Creek Piezometer A

Prepared for:



Figure 4

SAMPLE

6'-0" x 6'-0" HANDHOLE x 4'-0" DEEP

NOTES:

- HANDHOLE DESIGNED IN ACCORDANCE WITH AASHTO H-20-44 TRAFFIC BRIDGE LOADING USING 5,500 PSI [37.92MPa] COMPRESSIVE STRENGTH CONCRETE AND 60,000 PSI [413.2MPa] YIELD STRENGTH ASTM A-706 STEEL REINFORCEMENT PER CALCS. #31171.
- COVER DESIGNED FOR PARKWAY LOADING PER CALC. #31178.
- SEE CALC. #31174 AND DRAWING NUMBER 860-164 FOR TRAFFIC APPLICATIONS.
- HANDHOLE BOX TO BE PLACED ON A MIN. 6" BASE OF CRUSHER RUN FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION.

1. PB66-B42-S09-TM, 42" BOTTOM SECTION (R66-B42-S09-TM), WT. 11,005 Lbs.
3. 5" SPRING ASSISTED ADJUSTABLE FRAME (F66-PB-GAS). WT. 303 Lbs.
4. CA66-FGSA (2) PIECE SPRING ASSISTED TRAFFIC GALV. COVER WT. 704 Lbs.
5. 12" x 13" DIA. SUMP x 5" DEEP W/SUMP RECESS (5000-338), BOTTOM SECTION (1) CORE MTD.
12. 2 TON x 3 3/8" GALV. RISS FOR HANDLING, BOTTOM SECTION (4) CORE MTD., (4) SHELL MTD., (4) SURFACE MTD.

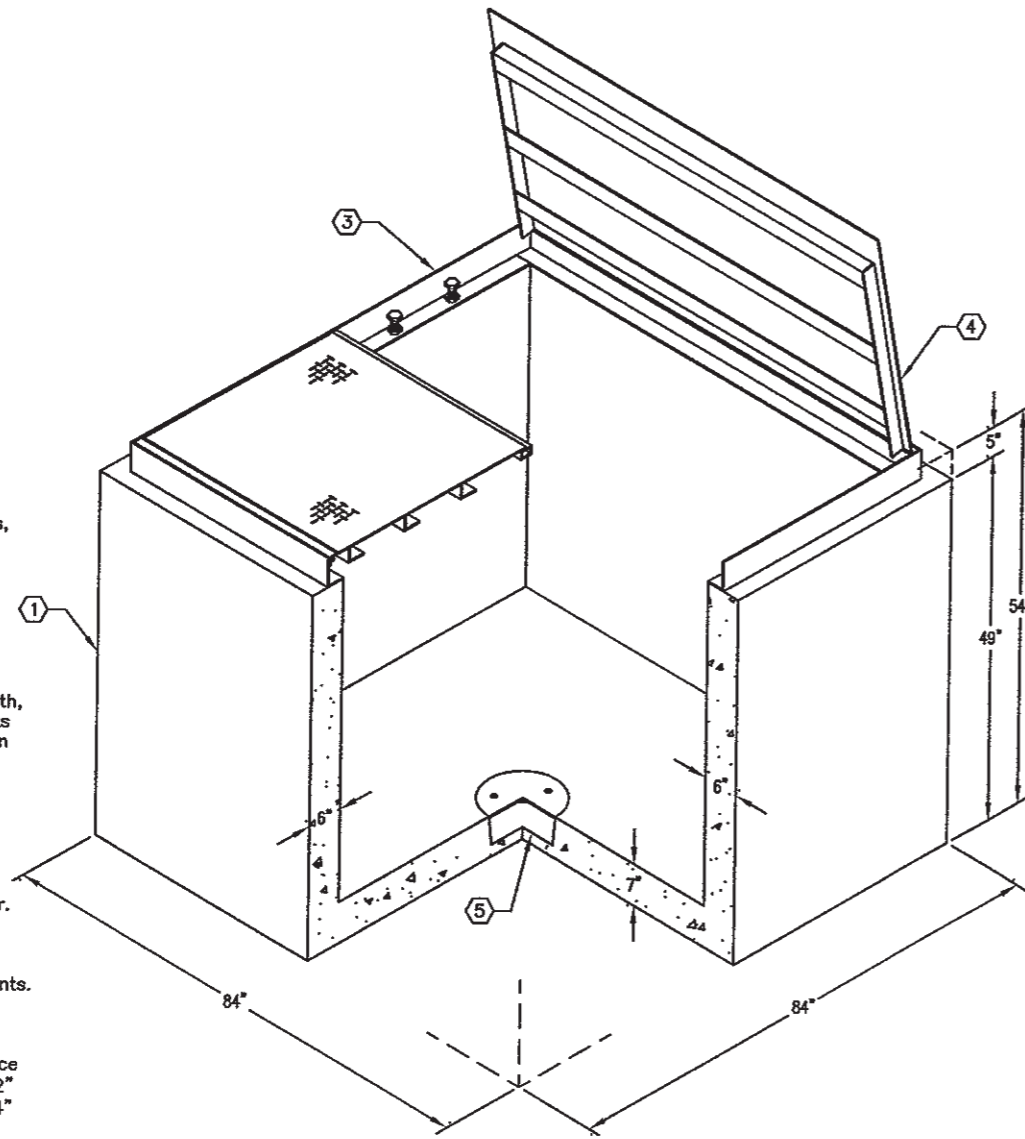
ORDERING INFORMATION:

K66-FH48-S09-TM FOR ASSEMBLY AS SHOWN.

TOTAL WEIGHT OF ASSEMBLY SHOWN IS 12,766 Lbs.

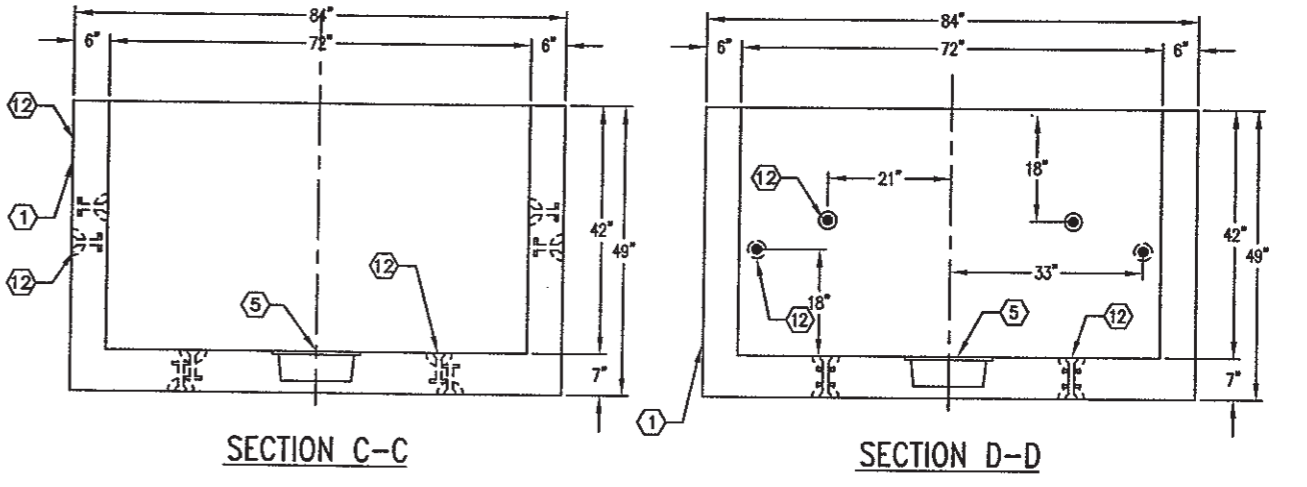
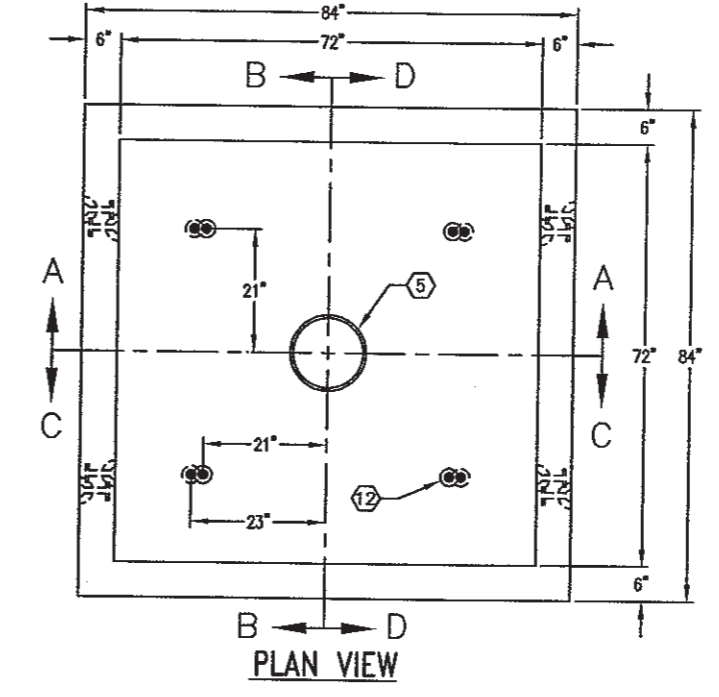
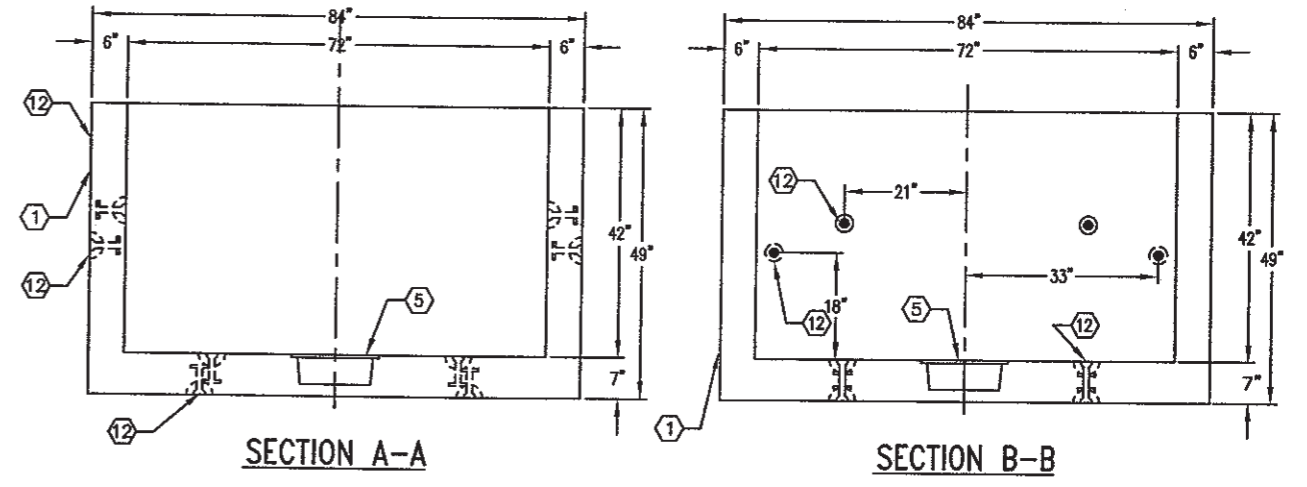
GENERAL NOTES:

1. Minimum soil bearing capacity is hereby assumed to be 2000 PSF unless otherwise documented by a geotechnical report that shall be provided to Jensen Precast by the end user. Jensen Precast shall not be held responsible for the soil bearing capacity.
2. Installation of Manholes, Vaults, Handholes, Meter Boxes etc. will be as per Jensen installation procedures.
3. Structural modification to the Jensen line of products is not permitted without prior written approval from Jensen Engineering Department.
4. Do not scale the drawings, verify all dimensions including rough openings, if any discrepancies are found, notify the Jensen Engineer immediately.
5. The Jensen Engineer will interpret the intent of the drawings in case of possible conflict or discrepancy.
6. Permissible Variations:
Dimensional Tolerances - The length, width, height, or dia. measurements of the structure when measured on the inside surfaces shall not deviate from design dimensions by more than the following:
Dimensions: Tolerance:
0 to 5 Feet 1/4"
5 to 10 Feet 3/8"
10 to 20 Feet as agreed upon between the supplier and purchaser.
7. Squareness Tolerance:
The inside of the precast concrete component shall be square as determined by diagonal measurements. The difference between such measurements shall not exceed the following:
Measured Length: Allowable Difference
0 to 10 Feet 1/2"
10 to 20 Feet 3/4"
20 Feet and over as agreed upon between the supplier and purchaser.



MINIMUM EXCAVATION SIZE:
8'-0" x 8'-0" x DEPTH REQ'D.

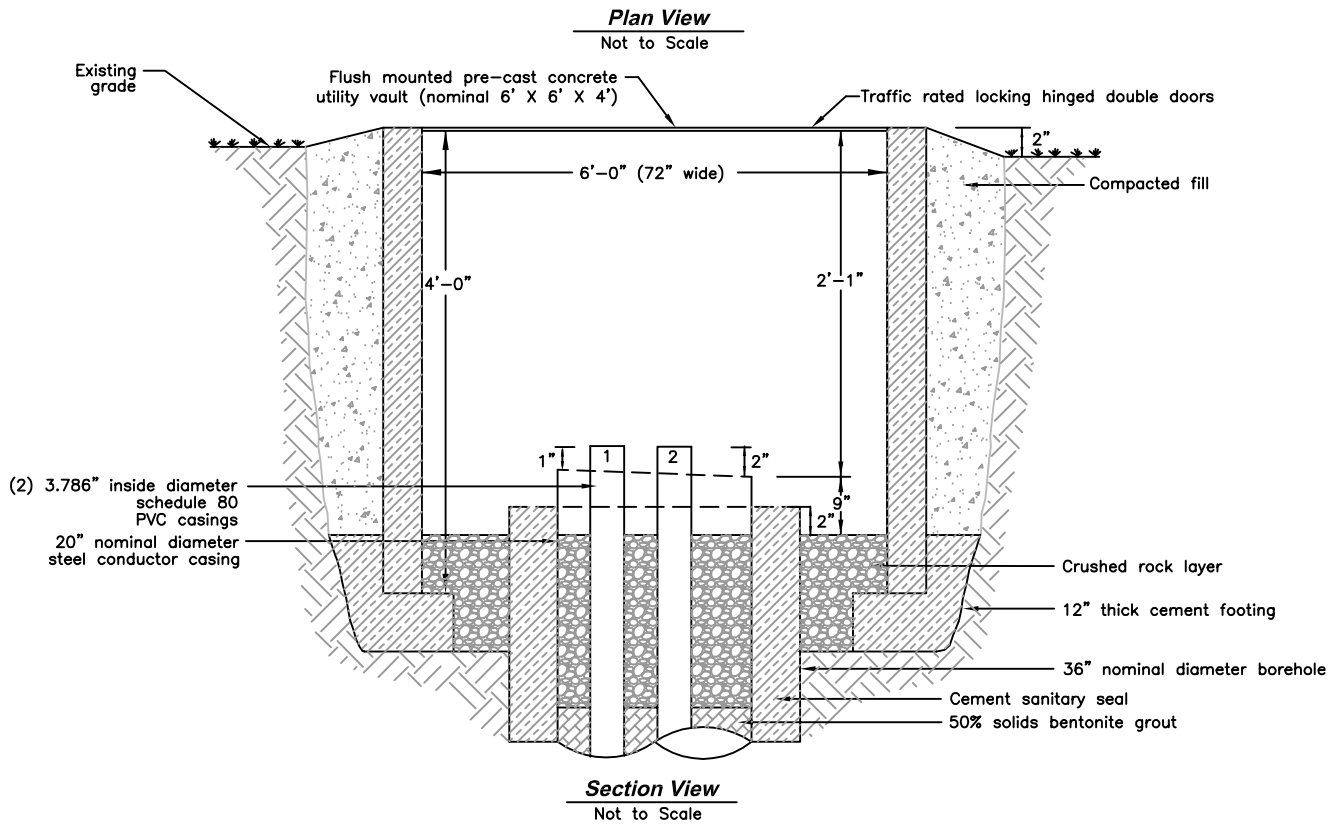
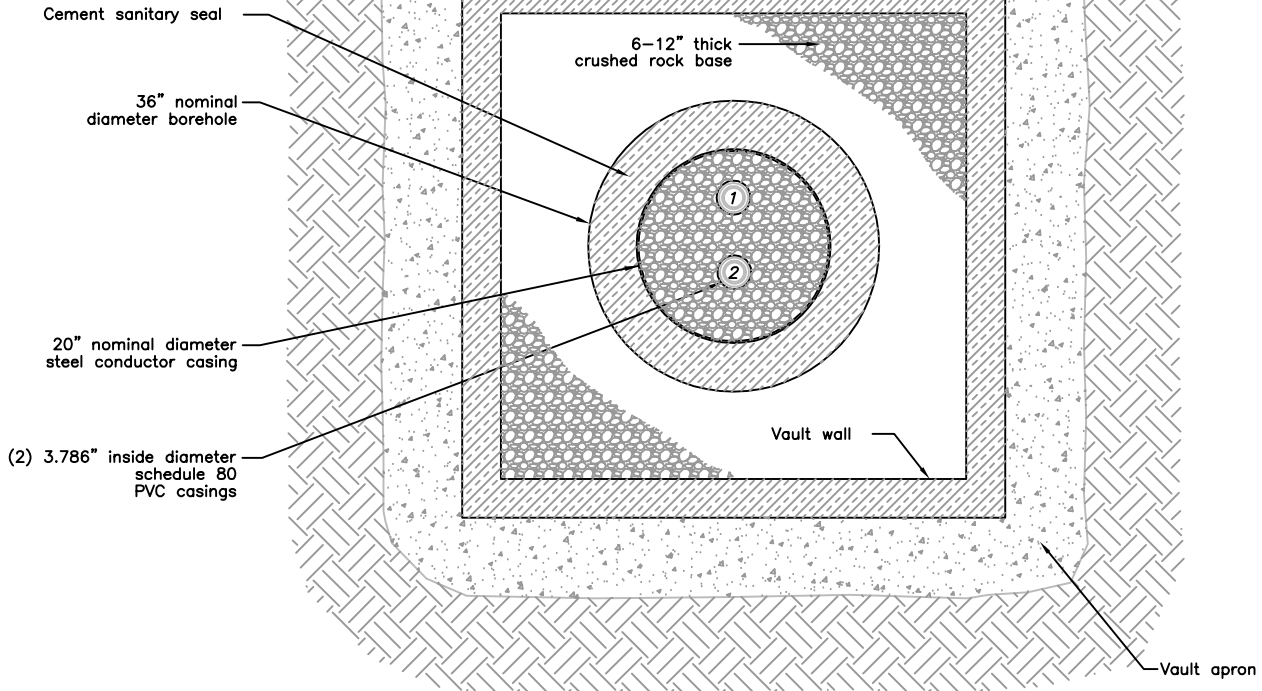
K66-FH48-S09-TM
JENSEN PRECAST 12-09-09



#	DATE	DESCRIPTION	BY

K66-FH48-S09-TM
JENSEN PRECAST

Figure 5



Produced by:

Well-Head Completion As-Built Diagram

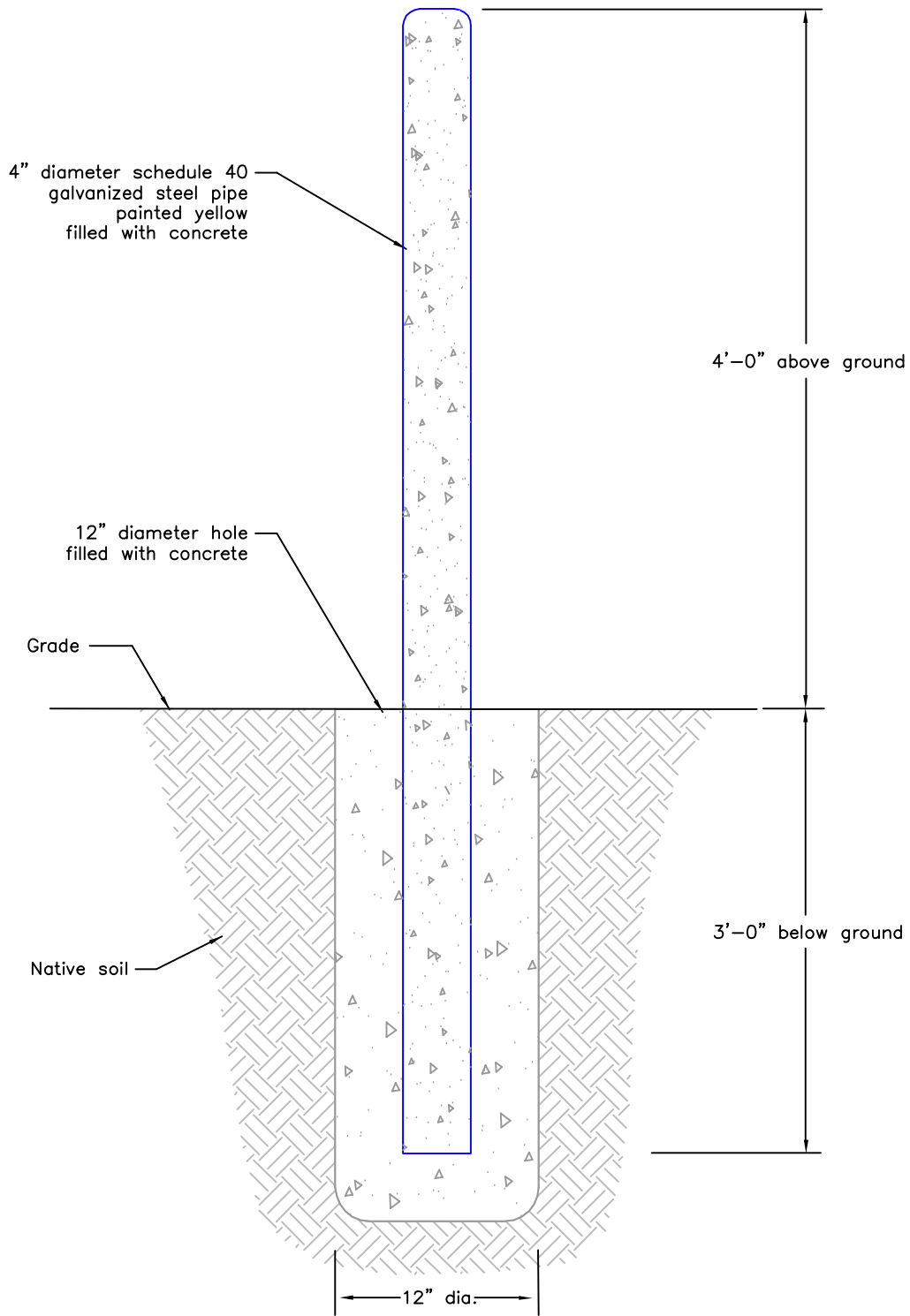
Prepared for:



Author: TCR
 Date: 20121018
 File: Figure_6_Wellhead.dwg

Chino Creek Piezometer A

Figure 6



Not to Scale

Produced by:



Bollard Schematic

Prepared for:



Author: TCR
Date: 20120615
File: Bollard_Fig7.dwg

Chino Creek Piezometer A

Figure 7

Appendices

Appendix A – County of San Bernardino Well Permit

Appendix B - Material Delivery Slips and Certificates

Appendix C - Contractor's Daily Logs

Appendix D – Well Log

Appendix E - Geophysical, Caliper, and Deviation Survey Reports

Appendix F - Development Logs

Appendix G - Groundwater Quality Data

Appendix H - State of California Well Completion Report

Appendix I - Video Survey Reports

Appendix A

County of San Bernardino Well Permit

San Bernardino County Department of Public Health
DIVISION OF ENVIRONMENTAL HEALTH SERVICES
385 North Arrowhead Avenue, San Bernardino, CA 92415-0160

WP 7972

SR 54973

DO NOT FILL IN

Permit Number 2012040192

Expiration 10-11-12

FF _____

FA _____

SN _____

WELL PERMIT
(Please Print)

CRPA 1/2

DO NOT FILL IN

Date 04-11-12

Amount \$ 269-

Receipt Number 78232

Paid by BEST DRILLING
CITY 53 CR 17511

1. OWNER: Name CHINO BASIN WATERMASTER

Mailing Address 9641 SAN BERNARDINO RD

City RANCHO CUCAMONSA Zip 91730

Site Address 950' EAST OF EUCLID AVE.
175' SOUTH OF KIMBALL AVE

City CHINO Zip 91708

Telephone Number (909) 484-3888

Items 6 through 9 to be estimated for new wells, exact for all other wells

5. ANNUAL SEAL: Seal Depth 50 ft.

Furnished by: Owner Contractor

Driven Conductor Dia. 20 in., Wall (Gage) 3/8" WT

Sealing Material 10.3, Thickness 5 in.

6. DEPTH OF WELL (feet): 610', 170'

Proposed 610 Existing _____

DIAMETER OF BORE (in.): 17.5/12 3/4

2. WELL DRILLER: Best Drilling and Pump, Inc.

4-18-12 7-18-12

Start Date Completion Date

7. CASING INSTALLED:

Steel Plastic Other NESTED

From (ft.)	To (ft.)	Dia. (in.)	Wall (Gage)
0	170	4	SCH 80
0	610	4	SCH 80

3. WELL USE (check):

Agricultural Horizontal Test

Cathodic Monitoring/Observation Dairy

Ind/Domestic Community/PWS/City Other

Gravel Pack: Yes No

From 90 to 170 ft.

230 310

4. TYPE OF WORK (check):

New Reconstruction Destruction

8. PERFORATIONS (if applicable): 9

From 100 to 160 ft.

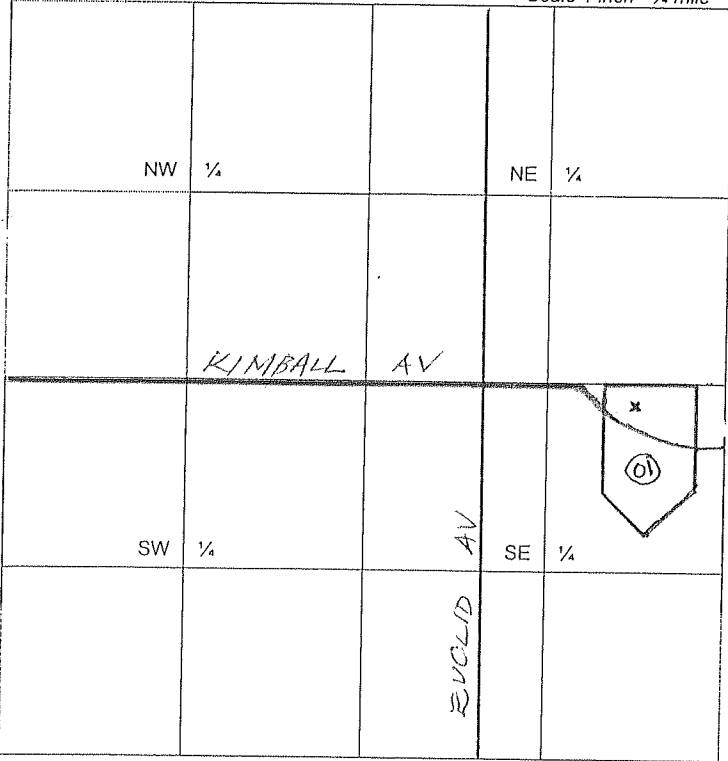
240 300

9. SEALED ZONES (if applicable): Bentonite & Cement

From 170 to 240 ft.

310 620 75 682 C7

SECTION MAP - DO NOT FILL IN Scale 1 inch = 1/4 mile



10. LOCATION INFORMATION

(a) TOWNSHIP: Tier 2 N/S Range 7 E/W Section 30

(b) Assessor's Parcel No. 105-610-101

(c) Latitude and Longitude
Lat: 33 ° 58 ' 3.36 " N/S
Long: 117 ° 38 ' 50.57 " EW

(d) Solid or Liquid Disposal Site within Two Miles
 Yes No
Location _____

DO NOT FILL IN

Seal _____

Cap _____

Check Valve _____

Electricals _____

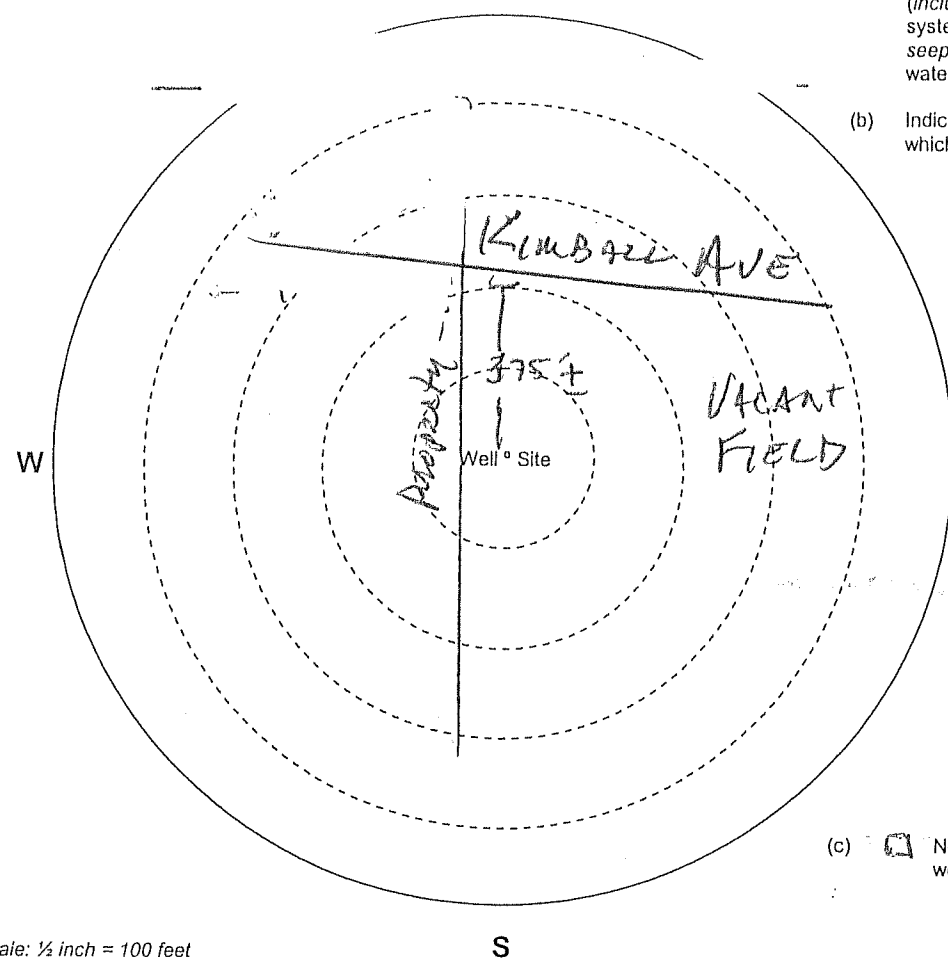
Stab _____

Tag _____

Building & Safety Notified _____

Assessor's Parcel No. 105-610-101

11. PLOT PLAN:
 (a) In perspective to the well site, sketch and label the following items: well lot property lines, other wells (include abandoned wells), sewage disposal systems (sewers, septic tanks, leaching fields, seepage pits, cesspools), lakes and ponds, watercourses and animals or fowl kept.
 (b) Indicate the distance, in feet, of any of the following which are within 500 ft. of the well site:



Other	_____
Sewers	_____
Septic tanks	_____
Leaching fields	_____
Seepage pits	_____
Cesspools	_____
Lakes and ponds	<u>200'</u>
Watercourses	_____
Animal or fowl kept	_____

2 CATCH BASIN.

(c) None of the above are within 500 feet of the well site.

Scale: 1/2 inch = 100 feet

12. I have read this application and agree to comply with all laws regulating the type of work being performed.
 C-57 Contractor's Signature Wm B B B Date 4-11-12
 County Registration No. 291 California License No. 826672

DISPOSITION OF PERMIT
 (For Department Use Only)

- Sent to Water Agency for review.
- Water Agency conditions or recommendations attached.
- Denied - _____
- Approved subject to the following:
 - A. Notify the Department, Safe Drinking Water Program, (909) 387-4666, twenty-four (24) hours in advance to make an inspection of the following operations:
 - Prior to sealing of the annular space or filling of the conductor casing.
 - After installation of the surface protective slab ~~and pumping equipment.~~
 - During destruction of wells, prior to pouring the sealing material.
 - B. Submit to the Department, within thirty (30) days after completion of work, a copy of:
 - Water Well Driller's Report
 - Bacterial Analysis
 - Inorganic Chemical Analysis
 - Radiological Analysis
 - General Mineral
 - Organic Chemical analysis
 - General Physical

Comments _____

Appendix B

Material Delivery Slips and Certificates

CONTROL
NUMBER

8059266

ROBERTSON'S
Phone 800/834-7557 San Diego 800/870-1220
www.rrmca.com
OPEN 7 DAYS

- #1 RIVERSIDE - 6120 20th ST.
- #2 MORENO VALLEY - 12890 DAY ST.
- #3 REDLANDS - 8353 ALABAMA ST.
- #4 FONTANA - 13792 SLOVER AVE.
- #5 POMONA - 2470 POMONA BLVD.
- #6 HEMET/SAN JACINTO - 1675 STATE ST.
- #7 BEAUMONT - 452 W. LUIS ESTRAOIA RD.
- #8 SUN CITY - 27050 WATSON RD.
- #9 ARROWHEAD - 29750 HWY 18
- #10 SANTA FE SPRINGS - 12311 GREENSTONE AVE.
- #11 CABAZON - 13990 APACHE TRAIL
- #12 SAN BERNARDINO - 1955 W. 9TH ST.

- #13 IRVINDALE - 13631 LIVE OAK LANE
- #14 PASADENA - 1420 N. LINCOLN AVE.
- #15 VERNON-LOS ANGELES - 3365 E. 26TH ST.
- #16 ANAHEIM - 201 E. COMMERCIAL ST.
- #17 SANTA ANA - 310 N. TOWNSEND ST.
- #18 LAKE FOREST - 25931 TOWN CENTRE DR.
- #19 ADELANTO - 12203 VIOLET RD.
- #20 SAN CLEMENTE - 116 RINCON CT.
- #21 IRVINE - 16081 CONSTRUCTION CIR. WEST

- #22 NO. HOLLYWOOD - 13132 RAYMER ST.
- #23 PARAMOUNT - 7277 E. ROSECRANS AVE.
- #24 RIALTO - 2601 N. ALOER AVE.
- #25 GARDENA - 301 W. ROSECRANS AVE.
- #26 THOUSAND PALMS - 72460 VARNER RD.
- #27 MURRIETA - 26190 ADAMS AVE.
- #28 OTAY MESA - 7961 AIRWAY RD.
- #29 EL CAJON - 215 CYPRESS LN.
- #30 CORONA - 1540 SHERBORN ST.

- #31 HESPERIA - 9661 C AVE.
- #32 UPLAND - 1975 N. BENSON
- #33 MIRAMAR - 5692 EASTGATE DR.
- #34 LUCERNE - 36555 HWY 18
- #35 BIG BEAR LAKE - 42025 GARSTIN DR.
- #36 ESCONDIDO - 1310 SIMPSON WAY
- #37 INDIO - 88110 FARGO CANYON RD.
- #38 RIDGECREST - 2157 INYOKERN RD.
- #39 PALMDALE - 37790 75TH ST. EAST

- #40 ARTESIA - 13949 E. STAGE ROAD
- #41 MOJAVE - 140 E. HWY 58
- #42 VICTORVILLE - 16952 N. D ST.
- #43 BAKER - 56500 BAKER BLVD.
- #44 FT. IRWIN - 58825 FORT IRWIN RD.
- #45 BARSTOW - 2700 E. MAIN ST.
- #46 CAL-CITY - 7900 MOSS AVE.
- #47 PORT OF LONG BEACH, 1602 W. PIER D ST.
- #48 EL CENTRO, 1051 N. P ST.

PLANT DATE CUSTOMER NO: SOLD TO: MAP PAGE TICKET NO.
5 04/24/12 99982 BEST DRILLING & PUMP INC 682D7 8059266
TX CD DELIVERY ADDRESS & INSTRUCTIONS CUSTOMER PO. / JOB OR LOT #

KIMBALL AVE/ EUCILD
JUST PAST ARCO ON RIGHT CHIND (909) 425-9998 LAST TKS
Job Phone : (909) 936-1898

ORDER NO. METER READING TIME TYPED TRUCK LIC NO.
330 900.00 10:41 8D89756

LOAD NO. SLUMP TRUCK DRIVER
1 7.00 1088 1033 SAMOYLENKO, JOHN- (PSLURRY)

TO JOB 10:53 DRUM REVS: Job-site Cylinder Test: Yes TIME ON JOB _____ MIN. CHECK # _____

ON JOB 11:16 Water added on job at STAND BY _____ MIN. CHECK _____ AMOUNT BY _____

START POUR 11:22 Customer's request: RATE OF X \$ _____ PER MIN. CASH _____ AMOUNT BY _____

FINISH POUR 11:39 _____ gals to Full Ld. _____ gals to 2/3 Ld. _____ gals to 1/3 Ld.

LEAVE JOB _____ ADJ. Meter _____

ARRIVE PLANT _____

Additional water added to this concrete will reduce its strength. Any water added exceeding the design water is at customer's own risk.

MIN
Additional unloading time charged at current hourly truck rate.

UOM CONVERSION CY=YARDS3 #=POUNDS GL=GALLONS
FO=OUNCES CU=METERS3 KG=KILOGRAM L=LITERS ML=MILLILITERS

TERMS AND CONDITIONS OF SALE
Customer agrees that the described material has been chosen solely by Customer without Robertson's direction, or review of any plans or specifications relating to the project(s) where the material is to be used. Customer further agrees that it shall be solely responsible for the delivery location, and discharge/placement of material on the job site, including the on-site direction of Robertson's vehicles to the designated location. Customer's review and approval of the described material shall be evidenced by Customer's signature and/or placement of the described material on the job site. In consideration of the above, Customer releases and agrees to defend, indemnify and hold Robertson's and its employees and agents harmless from any and all losses, damages, liabilities, costs and claims asserted by Customer or any third party, arising from (i) material being inappropriate, incompatible, improper or inconsistent with plans and specifications, or with the ground soils or conditions on the land where the material is utilized, and (ii) the movement of Robertson's vehicles upon or about the delivery location. Solely to the extent Customer fails to timely pay for the described materials, in the event Robertson's retains the services of an attorney, Customer agrees to pay such reasonable attorney's fees incurred by Robertson's in furtherance of such collection efforts. Robertson's and Customer disclaim attorney's fees arising from any other context. Customer agrees to pay a time price differential of 1 1/2 % per month on any amounts owed to Robertson's for more than thirty (30) days.

LD QTY	CUM QTY	ORD QTY	PROD CODE	MIX AND COMMODITY	UOM	UNIT PR	AMT
8.00	8.00	8.00	35333	10.3SLUR	YD3		

WATER ALLOWED 480.0GAL
WATER BATCHED 342.0GAL
MOISTURE WATER 89.0GAL
MAX ADD WATER 49.0GAL
CEMENT LB 6560
FLYASH LB 1150
W SAND LB 17680

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

ROBERTSON'S
WEIGHMASTER

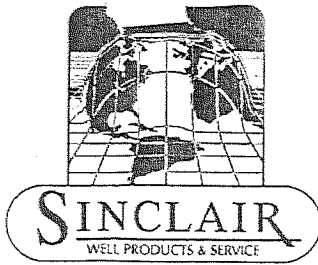
BY DEPUTY

Gabriel Berumen

TAX
PREVIOUS BALANCE
SUB TOTAL
STAND BY CHARGE

TOTAL

CONCRETE DELIVERY TICKET
PO BOX 3600 CORONA, CA 92878-3600



Sinclair Well Products, Inc.

10602 Midway Ave
 Cerritos, CA 90703
 Telephone: 562.403.3559
 Fax: 562.403.3564

**SALES ORDER
 PICKING LIST**

Sales Order Number: 4277
 Sales Order Date: Apr 20, 2012
 Ship By: Apr 20, 2012
 Page: 1

Customer Tele: 909-425-9998

Customer Fax:

To:
 BEST DRILLING & PUMP
 1640 W. PELLISIER ROAD
 COLTON, CA 92324

Ship To:
 BEST DRILLING & PUMP
 1640 W. PELLISIER ROAD
 COLTON, CA 92324

Customer ID	PO Number	Sales Rep Name
BEST DRILLING & PUMP	MARK BEST 10085-JM-1	Stewart Dunham
Customer Contact	Shipping Method	Payment Terms
MARK BEST	DELIVERED -SWP	2% 10, Net 60 Days

Quantity	Item	Description	Shipped Prior	This Shipment
2.00	4022059	CROSSOVER 4" SCH 80 F/FT x 6" SCH 40 M/FT		2 2 2 2 1
2.00	4022058	CROSSOVER 6" SCH 40 F/FT x 4" SCH 40 M/FT		
2.00	A6-140	CAS 6" x 4' SCH 40 MxF FT		
2.00	4024397	CSG SST 4" x 5' F/FT x PB		
1.00	4021844	SET UP CHARGE		

ACTUAL SHIPPING METHOD Delivered
 WAYBILL #: _____ WEIGHT: _____
 NUMBER OF BOXES: _____ FREIGHT: 0
 SHIPPED BY: Stewart
 DATE SHIPPED: 4-23-12
 RECEIVED BY: _____

ANY RETURNS MUST FIRST BE APPROVED BY AUTHORIZED CUSTOMER SERVICE AND MAY BE SUBJECT TO A RESTOCKING FEE.



Sinclair Well Products, Inc.

REMIT TO:

10602 Midway Avenue
 Cerritos, CA 90703
 Telephone: 562.403.3559
 Fax: 562.403.3564

INVOICE

Invoice Number: 4694
 Invoice Date: May 2, 2012
 Sales Order # 4379
 Page: 1

Bill To:
 BEST DRILLING & PUMP
 1640 W. PELLISIER ROAD
 COLTON, CA 92324

Ship to:
 JOB SITE
 KIMBALL & EUCLID
 CHINO, CA 91710

Customer ID	Customer PO	Payment Terms	
BEST DRILLING & PUMP	VERBAL JOHN 10085-JM-1	2% 10, Net 60 Days	
Sales Rep ID	Shipping Method	Ship Date	Due Date
RA	DELIVERED -SWP	5/2/12	7/1/12

Quantity	Item	Description	Backorder Qty	Unit Price	Amount
18.00	4021820	4" CENTRALIZER, SS		19.00	342.00
48.00	4020507	BENSEAL, 50LB		9.84	472.32
245.00	4024518	SAND, #3 100LB		9.45	2,315.25
7.00	4022259	PALLET DEPOSIT, CEMEX		15.00	105.00
2.00	4024024	LOCKING PLUG, 4" SC80 T-480		14.50	29.00

MAY 07 2012 *RA*

J.M.
 10085
JM

ANY RETURNS MUST FIRST BE APPROVED BY AUTHORIZED CUSTOMER SERVICE AND MAY BE SUBJECT TO A RESTOCKING FEE.

Subtotal	3,263.57
Sales Tax	252.93
Freight	
Total Invoice Amount	3,516.50
Payment/Credit Applied	
TOTAL	3,516.50

We now offer a 2% Discount for all invoices paid on or before NET 10 DAYS!!
 Not valid for Credit Card Payments



Sinclair Well Products, Inc.

REMIT TO:

10602 Midway Avenue
 Cerritos, CA 90703
 Telephone: 562.403.3559
 Fax: 562.403.3564

INVOICE

Invoice Number: 4693
 Invoice Date: May 2, 2012
 Sales Order #: 4362
 Page: 1

Bill To:
 BEST DRILLING & PUMP
 1640 W. PELLISIER ROAD
 COLTON, CA 92324

Ship to:
 BEST DRILLING & PUMP
 JOB SITE; KIMBALL & EUCLID
 CHINO, CA 91710

Customer ID	Customer PO	Payment Terms	
BEST DRILLING & PUMP	VERBAL JOHN 10085-JM-1	2% 10, Net 60 Days	
Sales Rep ID	Shipping Method	Ship Date	Due Date
SD	DELIVERED -SWP	5/2/12	7/1/12

Quantity	Item	Description	Backorder Qty	Unit Price	Amount
31.00	A4-8300	CSG, PVC 4" X 20' S80 F/T		131.37	4,072.47
3.00	A4-8200	RISER, PVC 4"X10' S80 ASTM		68.82	206.46
2.00	A4-8150	RISER, PVC 4"X5' S80 ASTM		36.75	73.50
4.00	AS4-8302	4"X20' SCH 80 PVC .020 SLOT		155.80	623.20
1.00	AS4-8202	SCN, PVC 020 4"X10' S80 ASTM		86.25	86.25
192.00	4020507	BENSEAL, 50LB		9.84	1,889.28
35.00	4024520	SAND, #60 100LB		8.70	304.50
175.00	4024518	SAND, #3 100LB		9.45	1,653.75
20.00	4023702	PELLETS, 3/8" TR30		47.25	945.00
6.00	4022259	PALLET DEPOSIT, CEMEX		15.00	90.00

MAY 07 2012 *AK*

J.M.
10085
(Signature)

ANY RETURNS MUST FIRST BE APPROVED BY AUTHORIZED CUSTOMER SERVICE AND MAY BE SUBJECT TO A RESTOCKING FEE.

Subtotal	9,944.41
Sales Tax	770.69
Freight	
Total Invoice Amount	10,715.10
Payment/Credit Applied	
TOTAL	10,715.10

We now offer a 2% Discount for all invoices paid on or before NET 10 DAYS!!
 Not valid for Credit Card Payments



ELIOT QC LABORATORY

1544 Stanley Boulevard
Pleasanton, CA 94566

Telephone: (925) 249-6422 Fax: (925) 249-6444

February 5, 2010

Best Drilling & Pump

Attn: Mark Best

Tel: (909) 234-9531

Email: mbest@bestdrillingandpump.com

Project Reference: Various

We submit the typical test data information below for your approval and as certification of the following product:

Source: Lapis #310/SMARA #91-27-0006

Product: #3, Lapis Lustre Sand

Nominal Sieve Size: #8 x #20

<u>U.S. Sieve</u>	<u>% Passing</u>
#6 (3.35 mm)	100
#8 (2.36 mm)	99 +/- 1
#12 (1.70 mm)	59 +/- 12
#16 (1.18 mm)	9 +/- 5
#20 (850 µm)	2 +/- 1
#30 (600 µm)	1 +/- 1

Respectfully,

A handwritten signature in blue ink, appearing to read "Ron Novak".

Ron Novak

Quality Control Representative

CEMEX

cc: Dale Kendall
Chris Mathias

Appendix C

Contractor's Daily Logs

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: Chino Water Master Chino Water Master	CLIENT REP: WET	DATE: 4-24-12
JOB NUMBER: 10085	LOCATION/WELL #: CCPA	DAY OF WEEK: Tue
EQUIPMENT:	RENTAL/SUBCONTRACTOR: Barnes	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
6:30		Open dog House			/					
		get tools to set conductor			/					
		Set conductor to 50'			/					
		Weld in conductor			/					
10:30	11	Lunch			/					
11		Cement conductor			/					
		Clean up site move dirt to back of dog house			/					
		Repair curbar								
		Fire station - clean up								
	3:00									

CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)

QTY	UNITS (YDS. BAG, FT)	DESCRIPTION

PAYROLL

EQUIPMENT HOURS

START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
6:30	3:00	8	Jim Smith				
6:30	3:00	8	Ernie Trinidad E.T.				

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00

DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:			CLIENT REP:				DATE: <u>4-24-12</u>			
JOB NUMBER: <u>10085</u>			LOCATION/WELL #: <u>Chino</u>				DAY OF WEEK: <u>Tuesday</u>			
EQUIPMENT:						RENTAL/SUBCONTRACTOR:				
SAFETY TOPIC:						INJURIES:				
TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
<u>1500</u>	<u>1530</u>	<u>Hook up TRL + LOAD CIRC-TANK</u>			/					
					/					
					/					
					/					
					/					
					/					
					/					
					/					
					/					
					/					
			CONSUMABLES (PIPE, CEMENT, SAND, BENTINITE, ETC.)							
			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
PAYROLL									EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees		START	FINISH	TOTAL HRS	Employees		
<u>1500</u>	<u>1530</u>	<u>0.5</u>	<u>DARREN ROGERS</u>							
			<u>Darrell By</u>							

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: CHM	CLIENT REP: WEI	DATE: 4-25-12
JOB NUMBER: 10085	LOCATION/WELL #: CCPA	DAY OF WEEK: Wed
EQUIPMENT: Jed-A	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:		INJURIES:

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
7am		Rig up Jed-A			/					
		Spot C in Tank			/					
		Weld Flow line			/					
		Hookup discharge line			/					
		To sample Box Run in 2			/					
	11	Collaps mix mud			/					
11	11:30	Lunch			/					
		Fix hole in mud Tank			/					
		mix mud clean up			/					
		Put tools away								
	6:30	\$ lock up	QTY	UNITS (YDS. BAG. FT)	DESCRIPTION					
			Bag	12	Gel					
			Bag	1/2	Scale ASN					

PAYROLL								EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
7	3:30	8	E. Trinidad E.I						
7	3:30	8	Chris. Rivers						
10	6:30	8	Jimmy Queen						
10	6:30	8	Jim Song SS						
10	6:30	8	Francisco Solis						

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00

DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:	CLIENT REP:	DATE: 4-25-12
JOB NUMBER: 10085	LOCATION/WELL #: CH100	DAY OF WEEK: Wednesday
EQUIPMENT: TRT-2 DR-2		RENTAL/SUBCONTRACTOR:
SAFETY TOPIC:		INJURIES:

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES					DRILLERS LOG		
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
0600	0715	open shop - Pre-trip TRT-2 Hook up DR-2 + Rig-Down			/					
0715	0800	Movs to CH100			/					
0800	0900	SPOT RIG OVER CONDUCTOR			/					
0900	0930	Movs to YARD			/					
0930	1015	Hook up TRT-2 Tie down FUEL TANK + SIRC. TANK			/					
1015	1100	Movs to CH100	CONSUMABLES (PIPE, CEMENT, SAND, BENTINITE, ETC.)							
1100	1130	Lunch	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
1130		unload FUEL TANK + SIRC. TANK move GP + Hoop on from PUMP STATION - SPOT Dog House TRAILER								
	1300	Behind DR-2								
1300	1330	Movs to YARD								

PAYROLL							EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees	
0600	1330	7.0	DANIEL ROGERS					
			Daniel Rogers					

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: CWM	CLIENT REP: WEI	DATE: 4-26-12
JOB NUMBER: 10085	LOCATION/WELL #: CCPA	DAY OF WEEK: Thurs
EQUIPMENT: Jed-A	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:		INJURIES:

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES					DRILLERS LOG		
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
6am		Unlock Dayhouse	11:30am	8	8.5 / 32			0%	55ft	Sand, silt
		clean it, put plastic	3:30pm	8	8.6 / 33			0%	90ft	55-60 silt sand
	10:30	water Ric.	8:00pm	8	8.6 / 33		6.5	TR.	125ft	60-65 Sand
10:38	11:45	clean F.I.L, Drill 50-58	11:30	8	8.6 / 32		6.5	TR.	175ft	65-70 silt sand
11:45	12:00	Respool Drill Line			/					70-75 sand
12	12:30	Lunch			/					75-80 sand
12:50	2:00	Drill 58-75			/					80-85 sand
					/					85-90 silt / clay
2pm		Cont Drilling 75-145F			/					90-95 Clay
		Chris drop off GEL	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)							95-100 Sand
		on site.	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION				105-110 Sand	
10pm		Drill F/145 to 160'								110-115 sand/gravel
		Add Air line & crosswired								115-120 sand/gravel
										120-125 medium sand/gravel
	12:00									125-130 sand/gravel
										130-135 Clay/sand
										135-140 clay/sand

PAYROLL							EQUIPMENT HOURS			
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees			
6am	2:30	8	E. TRINIDAD	10pm	12m	2	Francisco Sales	145-150 Sand/clay		
6am	2pm	7.5	Chris Rivers					150-155 CLAY TAN		
2pm	10pm	7.5	Devon Boiz DL					155-160 CLAY TAN		
2pm	10pm	7.1	Jimmy Cooper					160-165 Sand-clay		
10pm	12pm		Jim Soria					165-170 CLAY		
								170-175 Sand-clay		

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00

DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: C.W.M	CLIENT REP: W E I	DATE: 4-27-12
JOB NUMBER: 10085	LOCATION/WELL #: CCLPA	DAY OF WEEK: Fri
EQUIPMENT: Jet A	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC: Safety Glasses	INJURIES:	

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES					DRILLERS LOG			
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)	
12AM		Continue drilling F/160'	3:00am	8	8.7/33		60	TR	190	175-180 Clay	
	2:30	To 215'	7:00am	8	8.6/34		12	TR	295	180-185 SAND	
2:30		Setup & Run Deviation	11am	8	8.7/32		12	N/TR	335	185-190 Clay	
	3:30	Test For 150'	2:pm	8	8.6/33		13	N/TR	375	190-195 Clay, SAND & AD	
3:30	4	Lunch	6pm	7	8.8/32		TR	N/TR	420	195-200 Clay, SAND	
4am		Continue Drilling F/215' to 260'	10pm	7	8.8/34			N/TR	455	200-205 Clay, SAND 205-210 Clay, SAND 210-215 Clay, SAND	
6am		Drill 260' to 315 off load pallet Gel, Trimmie, Bucket			/					215-220 Clay, SAND & AD 220-225 Clay, SAND & AD	
		TOOK 250' Survey (Bulleye)	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)								225-230 Clay, SAND 230-235 Clay, SAND, ROCK
			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION						235-240 ROCK
11	11:30	Lunch	10085	8	DRISPAK					240-245 SAND	
11:30	2pm	Drill 315' to 373'								245-250 SAND	
2pm		Can Drilling 373 to Took 350- Survey								250-255 SAND 255-260 gravel Black white	
2:30		Lunch 373-435								260-265 gravel Black white 265-270 gravel Black white 270-275 gravel Black white 275-280 gravel Black white	

PAYROLL				EQUIPMENT HOURS			
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
12/			Jim Sores	2pm	10pm	7.5	Devon Ritz (R)
12/6	10/12	7.5	Francisco Solis				DR2-10560 ✓
6	2	7.5	E. TRINIDAD E.T.				FL5-3951 ✓
6/2		7.5	C. Rivers				Green4-7863 ✓
2	10	7.5	J. Queen				LT5-1724 ✓
							DH2-4072 ✓
							ACH-5722 ✓

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00

DAILY LOG EACH DAY 00:00-24:000

Welder-1104
WM5 ✓

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <i>CUM</i>	CLIENT REP: <i>WEI</i>	DATE: <i>4-28-12</i>
JOB NUMBER: <i>10095</i>	LOCATION/WELL #: <i>CCPA</i>	DAY OF WEEK: <i>SAT</i>
EQUIPMENT: <i>JET A</i>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC: <i>Safety Lines</i>	INJURIES:	

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES					DRILLERS LOG		
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
12	1230	Drill To 535'	3.04		8.5 / 32		12	TR	560	515-520 SAND, GRAVEL
1230		Take 451' Deviation			/					520-525 SAND, GRAVEL
		Surf Req. spm. chain			/					525-530 SAND, GRAVEL
	200	+ yellow Air line			/					530-535 GRAVEL SAND
200	330	continued drill / 505 to 355			/					655-540 GRAVEL GRAVEL
330	515	fix cable Trip Side			/					545-550 CLAY SILT 550-555 CLAY SILT
400	445	make connection & Repair yellow line			/					555-560 CLAY
445		continued Drill / 555' to			/					560-565 SAND GRAVEL 565-570 SAND GRAVEL
	6am	595'			/					570-575 SAND, GRAVEL

TIME		DESCRIPTION OF WORK	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)		DESCRIPTION
QTY	UNITS (YDS. BAG. FT)				
6am	7	Fix 2" Buss hose on stand pipe. add pipe			515-580 SAND GRAVEL CLAY 580-585 SAND GRAVEL CLAY
7		Drill 595 to 635			585-590 ROCK, SAND, CLAY 590-595 SAND, CLAY
	9:25				
9:25	10:00	cin hole, survey			
10:00	10:30	Survey @ 550' level			
10:30	11:00	pull tools up to 540'			
11:00	11:30	Lunch			

PAYROLL			EQUIPMENT HOURS				
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
12	6	6	F. Solis				DR2 10580
12	6	6	J. Solis				LR5 1734
6/11	11:30	8	Chris Rivers (R)				GR4 7366
6am	4:30	10	E. Trinidad ET.				FL5 4039
							BH2 4074
							AL4 5738

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

WMS

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BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: CWM	CLIENT REP: WEI	DATE: 5-1-12
JOB NUMBER: 10085	LOCATION/WELL #: CCPA	DAY OF WEEK: TUES
EQUIPMENT: Jed-A	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:		INJURIES:

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
6		Open Doghouse, Broke	10:15	7	8.5 132			NTR	60'	
		Bit. made up 17"n	2:15	7	8.5 132			NTR	126	
		Ran in to 50'	4:15		8.5 132			TR	180	
	8:45	Ream 17"n at 180'			/					
8:45	11:30	From 50' to 76'			/					
11:30	12	Lunch			/					
12		Continue Reaming F/76 to			/					
	2pm				/					
		Continue Ream 12 1/2"			/					
		116 - 250 FT	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)							
	10pm		QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
10		Ream F/250 - 270'								
	12									

PAYROLL							EQUIPMENT HOURS		
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
6am	2	7.5	E. Trinidad Est	10	12	2	Francisco Solis	Gen 4 - 73666	
6am	4pm	4.5	J. O'NEEN (SO)					LT 5 - 17349	
2pm	10pm	7.5	Dawn Ruiz OR					FL 5 - 4046.5	
4pm	10pm	5.5	Brian Ruiz BR					DE 2 - 10958	
10	12	2	Jim Sotelo SS					AC 4 - 57421	
								SH 2 - 4074.92	

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

11/11/12

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:			CLIENT REP:				DATE: <u>5-1-12</u>			
JOB NUMBER: <u>10085</u>			LOCATION/WELL #: <u>Chino</u>				DAY OF WEEK: <u>Tuesday</u>			
EQUIPMENT:						RENTAL/SUBCONTRACTOR:				
SAFETY TOPIC:						INJURIES:				
TIME		DESCRIPTION OF WORK	DRILL FLUID PROPERTIES					DRILLERS LOG		
START	FINISH	(PROVIDE AS MUCH DETAIL AS POSSIBLE)	TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
0700		PRE TRIP TRC-2			/					
		Drop TRC-26 14 front			/					
		of Shop - TIRE REPAIR			/					
		LOAD CHEMICALS, WELDER			/					
	0830	8 3" PIPE -			/					
0830	0845	Hook-up FT-4			/					
0845	0930	MOV to Chino -			/					
0930	0945	Drop FT-4			/					
0945	1030	MOV to YARD			/					
1030		UNLOAD TRC-16 -	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)							
		MOVE 4" PIPE TO SOUTH	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
		AT YARD - PARK TRC-16								
	1200	Hook up TRC 9								
1200	1230	Lunch								
1230	1600	Load TRC-3 + LT remove								
		Sub from DR-6								
PAYROLL										EQUIPMENT HOURS
START	FINISH	TOTAL HRS	Employees		START	FINISH	TOTAL HRS	Employees		
0700	1200	5.0	DANIEL ROGERS							
			Daniel Rogers							

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <u>Cwm</u>	CLIENT REP: <u>WEI</u>	DATE: <u>5-2-12</u>
JOB NUMBER: <u>10055</u>	LOCATION/WELL #: <u>CC PA</u>	DAY OF WEEK: <u>Wen</u>
EQUIPMENT: <u>Jed-A</u>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC: <u>Slip, Trip & Fall</u>	INJURIES:	

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
12		Run TO 310' w 17/8	8:15am	7	8.5/32			0	336'	
	3	bit	12:00	7	8.7/32			0		
3	3:30	Lunch	4:15	7	8.7/32			0	496	
3:30		pull tools break bit	8:15	7	8.7/33			0	560	
		& sub Run in 12 1/4			/					
		6am bit & collars			/					
6am	7:45	Run bit in to 310; Run A-Line			/					
7:45	11:15	Run 12 1/8 F/310 - 416			/					
11:15	11:45	Lunch			/					
11:45	2pm	Run 416 to 455	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)							
2pm		Run 455 - 596	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
		Unload #3 Sand 100lb								
		10pm and Reversal.								
10		Run F/556 TO 616								

PAYROLL							EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees	
12/10	6/12	7.5	Jim Sorro 559	2pm	10pm	7.5	Jimmy Queen	
12/10	6/12	7.5	Francisco Salis 52					
6	2	7.5	E. Trinidad					
6	2	7.5	C. Rivers					
2pm	10pm	7.5	Devon-R					

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:	CLIENT REP:	DATE: <u>5-3-12</u>
JOB NUMBER: <u>10055</u>	LOCATION/WELL #:	DAY OF WEEK: <u>thur</u>
EQUIPMENT:	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
<u>12am</u>	<u>100</u>	<u>Rem F/616' TO 636'</u>			/					
<u>100</u>	<u>200</u>	<u>Circulate clean pit</u>			/					
<u>2</u>	<u>230</u>	<u>Pull Air line</u>			/					
<u>230</u>	<u>430</u>	<u>Pull Tools</u>			/					
<u>430</u>		<u>E Log</u>			/					
					/					
<u>6am</u>		<u>Ran Trimmer, to 634'</u>			/					
		<u>cin hole</u>			/					
		<u>Ran in 4" casing</u>			/					
		<u>Cement F/632. 590'</u>	CONSUMABLES (PIPE, CEMENT, SAND, BENTINITE, ETC.)							
	<u>2</u>	<u>clean out Trimmer</u>	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
		<u>(No Lunch) Load Tools</u>								
		<u>+ secure site</u>								

PAYROLL							EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees	
<u>12</u>	<u>6</u>	<u>6</u>	<u>Jim Sora JS</u>					
<u>12</u>	<u>6</u>	<u>6</u>	<u>Francisco Salis JR</u>					
<u>6</u>	<u>2</u>	<u>8</u>	<u>E. Trinidad</u>					
<u>6</u>	<u>2</u>	<u>8</u>	<u>C. Rivers CR</u>					

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: CWM	CLIENT REP: WET	DATE: 5-4-12
JOB NUMBER: 10085	LOCATION/WELL #: CCPH	DAY OF WEEK: Fri
EQUIPMENT: Jed-A	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:		INJURIES:

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
1pm		Unlock Dew House.			/					
		Get seal (590-310)			/					
		Pellets (310-305)			/					
		Gravel Pack (305-Case)			/					
10pm		No lunch			/					
					/					
					/					
		Gravel pack & seal to			/					
12hr	150'		CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)							
			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					

PAYROLL								EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
1pm	10pm	9	Devon P.						
1pm	10pm	9	Jimmy Q.						
8pm	12am	4	F. SOLIS						
10	12	2	J SOLIS						

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <i>CWM</i>	CLIENT REP: <i>WEI</i>	DATE: 5-5-12 <i>5-5-12</i>
JOB NUMBER: <i>10085</i>	LOCATION/WELL #: <i>COPA</i>	DAY OF WEEK: <i>SAT</i>
EQUIPMENT: <i>JED 1A</i>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:		INJURIES:

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES					DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH
<i>1:02</i>		<i>Gravel Pack & Seal</i>			/				
	<i>6:10</i>	<i>F/190 - 20'</i>			/				
					/				
<i>6:40</i>		<i>Gravel Pack & Seal</i>			/				
		<i>F/20' to 7'</i>			/				
		<i>clean up lock</i>			/				
		<i>Tools, secure site</i>			/				
	<i>9:00</i>				/				
			CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)						
			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION				

PAYROLL								EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
<i>12</i>	<i>6</i>	<i>6</i>	<i>F. SOLIS</i>						
<i>12</i>	<i>6</i>	<i>6</i>	<i>J. SOBIA JSS</i>						
<i>6</i>	<i>9</i>	<i>3</i>	<i>E. Trinidad ET.</i>						
<i>6</i>	<i>9</i>	<i>3</i>	<i>C. RIVERS CR</i>						

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: CWM	CLIENT REP: WEI	DATE: 5-7-12
JOB NUMBER: 10085	LOCATION/WELL #:	DAY OF WEEK: MON
EQUIPMENT: Jed-A	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
7am		Unlock Deghouse Cont			/					
		Welder TORCHES TRASH			/					
		Pumps set up.			/					
		Cut off Clamps			/					2 hrs Air Lift
		Run Sound Well			/					
		to 610 just 140'			/					
	11:30	Run Trimmie in Deep Well & A-Line			/					
11:30	12	- lunch			/					
12	1	Turn Air on			/					
		Air Lift Deep Well								
1	3	pull A-Line Trimmie	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
		Run in Shallow Well								
3	4	Air-lift clean								

PAYROLL								EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
7	4	8.5	E. Trinidad E.T.					DP-2-10655 ✓	
7	4	8.5	C. Rivers						

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <i>CWM</i>	CLIENT REP: <i>WET</i>	DATE: <i>5-8-12</i>
JOB NUMBER: <i>10085</i>	LOCATION/WELL #:	DAY OF WEEK: <i>Tu</i>
EQUIPMENT: <i>Ted-A</i>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES					DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH
<i>7am</i>		<i>Unlock Doghouse pull</i>			<i>/</i>				
		<i>A-Line + Trinic</i>			<i>/</i>				
	<i>9:45</i>	<i>Ran in Deep Well</i>			<i>/</i>				
		<i>Trinic to 235</i>			<i>/</i>				<i>Air Lift</i>
<i>9:45</i>	<i>11:30</i>	<i>Swab 235-247</i>			<i>/</i>				
<i>11:30</i>	<i>12</i>	<i>add pipe + Ran A-Line W</i>			<i>/</i>				<i>6 hr. 45 mins</i>
<i>12</i>	<i>1:45</i>	<i>Swab 247-256</i>			<i>/</i>				
<i>1:45</i>	<i>3:30</i>	<i>Swab - 256-265</i>			<i>/</i>				
<i>3:30</i>	<i>5pm</i>	<i>Swab - 265-274</i>			<i>/</i>				

			CONSUMABLES (PIPE, CEMENT, SAND, BENTINITE, ETC.)		
TIME	DESCRIPTION	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION	
<i>12</i>	<i>Lunch</i>				

PAYROLL				EQUIPMENT HOURS			
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
<i>7</i>	<i>5</i>	<i>9.5</i>	<i>E. Trinidad E.T.</i>				
<i>7</i>	<i>5</i>	<i>9.5</i>	<i>Andy V. AJ</i>				

AC3-401
DR-2- Ted-A - 10663

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:	CLIENT REP:	DATE: <u>5-8-12</u>
JOB NUMBER: <u>10085</u>	LOCATION/WELL #: <u>CHINO</u>	DAY OF WEEK: <u>Tuesday</u>
EQUIPMENT: <u>TRT-2 TRL-16 / TRU-2 AC-2/AC 4</u>		RENTAL/SUBCONTRACTOR:
SAFETY TOPIC:		INJURIES:

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES					DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH
0900		PRE TRIP TRT-2			/				
	0915	Hook up TRL-16			/				
0915	1000	Men to CHINO			/				
1000		LOAD PALLETS, SAND, BEN-SEAL - HOPPER, SEAL PUMP + GEL ON			/				
	1200	TRL-16			/				
1200	1230	Men to YARD			/				
1230	1300	Lunch			/				
1300	1400	CALL AN TRL-16	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)						
			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION				
1430	1500	Hook up to A/C							
1500	1530	Men to CHINO							
1530	1545	DROP AC 2 + PU AC 4							
1545	1630	Men to YARD							

PAYROLL						EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
0900	1600	7.0	DARRELL ROGERS				
0900	1400	4.5					
1430	1630	2.0	Danica Puz				

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <i>CWM</i>	CLIENT REP: <i>WET</i>	DATE: <i>5-9-12</i>
JOB NUMBER: <i>10085</i>	LOCATION/WELL #:	DAY OF WEEK: <i>Wed</i>
EQUIPMENT: <i>Jed-A</i>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
<i>6</i>	<i>6:30</i>	<i>Add pipe + A-line</i>			<i>/</i>					
<i>6:30</i>	<i>8:15</i>	<i>Swab 274-283, Air Lift</i>			<i>/</i>					
<i>8:15</i>	<i>10:00</i>	<i>Swab 283-295</i>	<i>" "</i>		<i>/</i>					<i>Air Lift</i>
<i>10:00</i>	<i>1:30</i>	<i>Swab 295-283 274</i>	<i>" "</i>		<i>/</i>					<i>9 hrs</i>
<i>1:30</i>	<i>2:00</i>	<i>pull A-line + pipe</i>			<i>/</i>					
		<i>Run A-line in.</i>			<i>/</i>					
<i>2:00</i>	<i>4:00</i>	<i>Swab 274 274-265</i>	<i>" "</i>		<i>/</i>					
		<i>Lock tools, Secure site.</i>			<i>/</i>					

			CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)		
DATE	TIME	DESCRIPTION	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION
<i>11</i>	<i>11:30</i>	<i>Lunch</i>			

PAYROLL						EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
<i>6</i>	<i>4</i>	<i>9.5</i>	<i>E. TRINIDAD ET.</i>				
<i>6</i>	<i>4</i>	<i>9.5</i>	<i>Andy V. A.V.</i>				

AC-3 - 404 ✓
Jed-A - 10672 ✓

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <i>CWM</i>			CLIENT REP: <i>WEI</i>			DATE: <i>5-10-12</i>			
JOB NUMBER: <i>10085</i>			LOCATION/WELL #:			DAY OF WEEK: <i>Thurs</i>			
EQUIPMENT: <i>DR-2</i>				RENTAL/SUBCONTRACTOR:					
SAFETY TOPIC:				INJURIES:					
TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES					DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH
<i>6</i>	<i>6:70</i>	<i>Unblock Doghouse</i>			<i>/</i>				
		<i>Get tools, check oil</i>			<i>/</i>				
		<i>on EDrip</i>			<i>/</i>				<i>Air Lift</i>
<i>6:30</i>	<i>8:15</i>	<i>Swab 265-256</i>	<i>Air Lift</i>		<i>/</i>				<i>9 hrs</i>
<i>8:15</i>	<i>10:30</i>	<i>Swab - 256-247</i>	<i>" "</i>		<i>/</i>				
<i>10:30</i>	<i>11</i>	<i>pull A-line, pull pipe</i>			<i>/</i>				
<i>11:00</i>		<i>Swab - 247 to 235</i>	<i>" "</i>		<i>/</i>				
		<i>MTU are high</i>			<i>/</i>				
	<i>4pm</i>	<i>Continue Swabbing</i>			<i>/</i>				
		<i>247-235</i>	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)						
			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION				
<i>11</i>	<i>11:30</i>	<i>Lunch</i>							
PAYROLL							EQUIPMENT HOURS		
START	FINISH	TOTAL HRS	Employees		START	FINISH	TOTAL HRS	Employees	
<i>6</i>	<i>4</i>	<i>9.5</i>	<i>E. Trinidad E. Jr</i>					<i>DR-2-10681</i>	
<i>6</i>	<i>4</i>	<i>9.5</i>	<i>A. Valenzuela A.V.</i>					<i>AC-3-413</i>	

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <u>CUM</u>	CLIENT REP: <u>W E I</u>	DATE: <u>5-11-12</u>
JOB NUMBER: <u>10085</u>	LOCATION/WELL #:	DAY OF WEEK: <u>FRI</u>
EQUIPMENT: <u>DR-2</u>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
<u>6:45</u>	<u>7:15</u>	<u>open Doghouse C&C</u>			<u>/</u>					
		<u>tools out pull A-Line</u>			<u>/</u>					
		<u>+ Trimme From Deep well</u>			<u>/</u>					<u>Air-Lifting</u>
		<u>Ran in Shallow Well</u>			<u>/</u>					<u>8 hrs 45 mins</u>
		<u>Ran A-Line</u>			<u>/</u>					
<u>7:15</u>		<u>Swab - 100-110</u>	<u>Air-Lifting</u>		<u>/</u>					
		<u>Swab - 110-120</u>	<u>" "</u>		<u>/</u>					
	<u>4pm</u>	<u>Swab - 120-130</u>	<u>" "</u>		<u>/</u>					
					<u>/</u>					

CONSUMABLES (PIPE, CEMENT, SAND, BENTINITE, ETC.)										
DATE	TIME	DESCRIPTION	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
<u>11</u>	<u>11:30</u>	<u>Lunch</u>								

PAYROLL								EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
<u>6</u>	<u>4</u>	<u>9.5</u>	<u>R. Trinidad B.T.</u>					<u>DR-2 - 10691</u>	<u>✓</u>
<u>6</u>	<u>4</u>	<u>9.5</u>	<u>Andy V.</u>					<u>AC-3 - 422</u>	<u>✓</u>

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <i>Cwm</i>	CLIENT REP: <i>WET</i>	DATE: <i>5-14-12</i>
JOB NUMBER: <i>10095</i>	LOCATION/WELL #:	DAY OF WEEK: <i>Mon</i>
EQUIPMENT: <i>DR-2</i>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
<i>6</i>	<i>6:15</i>	<i>Unhook Doghouse Get tools</i>			<i>/</i>					
<i>6:15</i>		<i>Swab - 130-120 (AirLift)</i>			<i>/</i>					<i>Swab & AirLift</i>
	<i>4pm</i>	<i>AirLift 120-110</i>			<i>/</i>					<i>9 hrs. 45 mins</i>
		<i>110-100</i>			<i>/</i>					
					<i>/</i>					
<i>11</i>	<i>11:30</i>	<i>Lunch</i>			<i>/</i>					
					<i>/</i>					

CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)

QTY	UNITS (YDS. BAG, FT)	DESCRIPTION

PAYROLL

START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees	EQUIPMENT HOURS
<i>6 am</i>	<i>4</i>	<i>9.5</i>	<i>E. Trinidad E.T.</i>					<i>DR-2 - 10701</i>
<i>6 am</i>	<i>4</i>	<i>9.5</i>	<i>Andy V. A.V.</i>					<i>AC-3 - 431</i>

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <u>Cum</u>	CLIENT REP: <u>WFI</u>	DATE: <u>Tues</u>
JOB NUMBER: <u>10085</u>	LOCATION/WELL #:	DAY OF WEEK: <u>5-15-12</u>
EQUIPMENT: <u>DR-2</u>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES					DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH
6am		Pull A-Line, Trimise			/				Well CCPA-2
	7:55	Ran in pump to 100'			/				Totalizer
7:55	8:00	hook up Discharge hose			/				start
8am		Start pump on Deep well CCPA-2			/				886981
	4pm	STOP @ 4pm			/				Totalizer stop
					/				903641

TIME		DESCRIPTION	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)	
START	FINISH		QTY	UNITS (YDS. BAG, FT)
11	11:30	Lunch		

PAYROLL						EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
6	4	9.5	E. TRINIDAD P. E.T.				
6	4	9.5	Andy V. AV				

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <u>CWM</u>	CLIENT REP: <u>WEL</u>	DATE: <u>5-16-12</u>
JOB NUMBER: <u>10085</u>	LOCATION/WELL #:	DAY OF WEEK: <u>Wed.</u>
EQUIPMENT: <u>DA-2</u>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
6:00	6:30	Unlock Doghouse Get tools out Check Static Level			/					Totalizer Start Well CCPA-2 903641
6:30		Start pump on Deep Well CCPA 2			/					
		Sample @ 10:40 - 11:30			/					pump 5 hrs
	11:30	Turn pump off @ 11:30			/					
11:30	12:10	pull pump Run in Shallow Well CCPA-1			/					Totalizer Well CCPA-1 Start Stop 913641 920756
			CONSUMABLES (PIPE, CEMENT, SAND, BENTINITE, ETC.)							
			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
12:10	4pm	Turn pump on @ 12:10								pump 4 hrs
		Pump off @ 4:02								
		Lunch 12-12:30								Total 9 hrs.
PAYROLL										
					EQUIPMENT HOURS					
START	FINISH	TOTAL HRS	Employees		START	FINISH	TOTAL HRS	Employees		
6	4pm	9.5	E. TRINIDAD, ET.							
10	12	2	Andy V. A.V.							

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: Chm	CLIENT REP: WEI	DATE: 5-17-12
JOB NUMBER: 10085	LOCATION/WELL #:	DAY OF WEEK: Thurs
EQUIPMENT: DR-2	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG		
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)	
6	6:15	Unlock Doghouse, Get tools, check static level @ 44'			/					Totalizer	
6:15		Turn pump ON with CCPA-1			/						
					/					Start STOP 920756 932710	
		Took sample R/12-12:45			/						
	12:45	Turn pump OFF @ 12:45			/					Well CCPA-1	
12:45		pump OFF in Tank clean it, Bundle			/						
			CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)								6.5 hrs pumping
		up Trimmer, broke Air Line apart.	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION						
	3:30										
1	1:30	Lunch									

PAYROLL							EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees	
6	3:30	9	E. Trinidad E.T.					

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:	CLIENT REP:	DATE: 5-18-12
JOB NUMBER: 10095	LOCATION/WELL #:	DAY OF WEEK: FRI
EQUIPMENT: DR-2	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
6		Unlock Doghouse, Cut Conductor, 14" PVC Weld lid, Load up Big Tex - Trk - w/ Cable, 1/4" Action, Misc, welder			/					
	11				/					
11	11:30	Lunch			/					
11:30		wash out Tank into Vacuum Tanks			/					
	4 pm	Rise Down Mast			/					

CONSUMABLES (PIPE, CEMENT, SAND, BENTINITE, ETC.)

QTY	UNITS (YDS. BAG, FT)	DESCRIPTION

PAYROLL

START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
6	4	9.5	E. Trinidad E.T.				
6	4	9.5	Andy V.				

EQUIPMENT HOURS

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:	CLIENT REP:	DATE: 5-18-12
JOB NUMBER: 10085	LOCATION/WELL #: Chino	DAY OF WEEK: Friday
EQUIPMENT:	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES					DRILLERS LOG		
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
0700					/					
0630	0700	unload BH-1 DROP			/					
		TRC-9- Hook up TRC-1			/					
0700	0715	PRETRIP TRC 4 + TRC 1			/					
0705	0800	Movs to Chino			/					
0800	1000	LOAD MUD TANK, DISCHARGE			/					
		TRUCKING PIPE, TOWER			/					
		TANK + STAIRS ONTO			/					
	1000	TRC-1			/					

CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION
1000	1	MOVES TO YARD			
1000	1030	Movs to YARD			

PAYROLL						EQUIPMENT HOURS		
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees	
0630	1030	4.0	DARRELL ROGERS					
			Darrell R					

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:	CLIENT REP:	DATE: 5-21-12
JOB NUMBER: 10085 / yard	LOCATION/WELL #:	DAY OF WEEK: Mon
EQUIPMENT:	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES					DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH
6	7:00	Check oil & Water on TR-2			/				
7	7:30	Mob to Job in Chino #10085			/				
7:30	9:00	hook up to DR-2			/				
9	10	mob DR-2 to yard, Return back to Chino Job #10085			/				
10	12:30	hook up to Dehouse, Load up timbers, hoses, Misc. Supplies Bit, Subs, TRASH.			/				
12:30	1pm	mob back to yard	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)						
1pm	1:30	Lunch	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION				
1:30	3	clean all TRASH F/ Dehouse, pack water meter apart			<p>Note! Eugene had 4 hrs for Job #10085 Andy had 6 hrs on Job #10085</p>				
3		Andy waited for tires							
6:30	6:30	man work till 6:30 pack up shop.							

PAYROLL						EQUIPMENT HOURS	
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
6	3	3.5	E. Trinidad E.T.				
6:30	6:30	11.5	Andy U. R.V.				

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT:		CLIENT REP:		DATE: <u>5-27-12</u>	
JOB NUMBER: <u>10085 / yard</u>		LOCATION/WELL #:		DAY OF WEEK: <u>TUES</u>	
EQUIPMENT:			RENTAL/SUBCONTRACTOR:		
SAFETY TOPIC:			INJURIES:		

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES					DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH
<u>7am</u>	<u>7:50</u>	<u>check oil & water on TRA-2 Mob to Chino</u>			/				
<u>7:50</u>	<u>8:50</u>	<u>hook up to Tank</u>			/				
<u>8:50</u>	<u>9:15</u>	<u>mob to yard</u>			/				
<u>9:15</u>	<u>10</u>	<u>unhook Tank, hook up to Lowboy trl. Fuel up.</u>			/				
<u>10</u>	<u>10:30</u>	<u>mob to Chino, #10085</u>			/				
<u>10:30</u>	<u>12</u>	<u>Load up Coardell, Misc. timbers, TRASH.</u>			/				
<u>12</u>	<u>12:30</u>	<u>Lunch</u>	CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)						
<u>12:30</u>	<u>1</u>	<u>mob to yard</u>	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION				
<u>1</u>	<u>5:30</u>	<u>work on Kelly Welding Elbow, hand eye inside g/so.</u>			<u>Note! Had J's hrs on Job #10085</u>				

PAYROLL				EQUIPMENT HOURS			
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees
<u>7am</u>	<u>5:30</u>	<u>10</u>	<u>E. Trinidad E.T.</u>				

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

p.5
805 643-7479
Ventura Beach R V Resort
May 29 12 12:37p

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <u>Chino</u>	CLIENT REP:	DATE: <u>5-25-12</u>
JOB NUMBER: <u>?</u>	LOCATION/WELL #:	DAY OF WEEK: <u>Fri</u>
EQUIPMENT: <u>TRU-6</u>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:	INJURIES:	

TIME		DESCRIPTION OF WORK <small>(PROVIDE AS MUCH DETAIL AS POSSIBLE)</small>	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS <small>(lbs/gal)/(sec/qt)</small>	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
6:00	7:00	Load bottles from yard + Mob to Chino site			/					
					/					
					/					
7:00	12:30	Torch off well cover video 2 wells, tack well cover back on			/					
					/					
					/					
12:30	1:00	Mob back to yard			/					
					/					

CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)						EQUIPMENT HOURS			
QTY	UNITS (YDS. BAG, FT)	DESCRIPTION				START	FINISH	TOTAL HRS	Employees

PAYROLL					EQUIPMENT HOURS				
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
6:00	1:00	7	Glenn Labrecque						

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:000

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

CLIENT: <i>Chino</i>	CLIENT REP: <i>TARA</i>	DATE: <i>5-31-12</i>
JOB NUMBER: <i>10085</i>	LOCATION/WELL #: <i>Kimball</i>	DAY OF WEEK: <i>Thurs</i>
EQUIPMENT: <i>PKS-</i>	RENTAL/SUBCONTRACTOR: <i>9</i>	
SAFETY TOPIC: <i>Gloves</i>	INJURIES: <i>0</i>	

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES					DRILLERS LOG		
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
<i>7AM</i>		<i>Load up check</i>			<i>/</i>					
		<i>Equipment Fuel</i>			<i>/</i>					
	<i>8AM</i>	<i>up mob</i>			<i>/</i>					
<i>8AM</i>		<i>on site Ric in</i>			<i>/</i>					
		<i>set up start</i>			<i>/</i>					
		<i>to drill pit</i>			<i>/</i>					
		<i>1st well to bottom</i>			<i>/</i>					
		<i>Finish that one.</i>			<i>/</i>					
	<i>12pm</i>	<i>lunch</i>			<i>/</i>					
<i>12:30</i>		<i>move to next</i>	CONSUMABLES (PIPE, CEMENT, SAND, BENTINITE, ETC.)							
		<i>well start to</i>	QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					
		<i>Drill well finish</i>								
		<i>Building Ric Down</i>								
		<i>clean up well</i>								
	<i>4pm</i>	<i>lid.</i>								
<i>4pm</i>		<i>Med to yard off</i>								
	<i>5pm</i>	<i>load</i>								

PAYROLL							EQUIPMENT HOURS		
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
<i>7AM</i>	<i>8AM</i>	<i>1</i>	<i>Albert Morales MOB</i>	<i>7AM</i>	<i>8AM</i>	<i>1</i>	<i>Miguel MOB</i>	<i>MOB</i>	<i>✓</i>
<i>8AM</i>	<i>12pm</i>	<i>4</i>	<i>Albert M. (SITE)</i>	<i>8AM</i>	<i>12pm</i>	<i>4</i>	<i>Miguel site</i>	<i>site</i>	<i>✓</i>
<i>12:30</i>	<i>4pm</i>	<i>3.5</i>	<i>Albert M. (SITE)</i>	<i>12:30</i>	<i>4pm</i>	<i>3.5</i>	<i>" site</i>	<i>site</i>	<i>✓</i>
<i>4pm</i>	<i>5pm</i>	<i>1</i>	<i>Albert M. (MOB)</i>	<i>4pm</i>	<i>5pm</i>	<i>1</i>	<i>" MOB.</i>	<i>MOB.</i>	<i>✓</i>

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

BEST DRILLING AND PUMP, INC
DAILY DRILLING LOGS

Chino

Hours

CLIENT: <i>Chino</i>	CLIENT REP:	DATE: <i>5-31-12</i>
JOB NUMBER: <i>10085</i>	LOCATION/WELL #:	DAY OF WEEK:
EQUIPMENT: <i>TRJ ob</i>	RENTAL/SUBCONTRACTOR:	
SAFETY TOPIC:		INJURIES:

TIME		DESCRIPTION OF WORK (PROVIDE AS MUCH DETAIL AS POSSIBLE)	DRILL FLUID PROPERTIES						DRILLERS LOG	
START	FINISH		TIME	pH	WEIGHT/VIS (lbs/gal)/(sec/qt)	FILTER CAKE (IN.)	WATER LOSS (CC)	SAND CONTENT %	DEPTH	DESCRIPTION (COLOR, CLAY, SILT, SAND, GRAVEL, BOULDER, ECT.)
<i>2:00</i>		<i>move to job site</i>			/					
		<i>on chimo well</i>			/					
		<i>11-d on wall and</i>			/					
	<i>4:00</i>	<i>Return to yard</i>			/					
					/					
					/					
					/					
					/					
					/					
CONSUMABLES (PIPE, CEMENT, SAND, BENTONITE, ETC.)										
			QTY	UNITS (YDS. BAG, FT)	DESCRIPTION					

PAYROLL							EQUIPMENT HOURS		
START	FINISH	TOTAL HRS	Employees	START	FINISH	TOTAL HRS	Employees		
<i>2:00</i>	<i>4:00</i>	<i>2</i>	<i>polo Valarico</i>						

P.V

WEEKLY TIME STARTS SUNDAY @ 00:00 AND ENDS AT SATURDAY 24:00
DAILY LOG EACH DAY 00:00-24:00

Appendix D

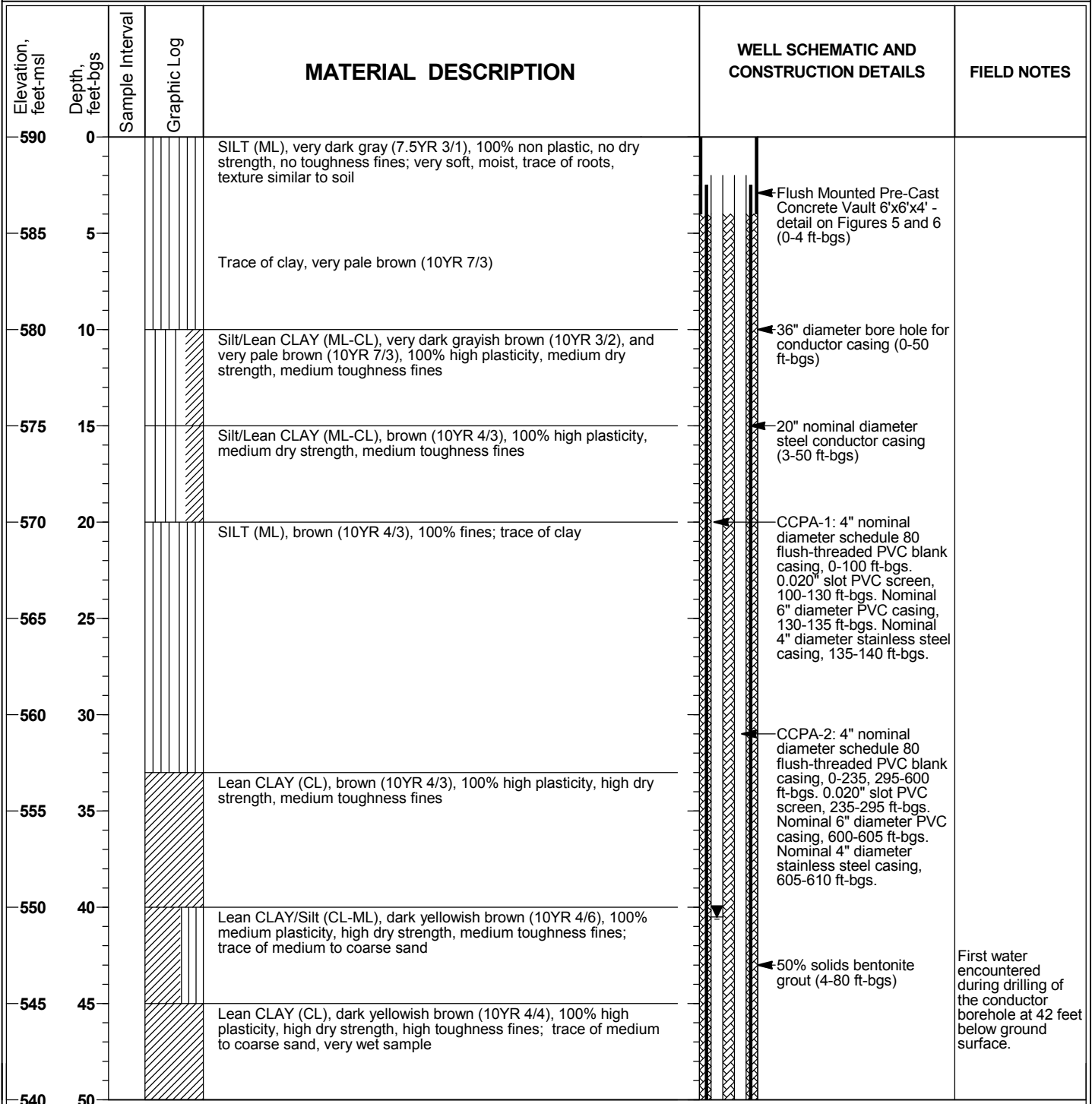
Well Log

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 1 of 12

Date Started	4/24/12	Date Finished	5/25/12	Borehole Depth	635 feet	Drilling Contractor	Best Drilling & Pump
Lat.	33° 58' 1.91"	Long.	-117° 38' 50.64"	Drill Bit Size/Type	12.25-inch Tricone Mill-Tooth	Driller	Ernest Trinidad
Ground Surface Elevation	590 feet mean sea level		Screened Interval(s)	100-130 feet (CCPA-1), 235-295 feet (CCPA-2)		Drill Rig Type	Failing JED A
Top of Casing Elevation	588 feet mean sea level		Depth to Groundwater	CCPA-1 = 40.5 ft-bgs on 5/24/12 CCPA-2 = 59.6 ft-bgs on 5/24/12		Drilling Method	Flooded Reverse Circulation
Logged By	M. Blazevic, PG/T. Rolfe, PG		Reviewed By	A. Malone, PG		Sampling Method	Grab

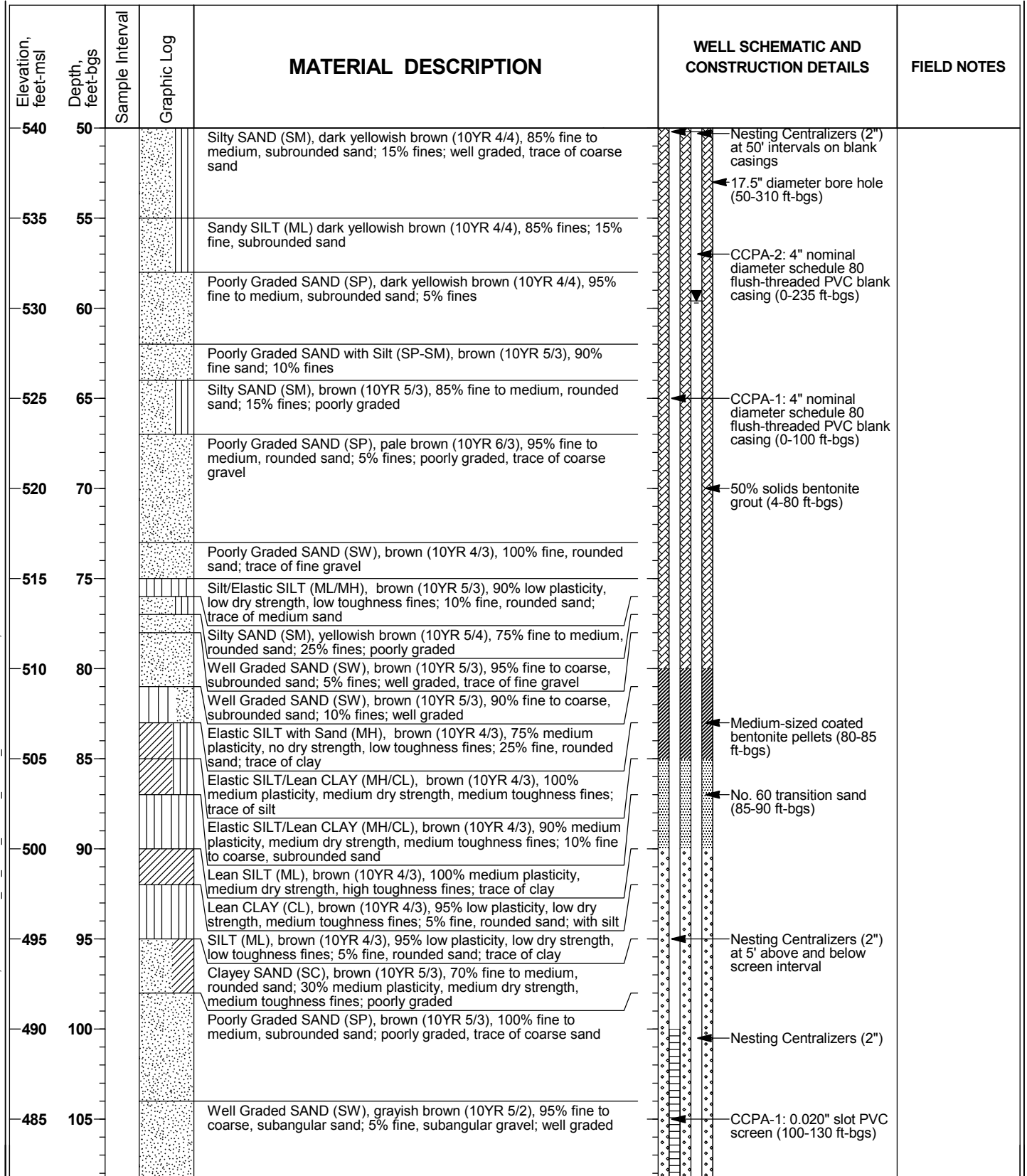


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 2 of 12

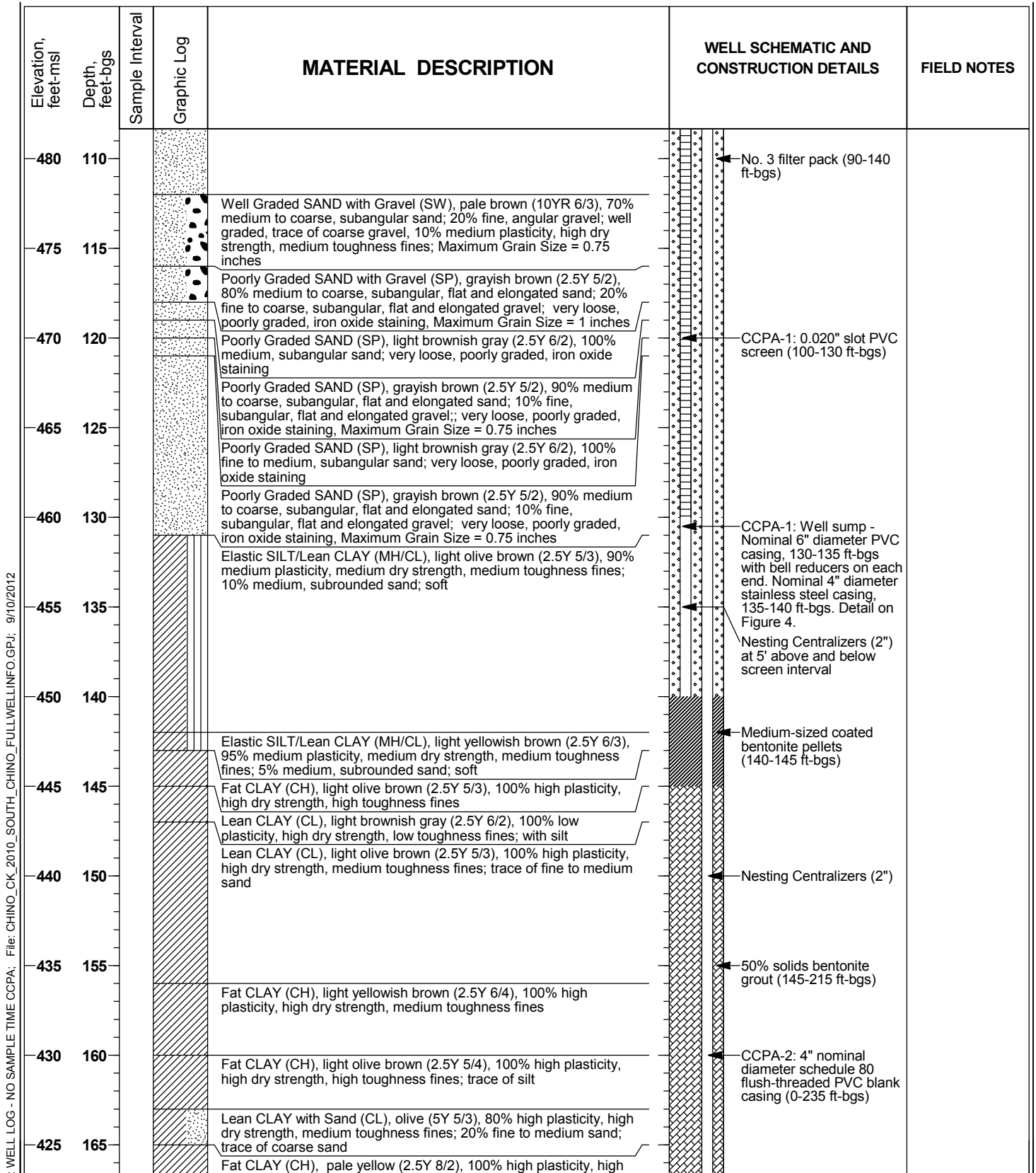


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 3 of 12



Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 4 of 12

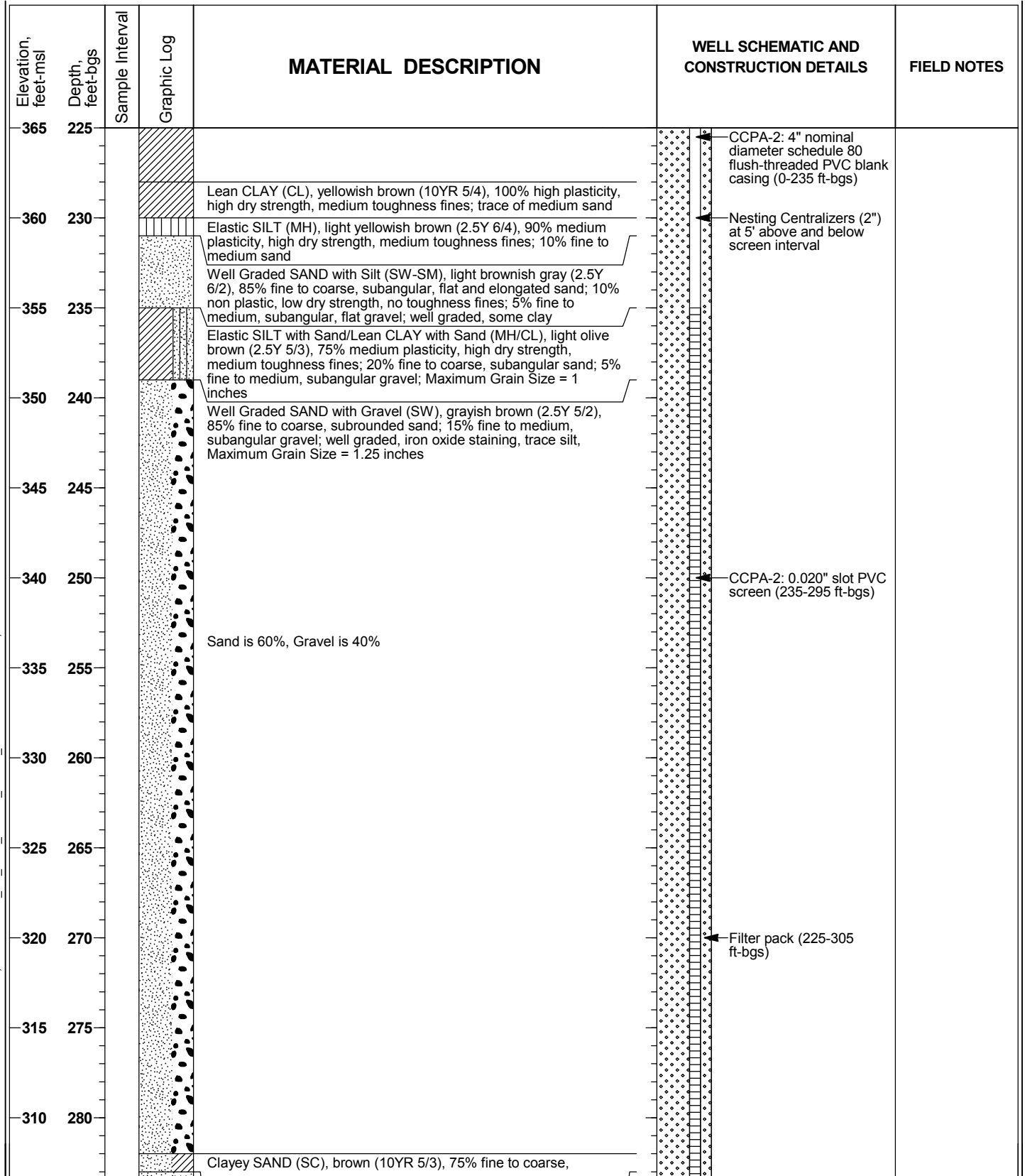
Elevation, feet-msl	Depth, feet-bgs	Sample Interval	Graphic Log	MATERIAL DESCRIPTION	WELL SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
				dry strength, high toughness fines		
-420	170			Fat CLAY (CH), light yellowish brown (2.5Y 6/4), 95% high plasticity, high dry strength, high toughness fines; 5% fine to medium sand; sand grades in with depth		50% solids bentonite grout (145-215 ft-bgs)
-415	175			Fat CLAY (CH), pale yellow (2.5Y 8/2), 90% high plasticity, high dry strength, high toughness fines; 10% fine, subangular gravel		
-410	180			Elastic SILT with Sand/Lean CLAY with Sand (MH/CL), pale olive (5Y 6/3), 80% medium plasticity, medium dry strength, medium toughness fines; 20% fine to medium sand		
-405	185			Poorly Graded SAND (SP), olive (5Y 5/3), 100% fine to medium sand; poorly graded		
-400	190			Lean CLAY with Sand (CL), light olive brown (2.5Y 5/4), 80% low plasticity, medium dry strength, low toughness fines; 20% fine to medium sand		
-400	190			Fat CLAY with Gravel (CH), light yellowish brown (2.5Y 6/3), 80% medium plasticity, high dry strength, high toughness fines; 15% fine, subangular gravel; 5% fine to coarse sand		CCPA-2: 4" nominal diameter schedule 80 flush-threaded PVC blank casing (0-235 ft-bgs)
-395	195			Fat CLAY (CH), pale olive (5Y 6/3), 95% high plasticity, very high dry strength, high toughness fines; 5% medium to coarse sand		
-390	200			Lean CLAY (CL), olive (5Y 5/3), 100% high plasticity, high dry strength, medium toughness fines; trace of coarse sand		Nesting Centralizers (2")
-385	205					
-380	210			Lean CLAY (CL), light yellowish brown (2.5Y 6/3), 100% high plasticity, medium dry strength, low toughness fines		
-375	215			Lean CLAY (CL), light olive brown (2.5Y 5/4), 95% medium plasticity, high dry strength, medium toughness fines; 5% fine to medium sand		Medium-sized coated bentonite pellets (215-220 ft-bgs)
-370	220			Poorly Graded SAND (SP), light olive gray (5Y 6/2), 100% fine to medium sand; poorly graded, trace silt		
-365	225			Fat CLAY (CH), grayish brown (2.5Y 5/2), 100% medium plasticity, medium dry strength, high toughness fines; trace of sand		No. 60 transition sand (220-225 ft-bgs)

Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 5 of 12

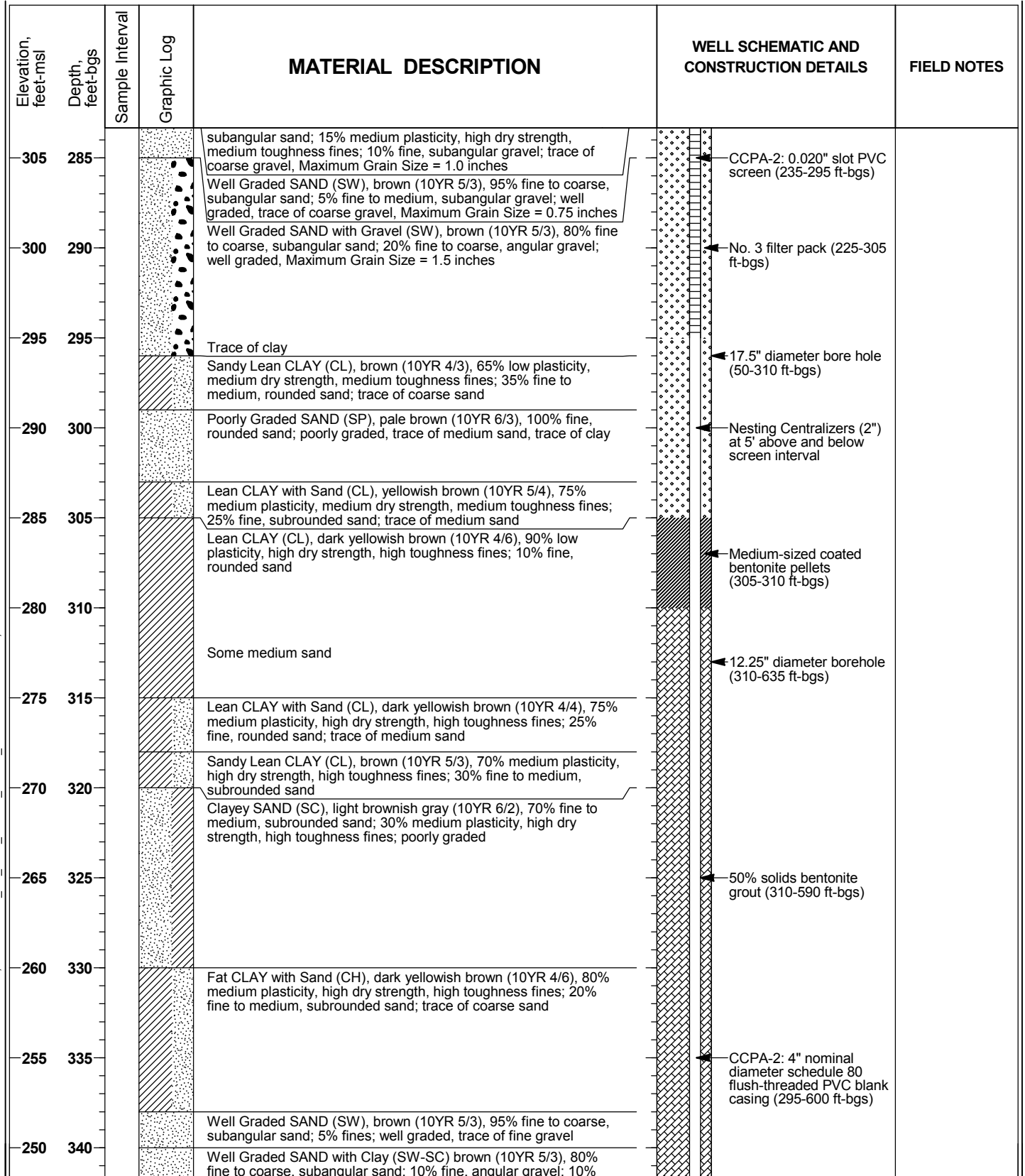


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 6 of 12

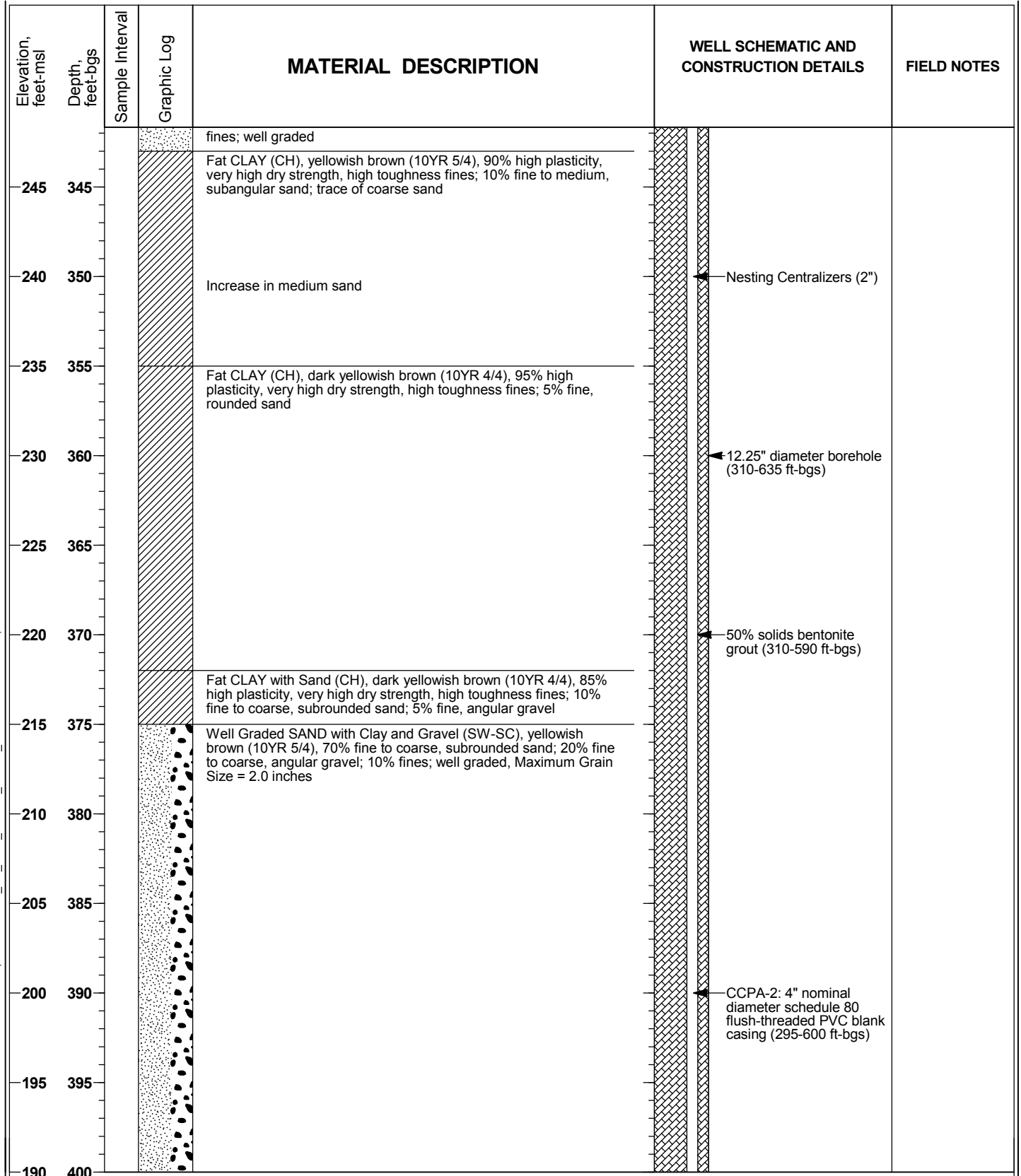


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 7 of 12

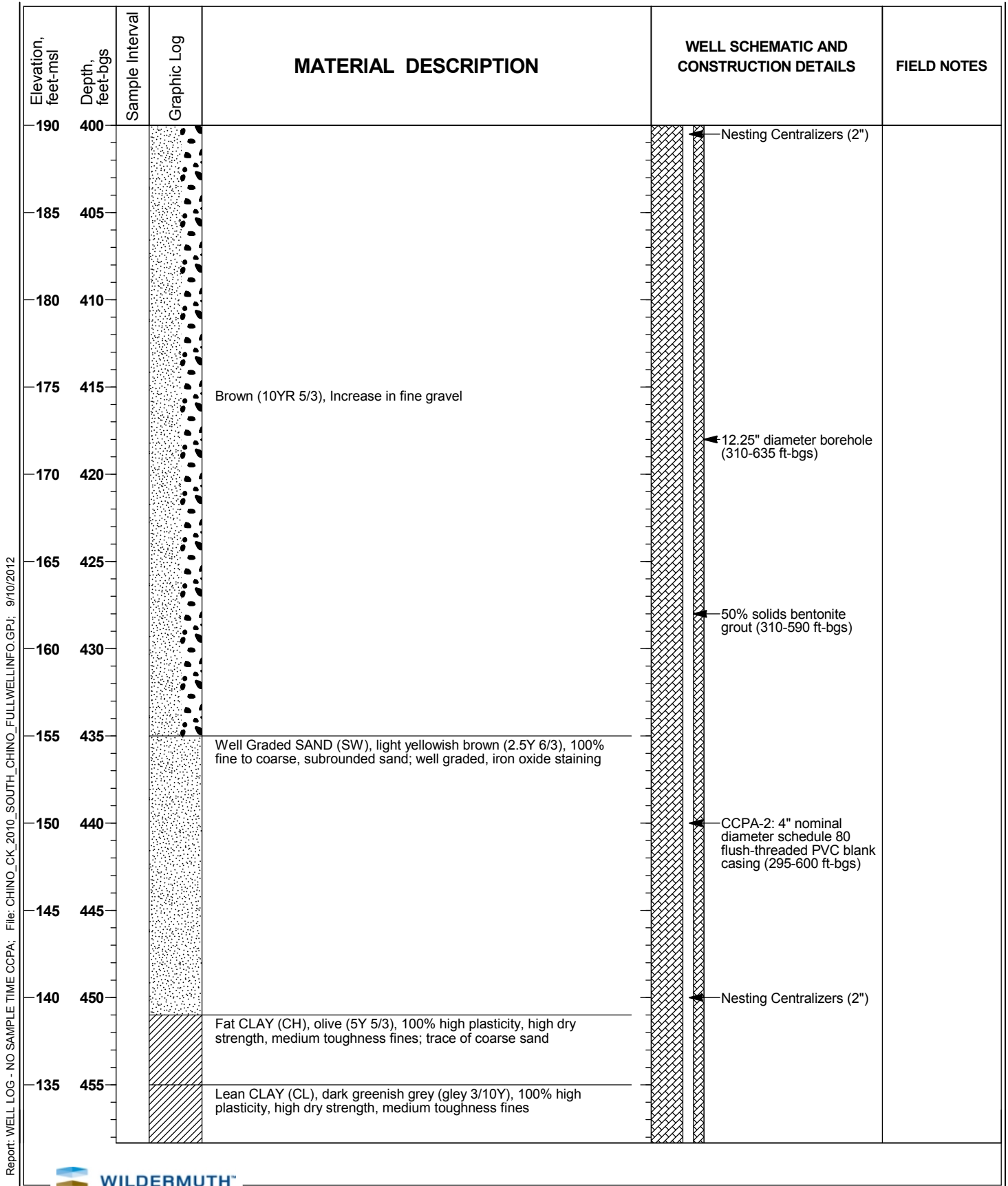


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

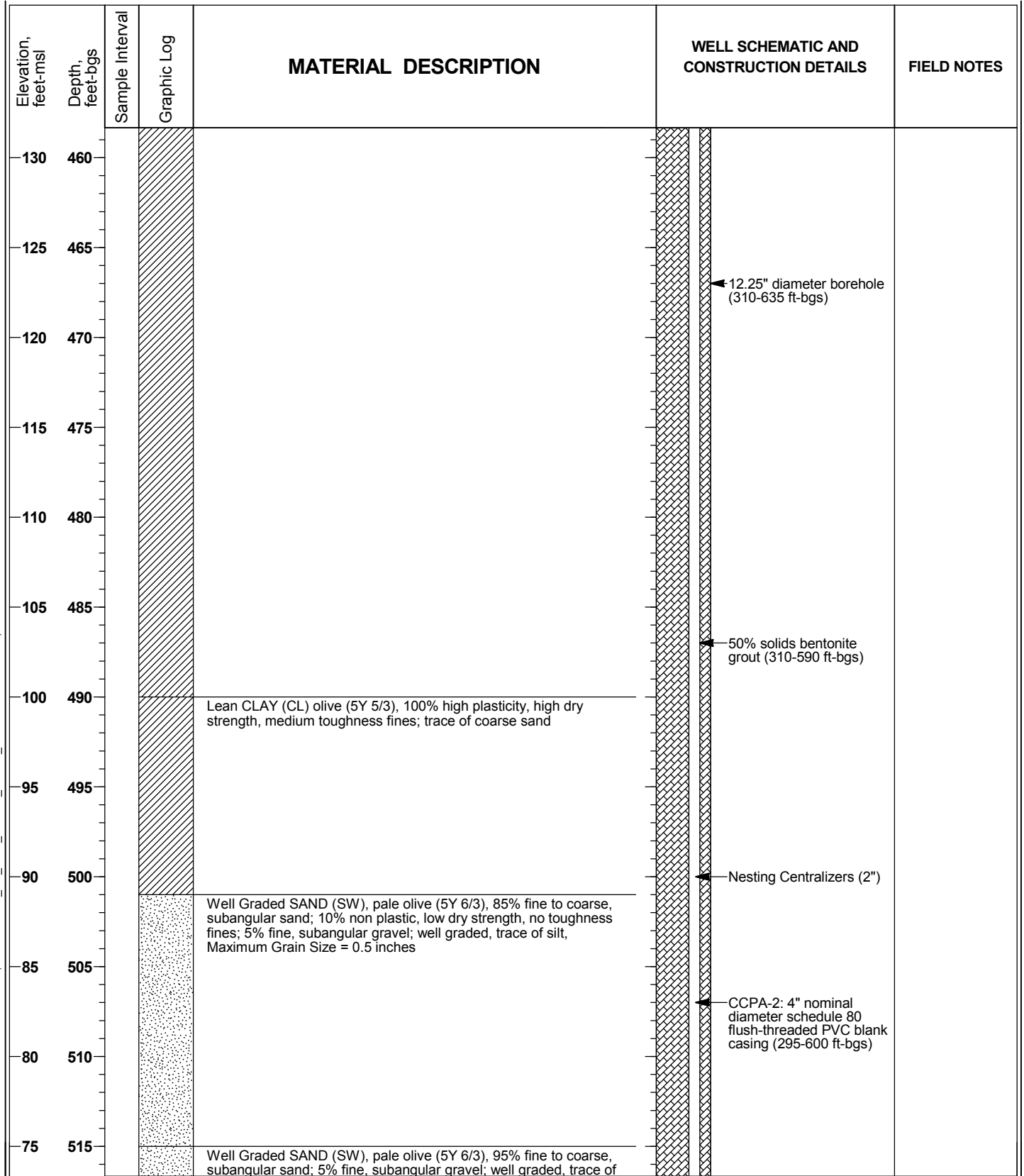
Sheet 8 of 12



Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 9 of 12

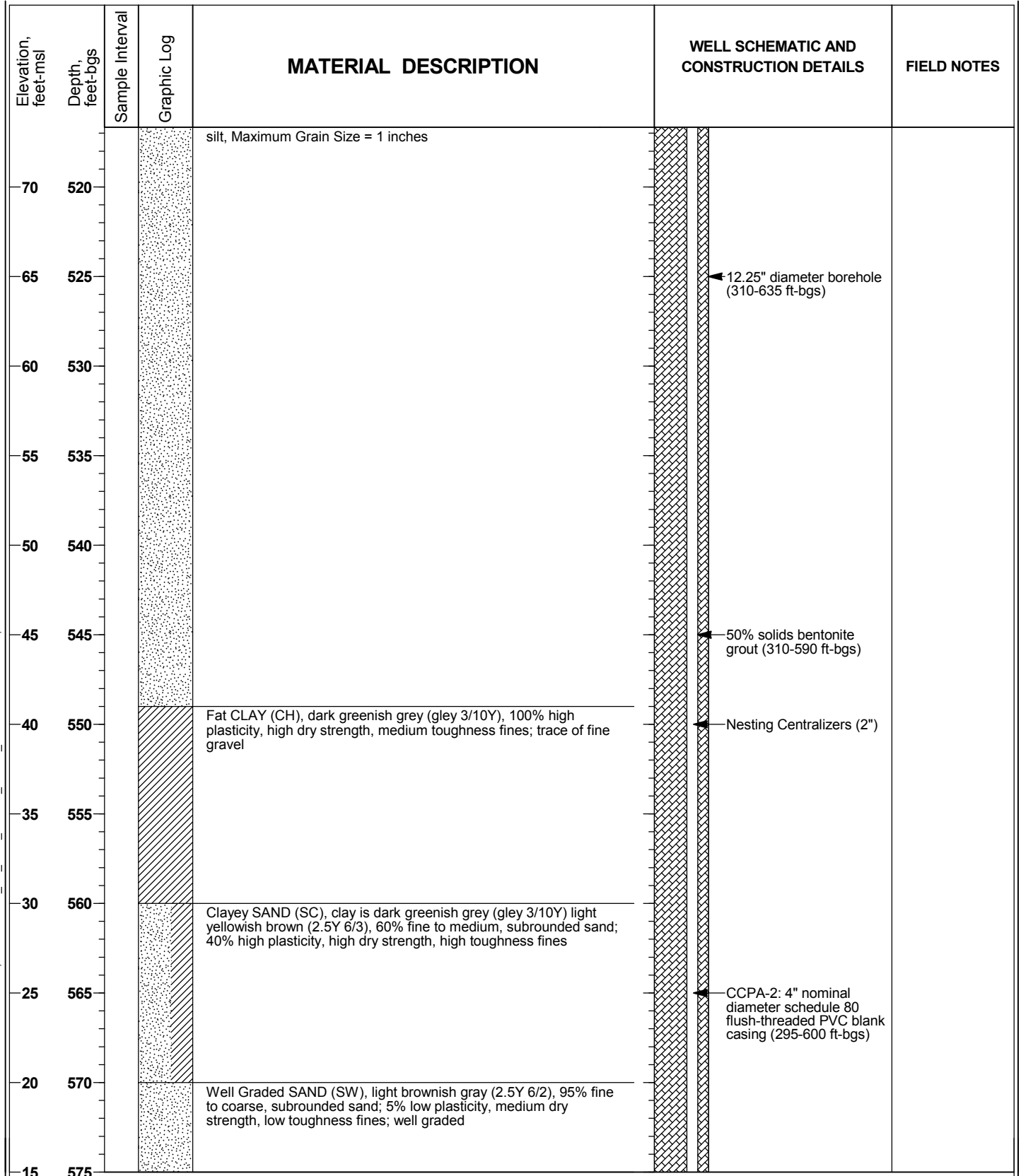


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 10 of 12

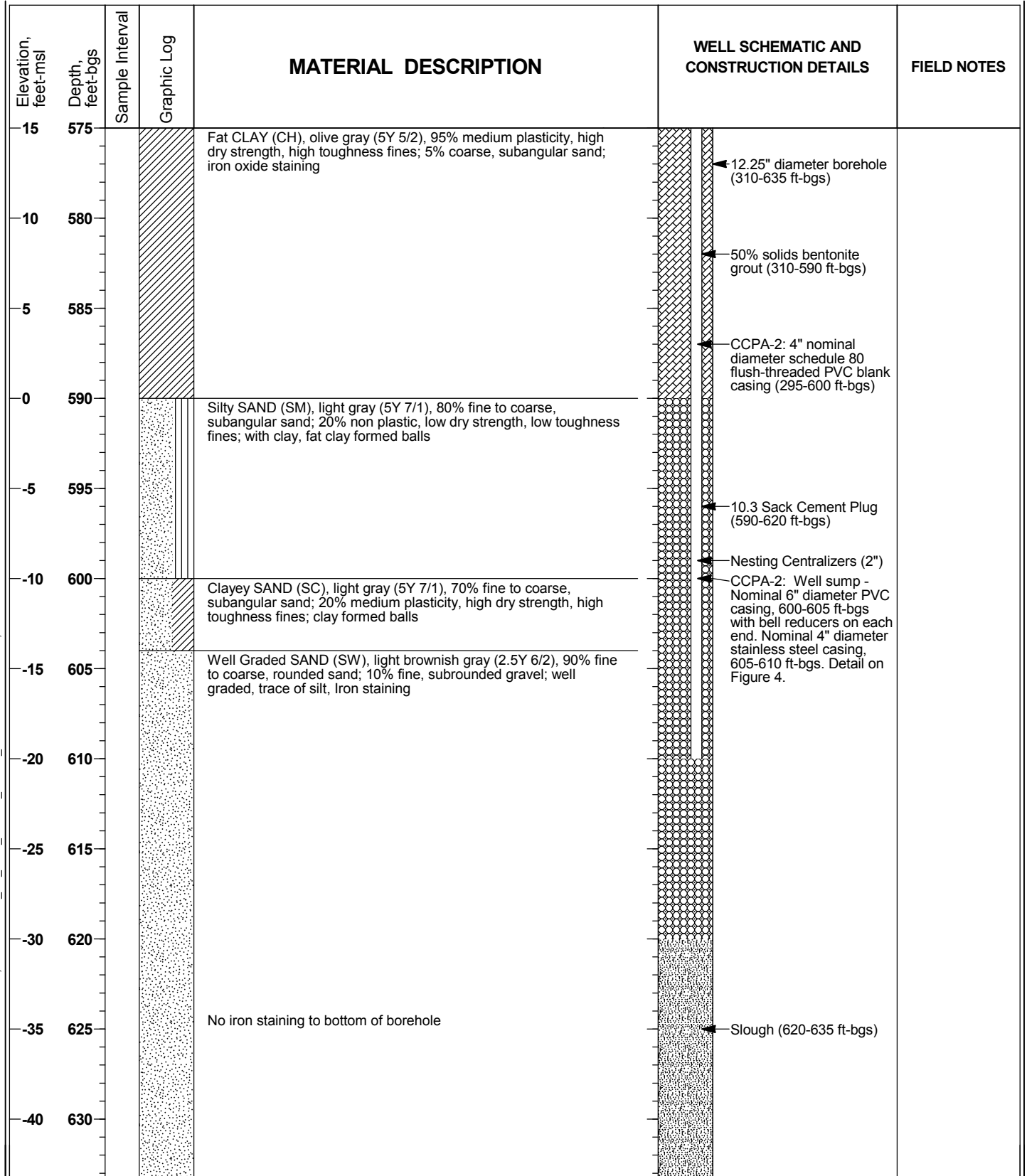


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 11 of 12




Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
Project Location: Chino, California
Project Number: 007-012-061
Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 12 of 12

Elevation, feet-msl	Depth, feet-bgs	Sample Interval	Graphic Log	MATERIAL DESCRIPTION	WELL SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
-45	635			Bottom of borehole = 635 ft-bgs	 ← Slough (620-635 ft-bgs)	
-50	640					
-55	645					
-60	650					
-65	655					
-70	660					
-75	665					
-80	670					
-85	675					
-90	680					
-95	685					
-100	690					

Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Appendix E

Geophysical, Caliper, and Deviation Survey Reports

DEVIATION SURVEY

Job No.: 16551
Company: BEST DRILLING & PUMP
Well: CCPA
Field: CHINO
County: RIVERSIDE **State:** CA
File No.:

Location: KIMBALL AVE EAST OF EUCLID
 GPS: N33o 58.022' W117o 38.840'
Sec.: Twp. Rge. **Other Services:** CALIPER

Permanent Datum	G.L.	Elevation	K.B.	Elevation
Log Measured From	G.L.	0'	D.F.	
Drilling Measured From	G.L.		G.L.	
Date	05-03-2012			
Run Number	ONE			
Depth Driller	635'			
Depth Logger	635'			
Bottom Logged Interval	634'			
Top Log Interval	0'			
Type Caliper	3 ARM			
Type Fluid In Hole	WATER			
Density / Viscosity	N/A			
Max. Recorded Temp.	N/A			
pH/Fluid Loss	N/A			
Time Well Ready	05:00			
Time Logger on Bottom	05:30			
Equipment Number	PS-5			
Location	L.A.			
Recorded By	RIDDER			
Witnessed By				
Borehole Record				
Run Number	Bit	From	To	Size
ONE	17.5"	50'	316'	
ONE	12.25"	316'	635'	
Gravel Feed/Tubing Schedule				
Casing Schedule	Size	Wgt/Ft	Top	Bottom
Surface String	20"	N/A	0'	50'
Production String	4"	N/A	0'	140'
Production String	4"	N/A	0'	610'
Production String				
Production String				

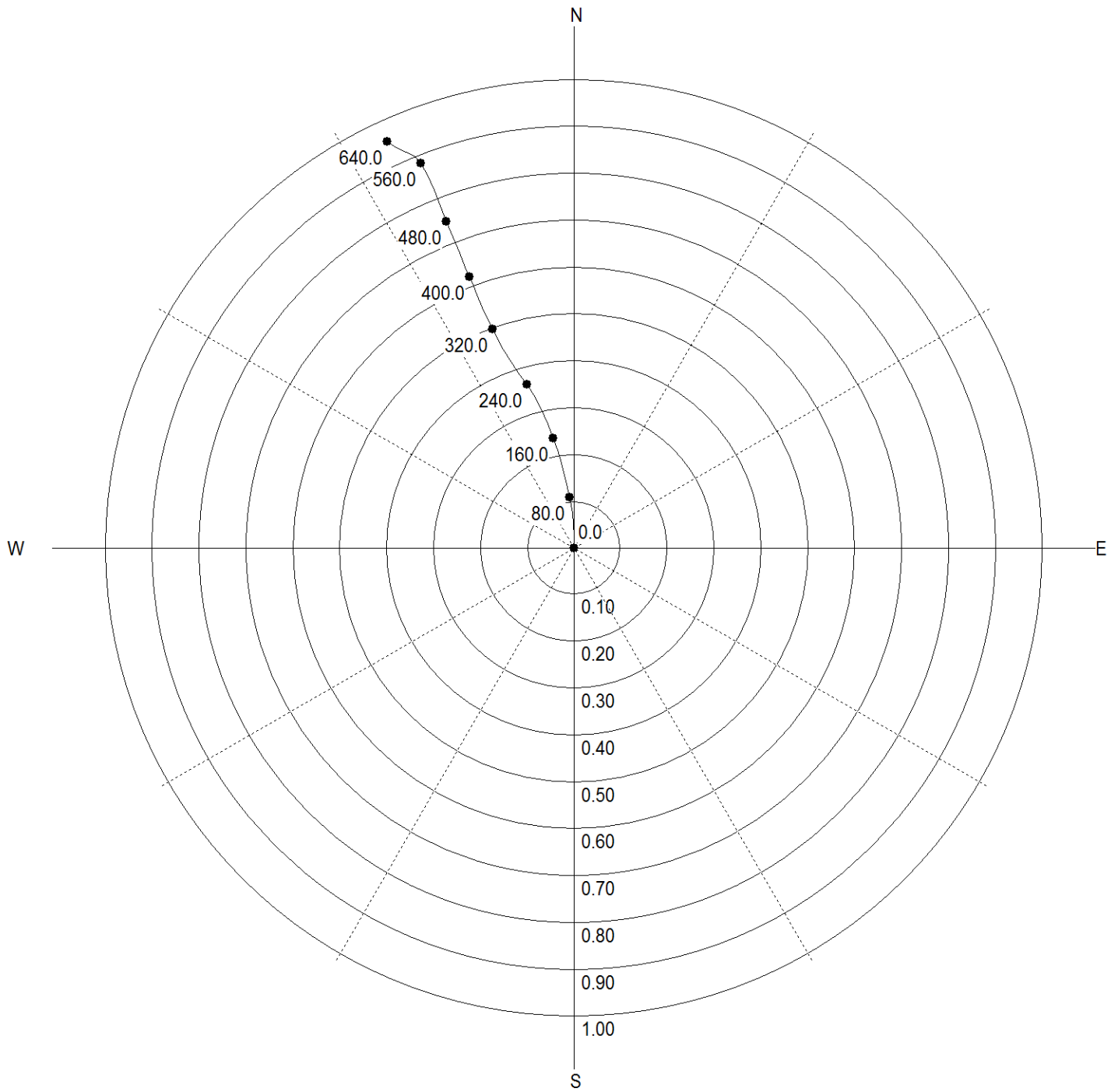
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All interpretations are opinions based on inferences from electrical or other measurements and Pacific Surveys cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence 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 any of our officers, agents or employees. These interpretations are also subject to Pacific Surveys' general terms and conditions set out in our current Price Schedule.

Comments

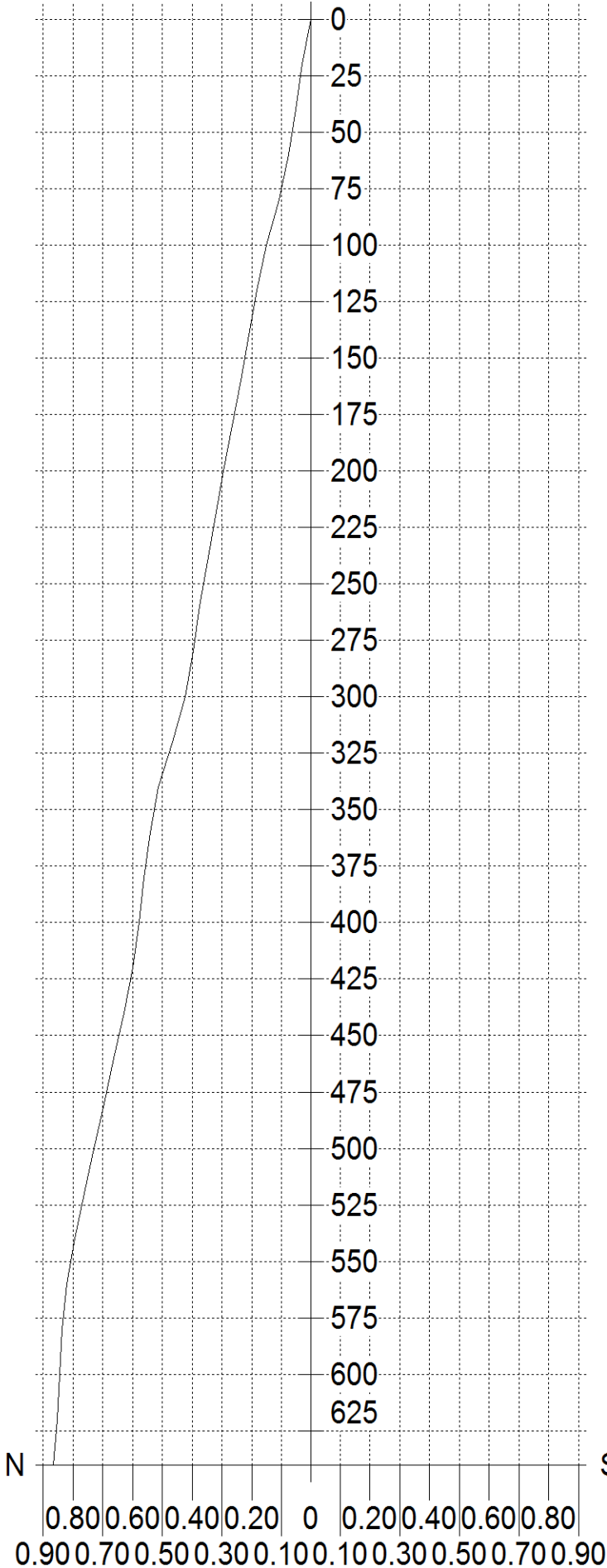
PERFS: 100-130 FT & 235-295 FT

CROSS SECTION
(Displacement (ft))

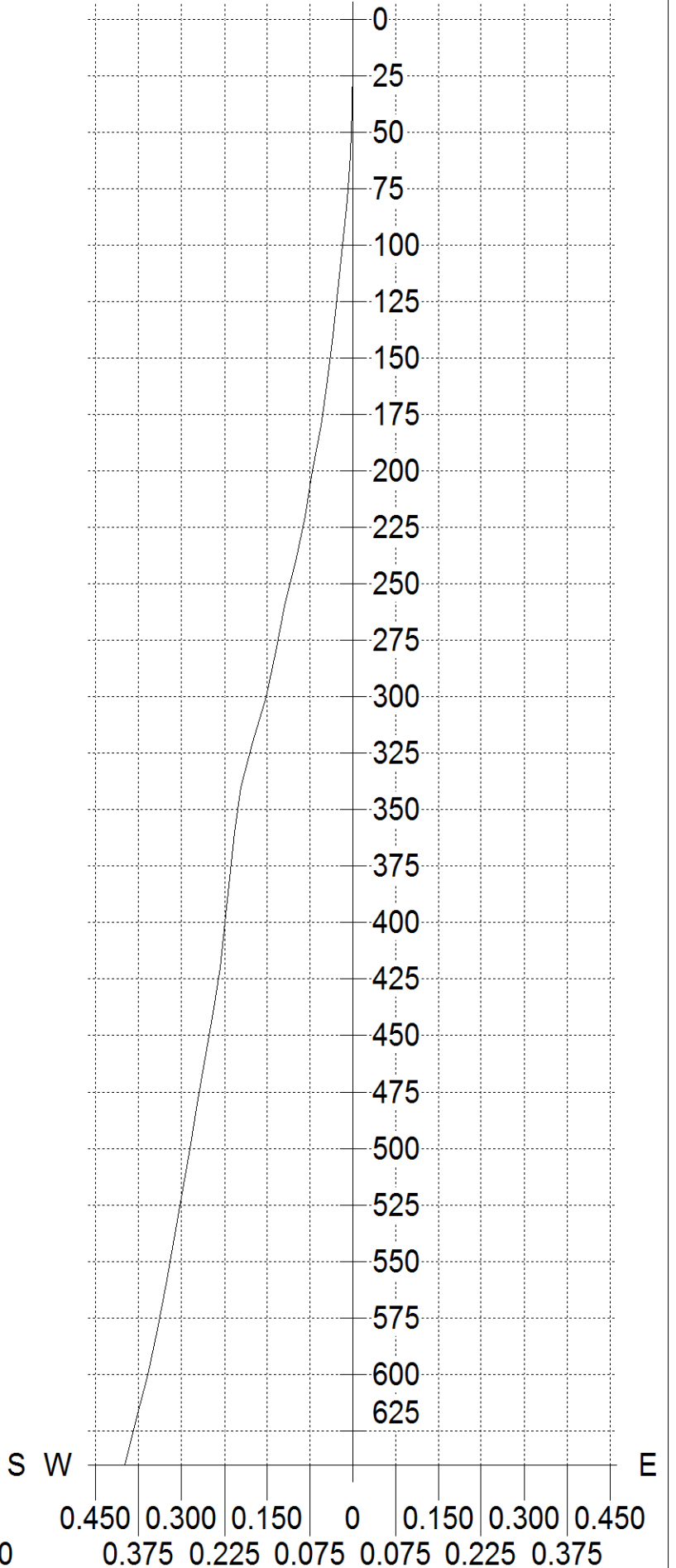


CLOSURE SECTIONS
(True Depth vs Displacement (ft))

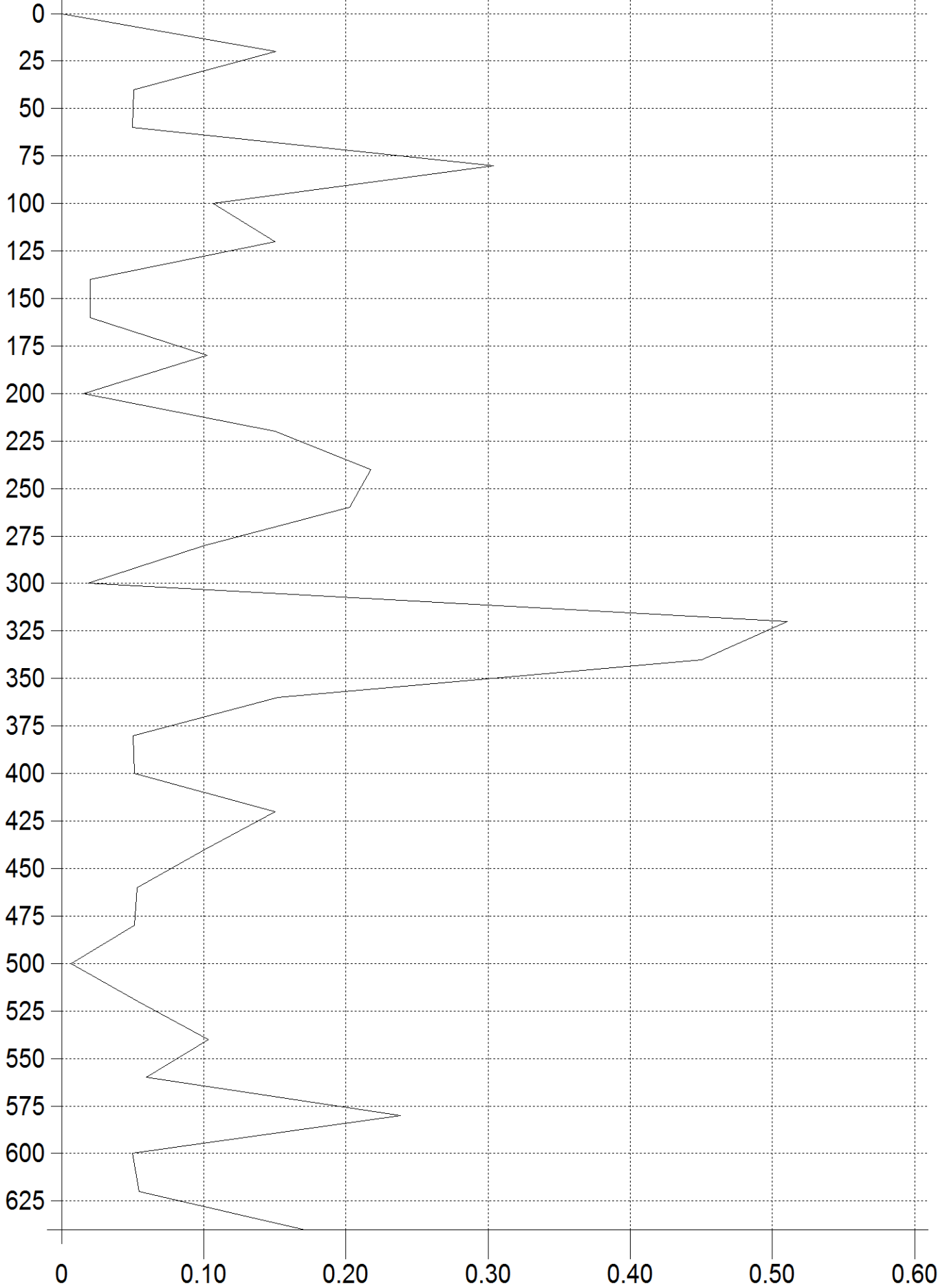
N - S Section



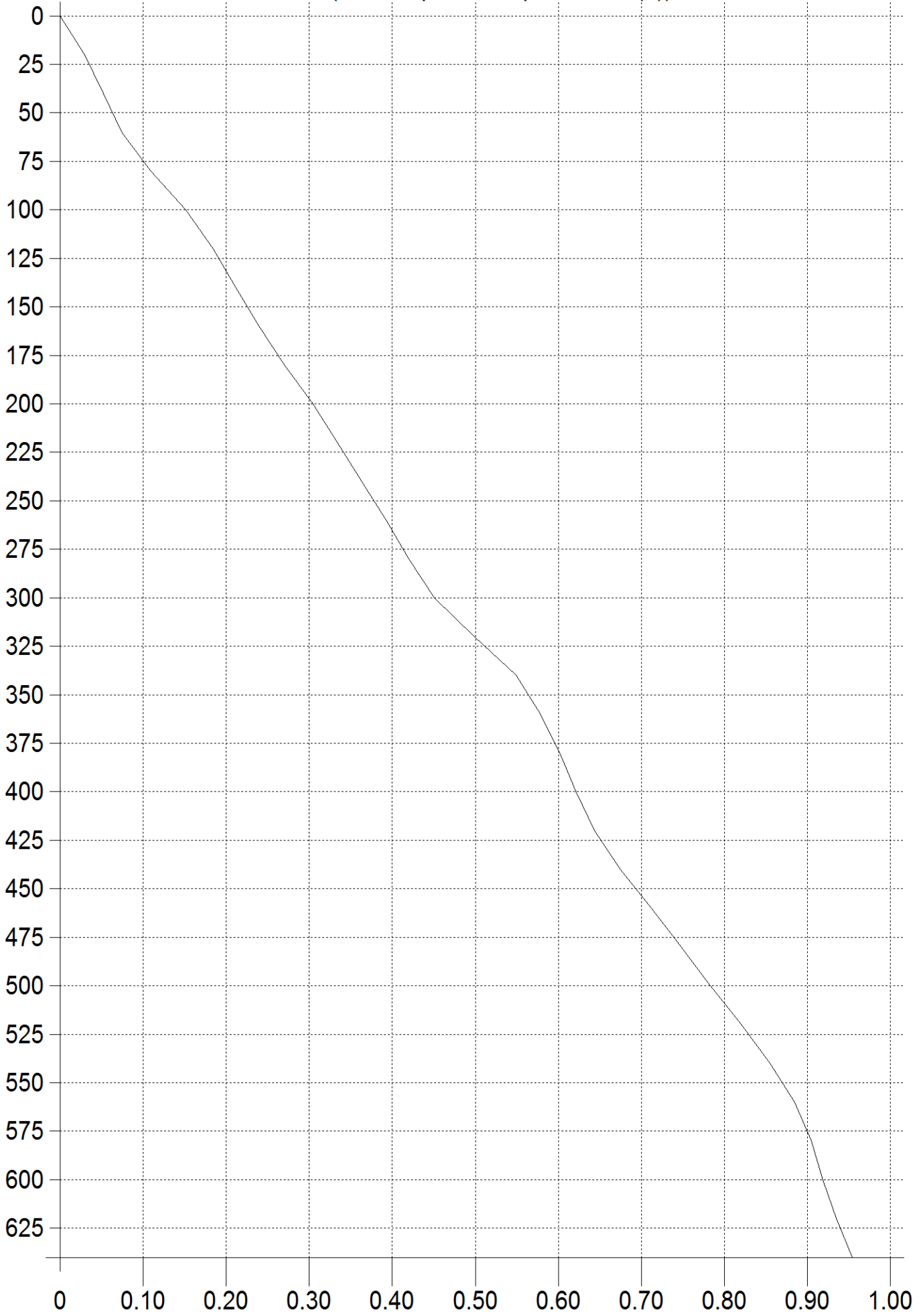
W - E Section



DOG LEG
True Depth(ft) vs Deg/100ft



IN THE PLANE OF CLOSURE
(True Depth vs Displacement (ft))



TVD Report (Minimum Curvature Method)

Database File 16551.db
 Dataset Pathname ././././_tvd_/1
 Dataset Creation Thu May 03 14:47:51 2012

Meas. Depth (ft)	Incline	Azimuth	TVD (ft)	North (ft)	East (ft)	Dog Leg	Closure Dis (ft)	Closure Dir	Vert. Sec. (ft)
Vertical Section Direction 0.00									
0.0	0.10	358.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	0.07	356.63	20.00	0.03	-0.00	0.15	0.03	-2.18	0.03
40.0	0.06	355.18	40.00	0.05	-0.00	0.05	0.05	-2.98	0.05
60.0	0.07	354.87	60.00	0.07	-0.00	0.05	0.08	-3.59	0.07
80.0	0.13	348.92	80.00	0.11	-0.01	0.30	0.11	-5.30	0.11
100.0	0.11	345.45	100.00	0.15	-0.02	0.11	0.15	-7.34	0.15
120.0	0.08	345.12	120.00	0.18	-0.03	0.15	0.18	-8.66	0.18
140.0	0.08	342.23	140.00	0.21	-0.04	0.02	0.21	-9.66	0.21
160.0	0.08	339.35	160.00	0.24	-0.04	0.02	0.24	-10.77	0.24
180.0	0.10	336.66	180.00	0.26	-0.06	0.10	0.27	-12.08	0.26
200.0	0.10	334.90	200.00	0.30	-0.07	0.02	0.30	-13.46	0.30
220.0	0.07	333.32	220.00	0.32	-0.08	0.15	0.33	-14.55	0.32
240.0	0.11	322.09	240.00	0.35	-0.10	0.22	0.36	-16.15	0.35
260.0	0.07	326.38	260.00	0.37	-0.12	0.20	0.39	-17.72	0.37
280.0	0.09	327.96	280.00	0.40	-0.13	0.10	0.42	-18.71	0.40
300.0	0.09	325.55	300.00	0.42	-0.15	0.02	0.45	-19.71	0.42
320.0	0.19	334.59	320.00	0.47	-0.18	0.51	0.50	-20.55	0.47
340.0	0.10	335.86	340.00	0.51	-0.20	0.45	0.55	-20.96	0.51
360.0	0.07	339.19	360.00	0.54	-0.21	0.15	0.58	-21.05	0.54
380.0	0.06	337.81	380.00	0.56	-0.22	0.05	0.60	-21.06	0.56
400.0	0.05	335.56	400.00	0.58	-0.22	0.05	0.62	-21.13	0.58
420.0	0.08	337.00	420.00	0.60	-0.23	0.15	0.64	-21.22	0.60
440.0	0.10	338.92	440.00	0.63	-0.24	0.10	0.67	-21.25	0.63
460.0	0.11	336.98	460.00	0.66	-0.26	0.05	0.71	-21.29	0.66
480.0	0.10	338.28	480.00	0.70	-0.27	0.05	0.75	-21.35	0.70
500.0	0.10	339.04	500.00	0.73	-0.29	0.01	0.78	-21.35	0.73
520.0	0.11	336.94	520.00	0.76	-0.30	0.05	0.82	-21.38	0.76
540.0	0.09	333.92	540.00	0.80	-0.31	0.10	0.85	-21.50	0.80
560.0	0.08	329.53	560.00	0.82	-0.33	0.06	0.88	-21.73	0.82
580.0	0.05	295.42	580.00	0.84	-0.34	0.24	0.90	-22.24	0.84
600.0	0.06	294.72	600.00	0.85	-0.36	0.05	0.92	-23.05	0.85
620.0	0.07	290.93	620.00	0.85	-0.38	0.05	0.93	-24.02	0.85
640.0	0.06	320.20	640.00	0.87	-0.40	0.17	0.95	-24.71	0.87

CALIPER BOREHOLE VOLUMES

Job No. 16551
 Company BEST DRILLING & PUMP
 Well CCPA
 Field CHINO
 County RIVERSIDE State CA

Location: KIMBALL AVE EAST OF EUCLID
 GPS: N33o 58.022' W117o 38.840'
 Sec. Twp. Rge. Other Services: DEVIATION

Permanent Datum	G.L.	Elevation	
Log Measured From	G.L.	0'	above perm. datum
Drilling Measured From	G.L.		
Date	05-03-2012		
Run Number	ONE		
Depth Driller	635'		
Depth Logger	635'		
Bottom Logged Interval	634'		
Top Log Interval	0'		
Type Caliper	3 ARM		
Type Fluid In Hole	WATER		
Density / Viscosity	N/A		
Max. Recorded Temp.	N/A		
pH/Fluid Loss	N/A		
Time Well Ready	05:00		
Time Logger on Bottom	05:30		
Equipment Number	PS-5		
Location	L.A.		
Recorded By	RIDDER		
Witnessed By			
Borehole Record		Gravel Feed/Tubing Schedule	
Run Number	Bit	From	To
ONE	17.5"	50'	316'
ONE	12.25"	316'	635'
Casing Schedule		Size	Wgt/Ft
Surface String	20"	N/A	N/A
Production String	4"	N/A	N/A
Production String	4"	N/A	N/A
Production String			
Production String			
Production String			
Production String			

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Comments

PERFS: 100-130 FT & 235-295 FT

Calibration Report

Database File 16551.db
 Dataset Pathname Best/well/run1/caliper.1
 Dataset Creation Thu May 03 13:50:32 2012

Serial Number:
Tool Model:
Performed:

PS-4_Short
GRPH_CAL
Tue Jan 24 15:19:27 2012

Point #	Reading		Reference	
1	250.88	cps	4.00	degF
2	1458.28	cps	10.00	degF
3		cps		degF
4		cps		degF
5		cps		degF
6		cps		degF
7		cps		degF
8		cps		degF
9		cps		degF
10		cps		degF

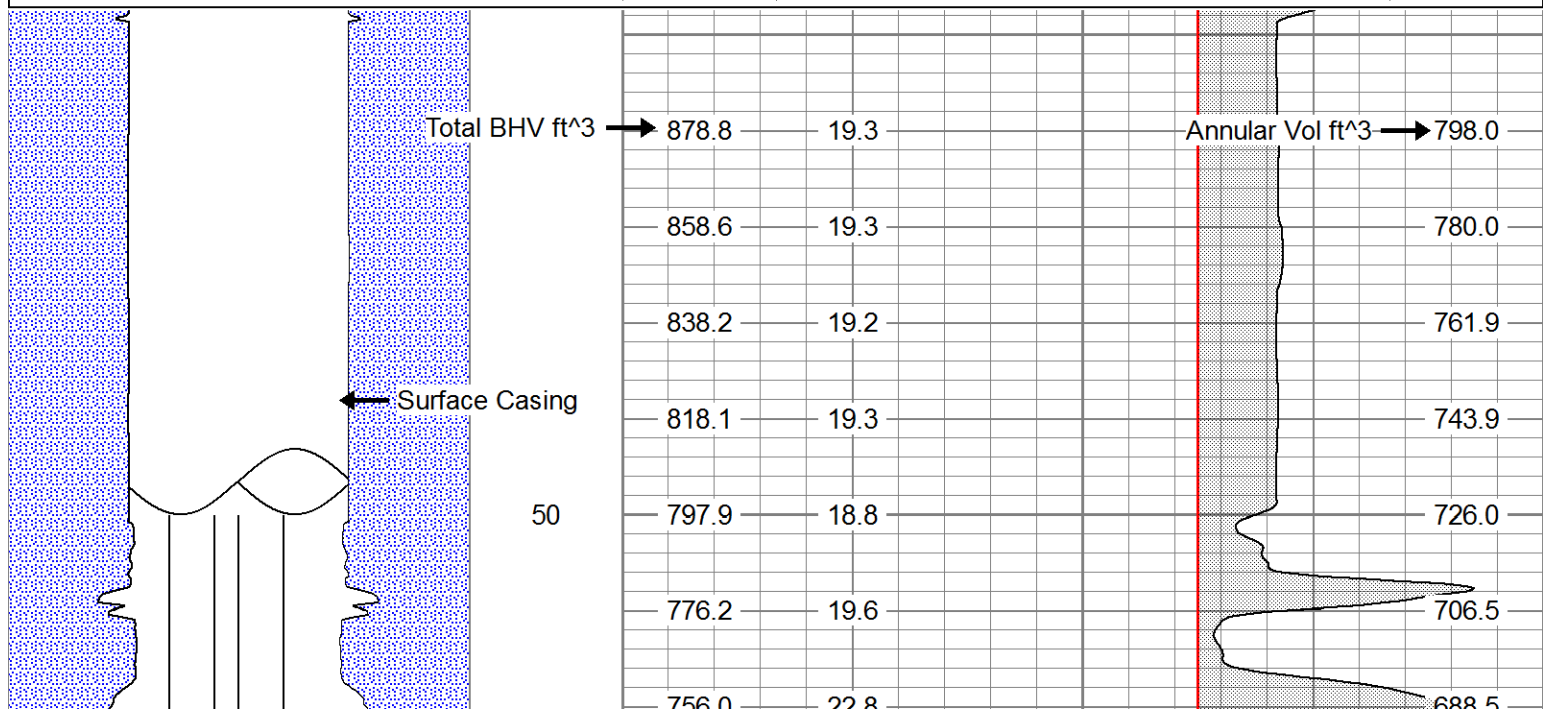
XY Caliper Calibration Report

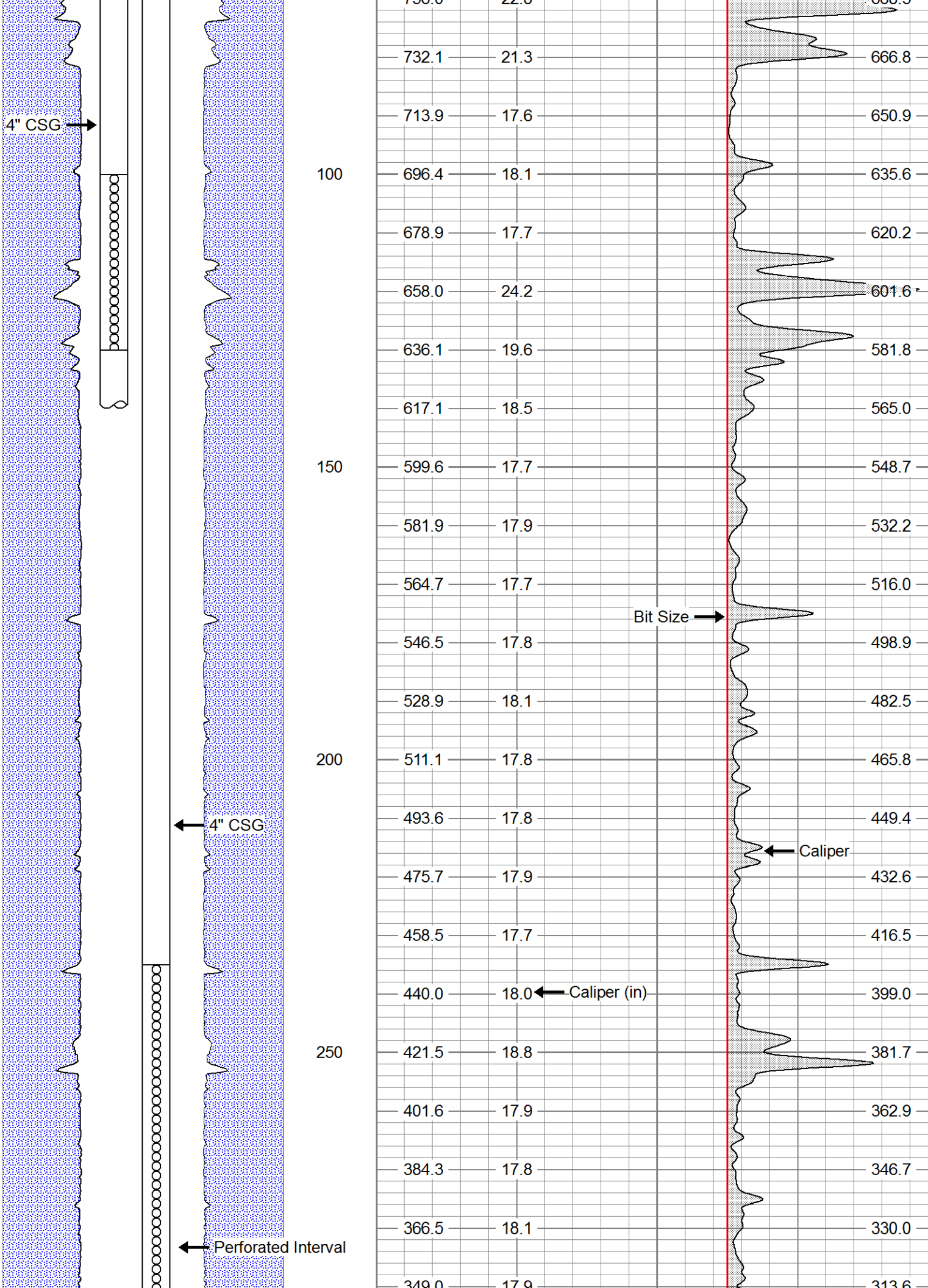
Serial Number/Model: PS-4_Short-Comprobe
Performed: Tue Jan 24 15:18:50 2012

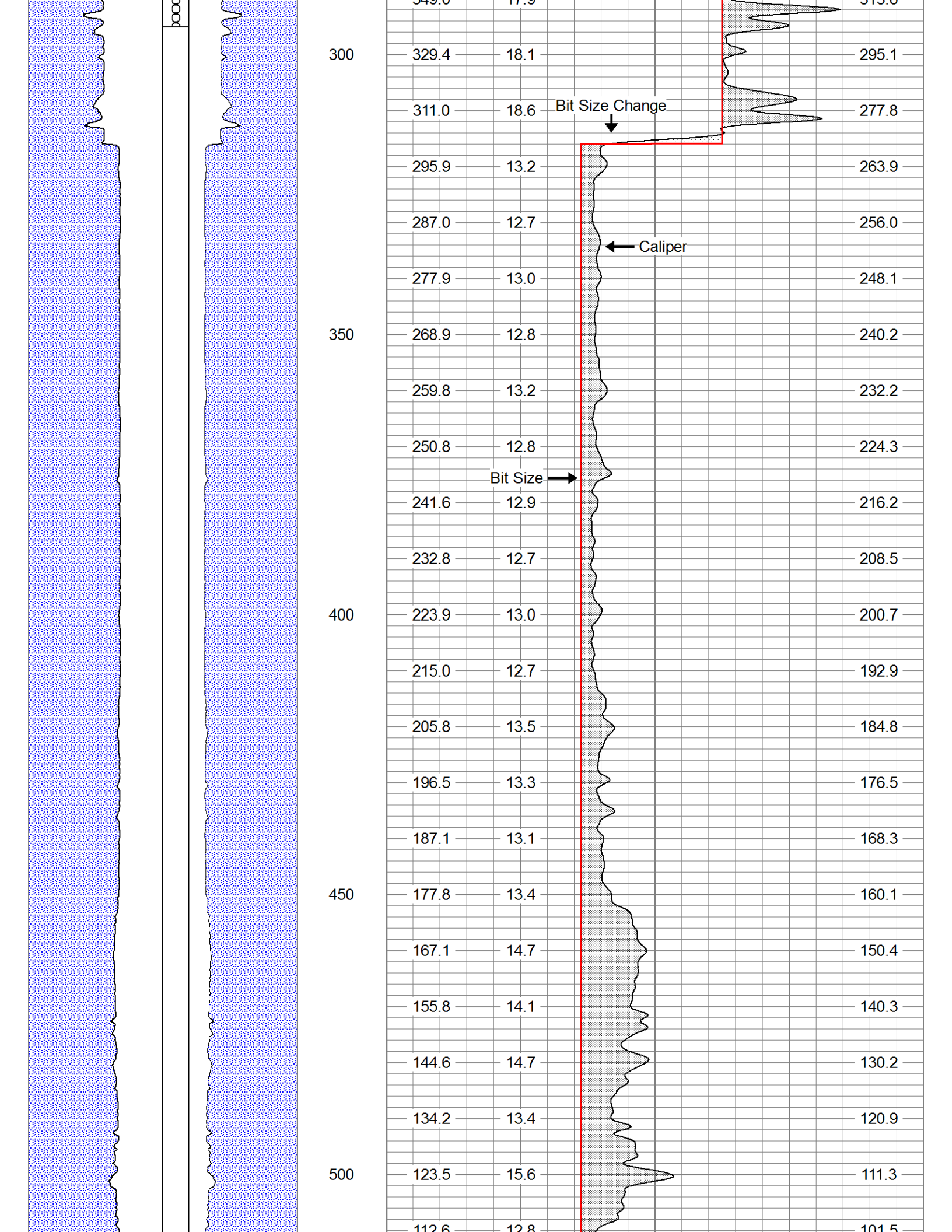
Ring			X Caliper		Y Caliper	
1:	8	in	250.882	cps	250.882	cps
2:	14	in	852.679	cps	852.679	cps
3:	20	in	1458.28	cps	1458.28	cps
4:		in		cps		cps
5:		in		cps		cps
6:		in		cps		cps

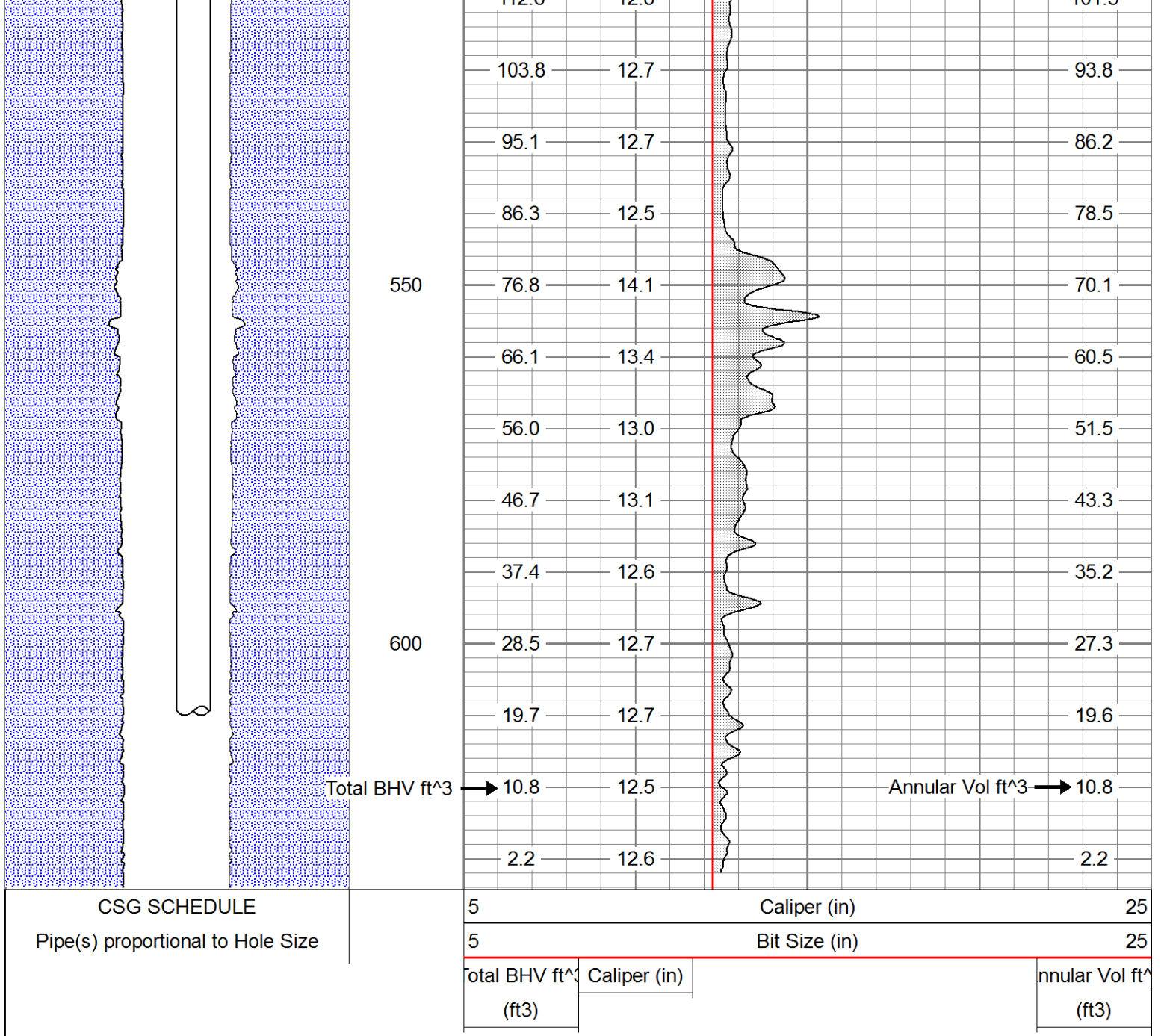
Database File 16551.db
Dataset Pathname Best/well/run1/caliper.1
Presentation Format xyc_gph
Dataset Creation Thu May 03 13:50:32 2012
Charted by Depth in Feet scaled 1:240

CSG SCHEDULE	5	Caliper (in)	25
Pipe(s) proportional to Hole Size	5	Bit Size (in)	25
	Total BHV ft ³ (ft3)	Caliper (in)	Annular Vol ft ³ (ft3)









Job No. 16536
 Company BEST DRILLING & PUMP
 Well CCPA
 Field CHINO
 County RIVERSIDE State CA

Location: N33068.022' W117038.840'
 Sec. Twp. Rge.
 Other Services: GRILL3 SONICVDL TEMPERATURE

Permanent Datum	G.L.	Elevation 639'	Elevation
Log Measured From	G.L.	0'	above perm. datum
Drilling Measured From	G.L.		
Date	04/28/2012		
Run Number	ONE		
Depth Driller	635'		
Depth Logger	635'		
Bottom Logged Interval	635'		
Top Log Interval	50'		
Casing Driller	20" @ 50'		
Casing Logger	50'		
Bit Size	12.25"		
Type Fluid in Hole	WATER		
Density / Viscosity	N/A		
pH / Fluid Loss	N/A		
Source of Sample	TANK		
Rm @ Meas. Temp	12.2 @ 77F		
Rmf @ Meas. Temp	12.2 @ 77F		
Rmc @ Meas. Temp	N/A		
Source of Rmf / Rmc	MEASURE		
Rm @ BHT	N/A		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	1.45 PM		
Max. Recorded Temperature	75.1 F		
Equipment Number	PS-4		
Location	L.A.		
Recorded By	ABREAU		
Witnessed By			

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Comments

Calibration Report

Database File 16536.db
 Dataset Pathname elog
 Dataset Creation Sat Apr 28 20:41:09 2012

Serial: D4
Model: DTQ

Shop Calibration Performed: Tue Mar 27 11:06:58 2012
Before Survey Verification Performed: Sun Sep 09 13:17:43 2007
After Survey Verification Performed: Sun Sep 09 13:17:48 2007

Shop Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	9.071	100.688		10.200	102.200	Ohm-m	1.004	1.091
Long	7.302	96.917		10.200	102.200	Ohm-m	1.027	-17.000
IEE	22.700	5501.220	counts	0.025	6.021	A		
VSN	175.940	6234.840	counts	3.356	118.922	V		
VLN	70.000	1565.500	counts	1.335	29.860	V		

Before Survey Verification

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	40.249	101.201		40.505	101.206	Ohm-m	0.996	0.422
Long	142.638	102.842		102.858	102.858	Ohm-m	1.024	-2.408
IEE	212.960	7070.960	counts	0.233	7.738	A		
VSN	96.300	8039.720	counts	1.837	153.348	V		
VLN	85.320	2042.520	counts	1.627	38.959	V		

After Survey Verification

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	40.270	101.200		40.249	101.201	Ohm-m	1.000	-0.035
Long	142.491	102.843		102.842	102.842	Ohm-m	1.004	-0.383
IEE	213.380	7077.580	counts	0.234	7.746	A		
VSN	96.540	8047.160	counts	1.841	153.490	V		
VLN	85.400	2044.440	counts	1.629	38.995	V		

After Survey Verification compared to Before Survey Calibration

	Zero			Cal			
	Before	After		Before	After		
Short	40.505	40.249	Ohm-m	101.206	101.201	Ohm-m	
Long	143.592	142.638	Ohm-m	102.858	102.842	Ohm-m	

Gamma Ray Calibration Report

Serial Number: D4
Tool Model: ELOG
Performed: Thu Jan 20 08:42:38 2011

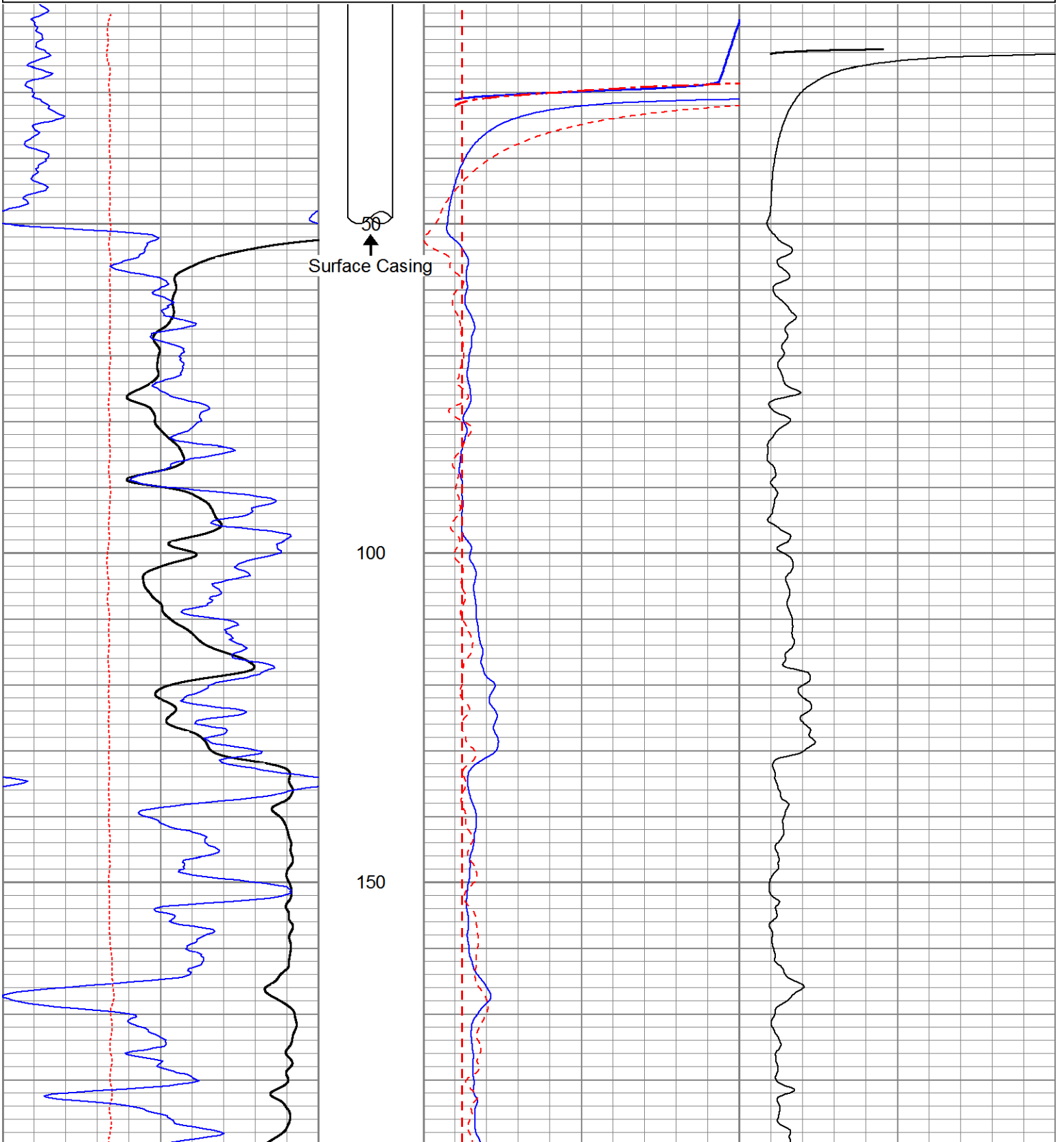
Calibrator Value: 162.0 GAPI

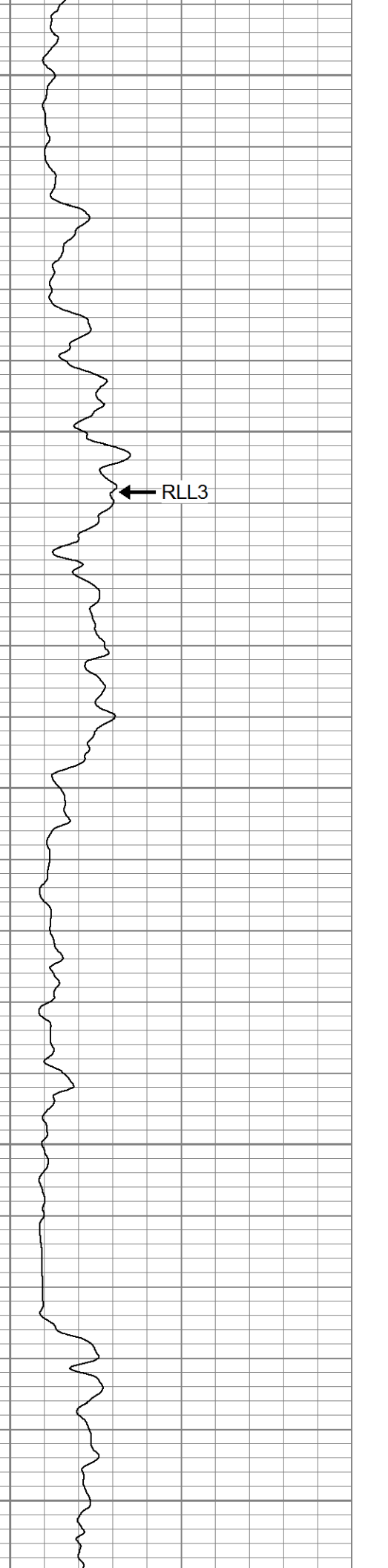
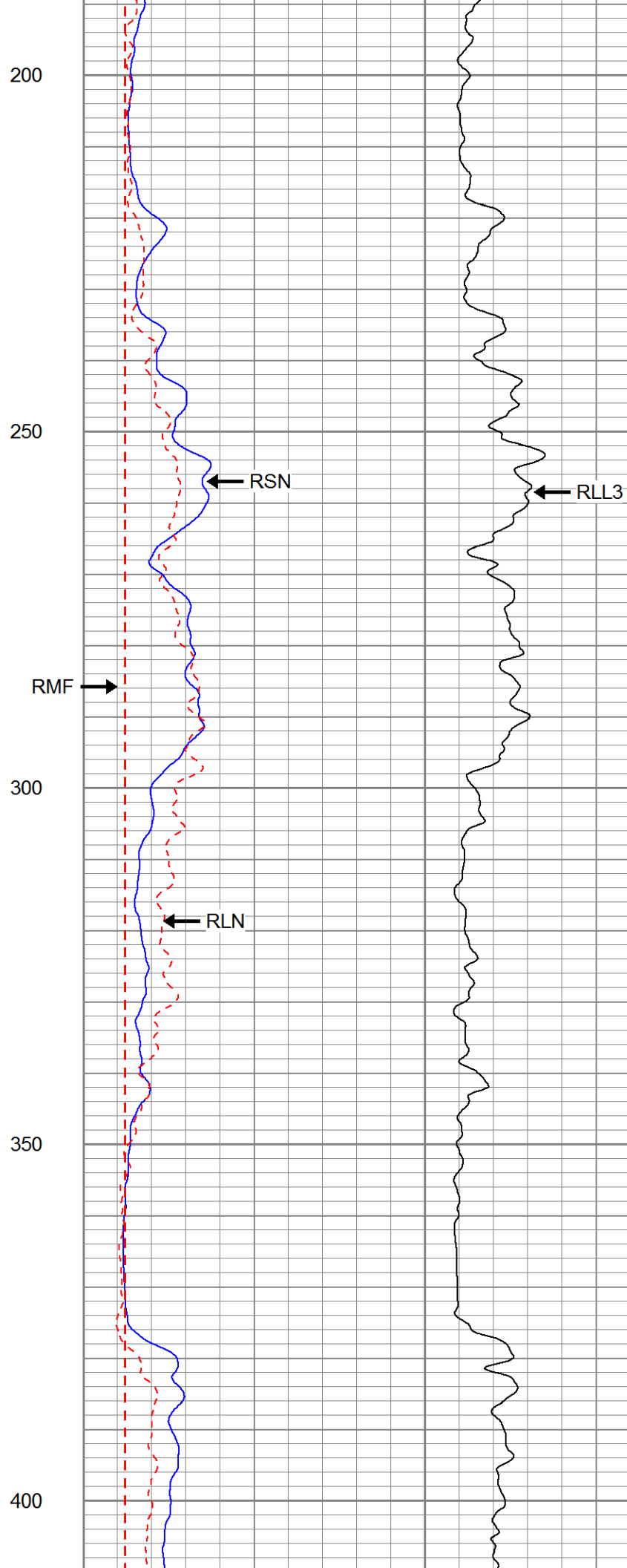
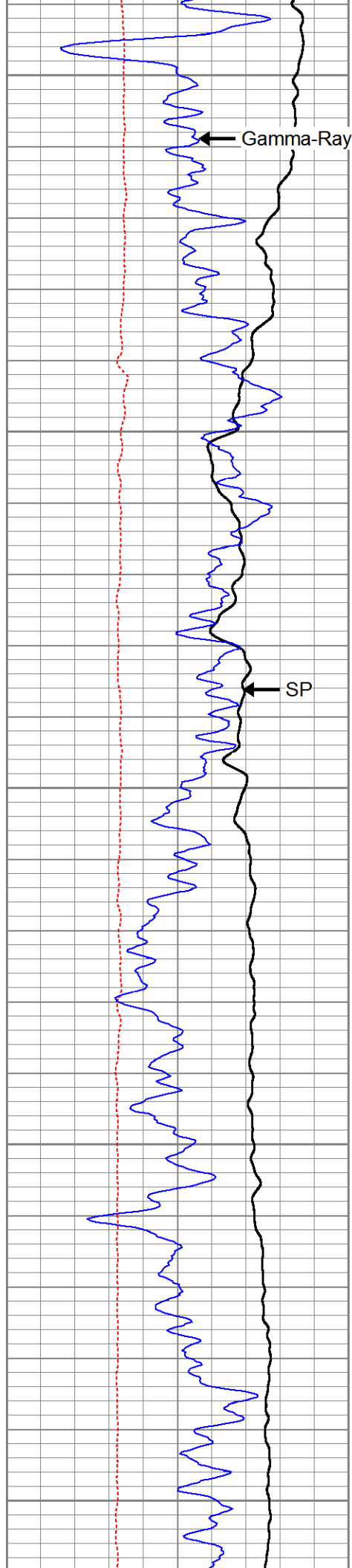
Background Reading: 173.2 cps
Calibrator Reading: 678.3 cps

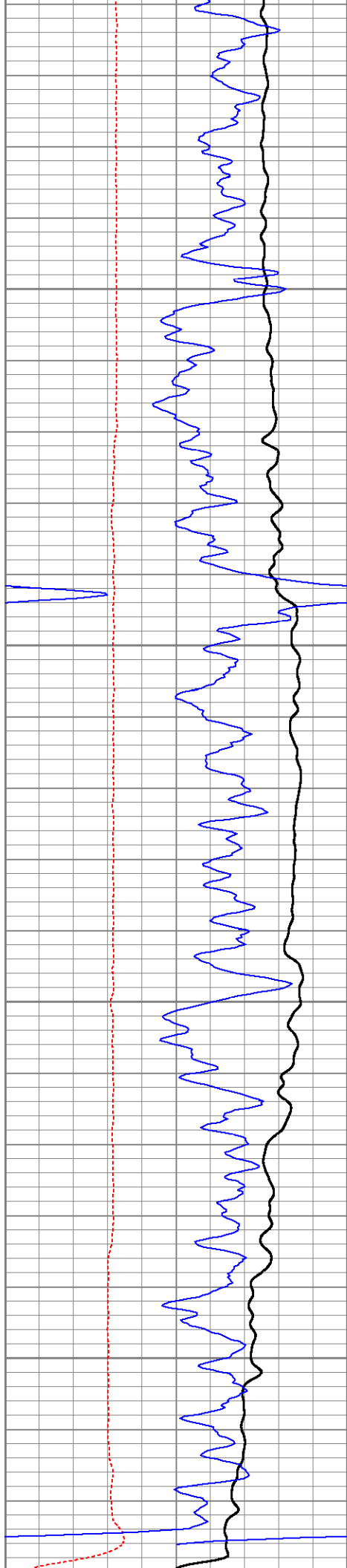
Sensitivity: 0.3207 GAPI/cps

Database File 16536.db
 Dataset Pathname elog
 Presentation Format elog
 Dataset Creation Sat Apr 28 20:41:09 2012
 Charted by Depth in Feet scaled 1:240

-25	SP (mV)	25	0	RSN (Ohm-m)	100	0	RLL3 (Ohm-m)	100
0	Line Speed (ft/min)	-100	0	RLN (Ohm-m)	100		100 RLL3 back-up (Ohm-m)	1000
30	Gamma-Ray (GAPI)	90	0	RMF (Ohm-m)	100			
			100	RSN x 10 (Ohm-m)	1000			
			100	RLN x 10 (Ohm-m)	1000			





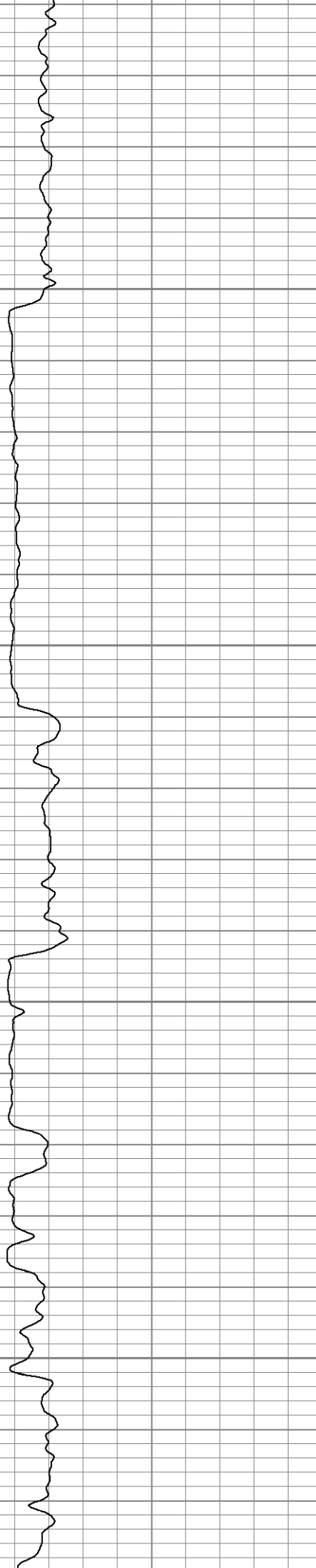
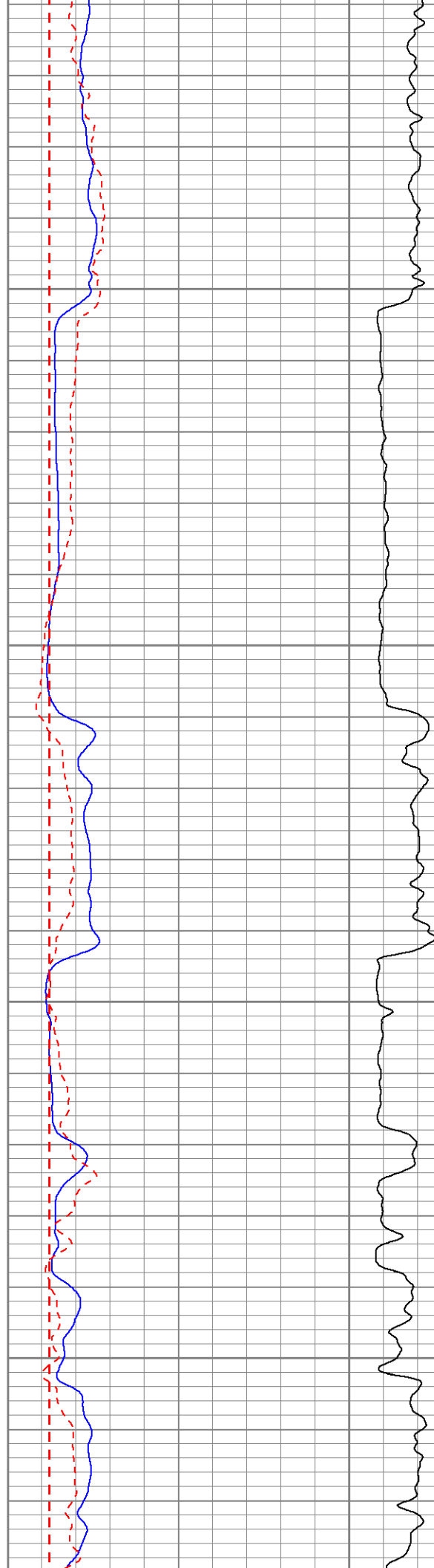


450

500

550

600



-25	SP (mV)	25
0	Line Speed (ft/min)	-100
30	Gamma-Ray (GAPI)	90

0	RSN (Ohm-m)	100
0	RLN (Ohm-m)	100
0	RMF (Ohm-m)	100
100	RSN x 10 (Ohm-m)	1000
100	RLN x 10 (Ohm-m)	1000

0	RLL3 (Ohm-m)	100
100	RLL3 back-up (Ohm-m)	1000

Job No. 16536
 Company **BEST DRILLING & PUMP**
 Well **CCPA**
 Field **CHINO**
 County **RIVERSIDE** State **CA**

Location: N33068.022' W117038.840'
 Sec. Twp. Rge. Elevation 639'
 Other Services: ELOG SONICVDL TEMPERATURE

Permanent Datum	G.L.	Elevation	639'	Elevation
Log Measured From	G.L.	above perm. datum		K.B. D.F. G.L.
Drilling Measured From	G.L.			
Date	04/28/2012			
Run Number	ONE			
Depth Driller	635'			
Depth Logger	635'			
Bottom Logged Interval	635'			
Top Log Interval	50'			
Casing Driller	20" @ 50'			
Casing Logger	50'			
Bit Size	12.25"			
Type Fluid in Hole	WATER			
Density / Viscosity	N/A			
pH / Fluid Loss	N/A			
Source of Sample	TANK			
Rm @ Meas. Temp	12.2 @ 77F			
Rmf @ Meas. Temp	12.2 @ 77F			
Rmc @ Meas. Temp	N/A			
Source of Rmf / Rmc	MEASURE			
Rm @ BHT	N/A			
Time Circulation Stopped	3 HOURS			
Time Logger on Bottom	1.45 PM			
Max. Recorded Temperature	75.1 F			
Equipment Number	PS-4			
Location	L.A.			
Recorded By	ABREAU			
Witnessed By				

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Comments

Calibration Report

Database File 16536.db
 Dataset Pathname ll3_2
 Dataset Creation Sat Apr 28 21:57:26 2012

Serial Number: 12
 Tool Model: GROH
 Performed: Thu Jan 20 09:04:17 2011

 Calibrator Value: 162.0 GAPI

 Background Reading: 30.6
 Calibrator Reading: 128.2

 Sensitivity: 1.6595 GAPI/

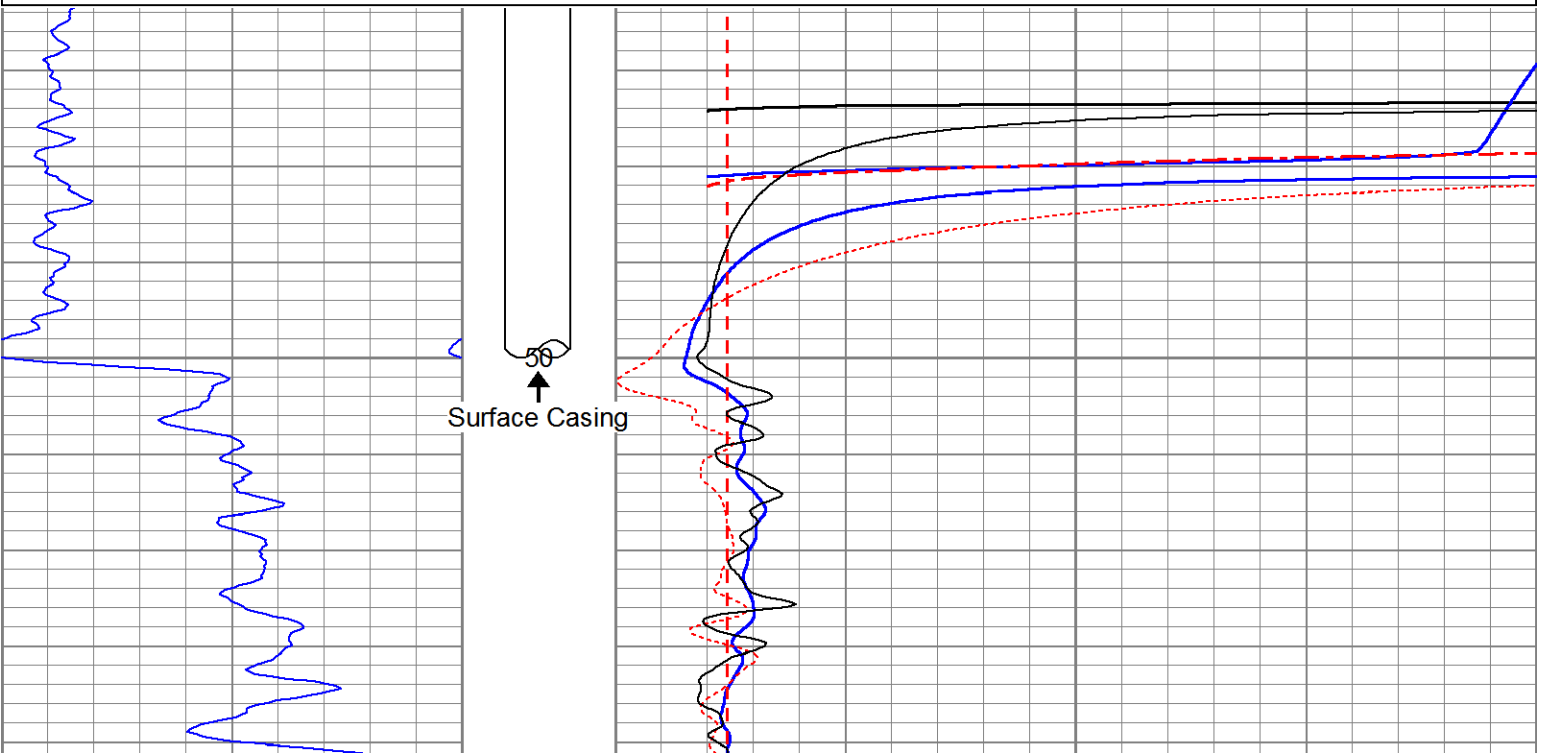
RLL3 (Resistivity Laterolog 3) Calibration Report:

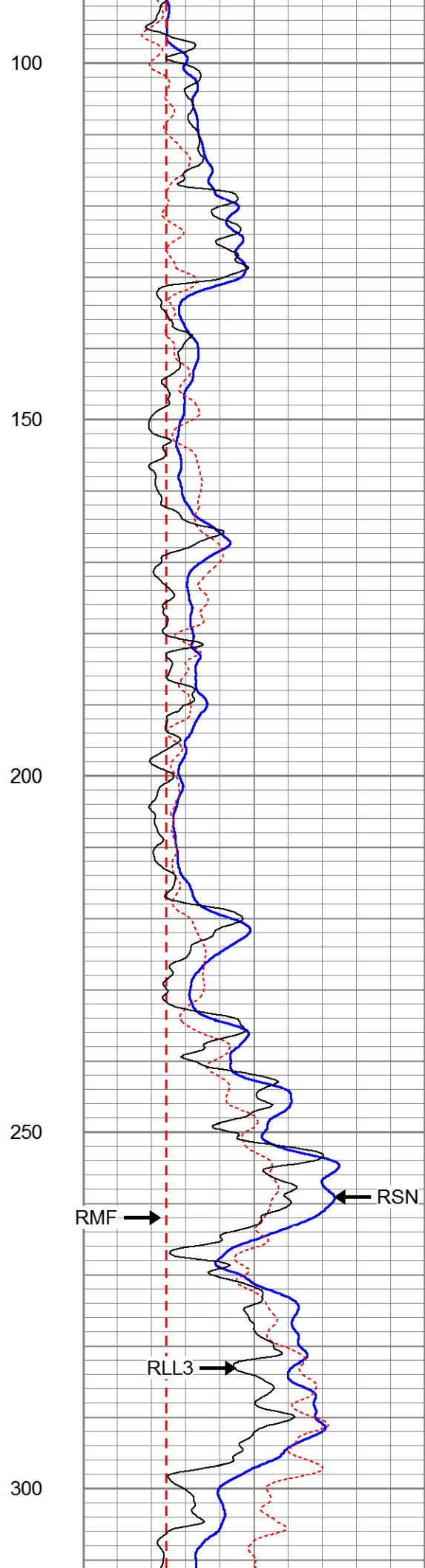
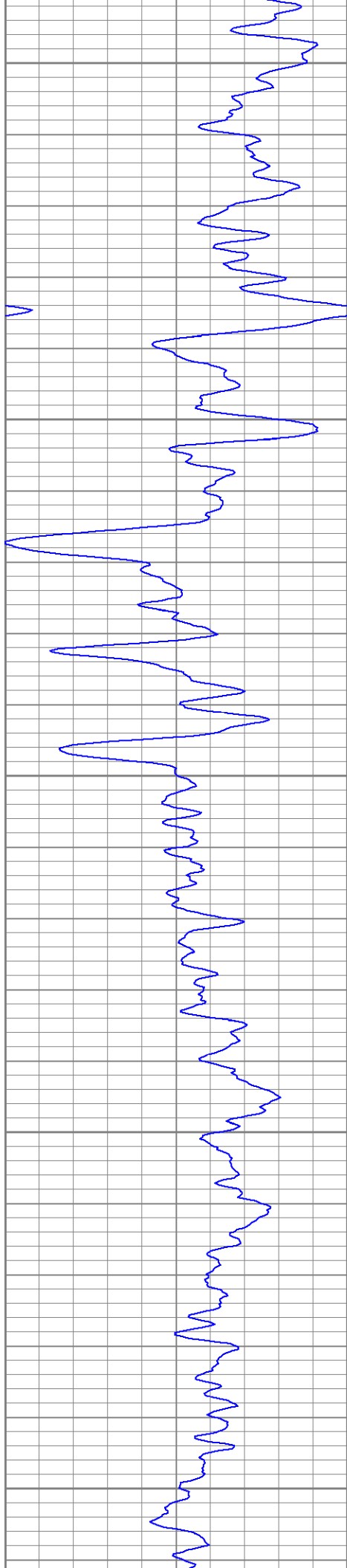
Serial Number: 883
 Tool Model: M&W
 Performed: Wed Feb 09 14:18:47 2011

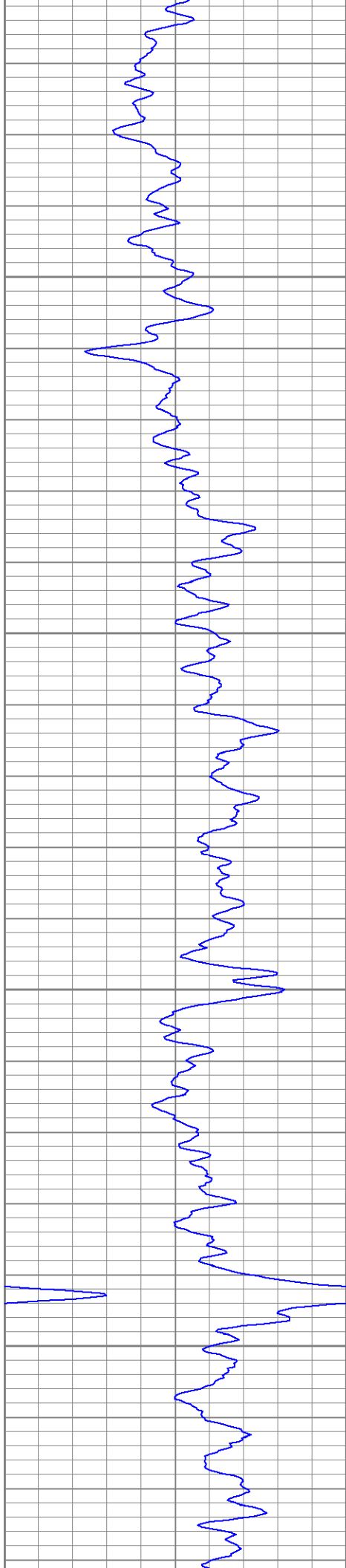
System Reading	Calibration Reference
0.013	2.500 Ohm-m
0.025	5.000
0.236	50.000
1.108	250.000
2.034	500.000

Database File 16536.db
 Dataset Pathname I13_2
 Presentation Format guard
 Dataset Creation Sat Apr 28 21:57:26 2012
 Charted by Depth in Feet scaled 1:240

30	Gamma-Ray (GAPI)	90	0	RSN (Ohm-m)	100
			0	RLN (Ohm-m)	100
			0	RMF (Ohm-m)	100
			0	RLL3 (Ohm-m)	100
			100	RLL3 x 10 (Ohm-m)	1000
			100	RSN x 10 (Ohm-m)	1000
			100	RLN x 10 (Ohm-m)	1000





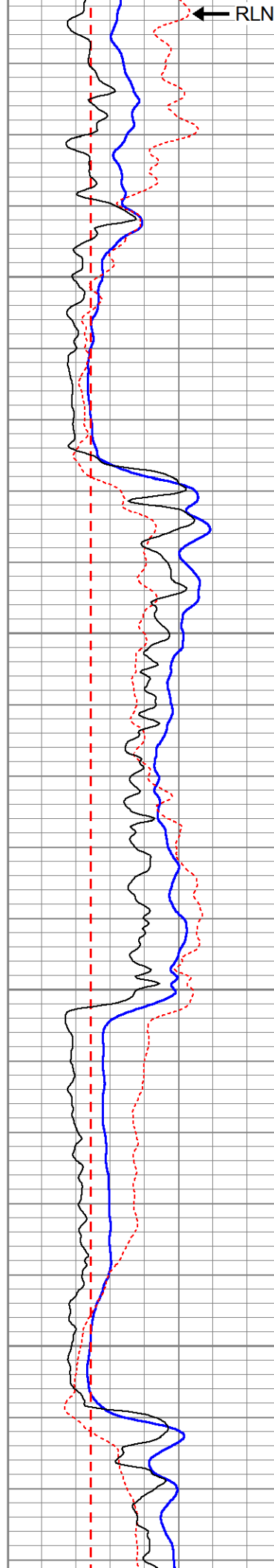


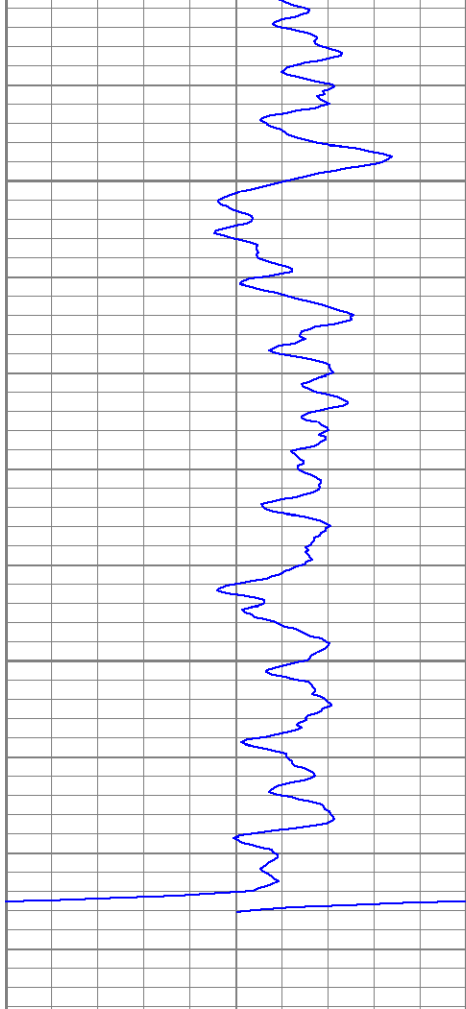
350

400

450

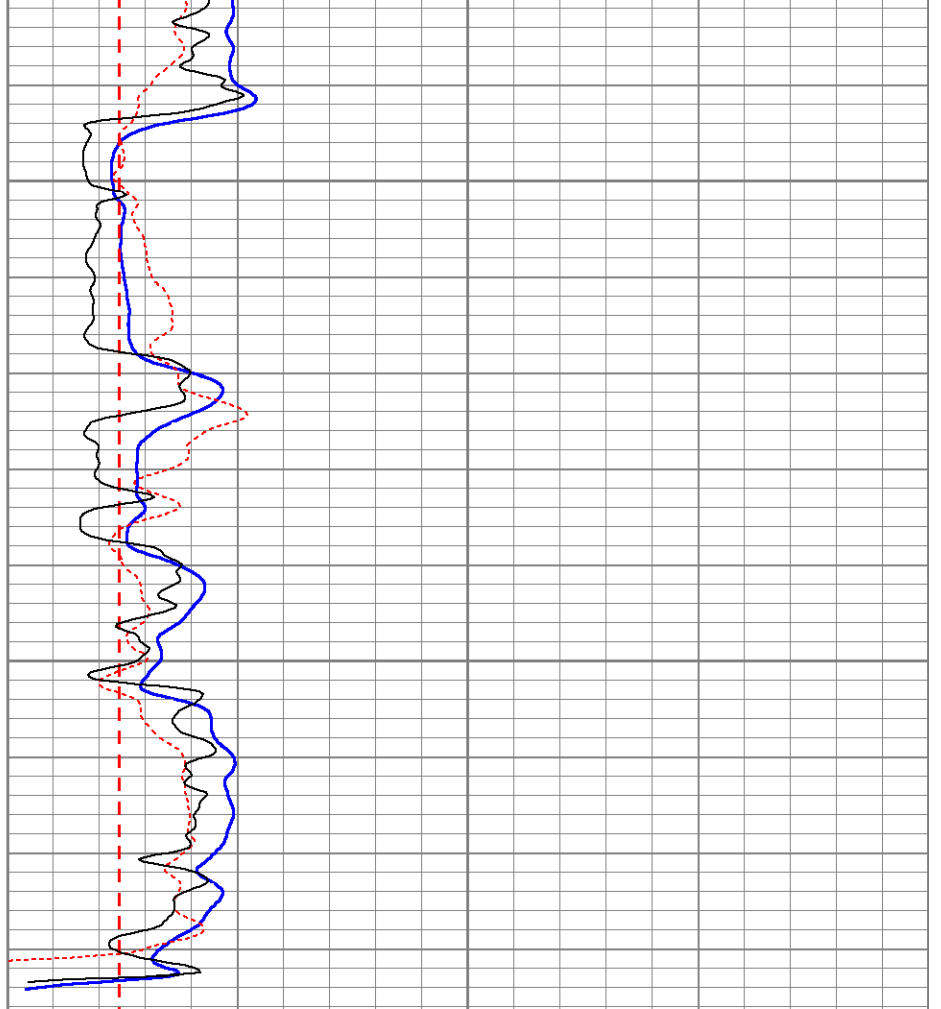
500





550

600



30 Gamma-Ray (GAPI) 90

0	RSN (Ohm-m)	100
0	RLN (Ohm-m)	100
0	RMF (Ohm-m)	100
0	RLL3 (Ohm-m)	100
100	RLL3 x 10 (Ohm-m)	1000
100	RSN x 10 (Ohm-m)	1000
100	RLN x 10 (Ohm-m)	1000

Job No. 16536
 Company BEST DRILLING & PUMP
 Well CCPA
 Field CHINO
 County RIVERSIDE State CA

Location: N33068.022' W117038.840'
 Sec. Twp. Rge. Elevation 639'
 Other Services: ELOG GR/L3 TEMPERATURE

Permanent Datum	G.L.		Elevation	
Log Measured From	G.L.	0'	above perm. datum	K.B. D.F. G.L.
Drilling Measured From	G.L.			
Date		04/28/2012		
Run Number		ONE		
Depth Driller		635'		
Depth Logger		635'		
Bottom Logged Interval		635'		
Top Log Interval		50'		
Casing Driller		20" @ 50'		
Casing Logger		50'		
Bit Size		12.25"		
Type Fluid in Hole		WATER		
Density / Viscosity		N/A		
pH / Fluid Loss		N/A		
Source of Sample		TANK		
Rm @ Meas. Temp		12.2 @ 77F		
Rmf @ Meas. Temp		12.2 @ 77F		
Rmc @ Meas. Temp		N/A		
Source of Rmf / Rmc		MEASURE		
Rm @ BHT		N/A		
Time Circulation Stopped		3 HOURS		
Time Logger on Bottom		1.45 PM		
Max. Recorded Temperature		75.1 F		
Equipment Number		PS-4		
Location		L.A.		
Recorded By		ABREAU		
Witnessed By				

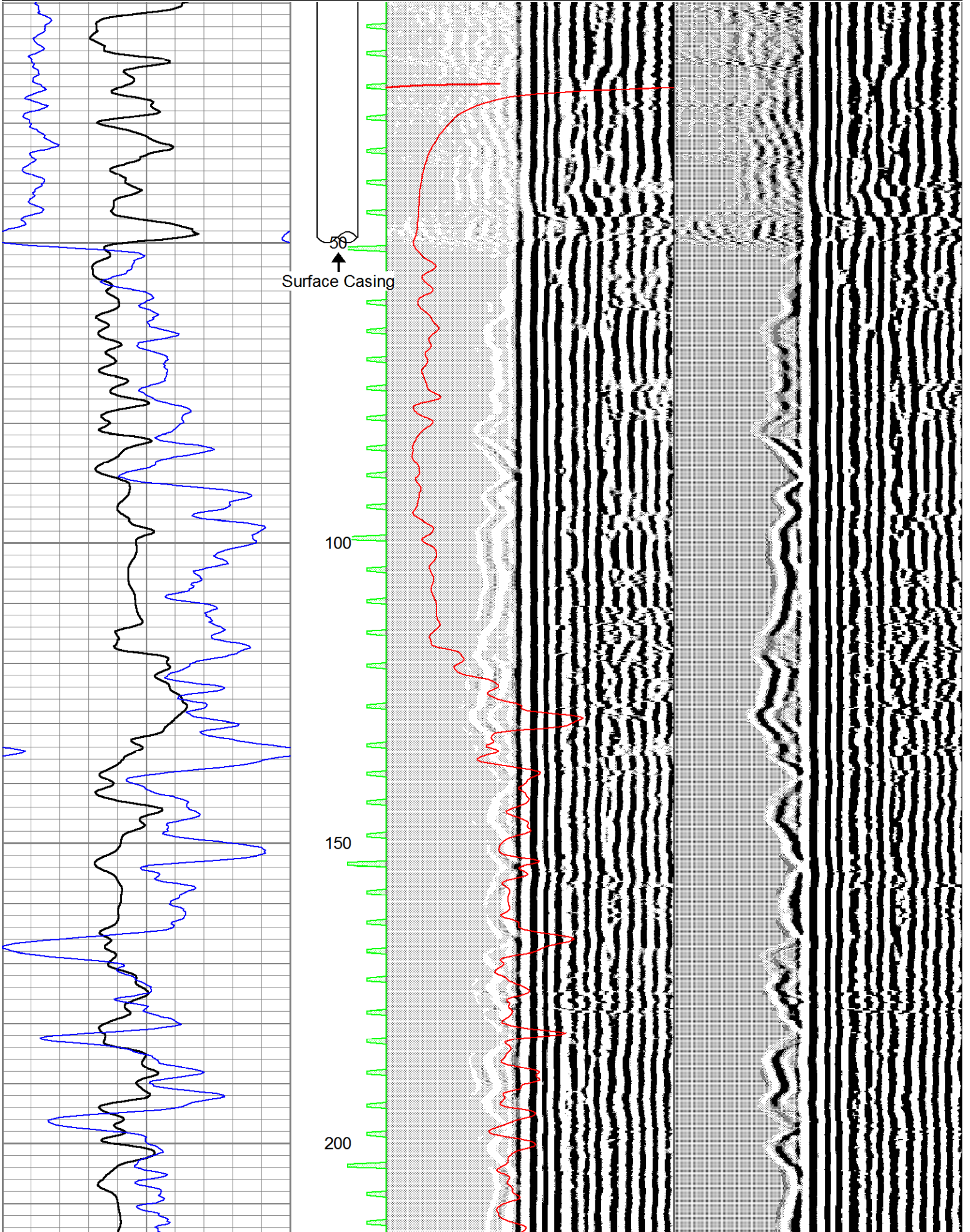
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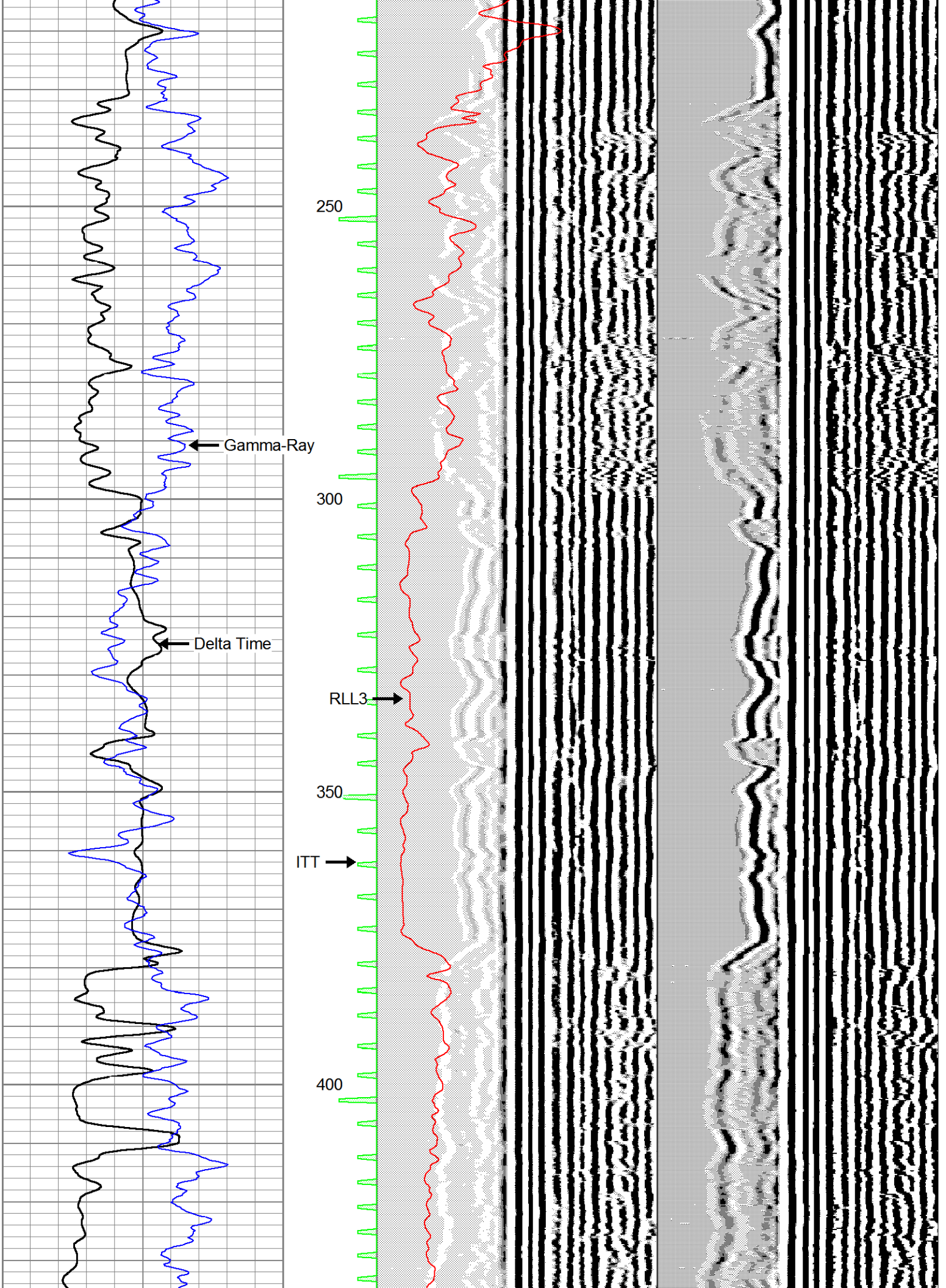
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

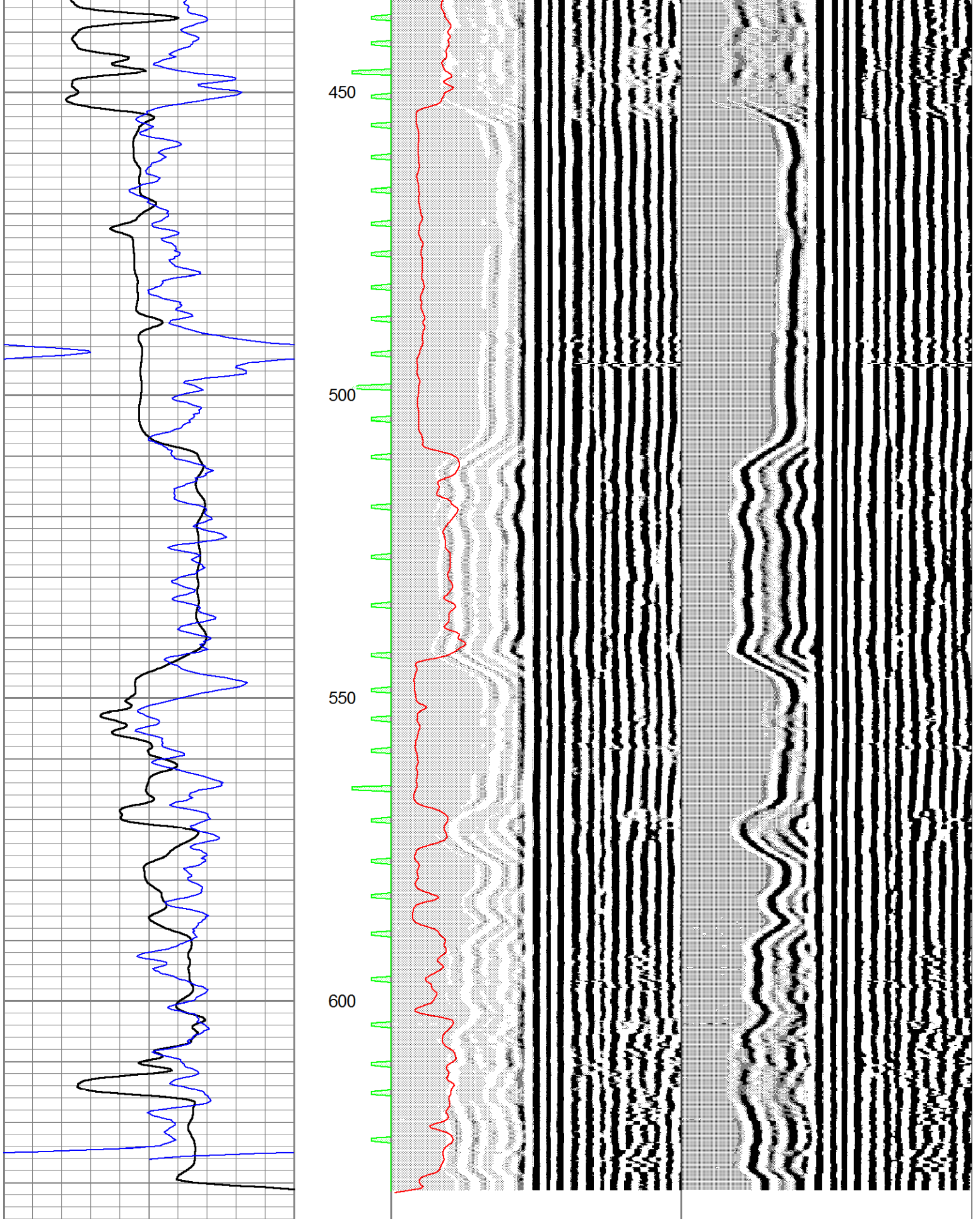
Comments

Database File 16536.db
 Dataset Pathname snc4
 Presentation Format sit
 Dataset Creation Sat Apr 28 22:49:20 2012
 Charted by Depth in Feet scaled 1:240

325	Delta Time (usec/ft)	25	ITT	600	Variable Density 5 ft	1600	600	Variable Density 5 ft	1600
30	Gamma-Ray (GAPI)	90	5 (msec)	0	RLL3 (Ohm-m)	100			
					100 RLL3 back-up (Ohm-m)	1000			







325	Delta Time (usec/ft)	25	ITT	600	Variable Density 5 ft	1600	600	Variable Density 5 ft	1600
30	Gamma-Ray (GAPI)	90	5 (msec) 0	0	RLL3 (Ohm-m)	100			
					RLL3 back-up (Ohm-m)	1000			

Job No. 16536
 Company **BEST DRILLING & PUMP**
 Well **CCPA**
 Field **CHINO**
 County **RIVERSIDE** State **CA**

Location: N33068.022' W117038.840'
 Sec. Twp. Rge. Elevation 639'
 Other Services: ELOG GR/L3 SONICVDL
 Permanent Datum G.L.
 Log Measured From G.L. 0'
 Drilling Measured From G.L.

Date	04/28/2012	Elevation	
Run Number	ONE		
Depth Driller	635'		
Depth Logger	635'		
Bottom Logged Interval	635'		
Top Log Interval	50'		
Casing Driller	20" @ 50'		
Casing Logger	50'		
Bit Size	12.25"		
Type Fluid in Hole	WATER		
Density / Viscosity	N/A		
pH / Fluid Loss	N/A		
Source of Sample	TANK		
Rm @ Meas. Temp	12.2 @ 77F		
Rmf @ Meas. Temp	12.2 @ 77F		
Rmc @ Meas. Temp	N/A		
Source of Rmf / Rmc	MEASURE		
Rm @ BHT	N/A		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	1.45 PM		
Max. Recorded Temperature	75.1 F		
Equipment Number	PS-4		
Location	L.A.		
Recorded By	ABREAU		
Witnessed By			

<<< Fold Here >>>

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Comments

Calibration Report

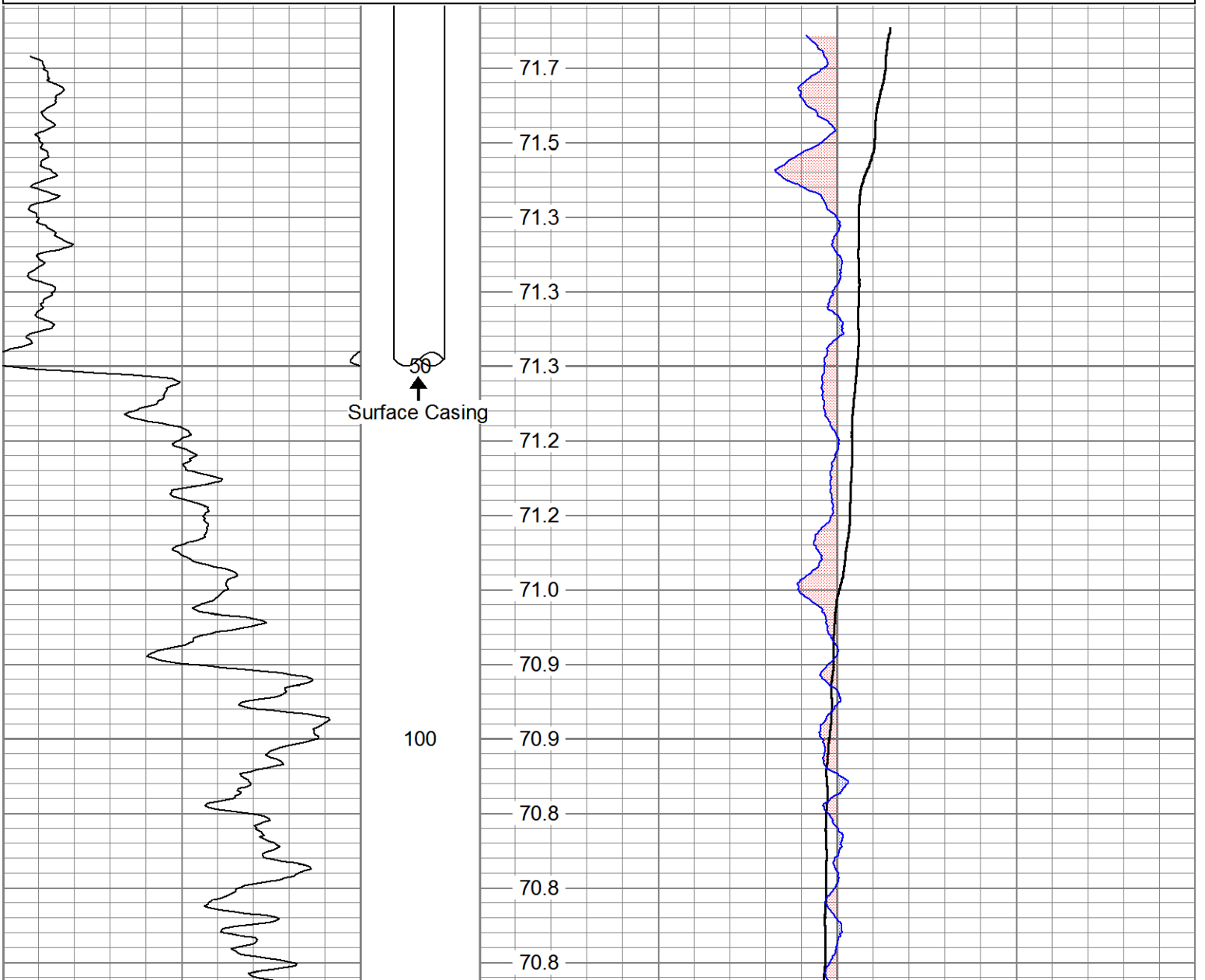
Database File 16536.db
 Dataset Pathname TMP2
 Dataset Creation Sat Apr 28 21:16:24 2012

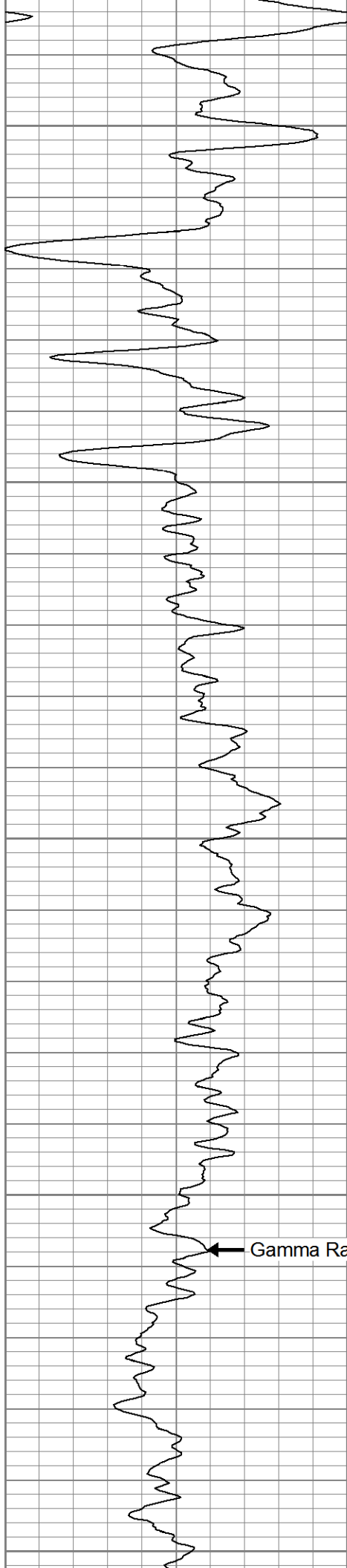
Serial Number: I26J0-06
 Tool Model: Titan
 Performed: Wed Feb 09 13:06:01 2011

	Reference		Reading
Low Reference:	0.00	degF	0.00 cps
High Reference:	1.00	degF	10.00 cps
Gain:	0.10		
Offset:	0.00		
Delta Spacing	2		

Database File 16536.db
 Dataset Pathname TMP2
 Presentation Format temp
 Dataset Creation Sat Apr 28 21:16:24 2012
 Charted by Depth in Feet scaled 1:240

30	GR (GAPI)	90	66	TEMP (degF)	76
			-0.25	DTMP (degF)	0.25
			TEMP		
			(degF)		





150

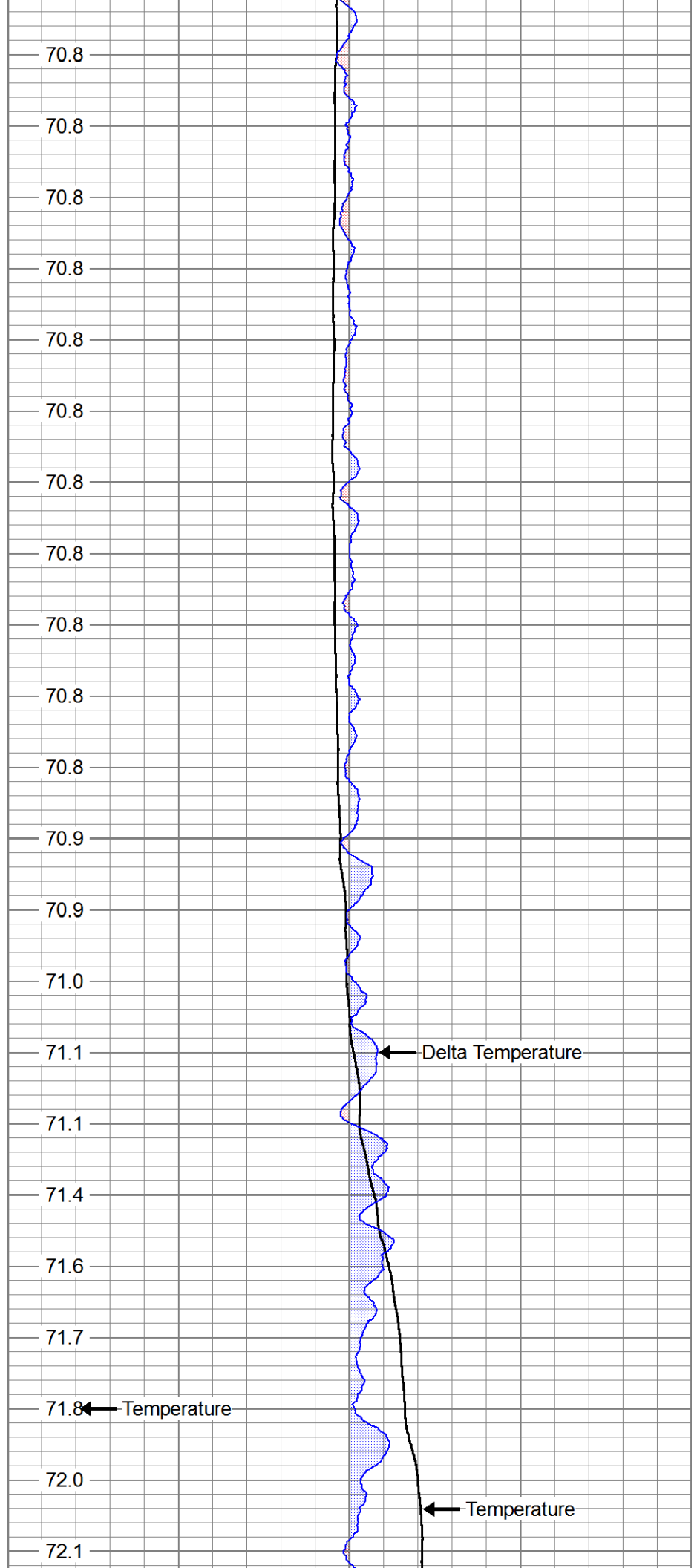
200

250

300

350

← Gamma Ray



70.8

70.8

70.8

70.8

70.8

70.8

70.8

70.8

70.8

70.8

70.8

70.8

70.9

70.9

71.0

71.1

71.1

71.4

71.6

71.7

71.8

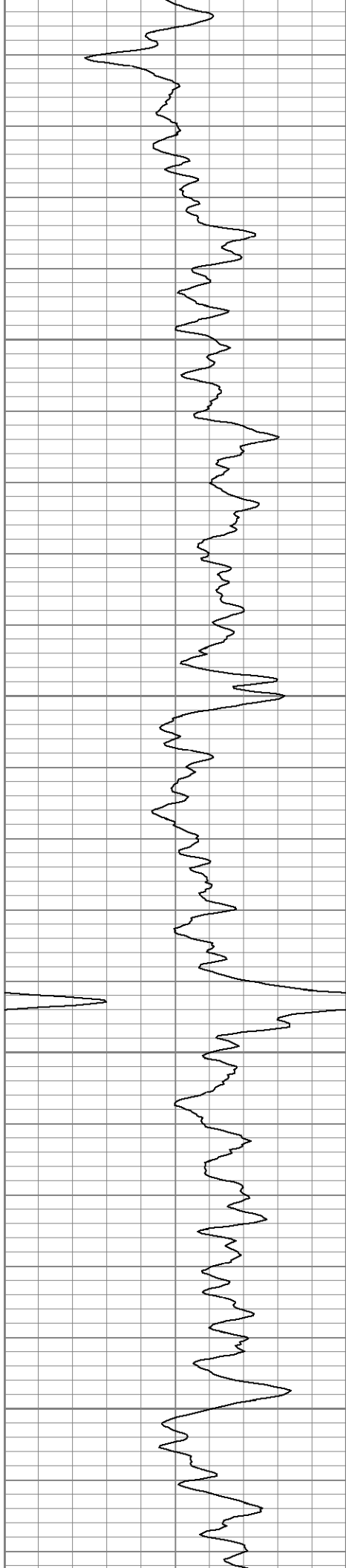
72.0

72.1

← Delta Temperature

← Temperature

← Temperature



400

450

500

550

72.3

72.3

72.4

72.5

72.6

72.7

72.9

73.0

73.1

73.3

73.5

73.6

73.7

73.8

74.0

74.1

74.2

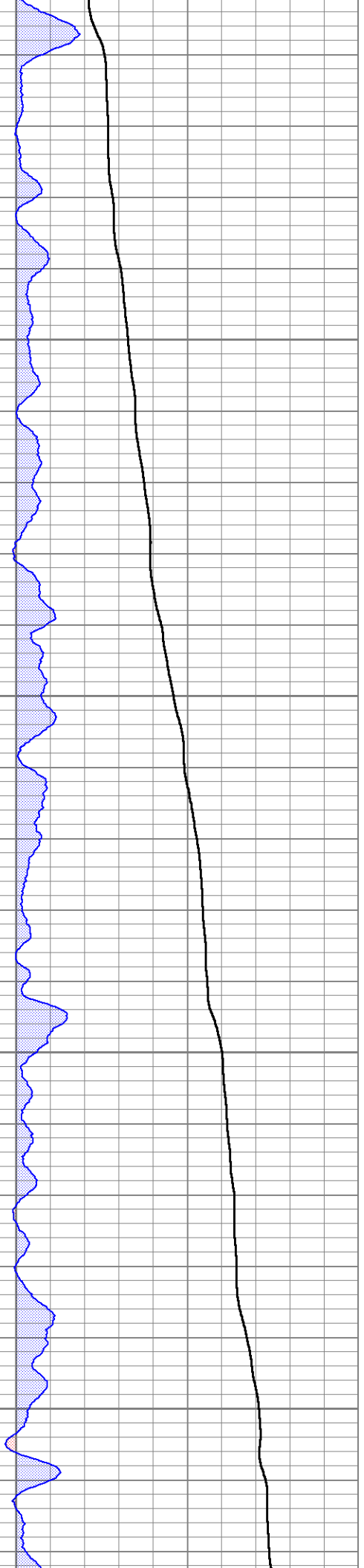
74.2

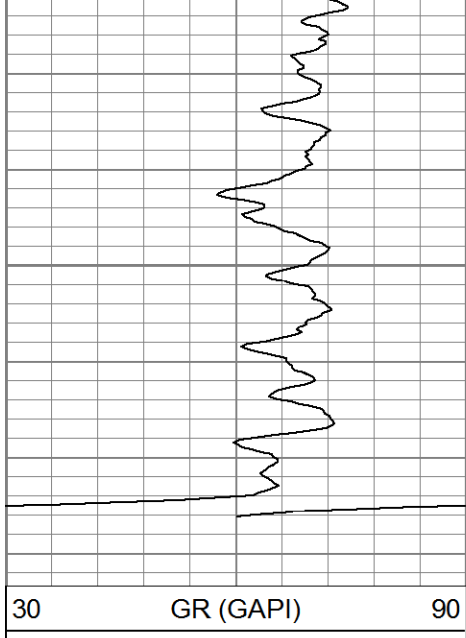
74.4

74.5

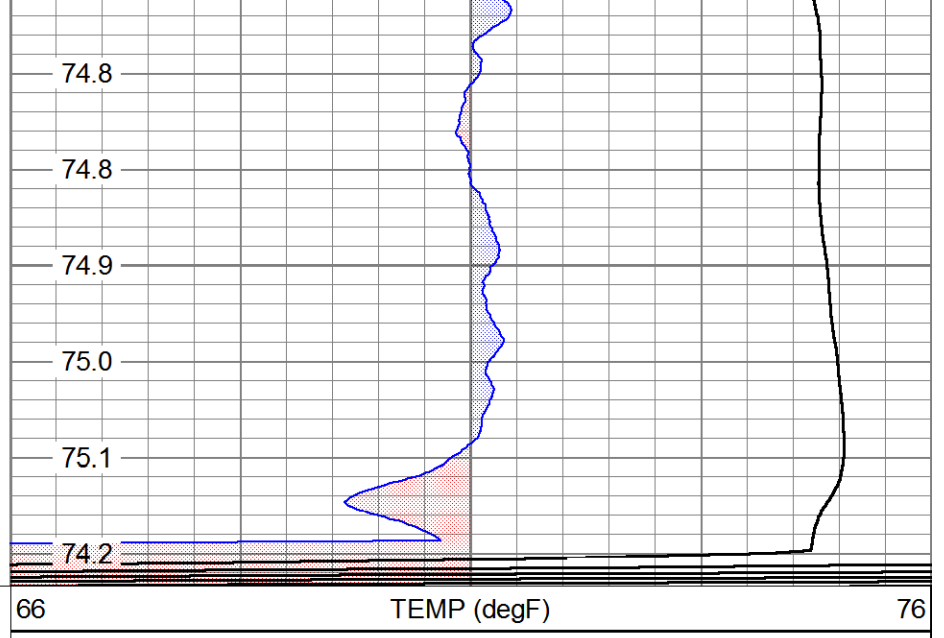
74.6

74.7





600



66	TEMP (degF)	76
----	-------------	----

-0.25	DTMP (degF)	0.25
-------	-------------	------

TEMP (degF)

Appendix F

Development Logs



MWH Laboratories
A Division of MWH Americas, Inc.

CHAIN OF CUSTODY RECORD

MWH LABS USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLES REC'D DAY OF COLLECTION? (check for yes)

SAMPLE TEMP RECEIVED AT: _____ °C (Compliance: 4 ± 2 °C)
 Colton / Sacramento / Scottsdale
 Monrovia _____ °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: FROZEN _____ PARTIALLY FROZEN _____ THAWED _____ WET ICE _____ NO ICE _____

METHOD OF SHIPMENT: Pick-Up / Walk-in / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

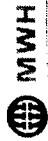
TO BE COMPLETED BY SAMPLER: _____ (check for yes)

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES	NON-COMPLIANCE SAMPLES	SAMPLER COMMENTS
Wildcat - muth Environmental		e BWA / cckwf	- Requires state forms	REGULATION INVOLVED:	
MWH LABS CLIENT CODE:	COC ID:	SAMPLE GROUP:	Type of samples (circle one):	ROUTINE SPECIAL CONFIRMATION	(eg. SDWA, Phase V, NPDES, FDA,...)
1891	1891	CCWF-A1	SEE ATTACHED BOTTLE ORDER FOR ANALYSES (check for yes), OR list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	<input checked="" type="checkbox"/>	
TAT requested: rush by adv notice only		CLIENT LAB ID	ROUTINE SPECIAL CONFIRMATION	ROUTINE SPECIAL CONFIRMATION	
SAMPLE DATE	SAMPLE TIME	MATRIX *	Field Data	Field Data	
5-14-12	1200	RGW			

* MATRIX TYPES: RSW = Raw Surface Water
 RGW = Raw Ground Water
 CFW = Chlor(am)inated Finished Water
 FW = Other Finished Water
 SEAW = Sea Water
 WW = Waste Water
 BW = Bottled Water
 SW = Storm Water
 SO = Soil
 SL = Sludge
 O = Other - Please Identify

SAMPLED BY: [Signature] SIGNATURE
 RELINQUISHED BY: _____
 RECEIVED BY: _____
 RELINQUISHED BY: _____
 RECEIVED BY: _____

DATE: 5-15-12 TIME: 1300
 COMPANY/TITLE: Wildcat - muth



LABORATORIES

A Division of MWH Americas, Inc
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016 (626) 386-1100 FAX (626) 386-1124

Kit Order for Wildermuth Environmental, Inc.

James.C.Hein is Your MWH Labs Project Manager

**Sampler: please return
this paper with your samples**

Kit #: 50465

Created By: JCH

Order Date: 05/17/2012

SJG: Bottle Orders

Client ID: WILDERMUTH

Project Code: CCWF Bottle Orders

Group Name: CCWF - A

PO#/JOB#:

Ship By:
05/07/2012

Ship Sample Kits to
Wildermuth Environmental, Inc.
1920 S. Archibald Street, Suite E
Ontario, 91761

Attn: Ontario Field Office
Phone: 909-923-4342
Fax:

Send Report to
Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Attn: Samantha Adams
Phone: 949 600-7527
Fax: 949 420-4040

Billing Address
Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Attn: Samantha Adams
Phone: 949 600-7527
Fax: 949 420-4040

# of Samples Tests	Bottles - Qty for each sample, type & preservative if any	UN DOT #
2	1 @2378-TCDD_Dioxin	
2	1 @ANIONS28, @ANIONS48, Alkalinity in CaCO3 units, Fluoride, Specific Conductance	
2	1 100ml poly sterilized 0.25ml thio (8%)	
2	1 60mL poly 0.6mL 1% EDA solution	
2	1 1L amber poly no preservative	
2	3 40ml amber glass vial no preservative	
2	1 500ml acid poly 2ml HNO3 (18%) Total ICAP	UN2031
2	4 40ml amber glass vial 1drop thio (8%)	
2	2 125ml amber glass 7mg SULFITE xis	
2	2 1L amber glass 2ml of 6N HCl	UN1789
2	2 40ml amber glass vial 0.38g KH2Citrate+1drop 8% thio	
2	3 1L poly 4ml HNO3 (18%)	UN2031
2	1 500ml poly 2ml 18%HNO3+125ml poly/no pres	UN2031
2	3 40ml amber glass vial TCP - 4drops of 1:1 HCL	UN1789
2	3 40ml amber glass vial 4drops 6N HCL (36%)	UN1789
2	4 40ml amber glass vial 4drops of 1:1 HCL	UN1789
2	1 1L amber glass ODOR_no preservative	
2	1 1L poly sonicated no preservative	
2	1 125ml poly CLO4 - no preservative	
2	1 250 ml poly 2 ml NaOH (30%)+6 scoops AA	
2	1 250ml amber glass no preservative	
2	1 125ml amber glass no preservative	

Code Status Date Shipped Via Tracking #

Prepared By

of Coolers

# of Samples Tests	Bottles - Qty for each sample, type & preservative if any	UN DOT #
2	Hexavalent Chromium (Dissolved) 1 125ml poly 1ml NH4SO4/NH4OH buffer	UN1824
2	Orthophosphate as P, Orthophosphate as PO4 1 125ml poly OPO4, no preservative	
2	Strontium ICAP 1 250ml acid rinsed 1ml HNO3 (18%)	UN2031
2	Surfactants 1 500ml poly no preservative	
2	Total Dissolved Solid (TDS) 1 500ml poly TDS - no preservative	
2	Total phosphorus as P 1 250ml poly 0.5ml H2SO4 (50%)	UN1830

Comments

2 Sets for T22 plus additional tests
 Deliver to site Wednesday, May 16, at 10:00 am. Wait at site for sample collection, then return to lab with 1 set of samples.
 George Pardo, 714-720-6563. East of the intersection of Euclid Ave and Kimball Ave in Chino, CA

Code Status Date Shipped Via Tracking # # of Coolers Prepared By

Pumping Test Data Form

Wildermuth Environmental Inc. Well Name: CCPA 1 Project Number: 007-009-026 Page 2 of 2
 23692 Birchler Drive Lake Forest, California 92630-1790 Date: 5-17-12
 Phone: 949-420-3030 Well Owner/Client: Ernest Contractor: Rest Drilling & Pump

Operator: Ernest WEI Representative: G. Pardo Start Time/Date: 6:15 AM End Time/Date: _____
 Work Type: Development/Step/Constant/Zone/Recovery Pump Make: Grundfos #3 Motor Size: 1.0 HP Pump Depth: _____ ft Discharge Line Diameter: _____ in
 Well / Zone Casing Diameter: 4" Screen Interval: _____ ft RP to GS: 5 ft Orifice Diameter: _____ in
 Well Depth / Zone Interval: 140 ft GS to SP: 5 ft Static Water Level: 44 ft

Totalizer @ Start: 920756 gal Totalizer @ Finish: 932710 gal Total Gallons Purged: _____ gal
 Water Quality Sample Collected? Yes / No _____

TIME	(24-hr) Elapsed (min)	Depth to Water (ft-brp)	Drawdown (feet)	Pumping Rate (gpm)	Totalizer x.001 / x100 / x1,000 (ac-ft / gal / ft ³)	Specific Capacity	Sand Content (ppm)	TEMP (°F / °C)	EC (µS)	TDS (ppm)	pH	Turbidity NTU	Comments/Remarks
6:15 AM		44											Static Level
6:30		53.08		31				19.3	4744	3722	6.85		Pump ON
6:40		53.2		31				20.1	4672	3663	6.71		Pumping WL.
6:50		53.25		31				20.5	4669	3660	6.73		Pumping WL.
7:00		53.3		31				21.3	4654	3645	6.73		Pumping WL.
7:10		53.52		31				22.2	4642	3639	6.65		Pumping WL.
7:20		53.3		31				22.4	4619	3617	6.65		Pumping WL.
7:30		53.3		31				22.5	4617	3617	6.61		Pumping WL.
7:40		53.33		31				23.5	4606	3602	6.69		Pumping WL.
7:50		53.32		31				22.7	4608	3608	6.69		Pumping WL.
8:00		53.35		31				22.3	4612	3610	6.64		Pumping WL.
8:10		53.32		31				22.7	4620	3618	6.60		Pumping WL.
8:20		53.32		31				22.5	4626	3624	6.58		Pumping WL.

NOTES: Supps for 15 mins before taking WQ readings Collected sample @ 12:30
Turned pump off @ 12:45

Pumping Test Data Form

Wildermuth Environmental Inc.
 23692 Birchler Drive
 Lake Forest, California 92630-1790
 Phone: 949-420-3030

Well Name: CCPA-1 Project Number: 002-009-026 Date: 5.16.12 Page 1 of 2

Well Owner/Client: Ernest Contractor: Best Drilling & Pump.

WEI Representative: G. Rando Start Time/Date: 12:10 End Time/Date: 16:02

Work Type: Development/Step/Constant/Zone/Recovery Pump Make: Grundfos #6 Motor Size: 1.0 HP Pump Depth: 5 ft
 Discharge Line Diameter: 4 in RP to GS: 5 ft Orifice Diameter: in

Well / Zone Casing Diameter: 4 in Static Water Level: 44.06 ft

Well Depth / Zone Interval: 140 ft Total Gallons Purged: gal

Totalizer @ Start: 913641 gal Totalizer @ Finish: 920756 gal

Water Quality Sample Collected? Yes / No

TIME	Elapsed (min)	Depth to Water (ft-bfp)	Drawdown (feet)	Pumping Rate (gpm)	Totalizer x.001 / x100 / x1,000 (ac-ft / gal / ft ³)	Specific Capacity	Sand Content (ppm)	TEMP (°F / °C)	EC (µS)	TDS (ppm)	pH	Turbidity NTU	Comments/Remarks
12:10		44.06											Static level
12:20		52.72		31				22.8	4602	3606	6.64	5	Pump ON @ 12:10 pm
12:30		52.8		31				22.7	4614	3614	6.58	5	Pumping WL.
12:40		52.91		31				23.1	4635	3630	6.63	5	Pumping WL.
12:50		53.05		31				22.9	4614	3612	6.61	5	Pumping WL.
13:00		53.1		31				22.6	4615	3615	6.68	5	Pumping WL.
13:10		53.15		31				23.8	4634	3628	6.59	5	Pumping WL.
13:20		53.17		31									Pump OFF

NOTES: Purge For 10 mins before Taking WQ Readings

Standard Constant Rate Test Data Intervals: 0-15 mins (1-minute intervals), 15-60 mins (5-minute intervals), 60-180 mins (15 minute intervals), 180-300 mins (30 minute intervals), > 300 mins (1 hour intervals)

Well Development Testing Forms_v2b.xls

WILDERMUTH ENVIRONMENTAL INC.

FIELD CALIBRATION DOCUMENTATION FORM

Meter Type: <i>Nyton 6P Ultramate II</i>	Meter Serial Number: <i>6205911</i>		
Date: <i>5-15-2012</i>	Time: <i>0738</i>	Calibration By: <i>George Rando</i>	
PARAMETER		pH	
Value Type	Temp. Deg. C	Initial Meter Reading	Accepted Meter Reading
Units	Standard Concentration	Standard Concentration	Temp. Deg. C
Temperature (C)			
Standard 1	7.00	7.10	7.00
Standard 2	4.00	4.50	4.00
Standard 3	10.00	10.20	10.00
Calibrated?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
End of Day Values		Meter Reading, pH:	Meter reading, mV:
Notes:			

PARAMETER		DO		ORP/Eh		TURBIDITY	
Value Type	Temp. Deg. C	Initial Meter Reading	Accepted Meter Reading	Standard Concentration	Meter Reading	Standard Concentration	Meter Reading
Units	Standard Concentration	Standard Concentration	Temp. Deg. C	Temp. Deg. C	Temp. Deg. C	Temp. Deg. C	Temp. Deg. C
Temperature (C)							
Standard 1							
Standard 2							
Standard 3							
Calibrated?		Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
End of Day Values							
Notes:							



MWH Laboratories
A Division of MWH Americas, Inc.

CHAIN OF CUSTODY RECORD

MWH LABS USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLES REC'D DAY OF COLLECTION? (check for yes)

SAMPLE TEMP RECEIVED AT: _____ °C (Compliance: 4 ± 2 °C)
 Colton / Sacramento / Scottsdale
 Monrovia _____ °C (Compliance: 4 ± 2 °C)

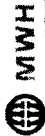
CONDITION OF BLUE ICE: FROZEN _____ PARTIALLY FROZEN _____ THAWED _____ WET ICE _____ NO ICE _____

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

TO BE COMPLETED BY SAMPLER:		COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		SAMPLER COMMENTS
COMPANY/AGENCY NAME:	PROJECT CODE:	- Requires state forms	REGULATION INVOLVED:	(check for yes)		
Wildfire Environmental	CCWF-CCPA-2	ROUTINE	SPECIAL CONFIRMATION	(eg. SDWA, Phase V, NPDES, FDA,...)		
MWH LABS CLIENT CODE:	COC ID:	SEE ATTACHED BOTTLE ORDER FOR ANALYSES (check for yes) OR				
1892	CCWF-CCPA-2	list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)				
TAT requested: rush by adv notice only	STD	1 wk	3 day	2 day	1 day	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	Field Date	Field Date
S-16-4	11:20	CCPA-2		RGW		

* **MATRIX TYPES:** RSW = Raw Surface Water CFW = Chlor(am)inated Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil O = Other - Please Identify
 RGW = Raw Ground Water FW = Other Finished Water WW = Waste Water SW = Storm Water SL = Sludge

SAMPLED BY:	RELINQUISHED BY:	RECEIVED BY:	RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	George Parker	Wildfire Environmental	5-16-12	11:20
					Alfred Kirtle	Wildfire Environmental	5-16-12	11:00
						MWH	5/16/12	11:43



LABORATORIES

A Division of MWH Americas, Inc
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016 (626) 386-1100 FAX (626) 386-1124

Kit Order for Wildermuth Environmental, Inc.

James C. Heid is Your MWH Labs Project Manager

**Sampler: please return
this paper with your samples**

Kit #: 50465

Created By: JCH

Order Date: 05/17/2012

SJG: Bottle Orders

Client ID: WILDERMUTH

Project Code: CCWF Bottle Orders

Group Name: CCWF - CCA-2

PO#/JOB#:

Ship By:
05/07/2012

Ship Sample Kits to
Wildermuth Environmental, Inc.
1920 S. Archibald Street, Suite E
Ontario, 91761

Attn: Ontario Field Office
Phone: 909-923-4342
Fax:

Send Report to

Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Attn: Samantha Adams
Phone: 949 600-7527
Fax: 949 420-4040

Billing Address
Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Attn: Samantha Adams
Phone: 949 600-7527
Fax: 949 420-4040

# of Samples Tests	Bottles - Qty for each sample, type & preservative if any	UN DOT #
2 /	@2378-TCDD_Dioxin	
2 /	@ANIONS28, @ANIONS48, Alkalinity in CaCO3 units, Fluoride, Specific Conductance	
2 /	@COLI10	
2 /	@DBP_28	
2 /	@DIQUAT	
2 /	@EDB-DBC	
2 /	@ICP @ICPMS, Mercury, @ICPMS, Uranium by ICPMS as pCi/L, Boron	UN2031
2 /	@ML505	
2 /	@ML515.4	
2 /	@ML525	UN1789
2 /	@ML531.2	
2 /	@RA226 GA, @RA228 GA	UN2031
2 /	@RAD	UN2031
2 /	@TCP-524	UN1789
2 /	@VOASDWA	UN1789
2 /	@VOA-TBA	UN1789
2 /	Apparent Color, Odor at 60 C (TON), Turbidity	
2 /	Asbestos by TEM - >10 microns	
2 /	CLO41PPB	
2 /	Cyanide	
2 /	Endothall	
2 /	Glyphosate	

Code	Status	Date Shipped	Via	Tracking #	# of Coolers	Prepared By

# of Samples Tests	Bottles - Qty for each sample, type & preservative if any	UN DOT #
2 (Hexavalent Chromium (Dissolved)	1 125ml poly 1ml NH4SO4/NH4OH buffer	UN1824
2 (Orthophosphate as P, Orthophosphate as PO4	1 125ml poly OPO4_no preservative	
2 (Strontium ICAP	1 250ml acid rinsed 1ml HNO3 (18%)	UN2031
2 (Surfactants	1 500ml poly no preservative	
2 (Total Dissolved Solid (TDS)	1 500ml poly TDS - no preservative	
2 (Total phosphorus as P	1 250ml poly 0.5ml H2SO4 (50%)	UN1830

Comments

2 Sets for T22 plus additional tests
 Deliver to site Wednesday, May 16, at 10:00 am. Wait at site for sample collection, then return to lab with 1 set of samples.
 George Pardo, 714-720-6563 East of the intersection of Euclid Ave and Kimball Ave in Chino, CA

Code Status Date Shipped Via Tracking # # of Coolers Prepared By

Pumping Test Data Form

Wildermuth Environmental Inc. 23692 Birchler Drive Lake Forest, California 92630-1790 Phone: 949-420-3030
 Well Name: CCPA Date: 5-15-12 Project Number: _____ Page 1 of 2
 Well Owner/Client: Ernest WEI Representative: George Renda Contractor: Best Drilling Pump

Operator: Ernest Start Time/Date: 0755 5/15/12 End Time/Date: 1600
 Work Type: Development/Step/Constant/Zone/Recovery Pump Make: Grundfos #B Motor Size: 1.0 HP Pump Depth: _____ ft Discharge Line Diameter: _____ in
 Well / Zone Casing Diameter: 6.25 in Screen Interval: _____ ft RP to GS: 5 ft Static Water Level: 57.8 ft Orifice Diameter: _____ in
 Well Depth / Zone Interval: 610 ft GS to SP: 5 ft
 Totalizer @ Start: 88698 gal Totalizer @ Finish: 90361 gal Total Gallons Purged: _____ gal Water Quality Sample Collected? Yes/No (No)

TIME	Elapsed (min)	Depth to Water (ft-brp)	Drawdown (feet)	Pumping Rate (gpm)	Totalizer x.001 / x100 / x1,000 (ac-ft / gal / ft ³)	Specific Capacity	Sand Content (ppm)	TEMP (°F / °C)	EC (µS)	TDS (ppm)	pH	Turbidity NTU	Comments/Remarks
0749		57.80											Static WL.
0755													Pump start
0815		62.15		34				21.4	1529	1086	6.78	6	Pumping WL.
0820		62.29		34				21.3	1493	1059	6.99	6	Pumping WL.
0845		62.29		34				20.7	1507	1070	6.97	6	Pumping WL.
0900		62.31		34				20.6	1508	1070	6.99	5	Pumping WL.
1000		62.51		34				20.9	1513	1075	7.09	5	Pumping WL.
1100		62.65		34				21.2	1517	1077	7.03	4	Pumping WL.
1200		62.67		34				21.5	1517	1078	7.01	5	Pumping WL.
1300		62.88		34				22.2	1520	1081	7.03	6	Pumping WL.
1400		62.88		34				22.3	1526	1087	6.99	4	Pumping WL.
1500		63.0		34				22.2	1522	1084	7.01	5	Pumping WL.
1600		63.0		34				23.2	1526	1084	7.03	5	Pumping WL.

NOTES: Purged for about 20 min. before taking Pumping WL. and WA. Readings

Pumping Test Data Form

Wildermuth Environmental Inc. Well Name: CCPAR Date: 5-16-12 Project Number: _____ Page 2 of 2
 23692 Birchler Drive Well Owner/Client: _____ Contractor: Pest Drilling & Pump
 Lake Forest, California 92630-1790 Phone: 949-420-3030
 Operator: Ernest WEI Representative: _____ Start Time/Date: 0630 End Time/Date: _____
 Work Type: Development/Step/Constant/Zone/Recovery Pump Make: _____ Motor Size: _____ Pump Depth: _____ ft Discharge Line Diameter: _____ in
 Well / Zone Casing Diameter: 4" in Screen Interval: _____ ft RP to GS: 5 ft Orifice Diameter: _____ in
 Well Depth / Zone Interval: 610 ft GS to SP: 5 ft Static Water Level: 5795 ft

Totalizer @ Start: 903641 gal Totalizer @ Finish: 913641 gal Total Gallons Purged: _____ gal Water Quality Sample Collected? Yes / No
 TIME

(24-hr)	Elapsed (min)	Depth to Water (ft-brp)	Drawdown (feet)	Pumping Rate (gpm)	Totalizer x 0.01 / x 100 / x 1,000 (ac-ft / gal / ft ³)	Specific Capacity	Sand Content (ppm)	TEMP (°F / °C)	EC (µS)	TDS (ppm)	pH	Turbidity NTU	Comments/Remarks
0625		57.85											Static Level
0630													Pump Start
0645		62.3		35				19.2	1539	1093	7.14	5	Pumping WL.
0700		62.32		34				19.4	1537	1093	7.02	5	Pumping WL.
0800		62.5		34				19.3	1538	1094	6.98	4	Pumping WL.
0900		62.70		34				20.7	1535	1091	6.91	4	Pumping WL.
0915		62.73		34				20.9	1532	1089	6.90	4	Pumping WL.
0930		62.75		34				21.1	1531	1087	6.91	4	Pumping WL.
0945		62.77		34				21.3	1528	1086	6.90	4	Pumping WL.
1000		62.80		34				21.3	1528	1084	6.87	4	Pumping WL.
1015		62.81		34				21.4	1520	1086	6.89	4	Pumping WL.
1030		62.95		34				21.8	1528	1086	6.91	4	Pumping WL.
1045		63		34				22.4	1522	1084	6.92	4	Pumping WL.
1100		63.04		34				22.1	1524	1082	6.91	4	Pumping WL.
1115		63.06		34				1525	1083	1083	6.90	4	Pumping WL.
													Turn Pump OFF @

11:20 am

NOTES: Purge For 15 mins before Taking WQ Readings

Standard Constant Rate Test Data Intervals: 0-15 mins (1-minute intervals), 15-60 mins (5-minute intervals), 60-180 mins (15 minute intervals), 180-300 mins (30 minute intervals), > 300 mins (1 hour intervals)

Appendix G

Groundwater Quality Data



MWH

LABORATORIES

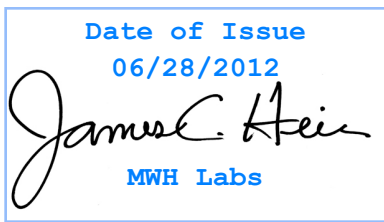
A Division of MWH Americas, Inc.

750 Royal Oaks Dr., Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630-1790
Attention: Samantha Adams
Fax: 949 420-4040



01114CA

Report: 397098
Project: CCWF
Group: CCWF

JCH: James.C.Hein
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

**MWH****LABORATORIES****STATE CERTIFICATION LIST**

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
Alaska	CA00006	Montana	Cert 0035
Arizona	AZ0455	Nevada	CA00006-2010-1
Arkansas	Certified	New Hampshire	2959-11
California – NELAP	01114CA	New Jersey	CA 008
California – ELAP	1422	New Mexico	Certified
Colorado	Certified	New York	11320
Connecticut	PH-0107	North Carolina	06701
Delaware	CA 006	North Dakota	R-009
Florida	E871024	Oregon	CA 200003-009
Georgia	947	Pennsylvania	68-565
Guam	11-004r	Rhode Island	01114CA
Hawaii	Certified	South Carolina	87016001
Idaho	Certified	South Dakota	Certified
Illinois	200033	Tennessee	TN02839
Indiana	C-CA-01	Texas	T104704230-11-2
Kansas	E-10268	Utah	Mont-1
Kentucky	90107	Vermont	VT0114
Louisiana	LA110022	Virginia	00210
Maine	CA0006	Washington	C383
Maryland	224	West Virginia	9943 C
Commonwealth of Northern Marianas Is.	MP0004	Wisconsin	998316660
Massachusetts	M-CA006	Wyoming	8TMS-L
Michigan	9906	EPA Region 5	Certified

Acknowledgement of Samples Received

Addr: **Wildermuth Environmental, Inc.**
 23692 Birtcher Drive
 Lake Forest, CA 92630-1790

Attn: Samantha Adams
 Phone: 949 600-7527

Client ID: WILDERMUTH
 Folder #: 397098
 Project: CCWF
 Sample Group: CCWF
 Project Manager: James.C.Hein
 Phone: (626) 386-1189
 COC #: 1891

The following samples were received from you on **May 17, 2012**. 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 MWH Laboratories.

Sample #	Sample ID	Sample Date
201205180033	CCPA-1	05/17/2012 1230
	@ANIONS28	@ANIONS48
	@ICPMS	@ICP
	Anion Sum - Calculated	Agressiveness Index-Calculated
	Carbonate as CO3, Calculated	Bicarb.Alkalinity as HCO3,calc
	Fluoride	Cation Sum - Calculated
	Langlier Index at 60 degrees C	Hydroxide as OH, Calculated
	pH of CaCO3 saturation(25C)	Mercury
	Surfactants	pH of CaCO3 saturation(60C)
	Apparent Color	Total Dissolved Solid (TDS)
	@ICPMS	Odor at 60 C (TON)
	@ACOPEDD	Uranium by ICPMS as pCi/L
	@DBP_28	@DIQUAT
	@ML505	@ML515.4
	@ML531.2	@RA226 GA
	@TCP-524	@VOASDWA
	Boron Total ICAP	CLO41PPB
	Endothall	Glyphosate
	Orthophosphate as P (OPO4)	Orthophosphate as PO4
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Test Description

- @ANIONS28 -- Chloride, Sulfate by EPA 300.0
- @ANIONS48 -- Nitrate, Nitrite by EPA 300.0
- @ICP -- ICP Metals
- @ICPMS -- ICPMS Metals
- @ICPMS -- ICPMS Metals
- @2378-TCDD_Dioxin -- 2,3,7,8-TCDD_Dioxin
- @ACOPEDD -- Gross Alpha by Co-precipitation (Sub)
- @BETAEDD -- Gross Beta (Sub)
- @COLI10-18HR -- Total & Fecal Coliform, 18 Hours
- @DBP_28 -- Disinfection ByProducts by 300.0
- @DIQUAT -- Diquat and Paraquat
- @EDB-DBC -- EPA Method 504.1



Acknowledgement of Samples Received

Addr: **Wildermuth Environmental, Inc.**
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Attn: Samantha Adams
Phone: 949 600-7527

Client ID: WILDERMUTH
Folder #: 397098
Project: CCWF
Sample Group: CCWF
Project Manager: James.C.Hein
Phone: (626) 386-1189
COC #: 1891

The following samples were received from you on **May 17, 2012**. 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 MWH Laboratories.

Sample #	Sample ID	Sample Date
	@ML505 -- Organochlorine Pesticides/PCBs	
	@ML515.4 -- Chlorophenoxy Herbicides	
	@ML525 -- Semivolatiles by GCMS	
	@ML531.2 -- Aldicarbs	
	@RA226 GA -- Radium 226	
	@RA228 GA -- Radium 228	
	@TCP-524 -- 1,2,3-Trichloropropane (SIM)	
	@VOASDWA -- Volatile Organics by GCMS	
	@VOA-TBA -- TBA by EPA 524.2 Modified	



MWH Laboratories
A Division of MWH Americas, Inc.

CHAIN OF CUSTODY RECORD

MWH LABS USE ONLY:
LOGIN COMMENTS: _____

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

SAMPLES CHECKED AGAINST COC BY: JS 397098

SAMPLES LOGGED IN BY: JS

SAMPLES REC'D DAY OF COLLECTION? (check for yes)

SAMPLE TEMP RECEIVED AT:
 Colton / Sacramento / Scottsdale °C (Compliance: 4 ± 2 °C)
 Monrovia 15.6 °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: FROZEN PARTIALLY FROZEN THAWED WET ICE NO ICE

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

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Wilden muth Environmental

PROJECT CODE: eBWA/CCWF

MWH LABS CLIENT CODE: 1891

COC ID: 1891

SAMPLE GROUP: CCWF-A1

TAT requested: rush by adv notice only STD ___ 1 wk ___ 3 day ___ 2 day ___ 1 day ___

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	Field Data	Field Data
5-17-12	13:00	CCPA-1		RGW		

COMPLIANCE SAMPLES (check for yes)
 - Requires state forms

NON-COMPLIANCE SAMPLES (check for yes)
 REGULATION INVOLVED: (eg. SDWA, Phase V, NPDES, FDA...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

SEE ATTACHED BOTTLE ORDER FOR ANALYSES (check for yes), OR list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

18 HR

SAMPLER COMMENTS: Asbestos sample rec'd empty. mv 5-17-12

4M 05/17/12
16:52

* MATRIX TYPES: RSW = Raw Surface Water BW = Bottled Water SO = Soil O = Other - Please Identify
 RGW = Raw Ground Water WW = Waste Water SW = Storm Water SL = Sludge

SAMPLED BY: [Signature] SIGNATURE COMPANY/TITLE DATE TIME

RELINQUISHED BY: George Pardo Wilden-muth Environmental 5-17-12 13:00

RECEIVED BY: [Signature] MWH 5-17-12 3:02

RELINQUISHED BY: [Signature] MWH 5-17-12

RECEIVED BY: [Signature] MWH 5-17-12 16:48

Kit Order for Wildermuth Environmental, Inc.

James C. Hein is Your MWH Labs Project Manager

Sampler: please return this paper with your samples

Kit #: 50465

Client ID: WILDERMUTH

Created By: JCH

Project Code: CCWF Bottle Orders

Order Date: 05/17/2012

Group Name: CCWF - A
PO#/JOB#:

STJG: Bottle Orders

Ship By:
05/07/2012

Ship Sample Kits to
Wildermuth Environmental, Inc.
1920 S. Archibald Street, Suite E
Ontario, 91761

Attr: Ontario Field Office
Phone: 909-923-4342
Fax:

Send Report to
Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Attr: Samantha Adams
Phone: 949 600-7527
Fax: 949 420-4040

Billing Address
Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Attr: Samantha Adams
Phone: 949 600-7527
Fax: 949 420-4040

# of Samples	Tests	Bottles - Qty for each sample, type & preservative if any	UN DOT #
2	1 @2378-TCDD_Dioxin	2 1L amber glass D1613_NO_PRESERVATIVE	
2	1 @ANIONS28, @ANIONS48, Alkalinity in CaCO3 units, Fluoride, Specific Conductance	1 125ml poly no preservative	
2	1 @COLI10	1 100ml poly sterilized 0.25ml thio (8%)	
2	1 @DBP_28	1 60mL poly 0.6mL 1% EDA solution	
2	1 @DIQUAT	1 1L amber poly no preservative	
2	1 @EDB-DBC	3 40ml amber glass vial no preservative	
2	1 @ICP, @ICPMS, Mercury, @ICPMS, Uranium by ICPMS as pCi/L, Boron	1 500ml acid poly 2ml HNO3 (18%)	UN2031
2	1 @ML505 Total ICAP	4 40ml amber glass vial 1 drop thio (8%)	
2	1 @ML515.4	2 125ml amber glass 7mg SULFITE xls	
2	1 @ML525	2 1L amber glass 2ml of 6N HCl	UN1789
2	1 @ML531.2	2 40ml amber glass vial 0.38g KHCitrate+1drop 8% thio	
2	1 @RA226 GA, @RA228 GA	3 1L poly 4ml HNO3 (18%)	UN2031
2	1 @RAD	1 500ml poly 2ml 18%HNO3+125ml poly/no pres	UN2031
2	1 @TCP-524	3 40ml amber glass vial TCP - 4drops of 1:1 HCL	UN1789
2	1 @VOASDWA	3 40ml amber glass vial 4drops 6N HCL (36%)	UN1789
2	1 @VOA-TBA	4 40ml amber glass vial 4drops of 1:1 HCL	UN1789
2	1 Apparent Color, Odor at 60 C (TON), Turbidity	1 1L amber glass ODOR_no preservative	
2	1 Asbestos by TEM - >10 microns	1 1L poly sonicated no preservative	
2	1 CLO41PPB	1 125ml poly CLO4 - no preservative	
2	1 Cyanide	1 250 ml poly 2 ml NaOH (30%)+6 scoops AA	
2	1 Endothall	1 250ml amber glass no preservative	
2	1 Glyphosate	1 125ml amber glass no preservative	

Code	Status	Date Shipped	Via	Tracking #	# of Coolers	Prepared By

# of Samples Tests	Bottles - Qty for each sample, type & preservative if any	UN DOT #
2 (Hexavalent Chromium (Dissolved)	1 125ml poly 1ml NH4SO4/NH4OH buffer	UN1824
2 (Orthophosphate as P, Orthophosphate as PO4	1 125ml poly OPO4_no preservative	
2 (Strontium ICAP	1 250ml acid rinsed 1ml HNO3 (18%)	UN2031
2 (Surfactants	1 500ml poly no preservative	
2 (Total Dissolved Solid (TDS)	1 500ml.poly-TDS - no preservative	
2 (Total phosphorus as P	1 250ml poly 0.5ml H2SO4 (50%)	UN1830

Comments

2 Sets for T22 plus additional tests
 Deliver to site Wednesday, May 16, at 10:00 am. Wait at site for sample collection, then return to lab with 1 set of samples.
 George Pardo, 714-720-6563. East of the intersection of Euclid Ave and Kimball Ave in Chino, CA

Code Status Date Shipped Via Tracking # # of Coolers Prepared By



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1 800 566 LABS (1 800 566 5227)

Laboratory Hits
Report: 397098

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/17/2012

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	201205180033	<u>CCPA-1</u>				
05/18/2012 14:55	24 Hour Total Coliform Confm		3.0		PositiveTube	
06/20/2012 09:41	Agressiveness Index-Calculated		13		None	0.1
05/30/2012 22:32	Alkalinity in CaCO3 units		310		mg/L	2
05/31/2012 12:12	Anion Sum - Calculated		56		meq/L	0.001
05/18/2012 21:13	Arsenic Total ICAP/MS		2.8	10	ug/L	1
05/18/2012 21:13	Barium Total ICAP/MS		100	2000	ug/L	2
06/20/2012 09:41	Bicarb.Alkalinity as HCO3calc		380		mg/L	2
05/23/2012 2:29	Boron Total ICAP		0.10		mg/L	0.05
06/07/2012 20:55	Bromide		1300		ug/L	50
05/23/2012 21:49	Calcium Total ICAP		750		mg/L	5
05/23/2012 15:08	Cation Sum - Calculated		53		meq/L	0.001
05/18/2012 02:23	Chloride		390	250	mg/L	25
05/18/2012 21:13	Chromium Total ICAP/MS		6.4	100	ug/L	1
05/18/2012 21:13	Copper Total ICAP/MS		2.1	1300	ug/L	2
05/18/2012 22:56	Fluoride		0.057	4	mg/L	0.05
05/30/2012 19:48	Gross Alpha by Coprecipitation		13.4	15	pCi/L	1
05/18/2012 13:22	Hexavalent chromium(Dissolved)		3.6		ug/L	0.02
06/26/2012 02:10	Langelier Index - 25 degree		1.5		None	
06/20/2012 09:41	Langelier Index at 60 degrees C		1.9		None	
05/23/2012 2:29	Magnesium Total ICAP		130		mg/L	0.1
05/18/2012 21:13	Manganese Total ICAP/MS		22	50	ug/L	2
05/18/2012 21:13	Nickel Total ICAP/MS		11		ug/L	5
05/18/2012 02:23	Nitrate as Nitrogen by IC		310	10	mg/L	0.33
05/18/2012 02:23	Nitrate as NO3 (calc)		1400	45	mg/L	1.4
05/18/2012 08:28	Odor at 60 C (TON)		2.0	3	TON	1
06/19/2012 18:47	PH (H3=past HT not compliant)		7.5		Units	0.1
06/26/2012 02:10	pH of CaCO3 saturation(25C)		6.0		Units	0.1
06/20/2012 09:40	pH of CaCO3 saturation(60C)		5.6		Units	0.1
05/23/2012 2:29	Potassium Total ICAP		7.5		mg/L	1
06/16/2012 21:03	Radium 228		1.2		pCi/L	1
05/18/2012 21:13	Selenium Total ICAP/MS		23	50	ug/L	5
05/23/2012 2:29	Sodium Total ICAP		130		mg/L	1
05/30/2012 22:32	Specific Conductance, 25 C		4500		umho/cm	2
05/23/2012 2:29	Strontium ICAP		4.8		mg/L	0.01
05/18/2012 02:23	Sulfate		800	250	mg/L	13
05/17/2012 16:31	Surfactants		0.41	0.5	mg/L	0.05

SUMMARY OF POSITIVE DATA ONLY



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Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Laboratory Hits
Report: 397098

Samples Received on:
05/17/2012

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
05/18/2012 14:55	Total Coliform Bacteria		3.6		MPN/100 mL	1.1
05/18/2012 14:55	Total Coliform Bacteria (P/A)		P		P=Pres/A=Abs	
05/24/2012 15:52	Total Dissolved Solids (TDS)		4400	500	mg/L	10
05/23/2012 15:08	Total Hardness as CaCO3 by ICP (calc)		2400		mg/L	3
05/18/2012 02:23	Total Nitrate, Nitrite-N, CALC		310		mg/L	0.1
05/18/2012 18:04	Turbidity		0.12	5	NTU	0.05
05/21/2012 11:39	Uranium by ICPMS as pCi/L		17		pCi/L	0.7
05/18/2012 21:13	Uranium ICAP/MS		26	30	ug/L	1



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Laboratory Data
Report: 397098

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/17/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
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CCPA-1 (201205180033)

Sampled on 05/17/2012 1230

SM 7110C - Gross Alpha by Co-precipitation (Sub)

05/30/2012	19:48		(SM 7110C)	Alpha, Min Detectable Activity	1.01	pCi/L		1
05/30/2012	19:48		(SM 7110C)	Alpha, Two Sigma Error	1.7	pCi/L		1
05/30/2012	19:48		(SM 7110C)	Gross Alpha by Coprecipitation	13.4	pCi/L	1	1

EPA 900.0 - Gross Beta (Sub)

05/29/2012	20:27		(EPA 900.0)	Gross Beta (Subbed)	ND	pCi/L	16	1
05/29/2012	20:27		(EPA 900.0)	Gross Beta, Min Detectable Activity	16.2	pCi/L		1
05/29/2012	20:27		(EPA 900.0)	Gross Beta, Two Sigma Error	9.71	pCi/L		1

EPA 200.8 - ICPMS Metals

5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Aluminum Total ICAP/MS	ND	ug/L	20	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Antimony Total ICAP/MS	ND	ug/L	1	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Arsenic Total ICAP/MS	2.8	ug/L	1	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Barium Total ICAP/MS	100	ug/L	2	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Beryllium Total ICAP/MS	ND	ug/L	1	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Cadmium Total ICAP/MS	ND	ug/L	0.5	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Chromium Total ICAP/MS	6.4	ug/L	1	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Copper Total ICAP/MS	2.1	ug/L	2	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Lead Total ICAP/MS	ND	ug/L	0.5	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Manganese Total ICAP/MS	22	ug/L	2	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Nickel Total ICAP/MS	11	ug/L	5	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Selenium Total ICAP/MS	23	ug/L	5	1
5/18/2012	05/26/2012	15:31	655378	(EPA 200.8)	Silver Total ICAP/MS	ND	ug/L	0.5	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Thallium Total ICAP/MS	ND	ug/L	1	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Uranium ICAP/MS	26	ug/L	1	1
5/18/2012	05/18/2012	21:13	654282	(EPA 200.8)	Zinc Total ICAP/MS	ND	ug/L	20	1

EPA 200.7 - ICP Metals

5/18/2012	05/23/2012	2:29	654632	(EPA 200.7)	Boron Total ICAP	0.10	mg/L	0.05	1
5/18/2012	05/23/2012	21:49	654863	(EPA 200.7)	Calcium Total ICAP	750	mg/L	5	5
5/18/2012	05/23/2012	2:29	654632	(EPA 200.7)	Iron Total ICAP	ND	mg/L	0.02	1
5/18/2012	05/23/2012	2:29	654632	(EPA 200.7)	Magnesium Total ICAP	130	mg/L	0.1	1
5/18/2012	05/23/2012	2:29	654632	(EPA 200.7)	Potassium Total ICAP	7.5	mg/L	1	1
5/18/2012	05/23/2012	2:29	654632	(EPA 200.7)	Sodium Total ICAP	130	mg/L	1	1
5/18/2012	05/23/2012	2:29	654632	(EPA 200.7)	Strontium ICAP	4.8	mg/L	0.01	1

EPA 245.1 - Mercury Total

5/23/2012	05/24/2012	20:38	655183	(EPA 245.1)	Mercury	ND	ug/L	0.2	1
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SM 9223 - Total & Fecal Coliform, 18 Hours

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



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Laboratory Data
 Report: 397098

Wildermuth Environmental, Inc.
 Samantha Adams
 23692 Birtcher Drive
 Lake Forest, CA 92630-1790

Samples Received on:
 05/17/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
5/17/2012	05/18/2012	14:55 654127	(SM 9223)	24 Hour E. Coli Confirmed	ND	PositiveTube		1
5/17/2012	05/18/2012	14:55 654127	(SM 9223)	24 Hour Total Coliform Confm	3.0	PositiveTube		1
5/17/2012	05/18/2012	14:55 654127	(SM 9223)	E. Coli Bacteria (P/A)	A	P=Pres/A=Abs		1
5/17/2012	05/18/2012	14:55 654127	(SM 9223)	Total Coliform Bacteria (P/A)	P	P=Pres/A=Abs		1
5/17/2012	05/18/2012	14:55 654127	(SM 9223)	E. Coli Bacteria	<1.1	MPN/100 mL	1.1	1
5/17/2012	05/18/2012	14:55 654127	(SM 9223)	Total Coliform Bacteria	3.6	MPN/100 mL	1.1	1
SM2330B - Hydroxide as OH, Calculated								
	06/20/2012	09:40	(SM2330B)	Hydroxide as OH Calculated	ND	mg/L	2	1
SM 2330B - pH of CaCO3 saturation(60C)								
	06/20/2012	09:40	(SM 2330B)	pH of CaCO3 saturation(60C)	5.6	Units	0.1	1
EPA 200.8 - Uranium by ICPMS as pCi/L								
	05/21/2012	11:39	(EPA 200.8)	Uranium by ICPMS as pCi/L	17	pCi/L	0.7	1
SM4500-CO2-D - Carbon Dioxide,Free(25C)-Calc.								
	06/01/2012	01:04	(SM4500-CO2-D)	Carbon Dioxide,Free(25C)-Calc.	ND	mg/L	2	1
S4500PE/ 365.1 - Total phosphorus as PO4- Calc.								
	05/23/2012	17:21	(S4500PE/ 365.1)	Total phosphorus as PO4- Calc.	ND	mg/L	0.031	1
SM 2330B - Langelier Index - 25 degree								
	06/26/2012	02:10	(SM 2330B)	Langelier Index - 25 degree	1.5	None		1
SM2330B - Carbonate as CO3, Calculated								
	06/26/2012	02:10	(SM2330B)	Carbonate as CO3, Calculated	ND	mg/L	2	1
SM 2340B - Total Hardness as CaCO3 by ICP								
	05/23/2012	15:08	(SM 2340B)	Total Hardness as CaCO3 by ICP (calc)	2400	mg/L	3	1
SM 1030E - Anion Sum - Calculated								
	05/31/2012	12:12	(SM 1030E)	Anion Sum - Calculated	56	meq/L	0.001	1
SM 1030E - Cation Sum - Calculated								
	05/23/2012	15:08	(SM 1030E)	Cation Sum - Calculated	53	meq/L	0.001	1
SM 2330B - pH of CaCO3 saturation(25C)								
	06/26/2012	02:10	(SM 2330B)	pH of CaCO3 saturation(25C)	6.0	Units	0.1	1
4500P-E/365.1 - Orthophosphate as PO4 (CAL)								
	05/19/2012	15:28	(4500P-E/365.1)	Orthophosphate as PO4	ND	mg/L	0.031	1
SM2330B - Bicarb.Alkalinity as HCO3,calc								
	06/20/2012	09:41	(SM2330B)	Bicarb.Alkalinity as HCO3calc	380	mg/L	2	1
SM 2330 - Aggressiveness Index-Calculated								
	06/20/2012	09:41	(SM 2330)	Aggressiveness Index-Calculated	13	None	0.1	1
SM 2330B - Langlier Index at 60 degrees C								
	06/20/2012	09:41	(SM 2330B)	Langlier Index at 60 degrees C	1.9	None		1
SM 1030E - Cation/Anion Difference								
	06/26/2012	02:10	(SM 1030E)	Cation/Anion Difference	2.4	%		1

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Laboratory Data
Report: 397098

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/17/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
EPA 505 - Organochlorine Pesticides/PCBs								
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Alachlor (Alanex)	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Aldrin	ND	ug/L	0.01 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Chlordane	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Dieldrin	ND	ug/L	0.01 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Endrin	ND	ug/L	0.01 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Heptachlor	ND	ug/L	0.01 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Heptachlor Epoxide	ND	ug/L	0.01 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Lindane (gamma-BHC)	ND	ug/L	0.01 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Methoxychlor	ND	ug/L	0.05 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	PCB 1016 Aroclor	ND	ug/L	0.08 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	PCB 1221 Aroclor	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	PCB 1232 Aroclor	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	PCB 1242 Aroclor	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	PCB 1248 Aroclor	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	PCB 1254 Aroclor	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	PCB 1260 Aroclor	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Total PCBs	ND	ug/L	0.1 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Toxaphene	ND	ug/L	0.5 1
5/22/2012	05/22/2012	23:35	654774	(EPA 505)	Tetrachlorometaxylene	104	%	1
EPA 515.4 - Chlorophenoxy Herbicides								
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	2,4,5-T	ND	ug/L	0.2 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	2,4,5-TP (Silvex)	ND	ug/L	0.2 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	2,4-D	ND	ug/L	0.1 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	2,4-DB	ND	ug/L	2 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	3,5-Dichlorobenzoic acid	ND	ug/L	0.5 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Acifluorfen	ND	ug/L	0.2 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Bentazon	ND	ug/L	0.5 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Dalapon	ND	ug/L	1 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Dicamba	ND	ug/L	0.1 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Dichlorprop	ND	ug/L	0.5 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Dinoseb	ND	ug/L	0.2 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Pentachlorophenol	ND	ug/L	0.04 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Picloram	ND	ug/L	0.1 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	Tot DCPA Mono&Diacid Degradate	ND	ug/L	0.1 1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	2,4-Dichlorophenyl acetic acid	111	%	1
5/23/2012	05/26/2012	02:32	654530	(EPA 515.4)	4,4-Dibromooctafluorobiphenyl	94	%	1

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Laboratory Data
Report: 397098

Wildermuth Environmental, Inc.
Samantha Adams
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Lake Forest, CA 92630-1790

Samples Received on:
05/17/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
EPA 504.1 - EPA Method 504.1								
5/31/2012	05/31/2012	16:31	656164	(EPA 504.1)	Dibromochloropropane (DBCP)	ND	ug/L	0.01 1
5/31/2012	05/31/2012	16:31	656164	(EPA 504.1)	Ethylene Dibromide (EDB)	ND	ug/L	0.01 1
5/31/2012	05/31/2012	16:31	656164	(EPA 504.1)	1,2-Dibromopropane	104	%	1
EPA 525.2 - Semivolatiles by GCMS								
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	2,4-Dinitrotoluene	ND	ug/L	0.1 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Acenaphthylene	ND	ug/L	0.1 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Alachlor	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Aldrin	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	alpha-Chlordane	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Anthracene	ND	ug/L	0.02 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Atrazine	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Benz(a)Anthracene	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Benzo(a)pyrene	ND	ug/L	0.02 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Benzo(b)Fluoranthene	ND	ug/L	0.02 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Benzo(g,h,i)Perylene	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Benzo(k)Fluoranthene	ND	ug/L	0.02 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Bromacil	ND	ug/L	0.2 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Butachlor	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Butylbenzylphthalate	ND	ug/L	0.5 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Caffeine by method 525mod	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Chrysene	ND	ug/L	0.02 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Di-(2-Ethylhexyl)adipate	ND	ug/L	0.6 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Di(2-Ethylhexyl)phthalate	ND	ug/L	0.6 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Diazinon (Qualitative)	ND	ug/L	0.1 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Dibenz(a,h)Anthracene	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Dieldrin	ND	ug/L	0.2 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Diethylphthalate	ND	ug/L	0.5 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Dimethoate	ND	ug/L	0.1 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Dimethylphthalate	ND	ug/L	0.5 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Di-n-Butylphthalate	ND	ug/L	1 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Endrin	ND	ug/L	0.2 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Fluoranthene	ND	ug/L	0.1 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Fluorene	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	gamma-Chlordane	ND	ug/L	0.05 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Heptachlor	ND	ug/L	0.03 1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Heptachlor Epoxide (isomer B)	ND	ug/L	0.05 1

Rounding on totals after summation.
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1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 397098

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/17/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution	
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Hexachlorobenzene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Hexachlorocyclopentadiene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Indeno(1,2,3,c,d)Pyrene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Isophorone	ND	ug/L	0.5	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Lindane	ND	ug/L	0.04	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Methoxychlor	ND	ug/L	0.1	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Metolachlor	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Metribuzin	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Molinate	ND	ug/L	0.1	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Pentachlorophenol	ND	ug/L	1	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Phenanthrene	ND	ug/L	0.04	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Propachlor	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Pyrene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Simazine	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Thiobencarb (ELAP)	ND	ug/L	0.2	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	trans-Nonachlor	ND	ug/L	0.05	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Trifluralin	ND	ug/L	0.1	1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	1,3-Dimethyl-2-nitrobenzene	98	%		1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Acenaphthene-d10	89	%		1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Chrysene-d12	84	%		1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Perylene-d12	88	%		1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Phenanthrene-d10	93	%		1
5/25/2012	05/31/2012	13:54	656179	(EPA 525.2)	Triphenylphosphate	109	%		1
EPA 548.1 - Endothall									
5/21/2012	05/24/2012	11:21	655156	(EPA 548.1)	Endothall	ND	ug/L	20	4
EPA 1613B - 2,3,7,8-TCDD_Dioxin									
5/18/2012	05/25/2012	18:42	655482	(EPA 1613B)	2,3,7,8-TCDD	ND	pg/L	5	1
5/18/2012	05/25/2012	18:42	655482	(EPA 1613B)	C12-2,3,7,8-TCDD	88	%		1
EPA 547 - Glyphosate									
	05/24/2012	16:00	654417	(EPA 547)	Glyphosate	ND	ug/L	6	1
EPA 531.2 - Aldicarb									
	05/30/2012	00:51	655654	(EPA 531.2)	3-Hydroxycarbofuran	ND	ug/L	0.5	1
	05/30/2012	00:51	655654	(EPA 531.2)	Aldicarb (Temik)	ND	ug/L	0.5	1
	05/30/2012	00:51	655654	(EPA 531.2)	Aldicarb sulfone	ND	ug/L	0.5	1
	05/30/2012	00:51	655654	(EPA 531.2)	Aldicarb sulfoxide	ND	ug/L	0.5	1
	05/30/2012	00:51	655654	(EPA 531.2)	Baygon	ND	ug/L	0.5	1
	05/30/2012	00:51	655654	(EPA 531.2)	Carbaryl	ND	ug/L	0.5	1

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Laboratory Data
Report: 397098

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

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05/17/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
	05/30/2012 00:51	655654	(EPA 531.2)	Carbofuran (Furadan)	ND	ug/L	0.5	1
	05/30/2012 00:51	655654	(EPA 531.2)	Methiocarb	ND	ug/L	0.5	1
	05/30/2012 00:51	655654	(EPA 531.2)	Methomyl	ND	ug/L	0.5	1
	05/30/2012 00:51	655654	(EPA 531.2)	Oxamyl (Vydate)	ND	ug/L	0.5	1
	05/30/2012 00:51	655654	(EPA 531.2)	4-Bromo-3,5-dimethylphenyl-N-methylc arbamate	97	%		1
EPA 549.2 - Diquat and Paraquat								
5/22/2012	05/25/2012 13:17	655478	(EPA 549.2)	Diquat	ND	ug/L	0.4	1
5/22/2012	05/25/2012 13:17	655478	(EPA 549.2)	Paraquat	ND	ug/L	2	1
EPA 218.6 - Hexavalent chromium(Dissolved)								
	05/18/2012 13:22	654382	(EPA 218.6)	Hexavalent chromium(Dissolved)	3.6	ug/L	0.02	1
EPA 300.0 - Nitrate, Nitrite by EPA 300.0								
	05/18/2012 02:23	654039	(EPA 300.0)	Nitrate as Nitrogen by IC	310	mg/L	0.33	25
	05/18/2012 02:23	654039	(EPA 300.0)	Nitrate as NO3 (calc)	1400	mg/L	1.4	25
	05/18/2012 02:23	654039	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.33	25
	05/18/2012 02:23	654039	(EPA 300.0)	Total Nitrate, Nitrite-N, CALC	310	mg/L	0.1	1
EPA 300.0 - Disinfection ByProducts by 300.0								
	06/07/2012 20:55	657216	(EPA 300.0)	Bromide	1300	ug/L	50	10
	06/07/2012 20:55	657216	(EPA 300.0)	Chlorate by IC	ND (D1)	ug/L	100	10
EPA 300.0 - Chloride, Sulfate by EPA 300.0								
	05/18/2012 02:23	654077	(EPA 300.0)	Chloride	390	mg/L	25	25
	05/18/2012 02:23	654077	(EPA 300.0)	Sulfate	800	mg/L	13	25
EPA 314.0 - Perchlorate with 0.5 ppb DL								
	05/22/2012 13:43	655051	(EPA 314.0)	Perchlorate	ND	ug/L	2.5	5
Ra-226 GA - Radium 226								
5/23/2012	06/16/2012 21:03	654842	(Ra-226 GA)	Radium 226	ND (L1)	pCi/L	1	1
5/23/2012	06/16/2012 21:03	654842	(Ra-226 GA)	Radium 226 Min Detect Activity	0.31	pCi/L		1
5/23/2012	06/16/2012 21:03	654842	(Ra-226 GA)	Radium 226 Two Sigma Error	0.12	pCi/L		1
RA-228 GA - Radium 228								
5/23/2012	06/16/2012 21:03	654839	(RA-228 GA)	Radium 228	1.2	pCi/L	1	1
5/23/2012	06/16/2012 21:03	654839	(RA-228 GA)	Radium 228 Min Detect Activity	0.51	pCi/L		1
5/23/2012	06/16/2012 21:03	654839	(RA-228 GA)	Radium 228 Two Sigma Error	0.28	pCi/L		1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/23/2012 10:50	654374	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.02	1
EPA 524.2 - Volatile Organics by GCMS								
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,1,1-Trichloroethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	1

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**Laboratory Data
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Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/17/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,1,2-Trichloroethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,1-Dichloroethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,1-Dichloroethylene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,1-Dichloropropene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,2,3-Trichlorobenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,2,3-Trichloropropane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,2,4-Trichlorobenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,2,4-Trimethylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,2-Dichloroethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,2-Dichloropropane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,3,5-Trimethylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	1,3-Dichloropropane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	2,2-Dichloropropane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	2-Butanone (MEK)	ND	ug/L	5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Benzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Bromobenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Bromochloromethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Bromodichloromethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Bromoethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Bromoform	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Bromomethane (Methyl Bromide)	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Carbon disulfide	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Carbon Tetrachloride	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Chlorobenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Chlorodibromomethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Chloroethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Chloroform (Trichloromethane)	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Chloromethane(Methyl Chloride)	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	cis-1,2-Dichloroethylene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	cis-1,3-Dichloropropene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Dibromomethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Dichlorodifluoromethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Dichloromethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Di-isopropyl ether	ND	ug/L	3	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Ethyl benzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012 22:37	655442	(EPA 524.2)	Hexachlorobutadiene	ND	ug/L	0.5	1

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Samantha Adams
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Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution	
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Isopropylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	m,p-Xylenes	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Naphthalene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	n-Butylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	n-Propylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	o-Chlorotoluene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	o-Xylene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	p-Chlorotoluene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	p-Isopropyltoluene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	sec-Butylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Styrene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	tert-amyl Methyl Ether	ND	ug/L	3	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/L	3	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	tert-Butylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Toluene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Total 1,3-Dichloropropene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Total THM	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Total xylenes	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	trans-1,3-Dichloropropene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Trichloroethylene (TCE)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Trichlorofluoromethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Trichlorotrifluoroethane(Freon 113)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Vinyl chloride (VC)	ND	ug/L	0.3	1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	1,2-Dichloroethane-d4	103	%		1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	4-Bromofluorobenzene	102	%		1
5/24/2012	05/24/2012	22:37	655442	(EPA 524.2)	Toluene-d8	100	%		1
CASRL 524M-TCP - 1,2,3-Trichloropropane (SIM)									
5/25/2012	05/25/2012	22:56	655626	(CASRL 524M-TCP)	1,2,3-Trichloropropane	ND	ug/L	0.005	1
5/25/2012	05/25/2012	22:56	655626	(CASRL 524M-TCP)	Toluene-d8	104	%		1
EPA 524.2 SIM - TBA by EPA 524.2 Modified									
5/30/2012	05/30/2012	14:14	656506	(EPA 524.2 SIM)	t-Butyl Alcohol	ND	ug/L	2	1

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



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Laboratory Data
Report: 397098

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/17/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
5/30/2012	05/30/2012	14:14 656506	(EPA 524.2 SIM)	1,2-Dichloroethane-d4	94	%		1
5/30/2012	05/30/2012	14:14 656506	(EPA 524.2 SIM)	4-Bromofluorobenzene	106	%		1
5/30/2012	05/30/2012	14:14 656506	(EPA 524.2 SIM)	Toluene-d8	98	%		1
SM4500CN-F - Cyanide								
	05/21/2012	20:21 654895	(SM4500CN-F)	Cyanide	ND	mg/L	0.025	1
SM 2150B - Odor at 60 C (TON)								
	05/18/2012	08:28 654266	(SM 2150B)	Odor at 60 C (TON)	2.0	TON	1	1
SM 4500F-C - Fluoride								
	05/18/2012	22:56 654219	(SM 4500F-C)	Fluoride	0.057	mg/L	0.05	1
SM 2320B - Alkalinity in CaCO3 units								
	05/30/2012	22:32 655876	(SM 2320B)	Alkalinity in CaCO3 units	310	mg/L	2	1
E160.1/SM2540C - Total Dissolved Solids (TDS)								
5/24/2012	05/24/2012	15:52 655040	(E160.1/SM2540C)	Total Dissolved Solids (TDS)	4400	mg/L	10	1
SM4500-HB - PH (H3=past HT not compliant)								
	06/19/2012	18:47 659054	(SM4500-HB)	PH (H3=past HT not compliant)	7.5	Units	0.1	1
SM 5540C/EPA 425.1 - Surfactants								
	05/17/2012	16:31 654208	(SM 5540C/EPA 425.1)	Surfactants	0.41	mg/L	0.05	1
EPA 180.1 - Turbidity								
	05/18/2012	18:04 654425	(EPA 180.1)	Turbidity	0.12	NTU	0.05	1
SM2510B - Specific Conductance								
	05/30/2012	22:32 655873	(SM2510B)	Specific Conductance, 25 C	4500	umho/cm	2	1
SM 2120B - Apparent Color								
	05/18/2012	16:14 654370	(SM 2120B)	Apparent Color	ND	ACU	3	1
4500P-E/365.1 - Orthophosphate as P (OPO4)								
	05/17/2012	17:45 654212	(4500P-E/365.1)	Orthophosphate as P	ND	mg/L	0.01	1

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



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Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Laboratory Comments
Report: #397098

Group Comments

Analytical results for Gross Alpha and Beta are submitted by Pace Analytical Services,
Greensburg, PA

Flags Legend:

D1 - Sample required dilution due to matrix.

L1 - The associated blank spike recovery was above laboratory acceptance limits.



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Laboratory
QC Summary: 397098

Wildermuth Environmental, Inc.

QC Ref # 654039 - Nitrate, Nitrite by EPA 300.0

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: CYP

QC Ref # 654077 - Chloride, Sulfate by EPA 300.0

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: CYP

QC Ref # 654127 - Total & Fecal Coliform, 18 Hours

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: JXC2

QC Ref # 654208 - Surfactants

201205180033 CCPA-1

Analysis Date: 05/17/2012

Analyzed by: QMK

QC Ref # 654212 - Orthophosphate as P (OPO4)

201205180033 CCPA-1

Analysis Date: 05/17/2012

Analyzed by: QMK

QC Ref # 654219 - Fluoride

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: QMK

QC Ref # 654266 - Odor at 60 C (TON)

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: NEM

QC Ref # 654282 - ICPMS Metals

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: DTN

QC Ref # 654370 - Apparent Color

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: ADV

QC Ref # 654374 - Total phosphorus as P (T-P)

201205180033 CCPA-1

Analysis Date: 05/23/2012

Analyzed by: KXS

QC Ref # 654382 - Hexavalent chromium(Dissolved)

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: TLH

QC Ref # 654417 - Glyphosate

201205180033 CCPA-1

Analysis Date: 05/24/2012

Analyzed by: SZZ

QC Ref # 654425 - Turbidity

201205180033 CCPA-1

Analysis Date: 05/18/2012

Analyzed by: NEM

QC Ref # 654530 - Chlorophenoxy Herbicides

201205180033 CCPA-1

Analysis Date: 05/26/2012

Analyzed by: SFL

QC Ref # 654632 - ICP Metals

201205180033 CCPA-1

Analysis Date: 05/23/2012

Analyzed by: NINA

QC Ref # 654774 - Organochlorine Pesticides/PCBs

201205180033 CCPA-1

Analysis Date: 05/22/2012

Analyzed by: LRL

QC Ref # 654839 - Radium 228

201205180033 CCPA-1

Analysis Date: 06/16/2012

Analyzed by: WBH

QC Ref # 654842 - Radium 226

Analysis Date: 06/16/2012



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Laboratory
QC Summary: 397098

Wildermuth Environmental, Inc.

(continued)

Table with 3 columns: QC Ref #, Sample ID, and Analysis Date/Analyst. Rows include various QC reference numbers and their corresponding analysis details.



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Laboratory
QC Summary: 397098

Wildermuth Environmental, Inc.

(continued)

QC Ref # 657216 - Disinfection ByProducts by 300.0

201205180033 CCPA-1

Analysis Date: 06/07/2012

Analyzed by: LUPE

QC Ref # 659054 - PH (H3=past HT not compliant)

201205180033 CCPA-1

Analysis Date: 06/19/2012

Analyzed by: SFL



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Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 654039 - Nitrate, Nitrite by EPA 300.0 by EPA 300.0					Analysis Date: 05/17/2012				
LCS1	Nitrate as Nitrogen by IC		2.5	2.62	mg/L	105	(90-110)		
LCS2	Nitrate as Nitrogen by IC		2.5	2.61	mg/L	105	(90-110)	20	0.38
MBLK	Nitrate as Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrate as Nitrogen by IC		0.05	0.0539	mg/L	108	(50-150)		
MRLLW	Nitrate as Nitrogen by IC		0.013	0.0130	mg/L	104	(50-150)		
MS_201205170565	Nitrate as Nitrogen by IC	2.6	1.3	4.05	mg/L	112	(80-120)		
MS_201205180310	Nitrate as Nitrogen by IC	2.8	1.3	9.25	mg/L	103	(80-120)		
MSD_201205170565	Nitrate as Nitrogen by IC	2.6	1.3	4.04	mg/L	111	(80-120)	20	0.25
MSD_201205180310	Nitrate as Nitrogen by IC	2.8	1.3	9.26	mg/L	103	(80-120)	20	0.11
LCS1	Nitrite Nitrogen by IC		1.0	0.967	mg/L	97	(90-110)		
LCS2	Nitrite Nitrogen by IC		1.0	0.966	mg/L	97	(90-110)	20	0.10
MBLK	Nitrite Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrite Nitrogen by IC		0.05	0.0511	mg/L	102	(50-150)		
MRLLW	Nitrite Nitrogen by IC		0.013	0.0122	mg/L	98	(50-150)		
MS_201205170565	Nitrite Nitrogen by IC	ND	0.5	0.457	mg/L	92	(80-120)		
MS_201205180310	Nitrite Nitrogen by IC	ND	0.5	2.31	mg/L	92	(80-120)		
MSD_201205170565	Nitrite Nitrogen by IC	ND	0.5	0.461	mg/L	92	(80-120)	20	0.87
MSD_201205180310	Nitrite Nitrogen by IC	ND	0.5	2.54	mg/L	102	(80-120)	20	9.5
QC Ref# 654077 - Chloride, Sulfate by EPA 300.0 by EPA 300.0					Analysis Date: 05/17/2012				
LCS1	Chloride		25	27.0	mg/L	108	(90-110)		
LCS2	Chloride		25	26.9	mg/L	108	(90-110)	20	0.37
MBLK	Chloride			<0.5	mg/L				
MRL_CHK	Chloride		0.5	0.460	mg/L	92	(50-150)		
MS_201205180310	Chloride	65	13	134	mg/L	110	(80-120)		
MS_201205170565	Chloride	26	13	40.6	mg/L	114	(80-120)		
MSD_201205170565	Chloride	26	13	40.5	mg/L	113	(80-120)	20	0.25
MSD_201205180310	Chloride	65	13	134	mg/L	110	(80-120)	20	0.0
LCS1	Sulfate		50	53.2	mg/L	106	(90-110)		
LCS2	Sulfate		50	53.1	mg/L	106	(90-110)	20	0.19
MBLK	Sulfate			<0.25	mg/L				
MRL_CHK	Sulfate		1.0	1.02	mg/L	102	(50-150)		
MRLLW	Sulfate		0.25	0.214	mg/L	86	(50-150)		
MS_201205180310	Sulfate	110	25	245	mg/L	106	(80-120)		
MS_201205170565	Sulfate	47	25	75.4	mg/L	113	(80-120)		
MSD_201205170565	Sulfate	47	25	75.3	mg/L	113	(80-120)	20	0.13
MSD_201205180310	Sulfate	110	25	245	mg/L	106	(80-120)	20	0.0

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.



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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 654208 - Surfactants by SM 5540C/EPA 425.1						Analysis Date: 05/17/2012			
LCS1	Surfactants		0.2	0.192	mg/L	96	(90-110)		
LCS2	Surfactants		0.2	0.189	mg/L	94	(90-110)	20	1.6
MBLK	Surfactants			<0.05	mg/L				
MRL_CHK	Surfactants		0.05	0.0410	mg/L	82	(50-150)		
MS_201205170067	Surfactants	ND	0.2	0.187	mg/L	93	(80-120)		
MSD_201205170067	Surfactants	ND	0.2	0.185	mg/L	92	(80-120)	20	1.1
QC Ref# 654212 - Orthophosphate as P (OPO4) by 4500P-E/365.1						Analysis Date: 05/17/2012			
LCS1	Orthophosphate as P		0.25	0.267	mg/L	107	(90-110)		
LCS2	Orthophosphate as P		0.25	0.265	mg/L	106	(90-110)	20	0.75
MBLK	Orthophosphate as P			<0.01	mg/L				
MRL_CHK	Orthophosphate as P		0.01	0.0120	mg/L	120	(50-150)		
MS_201205170067	Orthophosphate as P	ND	0.5	0.511	mg/L	102	(90-110)		
MSD_201205170067	Orthophosphate as P	ND	0.5	0.512	mg/L	102	(90-110)	20	0.20
QC Ref# 654219 - Fluoride by SM 4500F-C						Analysis Date: 05/18/2012			
LCS1	Fluoride		1.0	1.06	mg/L	106	(81-116)		
LCS2	Fluoride		1.0	1.06	mg/L	106	(81-116)	20	0.0
MBLK	Fluoride			<0.05	mg/L				
MRL_CHK	Fluoride		0.05	0.0589	mg/L	118	(50-150)		
MS_201205170085	Fluoride	0.24	1.0	1.36	mg/L	112	(73-124)		
MS2_201205170483	Fluoride	0.29	1.0	1.37	mg/L	109	(73-124)		
MSD_201205170085	Fluoride	0.24	1.0	1.35	mg/L	111	(73-124)	20	0.74
MSD2_201205170483	Fluoride	0.29	1.0	1.41	mg/L	113	(-124)	20	2.9
QC Ref# 654266 - Odor at 60 C (TON) by SM 2150B						Analysis Date: 05/18/2012			
DUP1_201205180307	Odor at 60 C (TON)	ND		ND	TON		(0-20)		
DUP2_201205180011	Odor at 60 C (TON)	1.0		1.00	TON		(0-20)	20	0.0
MBLK	Odor at 60 C (TON)			<1	TON				
QC Ref# 654282 - ICPMS Metals by EPA 200.8						Analysis Date: 05/18/2012			
LCS1	Aluminum Total ICAP/MS		200	201	ug/L	101	(85-115)		
LCS2	Aluminum Total ICAP/MS		200	201	ug/L	100	(85-115)	20	0.0
MBLK	Aluminum Total ICAP/MS			<20	ug/L				
MRL_CHK	Aluminum Total ICAP/MS		20	21.0	ug/L	105	(50-150)		
MS_201205180008	Aluminum Total ICAP/MS	ND	200	193	ug/L	94	(70-130)		
MS2_201205180241	Aluminum Total ICAP/MS	ND	200	205	ug/L	101	(70-130)		
MSD_201205180008	Aluminum Total ICAP/MS	ND	200	190	ug/L	92	(70-130)	20	1.6
MSD2_201205180241	Aluminum Total ICAP/MS	ND	200	206	ug/L	102	(70-130)	20	0.49

Spike recovery is already corrected for native results.

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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.



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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Antimony Total ICAP/MS		50	49.0	ug/L	98	(85-115)		
LCS2	Antimony Total ICAP/MS		50	49.6	ug/L	99	(85-115)	20	1.2
MBLK	Antimony Total ICAP/MS			<1	ug/L				
MRL_CHK	Antimony Total ICAP/MS		1.0	1.02	ug/L	102	(50-150)		
MS_201205180008	Antimony Total ICAP/MS	ND	50	48.0	ug/L	96	(70-130)		
MS2_201205180241	Antimony Total ICAP/MS	ND	50	49.7	ug/L	100	(70-130)		
MSD_201205180008	Antimony Total ICAP/MS	ND	50	45.8	ug/L	92	(70-130)	20	4.7
MSD2_201205180241	Antimony Total ICAP/MS	ND	50	51.1	ug/L	102	(70-130)	20	2.8
LCS1	Arsenic Total ICAP/MS		20	19.6	ug/L	98	(85-115)		
LCS2	Arsenic Total ICAP/MS		20	19.5	ug/L	97	(85-115)	20	0.51
MBLK	Arsenic Total ICAP/MS			<1	ug/L				
MRL_CHK	Arsenic Total ICAP/MS		1.0	1.01	ug/L	101	(50-150)		
MS_201205180008	Arsenic Total ICAP/MS	ND	20	20.4	ug/L	100	(70-130)		
MS2_201205180241	Arsenic Total ICAP/MS	ND	20	21.7	ug/L	107	(70-130)		
MSD_201205180008	Arsenic Total ICAP/MS	ND	20	19.8	ug/L	97	(70-130)	20	3.5
MSD2_201205180241	Arsenic Total ICAP/MS	ND	20	21.8	ug/L	108	(70-130)	20	0.46
LCS1	Barium Total ICAP/MS		100	96.8	ug/L	97	(85-115)		
LCS2	Barium Total ICAP/MS		100	98.2	ug/L	98	(85-115)	20	1.4
MBLK	Barium Total ICAP/MS			<2	ug/L				
MRL_CHK	Barium Total ICAP/MS		2.0	2.01	ug/L	100	(50-150)		
MS_201205180008	Barium Total ICAP/MS	60	100	155	ug/L	94	(70-130)		
MS2_201205180241	Barium Total ICAP/MS	61	100	156	ug/L	95	(70-130)		
MSD_201205180008	Barium Total ICAP/MS	60	100	148	ug/L	87	(70-130)	20	4.6
MSD2_201205180241	Barium Total ICAP/MS	61	100	161	ug/L	100	(70-130)	20	3.1
LCS1	Beryllium Total ICAP/MS		5.0	4.61	ug/L	92	(85-115)		
LCS2	Beryllium Total ICAP/MS		5.0	4.7	ug/L	94	(85-115)	20	1.9
MBLK	Beryllium Total ICAP/MS			<1	ug/L				
MRL_CHK	Beryllium Total ICAP/MS		1.0	0.979	ug/L	98	(50-150)		
MS_201205180008	Beryllium Total ICAP/MS	ND	5.0	4.69	ug/L	94	(70-130)		
MS2_201205180241	Beryllium Total ICAP/MS	ND	5.0	5.07	ug/L	101	(70-130)		
MSD_201205180008	Beryllium Total ICAP/MS	ND	5.0	4.64	ug/L	93	(70-130)	20	1.1
MSD2_201205180241	Beryllium Total ICAP/MS	ND	5.0	5.17	ug/L	103	(70-130)	20	2.0
LCS1	Cadmium Total ICAP/MS		20	19.8	ug/L	99	(85-115)		
LCS2	Cadmium Total ICAP/MS		20	20.2	ug/L	101	(85-115)	20	2.0
MBLK	Cadmium Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Cadmium Total ICAP/MS		0.5	0.521	ug/L	104	(50-150)		
MS_201205180008	Cadmium Total ICAP/MS	ND	20	19.1	ug/L	95	(70-130)		
MS2_201205180241	Cadmium Total ICAP/MS	ND	20	19.6	ug/L	98	(70-130)		

Spike recovery is already corrected for native results.

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

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD_201205180008	Cadmium Total ICAP/MS	ND	20	18.2	ug/L	91	(70-130)	20	4.8
MSD2_201205180241	Cadmium Total ICAP/MS	ND	20	20.0	ug/L	100	(70-130)	20	2.0
LCS1	Chromium Total ICAP/MS		100	98.1	ug/L	98	(85-115)		
LCS2	Chromium Total ICAP/MS		100	97.3	ug/L	97	(85-115)	20	0.82
MBLK	Chromium Total ICAP/MS			<1	ug/L				
MRL_CHK	Chromium Total ICAP/MS		1.0	1.04	ug/L	105	(50-150)		
MS_201205180008	Chromium Total ICAP/MS	ND	100	91.8	ug/L	92	(70-130)		
MS2_201205180241	Chromium Total ICAP/MS	ND	100	99.2	ug/L	99	(70-130)		
MSD_201205180008	Chromium Total ICAP/MS	ND	100	90.1	ug/L	90	(70-130)	20	2.0
MSD2_201205180241	Chromium Total ICAP/MS	ND	100	99.2	ug/L	99	(70-130)	20	0.0
LCS1	Copper Total ICAP/MS		100	97.5	ug/L	98	(85-115)		
LCS2	Copper Total ICAP/MS		100	97.2	ug/L	97	(85-115)	20	0.31
MBLK	Copper Total ICAP/MS			<2	ug/L				
MRL_CHK	Copper Total ICAP/MS		2.0	2.04	ug/L	102	(50-150)		
MS_201205180008	Copper Total ICAP/MS	ND	100	87.9	ug/L	88	(70-130)		
MS2_201205180241	Copper Total ICAP/MS	2.2	100	92.6	ug/L	91	(70-130)		
MSD_201205180008	Copper Total ICAP/MS	ND	100	86.5	ug/L	86	(70-130)	20	1.6
MSD2_201205180241	Copper Total ICAP/MS	2.2	100	93.2	ug/L	91	(70-130)	20	0.65
LCS1	Lead Total ICAP/MS		20	20.6	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		20	20.9	ug/L	104	(85-115)	20	1.5
MBLK	Lead Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.526	ug/L	105	(50-150)		
MS_201205180008	Lead Total ICAP/MS	ND	20	18.8	ug/L	94	(70-130)		
MS2_201205180241	Lead Total ICAP/MS	ND	20	20.0	ug/L	99	(70-130)		
MSD_201205180008	Lead Total ICAP/MS	ND	20	18.2	ug/L	91	(70-130)	20	3.2
MSD2_201205180241	Lead Total ICAP/MS	ND	20	20.4	ug/L	101	(70-130)	20	2.0
LCS1	Manganese Total ICAP/MS		50	51.1	ug/L	102	(85-115)		
LCS2	Manganese Total ICAP/MS		50	50.8	ug/L	102	(85-115)	20	0.59
MBLK	Manganese Total ICAP/MS			<2	ug/L				
MRL_CHK	Manganese Total ICAP/MS		2.0	2.14	ug/L	107	(50-150)		
MS_201205180008	Manganese Total ICAP/MS	43	50	89.4	ug/L	94	(70-130)		
MS2_201205180241	Manganese Total ICAP/MS	3.1	50	53.7	ug/L	101	(70-130)		
MSD_201205180008	Manganese Total ICAP/MS	43	50	87.0	ug/L	89	(70-130)	20	2.7
MSD2_201205180241	Manganese Total ICAP/MS	3.1	50	54.0	ug/L	102	(70-130)	20	0.56
LCS1	Nickel Total ICAP/MS		50	48.5	ug/L	97	(85-115)		
LCS2	Nickel Total ICAP/MS		50	48.4	ug/L	97	(85-115)	20	0.21
MBLK	Nickel Total ICAP/MS			<5	ug/L				
MRL_CHK	Nickel Total ICAP/MS		5.0	5.09	ug/L	102	(50-150)		

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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.



MWH

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS_201205180008	Nickel Total ICAP/MS	ND	50	43.9	ug/L	87	(70-130)		
MS2_201205180241	Nickel Total ICAP/MS	ND	50	46.5	ug/L	91	(70-130)		
MSD_201205180008	Nickel Total ICAP/MS	ND	50	43.0	ug/L	85	(70-130)	20	2.1
MSD2_201205180241	Nickel Total ICAP/MS	ND	50	46.7	ug/L	92	(70-130)	20	0.43
LCS1	Selenium Total ICAP/MS		20	20.5	ug/L	102	(85-115)		
LCS2	Selenium Total ICAP/MS		20	20.0	ug/L	100	(85-115)	20	2.5
MBLK	Selenium Total ICAP/MS			<5	ug/L				
MRL_CHK	Selenium Total ICAP/MS		5.0	5.04	ug/L	101	(50-150)		
MS_201205180008	Selenium Total ICAP/MS	ND	20	21.8	ug/L	108	(70-130)		
MS2_201205180241	Selenium Total ICAP/MS	ND	20	24.0	ug/L	118	(70-130)		
MSD_201205180008	Selenium Total ICAP/MS	ND	20	21.6	ug/L	107	(70-130)	20	0.92
MSD2_201205180241	Selenium Total ICAP/MS	ND	20	24.4	ug/L	120	(70-130)	20	1.6
LCS1	Thallium Total ICAP/MS		20	20.4	ug/L	102	(85-115)		
LCS2	Thallium Total ICAP/MS		20	20.7	ug/L	103	(85-115)	20	1.5
MBLK	Thallium Total ICAP/MS			<1	ug/L				
MRL_CHK	Thallium Total ICAP/MS		1.0	1.05	ug/L	105	(50-150)		
MS_201205180008	Thallium Total ICAP/MS	ND	20	19.5	ug/L	97	(70-130)		
MS2_201205180241	Thallium Total ICAP/MS	ND	20	20.4	ug/L	102	(70-130)		
MSD_201205180008	Thallium Total ICAP/MS	ND	20	18.7	ug/L	93	(70-130)	20	4.2
MSD2_201205180241	Thallium Total ICAP/MS	ND	20	21.0	ug/L	105	(70-130)	20	2.9
LCS1	Uranium ICAP/MS		20	20.1	ug/L	100	(85-115)		
LCS2	Uranium ICAP/MS		20	20.1	ug/L	101	(85-115)	20	0.0
MBLK	Uranium ICAP/MS			<1	ug/L				
MRL_CHK	Uranium ICAP/MS		1.0	0.918	ug/L	92	(50-150)		
MS_201205180008	Uranium ICAP/MS	ND	20	20.1	ug/L	100	(70-130)		
MS2_201205180241	Uranium ICAP/MS	ND	20	21.6	ug/L	107	(70-130)		
MSD_201205180008	Uranium ICAP/MS	ND	20	19.1	ug/L	95	(70-130)	20	5.1
MSD2_201205180241	Uranium ICAP/MS	ND	20	22.0	ug/L	109	(70-130)	20	1.8
LCS1	Zinc Total ICAP/MS		100	99.5	ug/L	100	(85-115)		
LCS2	Zinc Total ICAP/MS		100	99.0	ug/L	99	(85-115)	20	0.50
MBLK	Zinc Total ICAP/MS			<20	ug/L				
MRL_CHK	Zinc Total ICAP/MS		20	20.5	ug/L	103	(50-150)		
MS_201205180008	Zinc Total ICAP/MS	ND	100	95.1	ug/L	95	(70-130)		
MS2_201205180241	Zinc Total ICAP/MS	ND	100	98.2	ug/L	98	(70-130)		
MSD_201205180008	Zinc Total ICAP/MS	ND	100	97.8	ug/L	98	(70-130)	20	2.8
MSD2_201205180241	Zinc Total ICAP/MS	ND	100	99.1	ug/L	99	(70-130)	20	0.91

QC Ref# 654370 - Apparent Color by SM 2120B

Analysis Date: 05/18/2012

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
DUP1_201205180307	Apparent Color	ND		ND	ACU		(0-20)		
DUP2_201205180011	Apparent Color	ND		ND	ACU		(0-20)		
MBLK	Apparent Color			<3	ACU				
QC Ref# 654374 - Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1						Analysis Date: 05/23/2012			
LCS1	Total phosphorus as P		0.4	0.397	mg/L	99	(90-110)		
LCS2	Total phosphorus as P		0.4	0.395	mg/L	99	(90-110)	20	0.51
MBLK	Total phosphorus as P			<0.02	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0206	mg/L	103	(50-150)		
MS_201205160164	Total phosphorus as P	ND	0.4	0.380	mg/L	95	(90-110)		
MS_201205170483	Total phosphorus as P	ND	0.4	0.419	mg/L	102	(90-110)		
MSD_201205170483	Total phosphorus as P	ND	0.4	0.425	mg/L	103	(90-110)	20	1.4
MSD_201205160164	Total phosphorus as P	ND	0.4	0.383	mg/L	96	(90-110)	20	0.79
QC Ref# 654382 - Hexavalent chromium(Dissolved) by EPA 218.6						Analysis Date: 05/18/2012			
LCS1	Hexavalent chromium(Dissolved)		2.0	1.97	ug/L	99	(90-110)		
LCS2	Hexavalent chromium(Dissolved)		2.0	1.99	ug/L	100	(90-110)		
MBLK	Hexavalent chromium(Dissolved)			<0.020	ug/L				
MRL_CHK	Hexavalent chromium(Dissolved)		0.02	0.0177	ug/L	89	(50-150)		
MS_201205180011	Hexavalent chromium(Dissolved)	0.30	2.0	2.31	ug/L	100	(90-110)		
MS_201205180031	Hexavalent chromium(Dissolved)	ND	2.0	2.08	ug/L	103	(90-110)		
MSD_201205180011	Hexavalent chromium(Dissolved)	0.30	2.0	2.32	ug/L	101	(90-110)	20	0.43
MSD_201205180031	Hexavalent chromium(Dissolved)	ND	2.0	2.07	ug/L	102	(90-110)	20	0.48
QC Ref# 654417 - Glyphosate by EPA 547						Analysis Date: 05/24/2012			
CCCH	Glyphosate		25	28.1	ug/L	112	(80-120)		
CCCM	Glyphosate		10	11.4	ug/L	114	(80-120)		
LCS1	Glyphosate		10	10.7	ug/L	107	(80-120)		
MBLK	Glyphosate			<6	ug/L				
MRL_CHK	Glyphosate		6.0	6.71	ug/L	112	(50-150)		
MS_201205220580	Glyphosate	ND	10	11.5	ug/L	115	(83-119)		
MS2_201205220032	Glyphosate	ND	10	11.1	ug/L	111	(83-119)		
MSD_201205220580	Glyphosate	ND	10	10.9	ug/L	109	(83-119)	20	5.4
QC Ref# 654425 - Turbidity by EPA 180.1						Analysis Date: 05/18/2012			
DUP1_201205180307	Turbidity	0.087		0.0900	NTU		(0-20)	20	3.4
DUP2_201205180011	Turbidity	0.17		0.168	NTU		(0-10)	10	2.4
LCS1	Turbidity		20	20.6	NTU	103	(90-110)		
LCS2	Turbidity		20	19.9	NTU	100	(90-110)	20	3.5
MBLK	Turbidity			<0.05	NTU				

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Turbidity		0.05	0.0580	NTU	116	(50-150)		
QC Ref# 654530 - Chlorophenoxy Herbicides by EPA 515.4						Analysis Date: 05/25/2012			
CCCH	2,4,5-T		4.0	3.94	ug/L	98	(70-130)		
CCCM	2,4,5-T		1.0	0.954	ug/L	95	(70-130)		
MBLK	2,4,5-T			<0.1	ug/L				
MRL_CHK	2,4,5-T		0.2	0.193	ug/L	97	(50-150)		
MS2_201205170541	2,4,5-T	ND	0.75	0.875	ug/L	114	(70-130)		
MSD2_201205170541	2,4,5-T	ND	0.75	0.833	ug/L	108	(70-130)	30	4.9
CCCH	2,4,5-TP (Silvex)		4.0	4.21	ug/L	105	(70-130)		
CCCM	2,4,5-TP (Silvex)		1.0	1.17	ug/L	117	(70-130)		
MBLK	2,4,5-TP (Silvex)			<0.1	ug/L				
MRL_CHK	2,4,5-TP (Silvex)		0.2	0.294	ug/L	147	(50-150)		
MS2_201205170541	2,4,5-TP (Silvex)	ND	0.75	0.908	ug/L	121	(70-130)		
MSD2_201205170541	2,4,5-TP (Silvex)	ND	0.75	0.906	ug/L	121	(70-130)	30	0.22
CCCH	2,4-D		2.0	1.89	ug/L	94	(70-130)		
CCCM	2,4-D		0.5	0.446	ug/L	89	(70-130)		
MBLK	2,4-D			<0.05	ug/L				
MRL_CHK	2,4-D		0.1	0.0515	ug/L	52	(50-150)		
MS2_201205170541	2,4-D	ND	0.38	0.392	ug/L	100	(70-130)		
MSD2_201205170541	2,4-D	ND	0.38	0.395	ug/L	100	(70-130)	30	0.76
CCCH	2,4-DB		40	41.3	ug/L	103	(70-130)		
CCCM	2,4-DB		10	10.5	ug/L	105	(70-130)		
MBLK	2,4-DB			<1	ug/L				
MRL_CHK	2,4-DB		2.0	1.63	ug/L	82	(50-150)		
MS2_201205170541	2,4-DB	ND	7.5	7.63	ug/L	102	(70-130)		
MSD2_201205170541	2,4-DB	ND	7.5	6.66	ug/L	89	(70-130)	30	14
CCCH	2,4-Dichlorophenyl acetic acid (S)			99.9	%	100	(70-130)		
CCCM	2,4-Dichlorophenyl acetic acid (S)			129	%	129	(70-130)		
MBLK	2,4-Dichlorophenyl acetic acid (S)			106	%	106	(70-130)		
MRL_CHK	2,4-Dichlorophenyl acetic acid (S)			102	%	102	(70-130)		
MS2_201205170541	2,4-Dichlorophenyl acetic acid (S)			102	%	102	(70-130)		
MSD2_201205170541	2,4-Dichlorophenyl acetic acid (S)			98.7	%	99	(70-130)		
CCCH	3,5-Dichlorobenzoic acid		10	9.92	ug/L	99	(70-130)		
CCCM	3,5-Dichlorobenzoic acid		2.5	2.69	ug/L	108	(70-130)		
MBLK	3,5-Dichlorobenzoic acid			<0.25	ug/L				
MRL_CHK	3,5-Dichlorobenzoic acid		0.5	0.646	ug/L	129	(50-150)		
MS2_201205170541	3,5-Dichlorobenzoic acid	ND	1.9	2.07	ug/L	109	(70-130)		

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD2_201205170541	3,5-Dichlorobenzoic acid	ND	1.9	1.7	ug/L	89	(70-130)	30	20
CCCH	4,4-Dibromooctafluorobiphenyl (I)			96.6	%	97	(50-150)		
CCCM	4,4-Dibromooctafluorobiphenyl (I)			96.5	%	96	(50-150)		
MBLK	4,4-Dibromooctafluorobiphenyl (I)			95.8	%	96	(50-150)		
MRL_CHK	4,4-Dibromooctafluorobiphenyl (I)			95.6	%	96	(50-150)		
MS2_201205170541	4,4-Dibromooctafluorobiphenyl (I)			91.3	%	91	(50-150)		
MSD2_201205170541	4,4-Dibromooctafluorobiphenyl (I)			92.0	%	92	(50-150)		
CCCH	Acifluorfen		4.0	4.23	ug/L	106	(70-130)		
CCCM	Acifluorfen		1.0	1.02	ug/L	102	(70-130)		
MBLK	Acifluorfen			<0.1	ug/L				
MRL_CHK	Acifluorfen		0.2	0.139	ug/L	70	(50-150)		
MS2_201205170541	Acifluorfen	ND	0.75	0.845	ug/L	113	(70-130)		
MSD2_201205170541	Acifluorfen	ND	0.75	0.815	ug/L	109	(70-130)	30	3.6
CCCH	Bentazon		10	10.0	ug/L	100	(70-130)		
CCCM	Bentazon		2.5	2.56	ug/L	102	(70-130)		
MBLK	Bentazon			<0.25	ug/L				
MRL_CHK	Bentazon		0.5	0.406	ug/L	81	(50-150)		
MS2_201205170541	Bentazon	ND	1.9	1.9	ug/L	101	(70-130)		
MSD2_201205170541	Bentazon	ND	1.9	1.81	ug/L	96	(70-130)	30	4.8
CCCH	Dalapon		20	20.3	ug/L	101	(70-130)		
CCCM	Dalapon		5.0	4.82	ug/L	96	(70-130)		
MBLK	Dalapon			<0.5	ug/L				
MRL_CHK	Dalapon		1.0	1.07	ug/L	107	(50-150)		
MS2_201205170541	Dalapon	ND	3.8	4.61	ug/L	123	(70-130)		
MSD2_201205170541	Dalapon	ND	3.8	4.5	ug/L	120	(70-130)	30	2.4
CCCH	Dicamba		2.0	2.03	ug/L	102	(70-130)		
CCCM	Dicamba		0.5	0.537	ug/L	107	(70-130)		
MBLK	Dicamba			<0.04	ug/L				
MRL_CHK	Dicamba		0.1	0.102	ug/L	102	(50-150)		
MS2_201205170541	Dicamba	ND	0.38	0.411	ug/L	110	(70-130)		
MSD2_201205170541	Dicamba	ND	0.38	0.512	ug/L	137	(70-130)	30	22
CCCH	Dichlorprop		10	9.81	ug/L	98	(70-130)		
CCCM	Dichlorprop		2.5	2.68	ug/L	107	(70-130)		
MBLK	Dichlorprop			<0.25	ug/L				
MRL_CHK	Dichlorprop		0.5	0.609	ug/L	122	(50-150)		
MS2_201205170541	Dichlorprop	ND	1.9	2.28	ug/L	122	(70-130)		
MSD2_201205170541	Dichlorprop	ND	1.9	2.01	ug/L	107	(70-130)	30	13
CCCH	Dinoseb		4.0	4.07	ug/L	102	(70-130)		

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCM	Dinoseb		1.0	1.03	ug/L	103	(70-130)		
MBLK	Dinoseb			<0.1	ug/L				
MRL_CHK	Dinoseb		0.2	0.211	ug/L	106	(50-150)		
MS2_201205170541	Dinoseb	ND	0.75	0.800	ug/L	107	(70-130)		
MSD2_201205170541	Dinoseb	ND	0.75	0.713	ug/L	95	(70-130)	30	12
CCCH	Pentachlorophenol		0.8	0.794	ug/L	99	(70-130)		
CCCM	Pentachlorophenol		0.2	0.209	ug/L	104	(70-130)		
MBLK	Pentachlorophenol			<0.02	ug/L				
MRL_CHK	Pentachlorophenol		0.04	0.0550	ug/L	138	(50-150)		
MS2_201205170541	Pentachlorophenol	ND	0.15	0.170	ug/L	109	(70-130)		
MSD2_201205170541	Pentachlorophenol	ND	0.15	0.157	ug/L	100	(70-130)	30	8.0
CCCH	Picloram		2.0	1.71	ug/L	85	(70-130)		
CCCM	Picloram		0.5	0.515	ug/L	103	(70-130)		
MBLK	Picloram			<0.05	ug/L				
MRL_CHK	Picloram		0.1	0.106	ug/L	106	(50-150)		
MS2_201205170541	Picloram	ND	0.38	0.448	ug/L	120	(70-130)		
MSD2_201205170541	Picloram	ND	0.38	0.410	ug/L	109	(70-130)	30	8.9
CCCH	Tot DCPA Mono&Diacid Degradate		2.0	1.86	ug/L	93	(70-130)		
CCCM	Tot DCPA Mono&Diacid Degradate		0.5	0.439	ug/L	88	(70-130)		
MBLK	Tot DCPA Mono&Diacid Degradate			<0.5	ug/L				
MRL_CHK	Tot DCPA Mono&Diacid Degradate		0.1	0.0992	ug/L	99	(50-150)		
MS2_201205170541	Tot DCPA Mono&Diacid Degradate	ND	0.38	0.437	ug/L	117	(70-130)		
MSD2_201205170541	Tot DCPA Mono&Diacid Degradate	ND	0.38	0.411	ug/L	110	(70-130)	30	6.1

QC Ref# 654632 - ICP Metals by EPA 200.7

Analysis Date: 05/22/2012

LCS1	Boron Total ICAP		0.5	0.497	mg/L	99	(85-115)		
LCS2	Boron Total ICAP		0.5	0.492	mg/L	98	(85-115)	20	1.0
MBLK	Boron Total ICAP			<0.05	mg/L				
MRL_CHK	Boron Total ICAP		0.05	0.0498	mg/L	100	(50-150)		
MS_201205170064	Boron Total ICAP	ND	0.5	0.498	mg/L	98	(70-130)		
MS2_201205170544	Boron Total ICAP	ND	0.5	0.492	mg/L	97	(70-130)		
MSD_201205170064	Boron Total ICAP	ND	0.5	0.489	mg/L	97	(70-130)	20	1.8
MSD2_201205170544	Boron Total ICAP	ND	0.5	0.511	mg/L	101	(70-130)	20	3.8
LCS1	Calcium Total ICAP		50	50.2	mg/L	100	(85-115)		
LCS2	Calcium Total ICAP		50	49.4	mg/L	99	(85-115)	20	1.6
MBLK	Calcium Total ICAP			<1	mg/L				
MRL_CHK	Calcium Total ICAP		1.0	1.13	mg/L	113	(50-150)		
MS_201205170064	Calcium Total ICAP	ND	50	49.8	mg/L	100	(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.



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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS2_201205170544	Calcium Total ICAP	ND	50	48.6	mg/L	97	(70-130)		
MSD_201205170064	Calcium Total ICAP	ND	50	49.4	mg/L	99	(70-130)	20	0.81
MSD2_201205170544	Calcium Total ICAP	ND	50	50.2	mg/L	100	(70-130)	20	3.2
LCS1	Iron Total ICAP		5.0	4.82	mg/L	97	(85-115)		
LCS2	Iron Total ICAP		5.0	4.81	mg/L	96	(85-115)	20	0.21
MBLK	Iron Total ICAP			<0.02	mg/L				
MRL_CHK	Iron Total ICAP		0.02	0.0206	mg/L	103	(50-150)		
MS_201205170064	Iron Total ICAP	ND	5.0	4.85	mg/L	97	(70-130)		
MS2_201205170544	Iron Total ICAP	ND	5.0	4.76	mg/L	95	(70-130)		
MSD_201205170064	Iron Total ICAP	ND	5.0	4.87	mg/L	97	(70-130)	20	0.41
MSD2_201205170544	Iron Total ICAP	ND	5.0	4.93	mg/L	99	(70-130)	20	3.5
LCS1	Magnesium Total ICAP		20	20.1	mg/L	101	(85-115)		
LCS2	Magnesium Total ICAP		20	20.0	mg/L	100	(85-115)	20	0.50
MBLK	Magnesium Total ICAP			<0.1	mg/L				
MRL_CHK	Magnesium Total ICAP		0.1	0.106	mg/L	106	(50-150)		
MS_201205170064	Magnesium Total ICAP	3.2	20	23.4	mg/L	101	(70-130)		
MS2_201205170544	Magnesium Total ICAP	ND	20	19.9	mg/L	99	(70-130)		
MSD_201205170064	Magnesium Total ICAP	3.2	20	23.3	mg/L	101	(70-130)	20	0.43
MSD2_201205170544	Magnesium Total ICAP	ND	20	20.7	mg/L	103	(70-130)	20	3.9
LCS1	Potassium Total ICAP		20	19.6	mg/L	98	(85-115)		
LCS2	Potassium Total ICAP		20	19.5	mg/L	98	(85-115)	20	0.51
MBLK	Potassium Total ICAP			<1	mg/L				
MRL_CHK	Potassium Total ICAP		1.0	1.03	mg/L	103	(50-150)		
MS_201205170064	Potassium Total ICAP	3.3	20	23.0	mg/L	99	(70-130)		
MS2_201205170544	Potassium Total ICAP	ND	20	19.5	mg/L	97	(70-130)		
MSD_201205170064	Potassium Total ICAP	3.3	20	22.9	mg/L	98	(70-130)	20	0.44
MSD2_201205170544	Potassium Total ICAP	ND	20	20.1	mg/L	100	(70-130)	20	3.0
LCS1	Sodium Total ICAP		50	49.4	mg/L	99	(85-115)		
LCS2	Sodium Total ICAP		50	49.3	mg/L	99	(85-115)	20	0.20
MBLK	Sodium Total ICAP			<1	mg/L				
MRL_CHK	Sodium Total ICAP		1.0	0.778	mg/L	78	(50-150)		
MS_201205170064	Sodium Total ICAP	1.2	50	51.4	mg/L	100	(70-130)		
MS2_201205170544	Sodium Total ICAP	ND	50	49.9	mg/L	98	(70-130)		
MSD_201205170064	Sodium Total ICAP	1.2	50	51.1	mg/L	100	(70-130)	20	0.59
MSD2_201205170544	Sodium Total ICAP	ND	50	51.6	mg/L	102	(70-130)	20	3.4
LCS1	Strontium ICAP		1.0	0.940	mg/L	94	(85-115)		
LCS2	Strontium ICAP		1.0	0.924	mg/L	92	(85-115)	20	1.7
MBLK	Strontium ICAP			<0.01	mg/L				

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).

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Strontium ICAP		0.01	0.0106	mg/L	106	(50-150)		
MS_201205170064	Strontium ICAP	ND	1.0	0.943	mg/L	94	(70-130)		
MS2_201205170544	Strontium ICAP	ND	1.0	0.922	mg/L	92	(70-130)		
MSD_201205170064	Strontium ICAP	ND	1.0	0.932	mg/L	93	(70-130)	20	1.2
MSD2_201205170544	Strontium ICAP	ND	1.0	0.955	mg/L	96	(70-130)	20	3.5

QC Ref# 654774 - Organochlorine Pesticides/PCBs by EPA 505

Analysis Date: 05/22/2012

CCCH	Alachlor (Alanex)		1.0	1.07	ug/L	107	(70-130)		
CCCH	Alachlor (Alanex)		1.0	1.15	ug/L	115	(70-130)		
CCCH	Alachlor (Alanex)		1.0	1.06	ug/L	106	(70-130)		
CCCH	Alachlor (Alanex)		1.0	1.08	ug/L	108	(70-130)		
MBLK	Alachlor (Alanex)			<0.1	ug/L				
MRL_CHK	Alachlor (Alanex)		0.1	0.0977	ug/L	98	(50-150)		
MS1_201205170067	Alachlor (Alanex)	ND	0.2	0.200	ug/L	100	(65-135)		
MS2_201205180092	Alachlor (Alanex)	ND	1.0	1.08	ug/L	108	(65-135)		
CCCH	Aldrin		0.1	0.107	ug/L	107	(70-130)		
CCCH	Aldrin		0.1	0.119	ug/L	119	(70-130)		
CCCH	Aldrin		0.1	0.109	ug/L	109	(70-130)		
CCCH	Aldrin		0.1	0.109	ug/L	109	(70-130)		
MBLK	Aldrin			<0.01	ug/L				
MRL_CHK	Aldrin		0.01	0.00980	ug/L	98	(50-150)		
MS1_201205170067	Aldrin	ND	0.02	0.0190	ug/L	80	(65-135)		
MS2_201205180092	Aldrin	ND	0.1	0.107	ug/L	107	(65-135)		
CCCH	Chlordane		0.5	0.455	ug/L	91	(70-130)		
CCCH	Chlordane		0.5	0.473	ug/L	95	(70-130)		
MBLK	Chlordane			<0.1	ug/L				
MRL_CHK	Chlordane		0.1	0.121	ug/L	121	(50-150)		
MS1_201205170067	Chlordane	ND	0.5	0.460	ug/L	92	(65-135)		
MS2_201205180092	Chlordane	ND	0.5	0.438	ug/L	88	(65-135)		
CCCH	Dieldrin		0.1	0.0958	ug/L	96	(70-130)		
CCCH	Dieldrin		0.1	0.106	ug/L	106	(70-130)		
CCCH	Dieldrin		0.1	0.100	ug/L	100	(70-130)		
CCCH	Dieldrin		0.1	0.0999	ug/L	100	(70-130)		
MBLK	Dieldrin			<0.01	ug/L				
MRL_CHK	Dieldrin		0.01	0.0115	ug/L	115	(50-150)		
MS1_201205170067	Dieldrin	ND	0.02	0.0193	ug/L	97	(65-135)		
MS2_201205180092	Dieldrin	ND	0.1	0.0965	ug/L	97	(65-135)		
CCCH	Endrin		0.1	0.104	ug/L	104	(70-130)		

Spike recovery is already corrected for native results.

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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.



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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCH	Endrin		0.1	0.0978	ug/L	98	(70-130)		
CCCH	Endrin		0.1	0.0927	ug/L	93	(70-130)		
CCCH	Endrin		0.1	0.0958	ug/L	96	(70-130)		
MBLK	Endrin			<0.01	ug/L				
MRL_CHK	Endrin		0.01	0.0126	ug/L	126	(50-150)		
MS1_201205170067	Endrin	ND	0.02	0.0197	ug/L	99	(65-135)		
MS2_201205180092	Endrin	ND	0.1	0.0972	ug/L	97	(65-135)		
CCCH	Heptachlor		0.1	0.113	ug/L	113	(70-130)		
CCCH	Heptachlor		0.1	0.112	ug/L	112	(70-130)		
CCCH	Heptachlor		0.1	0.112	ug/L	112	(70-130)		
CCCH	Heptachlor		0.1	0.121	ug/L	121	(70-130)		
MBLK	Heptachlor			<0.01	ug/L				
MRL_CHK	Heptachlor		0.01	0.00930	ug/L	93	(50-150)		
MS1_201205170067	Heptachlor	ND	0.02	0.0209	ug/L	105	(65-135)		
MS2_201205180092	Heptachlor	ND	0.1	0.112	ug/L	112	(65-135)		
CCCH	Heptachlor Epoxide		0.1	0.110	ug/L	110	(70-130)		
CCCH	Heptachlor Epoxide		0.1	0.103	ug/L	103	(70-130)		
CCCH	Heptachlor Epoxide		0.1	0.0990	ug/L	99	(70-130)		
CCCH	Heptachlor Epoxide		0.1	0.103	ug/L	102	(70-130)		
MBLK	Heptachlor Epoxide			<0.01	ug/L				
MRL_CHK	Heptachlor Epoxide		0.01	0.0111	ug/L	111	(50-150)		
MS1_201205170067	Heptachlor Epoxide	ND	0.02	0.0191	ug/L	96	(65-135)		
MS2_201205180092	Heptachlor Epoxide	ND	0.1	0.0771	ug/L	77	(65-135)		
CCCH	Lindane (gamma-BHC)		0.1	0.0999	ug/L	100	(70-130)		
CCCH	Lindane (gamma-BHC)		0.1	0.103	ug/L	103	(70-130)		
CCCH	Lindane (gamma-BHC)		0.1	0.101	ug/L	101	(70-130)		
CCCH	Lindane (gamma-BHC)		0.1	0.109	ug/L	109	(70-130)		
MBLK	Lindane (gamma-BHC)			<0.01	ug/L				
MRL_CHK	Lindane (gamma-BHC)		0.01	0.0121	ug/L	121	(50-150)		
MS1_201205170067	Lindane (gamma-BHC)	ND	0.02	0.0191	ug/L	96	(65-135)		
MS2_201205180092	Lindane (gamma-BHC)	ND	0.1	0.102	ug/L	102	(65-135)		
CCCH	Methoxychlor		0.5	0.518	ug/L	104	(70-130)		
CCCH	Methoxychlor		0.5	0.543	ug/L	109	(70-130)		
CCCH	Methoxychlor		0.5	0.484	ug/L	97	(70-130)		
CCCH	Methoxychlor		0.5	0.495	ug/L	99	(70-130)		
MBLK	Methoxychlor			<0.05	ug/L				
MRL_CHK	Methoxychlor		0.05	0.0666	ug/L	133	(50-150)		
MS1_201205170067	Methoxychlor	ND	0.1	0.117	ug/L	117	(65-135)		

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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.

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS2_201205180092	Methoxychlor	ND	0.5	0.542	ug/L	108	(65-135)		
MBLK	PCB 1016 Aroclor			<0.08	ug/L				
MBLK	PCB 1221 Aroclor			<0.1	ug/L				
MBLK	PCB 1232 Aroclor			<0.1	ug/L				
MBLK	PCB 1242 Aroclor			<0.1	ug/L				
MBLK	PCB 1248 Aroclor			<0.1	ug/L				
MBLK	PCB 1254 Aroclor			<0.1	ug/L				
MBLK	PCB 1260 Aroclor			<0.1	ug/L				
CCCH	Tetrachlorometaxylene (S)			105	%	105	(70-130)		
CCCH	Tetrachlorometaxylene (S)			112	%	112	(70-130)		
CCCH	Tetrachlorometaxylene (S)			100	%	100	(70-130)		
CCCH	Tetrachlorometaxylene (S)			105	%	105	(70-130)		
MBLK	Tetrachlorometaxylene (S)			96.5	%	97	(70-130)		
MRL_CHK	Tetrachlorometaxylene (S)			97.5	%	98	(70-130)		
MS1_201205170067	Tetrachlorometaxylene (S)			94.8	%	95	(70-130)		
MS2_201205180092	Tetrachlorometaxylene (S)			100	%	100	(70-130)		
MBLK	Total PCBs			<0.08	ug/L				
MBLK	Toxaphene			<0.5	ug/L				

QC Ref# 654839 - Radium 228 by RA-228 GA

Analysis Date: 06/08/2012

LCS1	Radium 228		3.1	3.33	pCi/L	106	(80-120)		
LCS2	Radium 228		3.1	2.8	pCi/L	89	(80-120)	20	17
MBLK	Radium 228			<1	pCi/L				
MS_201205170064	Radium 228	ND	3.1	3.55	pCi/L	113	(70-130)		

QC Ref# 654842 - Radium 226 by Ra-226 GA

Analysis Date: 06/08/2012

LCS1	Radium 226		3.6	4.61	pCi/L	<u>126</u>	(80-120)		
LCS2	Radium 226		3.6	3.75	pCi/L	103	(80-120)	20	<u>21</u>
MBLK	Radium 226			<1	pCi/L				
MS_201205170064	Radium 226	ND	3.6	4.55	pCi/L	125	(70-130)		

QC Ref# 654863 - ICP Metals by EPA 200.7

Analysis Date: 05/23/2012

LCS1	Boron Total ICAP		0.5	0.497	mg/L	99	(85-115)		
LCS2	Boron Total ICAP		0.5	0.494	mg/L	99	(85-115)	20	0.61
MBLK	Boron Total ICAP			<0.05	mg/L				
MRL_CHK	Boron Total ICAP		0.05	0.0489	mg/L	98	(50-150)		
MS_201205170565	Boron Total ICAP	0.18	0.5	0.692	mg/L	102	(70-130)		
MS2_201205220580	Boron Total ICAP	0.098	0.5	0.599	mg/L	100	(70-130)		
MSD_201205170565	Boron Total ICAP	0.18	0.5	0.696	mg/L	103	(70-130)	20	0.58
MSD2_201205220580	Boron Total ICAP	0.098	0.5	0.611	mg/L	103	(70-130)	20	2.0

Spike recovery is already corrected for native results.

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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).

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Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Calcium Total ICAP		50	52.9	mg/L	106	(85-115)		
LCS2	Calcium Total ICAP		50	52.3	mg/L	105	(85-115)	20	1.1
MBLK	Calcium Total ICAP			<1	mg/L				
MRL_CHK	Calcium Total ICAP		1.0	1.17	mg/L	117	(50-150)		
MS_201205170565	Calcium Total ICAP	53	50	105	mg/L	103	(70-130)		
MS2_201205220580	Calcium Total ICAP	83	50	133	mg/L	100	(70-130)		
MSD_201205170565	Calcium Total ICAP	53	50	105	mg/L	104	(70-130)	20	0.0
MSD2_201205220580	Calcium Total ICAP	83	50	133	mg/L	100	(70-130)	20	0.0
LCS1	Iron Total ICAP		5.0	5.06	mg/L	101	(85-115)		
LCS2	Iron Total ICAP		5.0	5.05	mg/L	101	(85-115)	20	0.20
MBLK	Iron Total ICAP			<0.02	mg/L				
MRL_CHK	Iron Total ICAP		0.02	0.0219	mg/L	110	(50-150)		
MS_201205170565	Iron Total ICAP	ND	5.0	5.1	mg/L	102	(70-130)		
MS2_201205220580	Iron Total ICAP	ND	5.0	5.11	mg/L	102	(70-130)		
MSD_201205170565	Iron Total ICAP	ND	5.0	5.08	mg/L	101	(70-130)	20	0.39
MSD2_201205220580	Iron Total ICAP	ND	5.0	5.15	mg/L	103	(70-130)	20	0.78
LCS1	Magnesium Total ICAP		20	21.5	mg/L	108	(85-115)		
LCS2	Magnesium Total ICAP		20	21.4	mg/L	107	(85-115)	20	0.47
MBLK	Magnesium Total ICAP			<0.1	mg/L				
MRL_CHK	Magnesium Total ICAP		0.1	0.114	mg/L	114	(50-150)		
MS_201205170565	Magnesium Total ICAP	9.2	20	30.4	mg/L	106	(70-130)		
MS2_201205220580	Magnesium Total ICAP	11	20	32.4	mg/L	107	(70-130)		
MSD_201205170565	Magnesium Total ICAP	9.2	20	30.4	mg/L	106	(70-130)	20	0.0
MSD2_201205220580	Magnesium Total ICAP	11	20	32.5	mg/L	107	(70-130)	20	0.31
LCS1	Potassium Total ICAP		20	20.3	mg/L	101	(85-115)		
LCS2	Potassium Total ICAP		20	20.3	mg/L	101	(85-115)	20	0.0
MBLK	Potassium Total ICAP			<1	mg/L				
MRL_CHK	Potassium Total ICAP		1.0	0.991	mg/L	99	(50-150)		
MS_201205170565	Potassium Total ICAP	3.0	20	23.5	mg/L	102	(70-130)		
MS2_201205220580	Potassium Total ICAP	2.8	20	23.5	mg/L	103	(70-130)		
MSD_201205170565	Potassium Total ICAP	3.0	20	23.4	mg/L	102	(70-130)	20	0.43
MSD2_201205220580	Potassium Total ICAP	2.8	20	23.5	mg/L	103	(70-130)	20	0.0
LCS1	Sodium Total ICAP		50	51.7	mg/L	103	(85-115)		
LCS2	Sodium Total ICAP		50	51.6	mg/L	103	(85-115)	20	0.19
MBLK	Sodium Total ICAP			<1	mg/L				
MRL_CHK	Sodium Total ICAP		1.0	1.08	mg/L	108	(50-150)		
MS_201205170565	Sodium Total ICAP	41	50	92.4	mg/L	102	(70-130)		
MS2_201205220580	Sodium Total ICAP	32	50	83.9	mg/L	104	(70-130)		

Spike recovery is already corrected for native results.

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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.



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Laboratory QC
Report: 397098

750 Royal Oak Dr., Suite 100
 Monrovia, California, 91016-3629
 Tel: 626 386 1100
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 1 800 566 LABS (1 800 566 5227)

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD_201205170565	Sodium Total ICAP	41	50	92.6	mg/L	102	(70-130)	20	0.22
MSD2_201205220580	Sodium Total ICAP	32	50	83.4	mg/L	103	(70-130)	20	0.60
LCS1	Strontium ICAP		1.0	0.977	mg/L	98	(85-115)		
LCS2	Strontium ICAP		1.0	0.967	mg/L	97	(85-115)	20	1.0
MBLK	Strontium ICAP			<0.01	mg/L				
MRL_CHK	Strontium ICAP		0.01	0.0106	mg/L	106	(50-150)		
MS_201205170565	Strontium ICAP	0.37	1.0	1.35	mg/L	98	(70-130)		
MS2_201205220580	Strontium ICAP	0.48	1.0	1.46	mg/L	98	(70-130)		
MSD_201205170565	Strontium ICAP	0.37	1.0	1.35	mg/L	98	(70-130)	20	0.0
MSD2_201205220580	Strontium ICAP	0.48	1.0	1.46	mg/L	98	(70-130)	20	0.0

QC Ref# 654895 - Cyanide by SM4500CN-F

Analysis Date: 05/21/2012

LCS1	Cyanide		0.1	0.0953	mg/L	95	(80-120)		
LCS2	Cyanide		0.1	0.0997	mg/L	100	(80-120)	20	1.3
MBLK	Cyanide			<0.025	mg/L				
MRL_CHK	Cyanide		0.025	0.0255	mg/L	102	(50-150)		
MS_201205180093	Cyanide	ND	0.1	0.0947	mg/L	89	(80-120)		
MS2_201205180092	Cyanide	ND	0.1	0.0991	mg/L	92	(80-120)		
MSD_201205180093	Cyanide	ND	0.1	0.0958	mg/L	90	(80-120)	20	1.1
MSD2_201205180092	Cyanide	ND	0.1	0.120	mg/L	113	(80-120)	20	19

QC Ref# 655040 - Total Dissolved Solids (TDS) by E160.1/SM2540C

Analysis Date: 05/24/2012

DUP_201205170494	Total Dissolved Solid (TDS)	740		734	mg/L		(0-20)	20	0.54
DUP_201205180375	Total Dissolved Solid (TDS)	580		570	mg/L		(0-20)	20	2.1
LCS1	Total Dissolved Solid (TDS)		175	168	mg/L	96	(80-114)		
LCS2	Total Dissolved Solid (TDS)		700	698	mg/L	100	(80-114)		
MBLK	Total Dissolved Solid (TDS)			<10	mg/L				
MRL_CHK	Total Dissolved Solid (TDS)		10	12.0	mg/L	120	(50-150)		

QC Ref# 655051 - Perchlorate with 0.5 ppb DL by EPA 314.0

Analysis Date: 05/22/2012

LCS1	Perchlorate- 0.5 ppb		10	10.0	ug/L	100	(85-115)		
LCS2	Perchlorate- 0.5 ppb		10	10.6	ug/L	106	(85-115)	15	5.8
MBLK	Perchlorate- 0.5 ppb			<0.25	ug/L				
MRL_CHK	Perchlorate- 0.5 ppb		0.5	0.479	ug/L	96	(70-130)		
MRLHI	Perchlorate- 0.5 ppb		1.0	1.1	ug/L	110	(75-125)		
MS1_201205170093	Perchlorate- 0.5 ppb	ND	1.0	1.14	ug/L	114	(70-130)		
MSD1_201205170093	Perchlorate- 0.5 ppb	ND	1.0	1.18	ug/L	118	(70-130)	15	3.5

QC Ref# 655156 - Endothall by EPA 548.1

Analysis Date: 05/24/2012

LCS1	Endothall		25	20.6	ug/L	82	(63-144)		
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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).

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	Endothall			<5	ug/L				
MRL_CHK	Endothall		5.0	7.14	ug/L	143	(50-150)		
MS_201205180286	Endothall	ND	25	22.6	ug/L	90	(38-157)		
MS_2ND_201205180093	Endothall	ND	25	21.2	ug/L	85	(38-157)		
MSD_201205180286	Endothall	ND	25	23.5	ug/L	94	(38-157)	30	3.9
QC Ref# 655183 - Mercury Total by EPA 245.1						Analysis Date: 05/24/2012			
LCS1	Mercury		1.5	1.64	ug/L	109	(85-115)		
LCS2	Mercury		1.5	1.56	ug/L	104	(85-115)	20	5.0
MBLK	Mercury			<0.2	ug/L				
MRL_CHK	Mercury		0.2	0.171	ug/L	86	(50-150)		
MS_201205160291	Mercury	ND	1.5	1.53	ug/L	102	(70-130)		
MS_201205150541	Mercury	ND	1.5	1.74	ug/L	116	(70-130)		
MSD_201205150541	Mercury	ND	1.5	1.79	ug/L	119	(70-130)	20	2.8
MSD_201205160291	Mercury	ND	1.5	1.63	ug/L	109	(70-130)	20	6.3
QC Ref# 655378 - ICPMS Metals by EPA 200.8						Analysis Date: 05/26/2012			
LCS1	Silver Total ICAP/MS		50	52.3	ug/L	105	(85-115)		
LCS2	Silver Total ICAP/MS		50	52.0	ug/L	104	(85-115)	20	0.57
MBLK	Silver Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Silver Total ICAP/MS		0.5	0.560	ug/L	112	(50-150)		
MS_201205180331	Silver Total ICAP/MS	ND	50	48.7	ug/L	97	(70-130)		
MS2_201205180332	Silver Total ICAP/MS	ND	50	48.5	ug/L	97	(70-130)		
MSD_201205180331	Silver Total ICAP/MS	ND	50	48.7	ug/L	97	(70-130)	20	0.0
MSD2_201205180332	Silver Total ICAP/MS	ND	50	48.7	ug/L	97	(70-130)	20	0.41
QC Ref# 655442 - Volatile Organics by GCMS by EPA 524.2						Analysis Date: 05/24/2012			
LCS1	1,1,1,2-Tetrachloroethane		5.0	5.52	ug/L	110	(70-130)		
LCS2	1,1,1,2-Tetrachloroethane		5.0	5.46	ug/L	109	(70-130)	20	1.1
MBLK	1,1,1,2-Tetrachloroethane			<0.25	ug/L				
MRL_CHK	1,1,1,2-Tetrachloroethane		0.5	0.620	ug/L	124	(50-150)		
LCS1	1,1,1-Trichloroethane		5.0	5.19	ug/L	104	(70-130)		
LCS2	1,1,1-Trichloroethane		5.0	5.34	ug/L	107	(70-130)	20	2.9
MBLK	1,1,1-Trichloroethane			<0.25	ug/L				
MRL_CHK	1,1,1-Trichloroethane		0.5	0.480	ug/L	96	(50-150)		
LCS1	1,1,2,2-Tetrachloroethane		5.0	5.22	ug/L	104	(70-130)		
LCS2	1,1,2,2-Tetrachloroethane		5.0	5.29	ug/L	106	(70-130)	20	1.3
MBLK	1,1,2,2-Tetrachloroethane			<0.25	ug/L				
MRL_CHK	1,1,2,2-Tetrachloroethane		0.5	0.550	ug/L	110	(50-150)		
LCS1	1,1,2-Trichloroethane		5.0	5.52	ug/L	110	(70-130)		

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 RPD not calculated for LCS2 when different a concentration than LCS1 is used.
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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	1,1,2-Trichloroethane		5.0	5.43	ug/L	109	(70-130)	20	1.6
MBLK	1,1,2-Trichloroethane			<0.25	ug/L				
MRL_CHK	1,1,2-Trichloroethane		0.5	0.570	ug/L	114	(50-150)		
LCS1	1,1-Dichloroethane		5.0	5.43	ug/L	109	(70-130)		
LCS2	1,1-Dichloroethane		5.0	5.25	ug/L	105	(70-130)	20	3.4
MBLK	1,1-Dichloroethane			<0.25	ug/L				
MRL_CHK	1,1-Dichloroethane		0.5	0.520	ug/L	104	(50-150)		
LCS1	1,1-Dichloroethylene		5.0	5.29	ug/L	106	(70-130)		
LCS2	1,1-Dichloroethylene		5.0	5.16	ug/L	103	(70-130)	20	2.5
MBLK	1,1-Dichloroethylene			<0.25	ug/L				
MRL_CHK	1,1-Dichloroethylene		0.5	0.540	ug/L	108	(50-150)		
LCS1	1,1-Dichloropropene		5.0	5.21	ug/L	104	(70-130)		
LCS2	1,1-Dichloropropene		5.0	5.13	ug/L	103	(70-130)	20	1.6
MBLK	1,1-Dichloropropene			<0.25	ug/L				
MRL_CHK	1,1-Dichloropropene		0.5	0.520	ug/L	104	(50-150)		
LCS1	1,2,3-Trichlorobenzene		5.0	5.39	ug/L	108	(70-130)		
LCS2	1,2,3-Trichlorobenzene		5.0	5.67	ug/L	113	(70-130)	20	5.1
MBLK	1,2,3-Trichlorobenzene			<0.25	ug/L				
MRL_CHK	1,2,3-Trichlorobenzene		0.5	0.600	ug/L	120	(50-150)		
LCS1	1,2,3-Trichloropropane		5.0	5.35	ug/L	107	(70-130)		
LCS2	1,2,3-Trichloropropane		5.0	5.46	ug/L	109	(70-130)	20	2.0
MBLK	1,2,3-Trichloropropane			<0.25	ug/L				
MRL_CHK	1,2,3-Trichloropropane		0.5	0.530	ug/L	106	(50-150)		
LCS1	1,2,4-Trichlorobenzene		5.0	5.28	ug/L	106	(70-130)		
LCS2	1,2,4-Trichlorobenzene		5.0	5.59	ug/L	112	(70-130)	20	5.7
MBLK	1,2,4-Trichlorobenzene			<0.25	ug/L				
MRL_CHK	1,2,4-Trichlorobenzene		0.5	0.610	ug/L	122	(50-150)		
LCS1	1,2,4-Trimethylbenzene		5.0	5.23	ug/L	105	(70-130)		
LCS2	1,2,4-Trimethylbenzene		5.0	5.27	ug/L	105	(70-130)	20	0.76
MBLK	1,2,4-Trimethylbenzene			<0.25	ug/L				
MRL_CHK	1,2,4-Trimethylbenzene		0.5	0.530	ug/L	106	(50-150)		
LCS1	1,2-Dichloroethane		5.0	5.22	ug/L	104	(70-130)		
LCS2	1,2-Dichloroethane		5.0	5.16	ug/L	103	(70-130)	20	1.2
MBLK	1,2-Dichloroethane			<0.25	ug/L				
MRL_CHK	1,2-Dichloroethane		0.5	0.510	ug/L	102	(50-150)		
LCS1	1,2-Dichloroethane-d4 (S)			97.2	%	97	(70-130)		
LCS2	1,2-Dichloroethane-d4 (S)			99.4	%	99	(70-130)		
MBLK	1,2-Dichloroethane-d4 (S)			99.2	%	99	(70-130)		

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	1,2-Dichloroethane-d4 (S)			97.6	%	98	(70-130)		
MRLLW	1,2-Dichloroethane-d4 (S)			102	%	102	(70-130)		
LCS1	1,2-Dichloropropane		5.0	5.2	ug/L	104	(70-130)		
LCS2	1,2-Dichloropropane		5.0	5.22	ug/L	104	(70-130)	20	0.38
MBLK	1,2-Dichloropropane			<0.25	ug/L				
MRL_CHK	1,2-Dichloropropane		0.5	0.480	ug/L	96	(50-150)		
LCS1	1,3,5-Trimethylbenzene		5.0	5.32	ug/L	106	(70-130)		
LCS2	1,3,5-Trimethylbenzene		5.0	5.38	ug/L	108	(70-130)	20	1.1
MBLK	1,3,5-Trimethylbenzene			<0.25	ug/L				
MRL_CHK	1,3,5-Trimethylbenzene		0.5	0.520	ug/L	104	(50-150)		
LCS1	1,3-Dichloropropane		5.0	5.43	ug/L	109	(70-130)		
LCS2	1,3-Dichloropropane		5.0	5.4	ug/L	108	(70-130)	20	0.55
MBLK	1,3-Dichloropropane			<0.25	ug/L				
MRL_CHK	1,3-Dichloropropane		0.5	0.510	ug/L	102	(50-150)		
LCS1	2,2-Dichloropropane		5.0	4.86	ug/L	97	(70-130)		
LCS2	2,2-Dichloropropane		5.0	5.25	ug/L	105	(70-130)	20	7.7
MBLK	2,2-Dichloropropane			<0.25	ug/L				
MRL_CHK	2,2-Dichloropropane		0.5	0.550	ug/L	110	(50-150)		
LCS1	2-Butanone (MEK)		50	49.0	ug/L	98	(70-130)		
LCS2	2-Butanone (MEK)		50	46.7	ug/L	93	(70-130)	20	4.8
MBLK	2-Butanone (MEK)			<2.5	ug/L				
MRL_CHK	2-Butanone (MEK)		5.0	5.26	ug/L	105	(50-150)		
LCS1	4-Bromofluorobenzene (S)			97.2	%	97	(70-130)		
LCS2	4-Bromofluorobenzene (S)			100	%	100	(70-130)		
MBLK	4-Bromofluorobenzene (S)			102	%	102	(70-130)		
MRL_CHK	4-Bromofluorobenzene (S)			103	%	103	(70-130)		
MRLLW	4-Bromofluorobenzene (S)			104	%	104	(70-130)		
LCS1	4-Methyl-2-Pentanone (MIBK)		50	52.5	ug/L	105	(70-130)		
LCS2	4-Methyl-2-Pentanone (MIBK)		50	52.0	ug/L	104	(70-130)	20	0.96
MBLK	4-Methyl-2-Pentanone (MIBK)			<2.5	ug/L				
MRL_CHK	4-Methyl-2-Pentanone (MIBK)		5.0	5.07	ug/L	101	(50-150)		
LCS1	Benzene		5.0	5.23	ug/L	105	(70-130)		
LCS2	Benzene		5.0	5.09	ug/L	102	(70-130)	20	2.7
MBLK	Benzene			<0.25	ug/L				
MRL_CHK	Benzene		0.5	0.540	ug/L	108	(50-150)		
LCS1	Bromobenzene		5.0	5.13	ug/L	103	(70-130)		
LCS2	Bromobenzene		5.0	5.32	ug/L	106	(70-130)	20	3.6
MBLK	Bromobenzene			<0.25	ug/L				

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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).

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Bromobenzene		0.5	0.560	ug/L	112	(50-150)		
LCS1	Bromochloromethane		5.0	5.3	ug/L	106	(70-130)		
LCS2	Bromochloromethane		5.0	5.33	ug/L	107	(70-130)	20	0.56
MBLK	Bromochloromethane			<0.25	ug/L				
MRL_CHK	Bromochloromethane		0.5	0.530	ug/L	106	(50-150)		
LCS1	Bromodichloromethane		5.0	5.23	ug/L	105	(70-130)		
LCS2	Bromodichloromethane		5.0	5.05	ug/L	101	(70-130)	20	3.5
MBLK	Bromodichloromethane			<0.25	ug/L				
MRL_CHK	Bromodichloromethane		0.5	0.590	ug/L	118	(50-150)		
LCS1	Bromoethane		5.0	5.07	ug/L	101	(70-130)		
LCS2	Bromoethane		5.0	5.16	ug/L	103	(70-130)	20	1.8
MBLK	Bromoethane			<0.25	ug/L				
MRL_CHK	Bromoethane		0.5	0.500	ug/L	100	(50-150)		
LCS1	Bromoform		5.0	5.3	ug/L	106	(70-130)		
LCS2	Bromoform		5.0	4.98	ug/L	100	(70-130)	20	6.2
MBLK	Bromoform			<0.25	ug/L				
MRL_CHK	Bromoform		0.5	0.600	ug/L	120	(50-150)		
LCS1	Bromomethane (Methyl Bromide)		5.0	5.15	ug/L	103	(70-130)		
LCS2	Bromomethane (Methyl Bromide)		5.0	4.75	ug/L	95	(70-130)	20	8.1
MBLK	Bromomethane (Methyl Bromide)			<0.25	ug/L				
MRL_CHK	Bromomethane (Methyl Bromide)		0.5	0.580	ug/L	116	(50-150)		
LCS1	Carbon disulfide		5.0	5.02	ug/L	100	(70-130)		
LCS2	Carbon disulfide		5.0	5.08	ug/L	102	(70-130)	20	1.2
MBLK	Carbon disulfide			<0.25	ug/L				
MRL_CHK	Carbon disulfide		0.5	0.570	ug/L	114	(50-150)		
LCS1	Carbon Tetrachloride		5.0	5.28	ug/L	106	(70-130)		
LCS2	Carbon Tetrachloride		5.0	5.11	ug/L	102	(70-130)	20	3.3
MBLK	Carbon Tetrachloride			<0.25	ug/L				
MRL_CHK	Carbon Tetrachloride		0.5	0.460	ug/L	92	(50-150)		
LCS1	Chlorobenzene		5.0	5.54	ug/L	111	(70-130)		
LCS2	Chlorobenzene		5.0	5.42	ug/L	108	(70-130)	20	2.2
MBLK	Chlorobenzene			<0.25	ug/L				
MRL_CHK	Chlorobenzene		0.5	0.520	ug/L	104	(50-150)		
LCS1	Chlorodibromomethane		5.0	5.26	ug/L	105	(70-130)		
LCS2	Chlorodibromomethane		5.0	5.01	ug/L	100	(70-130)	20	4.9
MBLK	Chlorodibromomethane			<0.25	ug/L				
MRL_CHK	Chlorodibromomethane		0.5	0.600	ug/L	120	(50-150)		
LCS1	Chloroethane		5.0	5.00	ug/L	100	(70-130)		

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Chloroethane		5.0	4.95	ug/L	99	(70-130)	20	1.0
MBLK	Chloroethane			<0.25	ug/L				
MRL_CHK	Chloroethane		0.5	0.440	ug/L	88	(50-150)		
LCS1	Chloroform (Trichloromethane)		5.0	5.26	ug/L	105	(70-130)		
LCS2	Chloroform (Trichloromethane)		5.0	5.14	ug/L	103	(70-130)	20	2.3
MBLK	Chloroform (Trichloromethane)			<0.25	ug/L				
MRL_CHK	Chloroform (Trichloromethane)		0.5	0.490	ug/L	98	(50-150)		
LCS1	Chloromethane(Methyl Chloride)		5.0	5.12	ug/L	102	(70-130)		
LCS2	Chloromethane(Methyl Chloride)		5.0	5.19	ug/L	104	(70-130)	20	1.4
MBLK	Chloromethane(Methyl Chloride)			<0.25	ug/L				
MRL_CHK	Chloromethane(Methyl Chloride)		0.5	0.520	ug/L	104	(50-150)		
LCS1	cis-1,2-Dichloroethylene		5.0	5.35	ug/L	107	(70-130)		
LCS2	cis-1,2-Dichloroethylene		5.0	5.09	ug/L	102	(70-130)	20	5.0
MBLK	cis-1,2-Dichloroethylene			<0.25	ug/L				
MRL_CHK	cis-1,2-Dichloroethylene		0.5	0.490	ug/L	98	(50-150)		
LCS1	cis-1,3-Dichloropropene		5.0	5.42	ug/L	108	(70-130)		
LCS2	cis-1,3-Dichloropropene		5.0	5.44	ug/L	109	(70-130)	20	0.37
MBLK	cis-1,3-Dichloropropene			<0.25	ug/L				
MRL_CHK	cis-1,3-Dichloropropene		0.5	0.540	ug/L	108	(50-150)		
LCS1	Dibromomethane		5.0	5.29	ug/L	106	(70-130)		
LCS2	Dibromomethane		5.0	5.39	ug/L	108	(70-130)	20	1.9
MBLK	Dibromomethane			<0.25	ug/L				
MRL_CHK	Dibromomethane		0.5	0.500	ug/L	100	(50-150)		
LCS1	Dichlorodifluoromethane		5.0	5.52	ug/L	110	(70-130)		
LCS2	Dichlorodifluoromethane		5.0	5.26	ug/L	105	(70-130)	20	4.8
MBLK	Dichlorodifluoromethane			<0.25	ug/L				
MRL_CHK	Dichlorodifluoromethane		0.5	0.450	ug/L	90	(50-150)		
LCS1	Dichloromethane		5.0	5.23	ug/L	105	(70-130)		
LCS2	Dichloromethane		5.0	5.08	ug/L	102	(70-130)	20	2.9
MBLK	Dichloromethane			<0.25	ug/L				
MRL_CHK	Dichloromethane		0.5	0.540	ug/L	108	(50-150)		
LCS1	Di-isopropyl ether		5.0	4.83	ug/L	97	(70-130)		
LCS2	Di-isopropyl ether		5.0	4.83	ug/L	97	(70-130)	20	0.0
MBLK	Di-isopropyl ether			<1.5	ug/L				
MRL_CHK	Di-isopropyl ether		0.5	0.490	ug/L	98	(50-150)		
LCS1	Ethyl benzene		5.0	5.29	ug/L	106	(70-130)		
LCS2	Ethyl benzene		5.0	5.2	ug/L	104	(70-130)	20	1.7
MBLK	Ethyl benzene			<0.25	ug/L				

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.



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1 800 566 LABS (1 800 566 5227)

Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Ethyl benzene		0.5	0.520	ug/L	104	(50-150)		
LCS1	Hexachlorobutadiene		5.0	5.13	ug/L	103	(70-130)		
LCS2	Hexachlorobutadiene		5.0	5.44	ug/L	109	(70-130)	20	5.9
MBLK	Hexachlorobutadiene			<0.25	ug/L				
MRL_CHK	Hexachlorobutadiene		0.5	0.570	ug/L	114	(50-150)		
LCS1	Isopropylbenzene		5.0	5.29	ug/L	106	(70-130)		
LCS2	Isopropylbenzene		5.0	5.37	ug/L	107	(70-130)	20	1.5
MBLK	Isopropylbenzene			<0.25	ug/L				
MRL_CHK	Isopropylbenzene		0.5	0.510	ug/L	102	(50-150)		
LCS1	m,p-Xylenes		10	10.8	ug/L	108	(70-130)		
LCS2	m,p-Xylenes		10	10.9	ug/L	109	(70-130)	20	0.92
MBLK	m,p-Xylenes			<0.25	ug/L				
MRL_CHK	m,p-Xylenes		1.0	1.02	ug/L	102	(50-150)		
MRLW	m,p-Xylenes		0.5	0.520	ug/L	104	(50-150)		
LCS1	m-Dichlorobenzene (1,3-DCB)		5.0	5.36	ug/L	107	(70-130)		
LCS2	m-Dichlorobenzene (1,3-DCB)		5.0	5.34	ug/L	107	(70-130)	20	0.37
MBLK	m-Dichlorobenzene (1,3-DCB)			<0.25	ug/L				
MRL_CHK	m-Dichlorobenzene (1,3-DCB)		0.5	0.540	ug/L	108	(50-150)		
LCS1	Methyl Tert-butyl ether (MTBE)		5.0	4.83	ug/L	97	(70-130)		
LCS2	Methyl Tert-butyl ether (MTBE)		5.0	4.84	ug/L	97	(70-130)	20	0.21
MBLK	Methyl Tert-butyl ether (MTBE)			<0.25	ug/L				
MRL_CHK	Methyl Tert-butyl ether (MTBE)		0.5	0.480	ug/L	96	(50-150)		
LCS1	Naphthalene		5.0	5.53	ug/L	111	(70-130)		
LCS2	Naphthalene		5.0	5.73	ug/L	115	(70-130)	20	3.5
MBLK	Naphthalene			<0.25	ug/L				
MRL_CHK	Naphthalene		0.5	0.610	ug/L	122	(50-150)		
LCS1	n-Butylbenzene		5.0	5.34	ug/L	107	(70-130)		
LCS2	n-Butylbenzene		5.0	5.56	ug/L	111	(70-130)	20	4.0
MBLK	n-Butylbenzene			<0.25	ug/L				
MRL_CHK	n-Butylbenzene		0.5	0.530	ug/L	106	(50-150)		
LCS1	n-Propylbenzene		5.0	5.56	ug/L	111	(70-130)		
LCS2	n-Propylbenzene		5.0	5.53	ug/L	111	(70-130)	20	0.54
MBLK	n-Propylbenzene			<0.25	ug/L				
MRL_CHK	n-Propylbenzene		0.5	0.490	ug/L	98	(50-150)		
LCS1	o-Chlorotoluene		5.0	5.49	ug/L	110	(70-130)		
LCS2	o-Chlorotoluene		5.0	5.41	ug/L	108	(70-130)	20	1.5
MBLK	o-Chlorotoluene			<0.25	ug/L				
MRL_CHK	o-Chlorotoluene		0.5	0.530	ug/L	106	(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.

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Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	o-Dichlorobenzene (1,2-DCB)		5.0	5.25	ug/L	105	(70-130)		
LCS2	o-Dichlorobenzene (1,2-DCB)		5.0	5.43	ug/L	109	(70-130)	20	3.4
MBLK	o-Dichlorobenzene (1,2-DCB)			<0.25	ug/L				
MRL_CHK	o-Dichlorobenzene (1,2-DCB)		0.5	0.530	ug/L	106	(50-150)		
LCS1	o-Xylene		5.0	5.64	ug/L	113	(70-130)		
LCS2	o-Xylene		5.0	5.51	ug/L	110	(70-130)	20	2.3
MBLK	o-Xylene			<0.25	ug/L				
MRL_CHK	o-Xylene		0.5	0.510	ug/L	102	(50-150)		
LCS1	p-Chlorotoluene		5.0	5.28	ug/L	106	(70-130)		
LCS2	p-Chlorotoluene		5.0	5.25	ug/L	105	(70-130)	20	0.57
MBLK	p-Chlorotoluene			<0.25	ug/L				
MRL_CHK	p-Chlorotoluene		0.5	0.490	ug/L	98	(50-150)		
LCS1	p-Dichlorobenzene (1,4-DCB)		5.0	5.39	ug/L	108	(70-130)		
LCS2	p-Dichlorobenzene (1,4-DCB)		5.0	5.56	ug/L	111	(70-130)	20	3.1
MBLK	p-Dichlorobenzene (1,4-DCB)			<0.25	ug/L				
MRL_CHK	p-Dichlorobenzene (1,4-DCB)		0.5	0.530	ug/L	106	(50-150)		
LCS1	p-Isopropyltoluene		5.0	5.58	ug/L	112	(70-130)		
LCS2	p-Isopropyltoluene		5.0	5.69	ug/L	114	(70-130)	20	2.0
MBLK	p-Isopropyltoluene			<0.25	ug/L				
MRL_CHK	p-Isopropyltoluene		0.5	0.540	ug/L	108	(50-150)		
LCS1	sec-Butylbenzene		5.0	5.24	ug/L	105	(70-130)		
LCS2	sec-Butylbenzene		5.0	5.37	ug/L	107	(70-130)	20	2.5
MBLK	sec-Butylbenzene			<0.25	ug/L				
MRL_CHK	sec-Butylbenzene		0.5	0.540	ug/L	108	(50-150)		
LCS1	Styrene		5.0	5.62	ug/L	112	(70-130)		
LCS2	Styrene		5.0	5.42	ug/L	108	(70-130)	20	3.6
MBLK	Styrene			<0.25	ug/L				
MRL_CHK	Styrene		0.5	0.530	ug/L	106	(50-150)		
LCS1	tert-amyl Methyl Ether		5.0	5.12	ug/L	102	(70-130)		
LCS2	tert-amyl Methyl Ether		5.0	5.01	ug/L	100	(70-130)	20	2.2
MBLK	tert-amyl Methyl Ether			<1.5	ug/L				
MRL_CHK	tert-amyl Methyl Ether		0.5	0.500	ug/L	100	(50-150)		
LCS1	tert-Butyl Ethyl Ether		5.0	5.03	ug/L	101	(70-130)		
LCS2	tert-Butyl Ethyl Ether		5.0	5.02	ug/L	100	(70-130)	20	0.20
MBLK	tert-Butyl Ethyl Ether			<1.5	ug/L				
MRL_CHK	tert-Butyl Ethyl Ether		0.5	0.530	ug/L	106	(50-150)		
LCS1	tert-Butylbenzene		5.0	5.37	ug/L	107	(70-130)		
LCS2	tert-Butylbenzene		5.0	5.43	ug/L	109	(70-130)	20	1.1

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.



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Laboratory QC
Report: 397098

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Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	tert-Butylbenzene			<0.25	ug/L				
MRL_CHK	tert-Butylbenzene		0.5	0.540	ug/L	108	(50-150)		
LCS1	Tetrachloroethylene (PCE)		5.0	5.05	ug/L	101	(70-130)		
LCS2	Tetrachloroethylene (PCE)		5.0	5.00	ug/L	100	(70-130)	20	1
MBLK	Tetrachloroethylene (PCE)			<0.25	ug/L				
MRL_CHK	Tetrachloroethylene (PCE)		0.5	0.490	ug/L	98	(50-150)		
LCS1	Toluene		5.0	5.23	ug/L	105	(70-130)		
LCS2	Toluene		5.0	5.1	ug/L	102	(70-130)	20	2.5
MBLK	Toluene			<0.25	ug/L				
MRL_CHK	Toluene		0.5	0.550	ug/L	110	(50-150)		
LCS1	Toluene-d8 (S)			101	%	101	(70-130)		
LCS2	Toluene-d8 (S)			100	%	100	(70-130)		
MBLK	Toluene-d8 (S)			98.4	%	98	(70-130)		
MRL_CHK	Toluene-d8 (S)			101	%	101	(70-130)		
MRLLW	Toluene-d8 (S)			99.0	%	99	(70-130)		
LCS1	trans-1,2-Dichloroethylene		5.0	5.3	ug/L	106	(70-130)		
LCS2	trans-1,2-Dichloroethylene		5.0	5.19	ug/L	104	(70-130)	20	2.1
MBLK	trans-1,2-Dichloroethylene			<0.25	ug/L				
MRL_CHK	trans-1,2-Dichloroethylene		0.5	0.530	ug/L	106	(50-150)		
LCS1	trans-1,3-Dichloropropene		5.0	5.33	ug/L	107	(70-130)		
LCS2	trans-1,3-Dichloropropene		5.0	5.28	ug/L	106	(70-130)	20	0.94
MBLK	trans-1,3-Dichloropropene			<0.25	ug/L				
MRL_CHK	trans-1,3-Dichloropropene		0.5	0.570	ug/L	114	(50-150)		
LCS1	Trichloroethylene (TCE)		5.0	5.29	ug/L	106	(70-130)		
LCS2	Trichloroethylene (TCE)		5.0	5.13	ug/L	103	(70-130)	20	3.1
MBLK	Trichloroethylene (TCE)			<0.25	ug/L				
MRL_CHK	Trichloroethylene (TCE)		0.5	0.500	ug/L	100	(50-150)		
LCS1	Trichlorofluoromethane		5.0	5.04	ug/L	101	(70-130)		
LCS2	Trichlorofluoromethane		5.0	4.95	ug/L	99	(70-130)	20	1.8
MBLK	Trichlorofluoromethane			<0.25	ug/L				
MRL_CHK	Trichlorofluoromethane		0.5	0.480	ug/L	96	(50-150)		
LCS1	Trichlorotrifluoroethane(Freon		5.0	4.74	ug/L	95	(70-130)		
LCS2	Trichlorotrifluoroethane(Freon		5.0	4.58	ug/L	92	(70-130)	20	3.4
MBLK	Trichlorotrifluoroethane(Freon			<0.25	ug/L				
MRL_CHK	Trichlorotrifluoroethane(Freon		0.5	0.470	ug/L	94	(50-150)		
LCS1	Vinyl chloride (VC)		5.0	5.48	ug/L	110	(70-130)		
LCS2	Vinyl chloride (VC)		5.0	5.21	ug/L	104	(70-130)	20	5.0
MBLK	Vinyl chloride (VC)			<0.15	ug/L				

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).

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Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Vinyl chloride (VC)		0.5	0.550	ug/L	110	(50-150)		
MRLLW	Vinyl chloride (VC)		0.25	0.240	ug/L	96	(50-150)		
QC Ref# 655478 - Diquat and Paraquat by EPA 549.2						Analysis Date: 05/25/2012			
CCCH	Diquat		20	20.1	ug/L	101	(80-120)		
CCCL	Diquat		0.4	0.390	ug/L	98	(80-120)		
CCCM	Diquat		10	10.6	ug/L	106	(80-120)		
CCCM	Diquat		10	10.5	ug/L	105	(80-120)		
LCS1	Diquat		5.0	5.18	ug/L	104	(70-130)		
LCS2	Diquat		5.0	4.82	ug/L	96	(70-130)	20	7.2
MBLK	Diquat			<0.2	ug/L				
MRL_CHK	Diquat		0.4	0.401	ug/L	100	(50-150)		
MS_201205180286	Diquat	ND	5.0	4.92	ug/L	98	(70-130)		
MS2_201205210053	Diquat	ND	5.0	4.84	ug/L	97	(70-130)		
MSD_201205180286	Diquat	ND	5.0	4.78	ug/L	96	(70-130)	20	2.9
CCCH	Paraquat		20	18.8	ug/L	94	(80-120)		
CCCL	Paraquat		2.0	2.23	ug/L	112	(80-120)		
CCCM	Paraquat		10	9.96	ug/L	100	(80-120)		
CCCM	Paraquat		10	9.87	ug/L	99	(80-120)		
LCS1	Paraquat		5.0	5.12	ug/L	102	(70-130)		
LCS2	Paraquat		5.0	4.55	ug/L	91	(70-130)	20	12
MBLK	Paraquat			<1	ug/L				
MRL_CHK	Paraquat		2.0	2.24	ug/L	112	(50-150)		
MS_201205180286	Paraquat	ND	5.0	4.73	ug/L	95	(70-130)		
MS2_201205210053	Paraquat	ND	5.0	4.52	ug/L	91	(70-130)		
MSD_201205180286	Paraquat	ND	5.0	4.53	ug/L	91	(70-130)	20	4.3
QC Ref# 655482 - 2,3,7,8-TCDD_Dioxin by EPA 1613B						Analysis Date: 05/25/2012			
LCS1	2,3,7,8-TCDD		200	158	pg/L	79	(73-146)		
MBLK	2,3,7,8-TCDD			<1.67	pg/L				
MRL_CHK	2,3,7,8-TCDD		5.0	6.4	pg/L	128	(50-150)		
MS_201205150076	2,3,7,8-TCDD	ND	200	147	pg/L	74	(73-146)		
MSD_201205150076	2,3,7,8-TCDD	ND	200	158	pg/L	79	(73-146)	20	7.2
LCS1	C12-2,3,7,8-TCDD			77.4	%	77	(25-141)		
MBLK	C12-2,3,7,8-TCDD			80.8	%				
MRL_CHK	C12-2,3,7,8-TCDD			77.0	%	77	(31-137)		
MS_201205150076	C12-2,3,7,8-TCDD	90		76.2	%	76	(25-141)		
MSD_201205150076	C12-2,3,7,8-TCDD	90		73.0	%	73	(25-141)		
QC Ref# 655626 - 1,2,3-Trichloropropane (SIM) by CASRL 524M-TCP						Analysis Date: 05/25/2012			

Spike recovery is already corrected for native results.

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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).

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
DUP_201205250011	1,2,3-Trichloropropane	ND		ND	ug/L		(0-20)		
DUP_201205180033	1,2,3-Trichloropropane	ND		ND	ug/L		(0-20)		
LCS1	1,2,3-Trichloropropane		0.01	0.00812	ug/L	81	(80-120)		
LCS2	1,2,3-Trichloropropane		0.01	0.00897	ug/L	90	(80-120)	20	9.9
MBLK	1,2,3-Trichloropropane			<0.005	ug/L				
MBLK	1,2,3-Trichloropropane			<0.005	ug/L				
MRL_CHK	1,2,3-Trichloropropane		0.005	0.00418	ug/L	84	(50-150)		
DUP_201205180033	Toluene-d8 (S)			90.4	%	90	(80-120)		
DUP_201205250011	Toluene-d8 (S)			83.6	%	84	(80-120)		
LCS1	Toluene-d8 (S)			83.3	%	83	(80-120)		
LCS2	Toluene-d8 (S)			93.4	%	93	(80-120)		
MBLK	Toluene-d8 (S)			98.8	%	99	(80-120)		
MBLK	Toluene-d8 (S)			83.6	%	84	(80-120)		
MRL_CHK	Toluene-d8 (S)			98.3	%	98	(80-120)		

QC Ref# 655654 - Aldicarbs by EPA 531.2

Analysis Date: 05/29/2012

CCCH	3-Hydroxycarbofuran		25	26.2	ug/L	105	(70-130)		
CCCM	3-Hydroxycarbofuran		10	10.6	ug/L	106	(70-130)		
LCS1	3-Hydroxycarbofuran		10	11.2	ug/L	112	(70-130)		
MBLK	3-Hydroxycarbofuran			<0.25	ug/L				
MRL_CHK	3-Hydroxycarbofuran		0.5	0.494	ug/L	99	(50-150)		
MS_201205170147	3-Hydroxycarbofuran	ND	10	10.5	ug/L	105	(70-130)		
MSD_201205170147	3-Hydroxycarbofuran	ND	10	10.0	ug/L	100	(70-130)	20	4.9
CCCH	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (I)			104	%	104	(70-130)		
CCCM	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (I)			110	%	110	(70-130)		
LCS1	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (I)			103	%	103	(70-130)		
MBLK	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (I)			80.9	%	81	(70-130)		
MRL_CHK	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (I)			87.2	%	87	(70-130)		
MS_201205170147	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (I)			88.1	%	88	(70-130)		
MSD_201205170147	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (I)			99.3	%	99	(70-130)		
CCCH	Aldicarb (Temik)		25	23.3	ug/L	93	(70-130)		
CCCM	Aldicarb (Temik)		10	9.65	ug/L	97	(70-130)		
LCS1	Aldicarb (Temik)		10	9.69	ug/L	97	(70-130)		
MBLK	Aldicarb (Temik)			<0.25	ug/L				
MRL_CHK	Aldicarb (Temik)		0.5	0.444	ug/L	89	(50-150)		
MS_201205170147	Aldicarb (Temik)	ND	10	10.0	ug/L	100	(70-130)		
MSD_201205170147	Aldicarb (Temik)	ND	10	10.0	ug/L	100	(70-130)	20	0.0
CCCH	Aldicarb sulfone		25	24.7	ug/L	99	(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.



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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCM	Aldicarb sulfone		10	10.2	ug/L	102	(70-130)		
LCS1	Aldicarb sulfone		10	9.63	ug/L	96	(70-130)		
MBLK	Aldicarb sulfone			<0.25	ug/L				
MRL_CHK	Aldicarb sulfone		0.5	0.504	ug/L	101	(50-150)		
MS_201205170147	Aldicarb sulfone	ND	10	9.94	ug/L	99	(70-130)		
MSD_201205170147	Aldicarb sulfone	ND	10	9.56	ug/L	96	(70-130)	20	3.9
CCCH	Aldicarb sulfoxide		25	24.9	ug/L	100	(70-130)		
CCCM	Aldicarb sulfoxide		10	9.97	ug/L	100	(70-130)		
LCS1	Aldicarb sulfoxide		10	11.7	ug/L	117	(70-130)		
MBLK	Aldicarb sulfoxide			<0.25	ug/L				
MRL_CHK	Aldicarb sulfoxide		0.5	0.506	ug/L	101	(50-150)		
MS_201205170147	Aldicarb sulfoxide	ND	10	9.54	ug/L	95	(70-130)		
MSD_201205170147	Aldicarb sulfoxide	ND	10	9.52	ug/L	95	(70-130)	20	0.21
CCCH	Baygon		25	25.6	ug/L	102	(70-130)		
CCCM	Baygon		10	10.6	ug/L	106	(70-130)		
LCS1	Baygon		10	10.7	ug/L	107	(70-130)		
MBLK	Baygon			<0.25	ug/L				
MRL_CHK	Baygon		0.5	0.527	ug/L	105	(50-150)		
MS_201205170147	Baygon	ND	10	9.74	ug/L	97	(70-130)		
MSD_201205170147	Baygon	ND	10	10.3	ug/L	103	(70-130)	20	5.6
CCCH	Carbaryl		25	25.6	ug/L	102	(70-130)		
CCCM	Carbaryl		10	10.4	ug/L	104	(70-130)		
LCS1	Carbaryl		10	11.0	ug/L	110	(70-130)		
MBLK	Carbaryl			<0.25	ug/L				
MRL_CHK	Carbaryl		0.5	0.479	ug/L	96	(50-150)		
MS_201205170147	Carbaryl	ND	10	9.92	ug/L	99	(70-130)		
MSD_201205170147	Carbaryl	ND	10	9.97	ug/L	100	(70-130)	20	0.50
CCCH	Carbofuran (Furadan)		25	25.1	ug/L	100	(70-130)		
CCCM	Carbofuran (Furadan)		10	10.7	ug/L	107	(70-130)		
LCS1	Carbofuran (Furadan)		10	11.0	ug/L	110	(70-130)		
MBLK	Carbofuran (Furadan)			<0.25	ug/L				
MRL_CHK	Carbofuran (Furadan)		0.5	0.562	ug/L	112	(50-150)		
MS_201205170147	Carbofuran (Furadan)	ND	10	9.9	ug/L	99	(70-130)		
MSD_201205170147	Carbofuran (Furadan)	ND	10	9.87	ug/L	99	(70-130)	20	0.30
CCCH	Methiocarb		25	24.2	ug/L	97	(70-130)		
CCCM	Methiocarb		10	10.2	ug/L	102	(70-130)		
LCS1	Methiocarb		10	10.7	ug/L	107	(70-130)		
MBLK	Methiocarb			<0.25	ug/L				

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.

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Methiocarb		0.5	0.385	ug/L	77	(50-150)		
MS_201205170147	Methiocarb	ND	10	9.44	ug/L	94	(70-130)		
MSD_201205170147	Methiocarb	ND	10	9.59	ug/L	96	(70-130)	20	1.6
CCCH	Methomyl		25	25.8	ug/L	103	(70-130)		
CCCM	Methomyl		10	10.4	ug/L	104	(70-130)		
LCS1	Methomyl		10	10.8	ug/L	108	(70-130)		
MBLK	Methomyl			<0.25	ug/L				
MRL_CHK	Methomyl		0.5	0.488	ug/L	98	(50-150)		
MS_201205170147	Methomyl	ND	10	9.76	ug/L	98	(70-130)		
MSD_201205170147	Methomyl	ND	10	9.86	ug/L	99	(70-130)	20	1.0
CCCH	Oxamyl (Vydate)		25	25.5	ug/L	102	(70-130)		
CCCM	Oxamyl (Vydate)		10	10.3	ug/L	103	(70-130)		
LCS1	Oxamyl (Vydate)		10	10.6	ug/L	106	(70-130)		
MBLK	Oxamyl (Vydate)			<0.25	ug/L				
MRL_CHK	Oxamyl (Vydate)		0.5	0.478	ug/L	96	(50-150)		
MS_201205170147	Oxamyl (Vydate)	ND	10	10.4	ug/L	104	(70-130)		
MSD_201205170147	Oxamyl (Vydate)	ND	10	10.1	ug/L	101	(70-130)	20	2.9

QC Ref# 655873 - Specific Conductance by SM2510B

Analysis Date: 05/30/2012

DUP1_201205300878	Specific Conductance	2000		2050	umho/cm		(0-20)	20	2.8
DUP1_201205300879	Specific Conductance	1300		1260	umho/cm		(0-20)	20	0.23
LCS1	Specific Conductance		1000	996	umho/cm	100	(95-105)		
LCS2	Specific Conductance		1000	998	umho/cm	100	(95-105)	20	0.20
MBLK	Specific Conductance			<2	umho/cm				
MRL_CHK	Specific Conductance		2.0	1.8	umho/cm	90	(50-150)		

QC Ref# 655876 - Alkalinity in CaCO3 units by SM 2320B

Analysis Date: 05/30/2012

LCS1	Alkalinity in CaCO3 units		100	95.0	mg/L	95	(90-110)		
LCS2	Alkalinity in CaCO3 units		100	96.3	mg/L	96	(90-110)	20	1.4
MBLK	Alkalinity in CaCO3 units			<2	mg/L				
MRL_CHK	Alkalinity in CaCO3 units		2.0	1.88	mg/L	94	(50-150)		
MS_201205170483	Alkalinity in CaCO3 units	200	100	289	mg/L	91	(80-120)		
MS_201205160164	Alkalinity in CaCO3 units	230	100	334	mg/L	99	(80-120)		
MSD_201205170483	Alkalinity in CaCO3 units	200	100	289	mg/L	91	(80-120)	20	0.0
MSD_201205160164	Alkalinity in CaCO3 units	230	100	332	mg/L	97	(80-120)	20	0.60

QC Ref# 656164 - EPA Method 504.1 by EPA 504.1

Analysis Date: 05/31/2012

CCCM	1,2-Dibromo-3-chloropropane		0.25	0.222	ug/L	89	(70-130)		
DUP_201205190069	1,2-Dibromo-3-chloropropane	0.052		0.0479	ug/L		(0-20)	20	8.0
MBLK	1,2-Dibromo-3-chloropropane			<0.01	ug/L				

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.

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	1,2-Dibromo-3-chloropropane		0.01	0.0105	ug/L	105	(60-140)		
MS_201205180033	1,2-Dibromo-3-chloropropane	ND	0.25	0.234	ug/L	94	(65-135)		
CCCM	1,2-Dibromoethane		0.25	0.246	ug/L	98	(70-130)		
DUP_201205190069	1,2-Dibromoethane	ND		ND	ug/L		(0-20)		
MBLK	1,2-Dibromoethane			<0.01	ug/L				
MRL_CHK	1,2-Dibromoethane		0.01	0.0104	ug/L	104	(60-140)		
MS_201205180033	1,2-Dibromoethane	ND	0.25	0.250	ug/L	100	(65-135)		
CCCM	1,2-Dibromopropane (S)			102	%	102	(60-140)		
DUP_201205190069	1,2-Dibromopropane (S)			104	%	104	(60-140)		
MBLK	1,2-Dibromopropane (S)			109	%	109	(60-140)		
MRL_CHK	1,2-Dibromopropane (S)			106	%	106	(60-140)		
MRLLW	1,2-Dibromopropane (S)			111	%	111	(60-140)		
MS_201205180033	1,2-Dibromopropane (S)			99.1	%	99	(60-140)		

QC Ref# 656179 - Semivolatiles by GCMS by EPA 525.2

Analysis Date: 05/31/2012

LCS1	1,3-Dimethyl-2-nitrobenzene (S)			99.5	%	99	(70-130)		
LCS2	1,3-Dimethyl-2-nitrobenzene (S)			99.2	%	99	(70-130)		
MBLK	1,3-Dimethyl-2-nitrobenzene (S)			97.2	%	97	(70-130)		
MRL_CHK	1,3-Dimethyl-2-nitrobenzene (S)			99.1	%	99	(70-130)		
MS_201205180143	1,3-Dimethyl-2-nitrobenzene (S)			95.6	%	96	(70-130)		
LCS1	2,4-Dinitrotoluene		2.0	2.06	ug/L	103	(70-130)		
LCS2	2,4-Dinitrotoluene		2.0	2.14	ug/L	107	(70-130)	20	3.8
MBLK	2,4-Dinitrotoluene			<0.05	ug/L				
MRL_CHK	2,4-Dinitrotoluene		0.1	0.0850	ug/L	85	(50-150)		
MS_201205180143	2,4-Dinitrotoluene		2.0	2.06	ug/L	103	(70-130)		
LCS1	Acenaphthene-d10 (I)			88.6	%	89	(50-150)		
LCS2	Acenaphthene-d10 (I)			86.1	%	86	(50-150)		
MBLK	Acenaphthene-d10 (I)			95.7	%	96	(50-150)		
MRL_CHK	Acenaphthene-d10 (I)			91.1	%	91	(50-150)		
MS_201205180143	Acenaphthene-d10 (I)			90.3	%	90	(50-150)		
LCS1	Acenaphthylene		2.0	1.75	ug/L	87	(70-130)		
LCS2	Acenaphthylene		2.0	1.84	ug/L	92	(70-130)	20	5.0
MBLK	Acenaphthylene			<0.05	ug/L				
MRL_CHK	Acenaphthylene		0.1	0.0940	ug/L	94	(50-150)		
MS_201205180143	Acenaphthylene		2.0	1.8	ug/L	90	(70-130)		
LCS1	Alachlor		2.0	2.02	ug/L	101	(70-130)		
LCS2	Alachlor		2.0	1.97	ug/L	98	(70-130)	20	2.5
MBLK	Alachlor			<0.025	ug/L				

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.

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Alachlor		0.05	0.0550	ug/L	110	(50-150)		
MS_201205180143	Alachlor		2.0	1.93	ug/L	97	(70-130)		
LCS1	Aldrin		2.0	1.66	ug/L	83	(70-130)		
LCS2	Aldrin		2.0	1.72	ug/L	86	(70-130)	20	3.5
MBLK	Aldrin			<0.025	ug/L				
MRL_CHK	Aldrin		0.05	0.0350	ug/L	70	(50-150)		
MS_201205180143	Aldrin		2.0	1.7	ug/L	85	(70-130)		
LCS1	alpha-Chlordane		2.0	1.94	ug/L	97	(70-130)		
LCS2	alpha-Chlordane		2.0	1.83	ug/L	92	(70-130)	20	5.8
MBLK	alpha-Chlordane			<0.025	ug/L				
MRL_CHK	alpha-Chlordane		0.05	0.0420	ug/L	84	(50-150)		
MS_201205180143	alpha-Chlordane		2.0	1.79	ug/L	90	(70-130)		
LCS1	Anthracene		2.0	1.83	ug/L	92	(70-130)		
LCS2	Anthracene		2.0	1.72	ug/L	86	(70-130)	20	6.2
MBLK	Anthracene			<0.02	ug/L				
MRL_CHK	Anthracene		0.02	0.0140	ug/L	70	(50-150)		
MS_201205180143	Anthracene		2.0	1.31	ug/L	<u>65</u>	(70-130)		
LCS1	Atrazine		2.0	2.13	ug/L	107	(70-130)		
LCS2	Atrazine		2.0	2.14	ug/L	107	(70-130)	20	0.47
MBLK	Atrazine			<0.025	ug/L				
MRL_CHK	Atrazine		0.05	0.0600	ug/L	120	(50-150)		
MS_201205180143	Atrazine	ND	2.0	2.08	ug/L	104	(70-130)		
LCS1	Benz(a)Anthracene		2.0	1.97	ug/L	99	(70-130)		
LCS2	Benz(a)Anthracene		2.0	1.94	ug/L	97	(70-130)	20	1.5
MBLK	Benz(a)Anthracene			<0.025	ug/L				
MRL_CHK	Benz(a)Anthracene		0.05	0.0500	ug/L	100	(50-150)		
MS_201205180143	Benz(a)Anthracene		2.0	1.78	ug/L	89	(70-130)		
LCS1	Benzo(a)pyrene		2.0	2.16	ug/L	108	(70-130)		
LCS2	Benzo(a)pyrene		2.0	2.13	ug/L	106	(70-130)	20	1.4
MBLK	Benzo(a)pyrene			<0.01	ug/L				
MRL_CHK	Benzo(a)pyrene		0.02	0.0140	ug/L	70	(50-150)		
MS_201205180143	Benzo(a)pyrene	ND	2.0	1.95	ug/L	97	(70-130)		
LCS1	Benzo(b)Fluoranthene		2.0	2.19	ug/L	110	(70-130)		
LCS2	Benzo(b)Fluoranthene		2.0	2.29	ug/L	115	(70-130)	20	4.5
MBLK	Benzo(b)Fluoranthene			<0.01	ug/L				
MRL_CHK	Benzo(b)Fluoranthene		0.02	0.0210	ug/L	105	(50-150)		
MS_201205180143	Benzo(b)Fluoranthene		2.0	2.09	ug/L	105	(70-130)		
LCS1	Benzo(g,h,i)Perylene		2.0	2.34	ug/L	117	(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).

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Report: 397098

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Benzo(g,h,i)Perylene		2.0	2.31	ug/L	116	(70-130)	20	1.3
MBLK	Benzo(g,h,i)Perylene			<0.025	ug/L				
MRL_CHK	Benzo(g,h,i)Perylene		0.05	0.0430	ug/L	86	(50-150)		
MS_201205180143	Benzo(g,h,i)Perylene		2.0	2.1	ug/L	105	(70-130)		
LCS1	Benzo(k)Fluoranthene		2.0	2.3	ug/L	115	(70-130)		
LCS2	Benzo(k)Fluoranthene		2.0	2.19	ug/L	109	(70-130)	20	4.9
MBLK	Benzo(k)Fluoranthene			<0.01	ug/L				
MRL_CHK	Benzo(k)Fluoranthene		0.02	0.0170	ug/L	85	(50-150)		
MS_201205180143	Benzo(k)Fluoranthene		2.0	1.92	ug/L	96	(70-130)		
LCS1	Bromacil		2.0	2.15	ug/L	108	(70-130)		
LCS2	Bromacil		2.0	2.1	ug/L	105	(70-130)	20	2.4
MBLK	Bromacil			<0.05	ug/L				
MRL_CHK	Bromacil		0.1	0.0780	ug/L	78	(50-150)		
MS_201205180143	Bromacil		2.0	2.05	ug/L	102	(70-130)		
LCS1	Butachlor		2.0	2.16	ug/L	108	(70-130)		
LCS2	Butachlor		2.0	2.04	ug/L	102	(70-130)	20	5.7
MBLK	Butachlor			<0.025	ug/L				
MRL_CHK	Butachlor		0.05	0.0450	ug/L	90	(50-150)		
MS_201205180143	Butachlor		2.0	1.98	ug/L	99	(70-130)		
LCS1	Butylbenzylphthalate		2.0	2.06	ug/L	103	(70-130)		
LCS2	Butylbenzylphthalate		2.0	2.02	ug/L	101	(70-130)	20	2.0
MBLK	Butylbenzylphthalate			<0.15	ug/L				
MRL_CHK	Butylbenzylphthalate		0.15	0.157	ug/L	105	(50-150)		
MS_201205180143	Butylbenzylphthalate		2.0	1.91	ug/L	95	(70-130)		
LCS1	Caffeine by method 525mod		2.0	1.91	ug/L	96	(45-137)		
LCS2	Caffeine by method 525mod		2.0	1.91	ug/L	95	(45-137)	20	0.0
MBLK	Caffeine by method 525mod			<0.01	ug/L				
MRL_CHK	Caffeine by method 525mod		0.05	0.0430	ug/L	86	(50-150)		
MS_201205180143	Caffeine by method 525mod		2.0	1.84	ug/L	92	(46-144)		
LCS1	Chrysene		2.0	2.07	ug/L	104	(70-130)		
LCS2	Chrysene		2.0	2.03	ug/L	102	(70-130)	20	2.0
MBLK	Chrysene			<0.01	ug/L				
MRL_CHK	Chrysene		0.02	0.0220	ug/L	110	(50-150)		
MS_201205180143	Chrysene		2.0	1.92	ug/L	96	(70-130)		
LCS1	Chrysene-d12 (I)			88.7	%	89	(50-150)		
LCS2	Chrysene-d12 (I)			86.6	%	87	(50-150)		
MBLK	Chrysene-d12 (I)			93.1	%	93	(50-150)		
MRL_CHK	Chrysene-d12 (I)			77.8	%	78	(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.



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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS_201205180143	Chrysene-d12 (I)			93.8	%	94	(50-150)		
LCS1	Di-(2-Ethylhexyl)adipate		2.0	2.00	ug/L	100	(70-130)		
LCS2	Di-(2-Ethylhexyl)adipate		2.0	1.93	ug/L	97	(70-130)	20	3.6
MBLK	Di-(2-Ethylhexyl)adipate			<0.15	ug/L				
MRL_CHK	Di-(2-Ethylhexyl)adipate		0.3	0.280	ug/L	93	(50-150)		
MS_201205180143	Di-(2-Ethylhexyl)adipate	ND	2.0	1.82	ug/L	91	(70-130)		
LCS1	Di(2-Ethylhexyl)phthalate		2.0	1.97	ug/L	98	(70-130)		
LCS2	Di(2-Ethylhexyl)phthalate		2.0	1.91	ug/L	95	(70-130)	20	3.1
MBLK	Di(2-Ethylhexyl)phthalate			<0.15	ug/L				
MRL_CHK	Di(2-Ethylhexyl)phthalate		0.6	0.634	ug/L	106	(50-150)		
MS_201205180143	Di(2-Ethylhexyl)phthalate	ND	2.0	1.79	ug/L	90	(70-130)		
LCS1	Diazinon (Qualitative)		2.0	1.92	ug/L	96	(70-130)		
LCS2	Diazinon (Qualitative)		2.0	1.92	ug/L	96	(70-130)	20	0.0
MBLK	Diazinon (Qualitative)			<0.10	ug/L				
MRL_CHK	Diazinon (Qualitative)		0.1	0.0820	ug/L	82	(50-150)		
MS_201205180143	Diazinon (Qualitative)		2.0	1.92	ug/L	96	(70-130)		
LCS1	Dibenz(a,h)Anthracene		2.0	2.29	ug/L	114	(70-130)		
LCS2	Dibenz(a,h)Anthracene		2.0	2.32	ug/L	116	(70-130)	20	1.3
MBLK	Dibenz(a,h)Anthracene			<0.025	ug/L				
MRL_CHK	Dibenz(a,h)Anthracene		0.05	0.0510	ug/L	102	(50-150)		
MS_201205180143	Dibenz(a,h)Anthracene		2.0	2.11	ug/L	106	(70-130)		
LCS1	Dieldrin		2.0	1.83	ug/L	92	(70-130)		
LCS2	Dieldrin		2.0	1.8	ug/L	90	(70-130)	20	1.6
MBLK	Dieldrin			<0.05	ug/L				
MRL_CHK	Dieldrin		0.1	0.0900	ug/L	90	(50-150)		
MS_201205180143	Dieldrin		2.0	1.74	ug/L	87	(70-130)		
LCS1	Diethylphthalate		2.0	2.1	ug/L	105	(70-130)		
LCS2	Diethylphthalate		2.0	2.12	ug/L	106	(70-130)	20	0.95
MBLK	Diethylphthalate			<0.15	ug/L				
MRL_CHK	Diethylphthalate		0.15	0.169	ug/L	113	(50-150)		
MS_201205180143	Diethylphthalate		2.0	2.05	ug/L	103	(70-130)		
LCS1	Dimethoate		2.0	1.84	ug/L	92	(35-100)		
LCS2	Dimethoate		2.0	1.85	ug/L	93	(35-100)	20	0.54
MBLK	Dimethoate			<0.05	ug/L				
MRL_CHK	Dimethoate		0.1	0.0700	ug/L	70	(35-100)		
MS_201205180143	Dimethoate		2.0	1.79	ug/L	89	(34-111)		
LCS1	Dimethylphthalate		2.0	1.99	ug/L	100	(70-130)		
LCS2	Dimethylphthalate		2.0	2.04	ug/L	102	(70-130)	20	2.5

Spike recovery is already corrected for native results.

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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).

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	Dimethylphthalate			<0.15	ug/L				
MRL_CHK	Dimethylphthalate		0.3	0.302	ug/L	101	(50-150)		
MS_201205180143	Dimethylphthalate		2.0	1.94	ug/L	97	(70-130)		
LCS1	Di-n-Butylphthalate		4.0	4.07	ug/L	102	(70-130)		
LCS2	Di-n-Butylphthalate		4.0	3.94	ug/L	99	(70-130)	20	3.3
MBLK	Di-n-Butylphthalate			<0.15	ug/L				
MRL_CHK	Di-n-Butylphthalate		0.3	0.325	ug/L	108	(50-150)		
MS_201205180143	Di-n-Butylphthalate		4.0	3.72	ug/L	93	(70-130)		
LCS1	Endrin		2.0	2.04	ug/L	102	(70-130)		
LCS2	Endrin		2.0	2.07	ug/L	104	(70-130)	20	1.5
MBLK	Endrin			<0.05	ug/L				
MRL_CHK	Endrin		0.1	0.105	ug/L	105	(50-150)		
MS_201205180143	Endrin		2.0	1.88	ug/L	94	(70-130)		
LCS1	Fluoranthene		2.0	2.03	ug/L	102	(70-130)		
LCS2	Fluoranthene		2.0	1.93	ug/L	97	(70-130)	20	5.0
MBLK	Fluoranthene			<0.05	ug/L				
MRL_CHK	Fluoranthene		0.05	0.0460	ug/L	92	(50-150)		
MS_201205180143	Fluoranthene		2.0	1.84	ug/L	92	(70-130)		
LCS1	Fluorene		2.0	2.00	ug/L	100	(70-130)		
LCS2	Fluorene		2.0	2.02	ug/L	101	(70-130)	20	1
MBLK	Fluorene			<0.05	ug/L				
MRL_CHK	Fluorene		0.05	0.0470	ug/L	94	(50-150)		
MS_201205180143	Fluorene		2.0	1.93	ug/L	97	(70-130)		
LCS1	gamma-Chlordane		2.0	1.93	ug/L	97	(70-130)		
LCS2	gamma-Chlordane		2.0	1.8	ug/L	90	(70-130)	20	7.0
MBLK	gamma-Chlordane			<0.025	ug/L				
MRL_CHK	gamma-Chlordane		0.05	0.0450	ug/L	90	(50-150)		
MS_201205180143	gamma-Chlordane		2.0	1.8	ug/L	90	(70-130)		
LCS1	Heptachlor		2.0	1.86	ug/L	93	(70-130)		
LCS2	Heptachlor		2.0	1.87	ug/L	94	(70-130)	20	0.54
MBLK	Heptachlor			<0.015	ug/L				
MRL_CHK	Heptachlor		0.04	0.0370	ug/L	93	(50-150)		
MS_201205180143	Heptachlor		2.0	1.77	ug/L	88	(70-130)		
LCS1	Heptachlor Epoxide (isomer B)		2.0	2.02	ug/L	101	(70-130)		
LCS2	Heptachlor Epoxide (isomer B)		2.0	1.98	ug/L	99	(70-130)	20	2.0
MBLK	Heptachlor Epoxide (isomer B)			<0.025	ug/L				
MRL_CHK	Heptachlor Epoxide (isomer B)		0.05	0.0430	ug/L	86	(50-150)		
MS_201205180143	Heptachlor Epoxide (isomer B)		2.0	1.92	ug/L	96	(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.

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Hexachlorobenzene		2.0	1.97	ug/L	99	(70-130)		
LCS2	Hexachlorobenzene		2.0	1.99	ug/L	99	(70-130)	20	1.0
MBLK	Hexachlorobenzene			<0.025	ug/L				
MRL_CHK	Hexachlorobenzene		0.05	0.0500	ug/L	100	(50-150)		
MS_201205180143	Hexachlorobenzene	ND	2.0	1.89	ug/L	94	(70-130)		
LCS1	Hexachlorocyclopentadiene		2.0	2.06	ug/L	103	(70-130)		
LCS2	Hexachlorocyclopentadiene		2.0	2.03	ug/L	102	(70-130)	20	1.5
MBLK	Hexachlorocyclopentadiene			<0.025	ug/L				
MRL_CHK	Hexachlorocyclopentadiene		0.05	0.0430	ug/L	86	(50-150)		
MS_201205180143	Hexachlorocyclopentadiene	ND	2.0	1.81	ug/L	91	(70-130)		
LCS1	Indeno(1,2,3,c,d)Pyrene		2.0	2.31	ug/L	115	(70-130)		
LCS2	Indeno(1,2,3,c,d)Pyrene		2.0	2.31	ug/L	116	(70-130)	20	0.43
MBLK	Indeno(1,2,3,c,d)Pyrene			<0.025	ug/L				
MRL_CHK	Indeno(1,2,3,c,d)Pyrene		0.05	0.0500	ug/L	100	(50-150)		
MS_201205180143	Indeno(1,2,3,c,d)Pyrene		2.0	2.1	ug/L	105	(70-130)		
LCS1	Isophorone		2.0	2.01	ug/L	101	(70-130)		
LCS2	Isophorone		2.0	2.00	ug/L	100	(70-130)	20	0.50
MBLK	Isophorone			<0.25	ug/L				
MRL_CHK	Isophorone		0.1	0.111	ug/L	111	(50-150)		
MS_201205180143	Isophorone		2.0	1.91	ug/L	96	(70-130)		
LCS1	Lindane		2.0	2.08	ug/L	104	(70-130)		
LCS2	Lindane		2.0	2.08	ug/L	104	(70-130)	20	0.0
MBLK	Lindane			<0.02	ug/L				
MRL_CHK	Lindane		0.04	0.0400	ug/L	100	(50-150)		
MS_201205180143	Lindane		2.0	2.05	ug/L	102	(70-130)		
LCS1	Methoxychlor		2.0	2.13	ug/L	106	(70-130)		
LCS2	Methoxychlor		2.0	2.11	ug/L	106	(70-130)	20	0.94
MBLK	Methoxychlor			<0.05	ug/L				
MRL_CHK	Methoxychlor		0.1	0.111	ug/L	111	(50-150)		
MS_201205180143	Methoxychlor		2.0	1.96	ug/L	98	(70-130)		
LCS1	Metolachlor		2.0	1.98	ug/L	99	(70-130)		
LCS2	Metolachlor		2.0	1.92	ug/L	96	(70-130)	20	3.1
MBLK	Metolachlor			<0.025	ug/L				
MRL_CHK	Metolachlor		0.05	0.0560	ug/L	112	(50-150)		
MS_201205180143	Metolachlor		2.0	1.85	ug/L	93	(70-130)		
LCS1	Metribuzin		2.0	2.1	ug/L	105	(70-130)		
LCS2	Metribuzin		2.0	2.05	ug/L	103	(70-130)	20	2.4
MBLK	Metribuzin			<0.05	ug/L				

Spike recovery is already corrected for native results.

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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.

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Laboratory QC
Report: 397098

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Metribuzin		0.05	0.0440	ug/L	88	(50-150)		
MS_201205180143	Metribuzin		2.0	2.01	ug/L	101	(70-130)		
LCS1	Molinate		2.0	2.04	ug/L	102	(70-130)		
LCS2	Molinate		2.0	2.06	ug/L	103	(70-130)	20	0.98
MBLK	Molinate			<0.05	ug/L				
MRL_CHK	Molinate		0.1	0.102	ug/L	102	(50-150)		
MS_201205180143	Molinate	ND	2.0	1.99	ug/L	100	(70-130)		
LCS1	Pentachlorophenol		8.0	8.21	ug/L	103	(70-130)		
LCS2	Pentachlorophenol		8.0	8.35	ug/L	104	(70-130)	20	1.7
MBLK	Pentachlorophenol			<0.6	ug/L				
MRL_CHK	Pentachlorophenol		0.5	0.615	ug/L	123	(50-150)		
MS_201205180143	Pentachlorophenol		8.0	8.39	ug/L	105	(70-130)		
LCS1	Perylene-d12 (S)			92.7	%	93	(70-130)		
LCS2	Perylene-d12 (S)			92.2	%	92	(70-130)		
MBLK	Perylene-d12 (S)			84.2	%	84	(70-130)		
MRL_CHK	Perylene-d12 (S)			81.6	%	82	(70-130)		
MS_201205180143	Perylene-d12 (S)			89.5	%	90	(70-130)		
LCS1	Phenanthrene		2.0	1.92	ug/L	96	(70-130)		
LCS2	Phenanthrene		2.0	1.9	ug/L	95	(70-130)	20	1.1
MBLK	Phenanthrene			<0.02	ug/L				
MRL_CHK	Phenanthrene		0.02	0.0170	ug/L	85	(50-150)		
MS_201205180143	Phenanthrene		2.0	1.81	ug/L	91	(70-130)		
LCS1	Phenanthrene-d10 (I)			91.9	%	92	(50-150)		
LCS2	Phenanthrene-d10 (I)			91.6	%	92	(50-150)		
MBLK	Phenanthrene-d10 (I)			98.5	%	99	(50-150)		
MRL_CHK	Phenanthrene-d10 (I)			93.4	%	93	(50-150)		
MS_201205180143	Phenanthrene-d10 (I)			97.3	%	97	(50-150)		
LCS1	Propachlor		2.0	1.98	ug/L	99	(70-130)		
LCS2	Propachlor		2.0	1.98	ug/L	99	(70-130)	20	0.0
MBLK	Propachlor			<0.025	ug/L				
MRL_CHK	Propachlor		0.05	0.0590	ug/L	118	(50-150)		
MS_201205180143	Propachlor		2.0	1.93	ug/L	97	(70-130)		
LCS1	Pyrene		2.0	2.06	ug/L	103	(70-130)		
LCS2	Pyrene		2.0	1.98	ug/L	99	(70-130)	20	4.0
MBLK	Pyrene			<0.025	ug/L				
MRL_CHK	Pyrene		0.05	0.0420	ug/L	84	(50-150)		
MS_201205180143	Pyrene		2.0	1.88	ug/L	94	(70-130)		
LCS1	Simazine		2.0	2.11	ug/L	105	(70-130)		

Spike recovery is already corrected for native results.

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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).

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Report: 397098

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Simazine		2.0	2.1	ug/L	105	(70-130)	20	0.48
MBLK	Simazine			<0.025	ug/L				
MRL_CHK	Simazine		0.05	0.0450	ug/L	90	(50-150)		
MS_201205180143	Simazine	ND	2.0	2.02	ug/L	101	(70-130)		
LCS1	Thiobencarb		2.0	2.06	ug/L	103	(70-130)		
LCS2	Thiobencarb		2.0	2.00	ug/L	100	(70-130)	20	3.4
MBLK	Thiobencarb			<0.1	ug/L				
MRL_CHK	Thiobencarb		0.1	0.0940	ug/L	94	(50-150)		
MS_201205180143	Thiobencarb	ND	2.0	1.92	ug/L	96	(70-130)		
LCS1	trans-Nonachlor		2.0	1.9	ug/L	95	(70-130)		
LCS2	trans-Nonachlor		2.0	1.84	ug/L	92	(70-130)	20	3.2
MBLK	trans-Nonachlor			<0.025	ug/L				
MRL_CHK	trans-Nonachlor		0.05	0.0460	ug/L	92	(50-150)		
MS_201205180143	trans-Nonachlor		2.0	1.76	ug/L	88	(70-130)		
LCS1	Trifluralin		2.0	2.02	ug/L	101	(70-130)		
LCS2	Trifluralin		2.0	2.05	ug/L	102	(70-130)	20	1.5
MBLK	Trifluralin			<0.05	ug/L				
MRL_CHK	Trifluralin		0.1	0.105	ug/L	105	(50-150)		
MS_201205180143	Trifluralin		2.0	1.97	ug/L	98	(70-130)		
LCS1	Triphenylphosphate (S)			104	%	104	(70-130)		
LCS2	Triphenylphosphate (S)			100	%	100	(70-130)		
MBLK	Triphenylphosphate (S)			102	%	102	(70-130)		
MRL_CHK	Triphenylphosphate (S)			104	%	104	(70-130)		
MS_201205180143	Triphenylphosphate (S)			105	%	105	(70-130)		

QC Ref# 656506 - TBA by EPA 524.2 Modified by EPA 524.2 SIM

Analysis Date: 05/30/2012

LCS1	1,2-Dichloroethane-d4			96.0	%	96	(70-130)		
LCS2	1,2-Dichloroethane-d4			94.0	%	94	(70-130)		
MBLK	1,2-Dichloroethane-d4			94.0	%				
MRL_CHK	1,2-Dichloroethane-d4			96.0	%	96	(70-130)		
LCS1	4-Bromofluorobenzene			102	%	102	(70-130)		
LCS2	4-Bromofluorobenzene			102	%	102	(70-130)		
MBLK	4-Bromofluorobenzene			100	%				
MRL_CHK	4-Bromofluorobenzene			100	%	100	(70-130)		
LCS1	t-Butyl Alcohol		5.0	3.98	ug/L	80	(70-130)		
LCS2	t-Butyl Alcohol		5.0	4.49	ug/L	90	(70-130)	20	12
MBLK	t-Butyl Alcohol			<1	ug/L				
MRL_CHK	t-Butyl Alcohol		2.0	1.84	ug/L	92	(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.



MWH
LABORATORIES
 A Division of MWH Americas, Inc.

Laboratory QC
Report: 397098

750 Royal Oak Dr., Suite 100
 Monrovia, California, 91016-3629
 Tel: 626 386 1100
 Fax: 626 386 1101
 1 800 566 LABS (1 800 566 5227)

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Toluene-d8			98.0	%	98	(70-130)		
LCS2	Toluene-d8			100	%	100	(70-130)		
MBLK	Toluene-d8			98.0	%				
MRL_CHK	Toluene-d8			100	%	100	(70-130)		

QC Ref# 657216 - Disinfection ByProducts by 300.0 by EPA 300.0

Analysis Date: 06/07/2012

LCS1	Bromide		100	102	ug/L	102	(90-110)		
LCS2	Bromide		100	104	ug/L	104	(90-110)	20	1.9
MBLK	Bromide			<5.0	ug/L				
MRL_CHK	Bromide		5.0	3.68	ug/L	74	(50-150)		
MS_201205310129	Bromide	ND	50	50.7	ug/L	101	(80-120)		
MS_201206060104	Bromide	140	50	198	ug/L	108	(80-120)		
MSD_201205310129	Bromide	ND	50	49.3	ug/L	99	(80-120)	15	2.8
MSD_201206060104	Bromide	140	50	198	ug/L	109	(80-120)	15	0.0
LCS1	Chlorate by IC		200	205	ug/L	103	(90-110)		
LCS2	Chlorate by IC		200	198	ug/L	99	(90-110)	20	3.5
MBLK	Chlorate by IC			<10	ug/L				
MRL_CHK	Chlorate by IC		10	9.5	ug/L	95	(75-125)		
MS_201205310129	Chlorate by IC	ND	100	99.5	ug/L	100	(80-120)		
MS_201206060104	Chlorate by IC		100	969	ug/L	95	(80-120)		
MSD_201206060104	Chlorate by IC		100	964	ug/L	90	(80-120)	15	0.52
MSD_201205310129	Chlorate by IC	ND	100	98.2	ug/L	98	(80-120)	15	1.3

QC Ref# 659054 - PH (H3=past HT not compliant) by SM4500-HB

Analysis Date: 06/19/2012

DUP_201206130262	PH (H3=past HT not compliant)	7.5		7.53	Units		(0-20)	20	0.054
DUP_201206120497	PH (H3=past HT not compliant)	8.6		8.64	Units		(0-20)	20	0.036
LCS1	PH (H3=past HT not compliant)		6.0	6.03	Units	101	(98-102)		
LCS2	PH (H3=past HT not compliant)		6.0	6.03	Units	101	(98-102)	20	0.0

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.

May 31, 2012

Ms. Jaclyn L. Contreras
MWH Americas, Inc.
Royal Oaks Dr.
Suite 100
Monrovia, CA 910163629

RE: Project: PACE PA 397098
Pace Project No.: 3070091

Dear Ms. Contreras:

Enclosed are the analytical results for sample(s) received by the laboratory on May 23, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

cc: Mr. Aleksandar D. Tomovich, MWH Americas, Inc.



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: PACE PA 397098

Pace Project No.: 3070091

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

AClass DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH 0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana/TNI Certification #: LA080002

Louisiana/TNI Certification #: 4086

Maine Certification #: PA0091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: ANTE

Virgin Island/PADEP Certification

Virginia Certification #: 00112

Virginia VELAP (Cert # 460198)

Washington Certification #: C868

West Virginia Certification #: 143

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

Page 2 of 10

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SAMPLE SUMMARY

Project: PACE PA 397098

Pace Project No.: 3070091

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3070091001	201205180033	Drinking Water	05/17/12 12:30	05/23/12 10:10

REPORT OF LABORATORY ANALYSIS

Page 3 of 10

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SAMPLE ANALYTE COUNT

Project: PACE PA 397098
Pace Project No.: 3070091

Lab ID	Sample ID	Method	Analysts	Analytes Reported
3070091001	201205180033	SM 7110C	JC2	1
		EPA 900.0	JC2	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: PACE PA 397098
Pace Project No.: 3070091

Method: SM 7110C
Description: 7110C Gross Alpha
Client: MWH Laboratories
Date: May 31, 2012

General Information:

1 sample was analyzed for SM 7110C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 5 of 10

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PROJECT NARRATIVE

Project: PACE PA 397098

Pace Project No.: 3070091

Method: EPA 900.0

Description: 900.0 Gross Alpha/Beta

Client: MWH Laboratories

Date: May 31, 2012

General Information:

1 sample was analyzed for EPA 900.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: PACE PA 397098

Pace Project No.: 3070091

Sample: 201205180033 **Lab ID: 3070091001** Collected: 05/17/12 12:30 Received: 05/23/12 10:10 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	SM 7110C	13.4 ± 1.70 (1.01)	pCi/L	05/30/12 19:48	12587-46-1	
Gross Beta	EPA 900.0	10.7 ± 9.71 (16.2)	pCi/L	05/29/12 20:27	12587-47-2	

QUALITY CONTROL DATA

Project: PACE PA 397098

Pace Project No.: 3070091

QC Batch: RADC/12171

Analysis Method: EPA 900.0

QC Batch Method: EPA 900.0

Analysis Description: 900.0 Gross Alpha/Beta

Associated Lab Samples: 3070091001

METHOD BLANK: 444816

Matrix: Water

Associated Lab Samples: 3070091001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Gross Beta	-0.076 ± 0.869 (2.14)	pCi/L	05/31/12 09:22	
Gross Beta	-0.502 ± 0.729 (1.98)	pCi/L	05/29/12 09:16	

QUALITY CONTROL DATA

Project: PACE PA 397098

Pace Project No.: 3070091

QC Batch: RADC/12202

Analysis Method: SM 7110C

QC Batch Method: SM 7110C

Analysis Description: 7110C Gross Alpha

Associated Lab Samples: 3070091001

METHOD BLANK: 446089

Matrix: Water

Associated Lab Samples: 3070091001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Gross Alpha	-0.371 ± 0.323 (1.02)	pCi/L	05/30/12 19:48	

QUALIFIERS

Project: PACE PA 397098

Pace Project No.: 3070091

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.



MWH

LABORATORIES

Ship To:

1638 Roseytown Road, Suite 2
PACE Analytical Services, Inc.

Greensburg, PA 15601

Phone: 724-850-5600 Fax: 724-850-5601

MWH Folder #: 397098 Report Due: 06/06/2012 Sub PO #: 99-16435

Submittal Form & Purchase Order 99-16435

Date: 5/22/2012

*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different MWH Folder Numbers!
Report & Invoice must have the MWH Folder# 397098 Sub PO# 99-16435 and Job # 1000014

Report all quality control data according to Method. Include dates analyzed. Date extracted (if extracted) and Method reference on the report.
Results must have Complete data & QC with Approval Signature.

Reports: Jackie Contreras Sub-Contracting Administrator
EMAIL TO: mwhlabs-subcontractreports@mwhglobal.com
MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Monrovia, CA 91016
Phone (626) 386-1165 Fax (626) 386-1122
Invoices to: MWH LABORATORIES
Accounts Payable PO BOX 6610, Broomfield, CO 80021

Provide in each Report the Specified State Certification # & Exp Date for requested tests + matrix.
Samples from: CALIFORNIA

10 day tat

3070091



Client Sample ID for reference only

PWS Systemcode PWSID

Sample

Date & Time Matrix

05/17/12 1230 DW

Gross Alpha by Co-precipitation (Sub)
Gross Beta (Sub)

001

JLS

201205180033 CCPA-1
@ACOPEDD
@BETA

SM 7110C
EPA 900.0

Relinquished by: M. DEWEBA Sample Control MWH Date 5-22-12 Time 12:39
Received by: [Signature] Date 5/23/12 Time 10:10

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS
An Acknowledgement of Receipt is requested to attn: Jackie Contreras



Sample Condition Upon Receipt

7/1

Client Name: MWH Project # 3070091

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 42942851 0740

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used 5 6 7 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature NA
Temp should be above freezing to 6°C

Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: <u>MSZ</u>
--

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, colform, TOC, O&G, W-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed <u>MSZ</u> Lot # of added preservative <u>RF120092-1</u>
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature] Date: 5/24/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)



Project Number: 3070091
 Client Name: MWH

Item No.	Matrix Code	Class Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem Nalgene (125 / 250 / 500 / 1L)	Radchem Nalgene (1/2 gal. / 1 galL)	Cubtrainer (500 ml / 4L)	Ziploc	Other	Other
001	SM																							

Quality Control Sample Performance Assessment

RCDU Upload

Analyte: JMC
Date: 5/30/2012
Worklist: 12171
Matrix: DW
Method: EPA 900.0
SOP: PGR-R-001
MS Sample ID: 444815



Method Blank Assessment			
Analyte	Activity	MDC	Assessment
Gross Alpha	0.1210	2.7160	
Gross Beta	-0.5020	1.9630	

Laboratory Control Sample Assessment			
Analyte	Count Rate	Gross Beta	Assessment
Count Rate	5/29/2012 9:16	5/29/2012 9:16	
Spikes I.D.	12-016	12-014GB	
Spikes Concentration [pCi/mL]	54.890	88.564	
Volume Used [mL]	0.050	0.050	
Aliquot Volume [L, g, F]	0.200	0.200	
Target Conc. [pCi/L, g, F]	13.722	22.141	
1.96 Sigma Uncertainty [Calculated]	0.484	0.434	
Result [pCi/L, g, F]	13.104	24.243	
1.96 Sigma Unc.	2.624	2.623	
% Recovery	95.49%	109.49%	
Assessment	Pass	Pass	
Upper % Recovery Limits	149.00%	130.00%	
Lower % Recovery Limits	62.00%	79.00%	

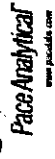
Duplicate Sample Assessment			
LCS/LCSD Y or N?	Y	Y	Y
Gross Alpha	LCS12171	LCS12171	LCS12171
Duplicate Sample I.D.	LCS012171	LCS012171	LCS012171
Sample Result [pCi/L, g, F]	2.6240	2.6230	2.6230
1.96 Sigma Unc.	13.7700	23.6510	23.6510
Sample Duplicate Result [pCi/L, g, F]	No	No	No
Duplicate Sample 1.96 Sigma Unc.	2.6130	2.5910	2.5910
Relative Percent Difference	4.96%	2.47%	2.47%
Assessment	Pass	Pass	Pass
% RPD Limit	35.00%	17.00%	17.00%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

CF/3/14

Sample Matrix Spike Control Assessment			
Analyte	Sample Collection Date	Gross Alpha	Gross Beta
Sample I.D.	5/22/2012	3070130001	3070130001
Sample MS I.D.	3070130001MS	3070130001MS	3070130001MS
Sample MSD I.D.	12-016	12-016	12-014GB
MS/MSD Decay Corrected Spike Conc. [pCi/mL]	54.890	54.890	88.567
Spike Volume Used in MS [mL]	0.10	0.10	0.10
MS Aliquot [L, g, F]	0.2000	0.2000	0.2000
MS Target Conc. [pCi/L, g, F]	27.445	27.445	44.304
MSD Target Conc. [pCi/L, g, F]	0.968	0.968	0.868
MSD Spike Uncertainty [Calculated]	5.892	5.892	7.144
Sample Result	2.962	2.962	1.819
Sample 1.96 Sigma Unc.	27.409	27.409	48.115
Sample Matrix Spike Result	4.909	4.909	3.609
Sample MS 1.96 Sigma Unc.	78.40%	78.40%	92.48%
Sample Matrix Spike Duplicate Result	Pass	Pass	Pass
MSD % Recovery	135.00%	135.00%	130.00%
MS Assessment	55.00%	55.00%	79.00%
MS/MSD Upper % Recovery Limits	Pass	Pass	Pass
MS/MSD Lower % Recovery Limits	135.00%	135.00%	130.00%
Matrix Spike/Matrix Spike Duplicate Sample Assessment	Pass	Pass	Pass



RCDU Upload

Quality Control Sample Performance Assessment

Analyst: JMC
Date: 5/31/2012
Worksheet: 12/202
Matrix: DW
Method: SM 7110C
SOP: PGHR-001
MB Sample ID: 446089

Method Blank Assessment			
Activity	1.96 Sig Unc.	MDC	Assessment
-0.3710	0.3160	1.0160	

Laboratory Control Sample Assessment			
	LCS	LCS-D	LCS
Analyst:	Gross Alpha		LCS-D
Count Date:	5/31/2012 7:45	5/31/2012 7:46	
Spikes I.D.:	12-016	12-016	
Spike Concentration (pCi/mL):	54.890	54.890	
Volume Used (mL):	0.050	0.050	
Aliquot Volume (L, g, F):	0.200	0.200	
Target Conc. (pCi/mL, g, F):	13.722	13.722	
1.96 Sigma Uncertainty (Calculated):	0.484	0.484	
Result (pCi/mL, g, F):	13.410	14.434	
1.96 Sigma (Inc. % Recov.):	2.618	2.766	
Assessment:	Pass	Pass	
Upper % Recovery Limits:	119.00%	119.00%	
Lower % Recovery Limits:	62.00%	62.00%	

Duplicate Sample Assessment			
LCS/LCS-D Y or N?			
Y	Gross Alpha		
	Sample I.D.:	LCS12202	
	Duplicate Sample I.D.:	LCSD12202	
	Sample Result (pCi/mL, g, F):	13.4100	
	1.96 Sigma Unc.:	2.6180	
	Sample Duplicate Result (pCi/mL, g, F):	14.4340	
	Duplicate Sample 1.96 Sigma (Inc. % Recov.):	2.7660	
	Relative Percent Difference:	7.36%	
	Assessment:	Pass	
	% RPD Limit:	35.00%	

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

05/31/12

Sample Matrix Spike Control Assessment			
Analyst:	Gross Alpha		
Sample Collection Date:	5/17/2012		
Sample I.D.:	3070091001		
Sample MS I.D.:	3070091001MS		
Sample MSD I.D.:			
Spikes I.D.:	12-016		
MS/MSD Decay Corrected Spike Conc. (pCi/mL):	54.890		
Spike Volume Used in MS (mL):	0.10		
Spike Volume Used in MSD (mL):			
MS Aliquot (L, g, F):	0.2000		
MS Target Conc. (pCi/mL, g, F):	27.445		
MSD Target Conc. (pCi/mL, g, F):			
MSD Target Conc. (pCi/mL, g, F):			
MS Spike uncertainty (calculated):	0.968		
MSD Spike uncertainty (calculated):			
Sample Result:	13.441		
Sample 1.96 Sigma Unc.:	1.703		
Sample Matrix Spike Result:	39.657		
Sample MS 1.96 Sigma Unc.:	4.658		
Sample Matrix Spike Duplicate Result:			
Sample MSD 1.96 Sigma Unc.:			
MS % Recovery:	96.52%		
MSD % Recovery:			
MS Assessment:	Pass		
MSD Assessment:			
MS/MSD Upper % Recovery Limits:	135.00%		
MS/MSD Lower % Recovery Limits:	55.00%		
Matrix Spike/Matrix Spike Duplicate Sample Assessment:			
Analyst:			
Sample I.D.:			
Sample MS I.D.:			
Sample MSD I.D.:			
Sample Matrix Spike Result:			
Sample Matrix Spike 1.96 Sigma Unc.:			
Sample Matrix Spike Duplicate Result:			
Sample Matrix Spike Duplicate 1.96 Sigma Unc.:			
MS/MSD Relative Percent Difference:			
MS/MSD RPD Assessment:			
% RPD Limit:			



MWH

LABORATORIES

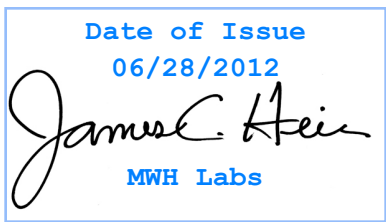
A Division of MWH Americas, Inc.

750 Royal Oaks Dr., Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

Wildermuth Environmental, Inc.
23692 Birtcher Drive
Lake Forest, CA 92630-1790
Attention: Samantha Adams
Fax: 949 420-4040



JCH: James.C.Hein
Project Manager



01114CA

Report: 396916
Project: CCWF
Group: CCWF

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

**MWH****LABORATORIES****STATE CERTIFICATION LIST**

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
Alaska	CA00006	Montana	Cert 0035
Arizona	AZ0455	Nevada	CA00006-2010-1
Arkansas	Certified	New Hampshire	2959-11
California – NELAP	01114CA	New Jersey	CA 008
California – ELAP	1422	New Mexico	Certified
Colorado	Certified	New York	11320
Connecticut	PH-0107	North Carolina	06701
Delaware	CA 006	North Dakota	R-009
Florida	E871024	Oregon	CA 200003-009
Georgia	947	Pennsylvania	68-565
Guam	11-004r	Rhode Island	01114CA
Hawaii	Certified	South Carolina	87016001
Idaho	Certified	South Dakota	Certified
Illinois	200033	Tennessee	TN02839
Indiana	C-CA-01	Texas	T104704230-11-2
Kansas	E-10268	Utah	Mont-1
Kentucky	90107	Vermont	VT0114
Louisiana	LA110022	Virginia	00210
Maine	CA0006	Washington	C383
Maryland	224	West Virginia	9943 C
Commonwealth of Northern Marianas Is.	MP0004	Wisconsin	998316660
Massachusetts	M-CA006	Wyoming	8TMS-L
Michigan	9906	EPA Region 5	Certified

Acknowledgement of Samples Received

Addr: **Wildermuth Environmental, Inc.**
 23692 Birtcher Drive
 Lake Forest, CA 92630-1790

Attn: Samantha Adams
 Phone: 949 600-7527

Client ID: WILDERMUTH
 Folder #: 396916
 Project: CCWF
 Sample Group: CCWF
 Project Manager: James.C.Hein
 Phone: (626) 386-1189
 COC #: 1892

The following samples were received from you on **May 16, 2012**. 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 MWH Laboratories.

Sample #	Sample ID	Sample Date
201205160395	CCPA-2	05/16/2012 1100
	@ANIONS28	@ANIONS48
	@ICPMS	@ICP
	Anion Sum - Calculated	Agressiveness Index-Calculated
	Carbonate as CO3, Calculated	Bicarb.Alkalinity as HCO3,calc
	Fluoride	Cation Sum - Calculated
	Langlier Index at 60 degrees C	Hydroxide as OH, Calculated
	pH of CaCO3 saturation(60C)	Mercury
	Total Hardness as CaCO3 by ICP	Specific Conductance
	Turbidity	Apparent Color
	@2378-TCDD_Dioxin	@ICPMS
	@COLI10	@ACOPEDD
	@EDB-DBC	@DBP_28
	@ML525	@ML505
	@RA228 GA	@ML531.2
	@VOA-TBA	@TCP-524
	CLO41PPB	Asbestos by TEM - >10 microns
	Glyphosate	Cyanide
	Orthophosphate as PO4	Hexavalent chromium(Dissolved)
	TDS Subbed Calscience	PH (H3=past HT not compliant)
		Total phosphorus as P
		Alkalinity in CaCO3 units
		Carbon Dioxide,Free(25C)-Calc.
		Cation/Anion Difference
		Langelier Index - 25 degree
		pH of CaCO3 saturation(25C)
		Surfactants
		Odor at 60 C (TON)
		Uranium by ICPMS as pCi/L
		@BETAEDD
		@DIQUAT
		@ML515.4
		@RA226 GA
		@VOASDWA
		Boron Total ICAP
		Endothall
		Orthophosphate as P (OPO4)
		Strontium ICAP
		Total phosphorus as PO4- Calc.

Test Description

- @ANIONS28 -- Chloride, Sulfate by EPA 300.0
- @ANIONS48 -- Nitrate, Nitrite by EPA 300.0
- @ICP -- ICP Metals
- @ICPMS -- ICPMS Metals
- @ICPMS -- ICPMS Metals
- @2378-TCDD_Dioxin -- 2,3,7,8-TCDD_Dioxin
- @ACOPEDD -- Gross Alpha by Co-precipitation (Sub)
- @BETAEDD -- Gross Beta (Sub)
- @COLI10 -- Total & Fecal Coliform, 24 Hour
- @DBP_28 -- Disinfection ByProducts by 300.0
- @DIQUAT -- Diquat and Paraquat
- @EDB-DBC -- EPA Method 504.1



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Client ID: WILDERMUTH
Folder #: 396916
Project: CCWF
Sample Group: CCWF
Project Manager: James.C.Hein
Phone: (626) 386-1189
COC #: 1892

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Sample #	Sample ID	Sample Date
	@ML505 -- Organochlorine Pesticides/PCBs	
	@ML515.4 -- Chlorophenoxy Herbicides	
	@ML525 -- Semivolatiles by GCMS	
	@ML531.2 -- Aldicarbs	
	@RA226 GA -- Radium 226	
	@RA228 GA -- Radium 228	
	@TCP-524 -- 1,2,3-Trichloropropane (SIM)	
	@VOASDWA -- Volatile Organics by GCMS	
	@VOA-TBA -- TBA by EPA 524.2 Modified	

396916



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CHAIN OF CUSTODY RECORD

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JD

SAMPLES LOGGED IN BY: JD

SAMPLES REC'D DAY OF COLLECTION? (check for yes)

SAMPLE TEMP RECEIVED AT: _____ °C (Compliance: 4 ± 2 °C)

Colton / Sacramento / Scottsdale
 Monrovia 18.5 °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: FROZEN PARTIALLY FROZEN THAWED WET ICE NO ICE

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

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX +	FIELD DATA			
					Field Data	Field Data	Field Data	
5-16-12	1100	CCPA-2		RGW				

COMPLIANCE SAMPLES - Requires state forms

NON-COMPLIANCE SAMPLES **REGULATION INVOLVED:** _____ (eg. SDWA, Phase V, NPDES, FDA, ...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

SEE ATTACHED BOTTLE ORDER FOR ANALYSES (check for yes), **OR** list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLER COMMENTS: rec'd by L-10
05/16/12
1434

MATRIX TYPES: RSW = Raw Surface Water, RGW = Raw Ground Water, CFW = Chlor(am)inated Finished Water, FW = Other Finished Water, SEAW = Sea Water, WW = Waste Water, BW = Bottled Water, SW = Storm Water, SO = Soil, SL = Sludge

*** MATRIX TYPES:** RSW = Raw Surface Water, RGW = Raw Ground Water, CFW = Chlor(am)inated Finished Water, FW = Other Finished Water, SEAW = Sea Water, WW = Waste Water, BW = Bottled Water, SW = Storm Water, SO = Soil, SL = Sludge

SAMPLED BY:	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:	DATE	TIME
[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	5-16-12	1120
[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	5-16-12	1120
[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	5-16-12	1143
[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	5-16-12	1455

COMPANY/TITLE Wilder-muth Environmental
 Wilder-muth Environmental
 MWH
 MWH
 MWH

PRINT NAME George Pardo
 George Pardo
 AIPRO Kiyaki
 AIPRO Kiyaki
 Joe Sanchez

SIGNATURE [Signatures]

DATE 5-16-12

TIME 1120, 1120, 1143, 1455

PAGE ____ OF ____



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Laboratory Hits
Report: 396916

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/16/2012

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	201205160395	<u>CCPA-2</u>				
05/17/2012 17:21	24 Hour Total Coliform Confm		2.0		PositiveTube	
06/20/2012 09:40	Agressiveness Index-Calculated		13		None	0.1
05/24/2012 09:23	Alkalinity in CaCO3 units		220		mg/L	2
05/24/2012 13:55	Anion Sum - Calculated		16		meq/L	0.001
05/18/2012 14:30	Arsenic Total ICAP/MS		1.2	10	ug/L	1
05/18/2012 14:30	Barium Total ICAP/MS		66	2000	ug/L	2
06/20/2012 09:40	Bicarb.Alkalinity as HCO3calc		270		mg/L	2
05/18/2012 03:01	Boron Total ICAP		0.099		mg/L	0.05
06/05/2012 20:45	Bromide		400		ug/L	25
05/18/2012 03:01	Calcium Total ICAP		220		mg/L	1
05/18/2012 10:47	Cation Sum - Calculated		16		meq/L	0.001
05/16/2012 18:09	Chloride		110	250	mg/L	5
05/18/2012 14:30	Chromium Total ICAP/MS		5.2	100	ug/L	1
05/18/2012 20:59	Fluoride		0.081	4	mg/L	0.05
05/30/2012 19:23	Gross Alpha by Coprecipitation		4.47	15	pCi/L	1
05/17/2012 10:30	Hexavalent chromium(Dissolved)		4.4		ug/L	0.02
06/26/2012 02:08	Langelier Index - 25 degree		0.94		None	
06/20/2012 09:40	Langelier Index at 60 degrees C		1.4		None	
05/18/2012 03:01	Magnesium Total ICAP		26		mg/L	0.1
05/18/2012 14:30	Manganese Total ICAP/MS		11	50	ug/L	2
05/17/2012 12:36	Nitrate as Nitrogen by IC		55	10	mg/L	1
05/17/2012 12:36	Nitrate as NO3 (calc)		240	45	mg/L	4.4
05/17/2012 09:51	Odor at 60 C (TON)		1.0	3	TON	1
06/19/2012 18:43	PH (H3=past HT not compliant)		7.6		Units	0.1
06/26/2012 02:08	pH of CaCO3 saturation(25C)		6.7		Units	0.1
06/20/2012 09:40	pH of CaCO3 saturation(60C)		6.2		Units	0.1
05/18/2012 03:01	Potassium Total ICAP		4.2		mg/L	1
05/18/2012 14:30	Selenium Total ICAP/MS		14	50	ug/L	5
05/18/2012 03:01	Sodium Total ICAP		66		mg/L	1
05/24/2012 09:23	Specific Conductance, 25 C		1500		umho/cm	2
05/18/2012 03:01	Strontium ICAP		2.1		mg/L	0.01
05/16/2012 18:09	Sulfate		230	250	mg/L	2.5
05/17/2012 17:21	Total Coliform Bacteria		2.2		MPN/100 mL	1.1
05/17/2012 17:21	Total Coliform Bacteria (P/A)		P		P=Pres/A=Abs	
05/22/2012 17:00	Total Dissolved Solids		1100		mg/L	10
05/18/2012 10:47	Total Hardness as CaCO3 by ICP (calc)		660		mg/L	3

SUMMARY OF POSITIVE DATA ONLY



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Samantha Adams
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Lake Forest, CA 92630-1790

Laboratory Hits
Report: 396916

Samples Received on:
05/16/2012

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
05/17/2012 12:36	Total Nitrate, Nitrite-N, CALC		55		mg/L	0.1
05/18/2012 09:56	Turbidity		0.093	5	NTU	0.05
05/21/2012 11:35	Uranium by ICPMS as pCi/L		5.1		pCi/L	0.7
05/18/2012 14:30	Uranium ICAP/MS		7.7	30	ug/L	1



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Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/16/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
CCPA-2 (201205160395)					Sampled on 05/16/2012 1100			
SM 7110C - Gross Alpha by Co-precipitation (Sub)								
	05/30/2012	19:23	(SM 7110C)	Alpha, Min Detectable Activity	0.997	pCi/L		1
	05/30/2012	19:23	(SM 7110C)	Alpha, Two Sigma Error	0.989	pCi/L		1
	05/30/2012	19:23	(SM 7110C)	Gross Alpha by Coprecipitation	4.47	pCi/L	1	1
EPA 900.0 - Gross Beta (Sub)								
	05/29/2012	20:13	(EPA 900.0)	Gross Beta (Subbed)	ND	pCi/L	2	1
	05/29/2012	20:13	(EPA 900.0)	Gross Beta, Min Detectable Activity	2.01	pCi/L		1
	05/29/2012	20:13	(EPA 900.0)	Gross Beta, Two Sigma Error	1.21	pCi/L		1
SM 2540C - TDS Subbed Calscience								
	05/22/2012	17:00	(SM 2540C)	Total Dissolved Solids	1100	mg/L	10	1
EPA 200.8 - ICPMS Metals								
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Aluminum Total ICAP/MS	ND	ug/L	20	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Antimony Total ICAP/MS	ND	ug/L	1	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Arsenic Total ICAP/MS	1.2	ug/L	1	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Barium Total ICAP/MS	66	ug/L	2	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Beryllium Total ICAP/MS	ND	ug/L	1	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Cadmium Total ICAP/MS	ND	ug/L	0.5	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Chromium Total ICAP/MS	5.2	ug/L	1	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Copper Total ICAP/MS	ND	ug/L	2	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Lead Total ICAP/MS	ND	ug/L	0.5	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Manganese Total ICAP/MS	11	ug/L	2	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Nickel Total ICAP/MS	ND	ug/L	5	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Selenium Total ICAP/MS	14	ug/L	5	1
5/17/2012	06/04/2012	16:48	656524 (EPA 200.8)	Silver Total ICAP/MS	ND	ug/L	0.5	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Thallium Total ICAP/MS	ND	ug/L	1	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Uranium ICAP/MS	7.7	ug/L	1	1
5/17/2012	05/18/2012	14:30	653985 (EPA 200.8)	Zinc Total ICAP/MS	ND	ug/L	20	1
EPA 200.7 - ICP Metals								
5/17/2012	05/18/2012	03:01	653944 (EPA 200.7)	Boron Total ICAP	0.099	mg/L	0.05	1
5/17/2012	05/18/2012	03:01	653944 (EPA 200.7)	Calcium Total ICAP	220	mg/L	1	1
5/17/2012	05/18/2012	03:01	653944 (EPA 200.7)	Iron Total ICAP	ND	mg/L	0.02	1
5/17/2012	05/18/2012	03:01	653944 (EPA 200.7)	Magnesium Total ICAP	26	mg/L	0.1	1
5/17/2012	05/18/2012	03:01	653944 (EPA 200.7)	Potassium Total ICAP	4.2	mg/L	1	1
5/17/2012	05/18/2012	03:01	653944 (EPA 200.7)	Sodium Total ICAP	66	mg/L	1	1
5/17/2012	05/18/2012	03:01	653944 (EPA 200.7)	Strontium ICAP	2.1	mg/L	0.01	1
EPA 245.1 - Mercury Total								

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



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Samples Received on:
 05/16/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
5/21/2012	05/22/2012	17:08 654627	(EPA 245.1)	Mercury	ND	ug/L	0.2	1
EPA 100.2 - Asbestos by TEM - >10 microns								
5/16/2012	05/30/2012	00:00 655839	(EPA 100.2)	Asbestos by TEM - >10 microns	ND	MFL	0.2	1
SM 9223 - Total & Fecal Coliform, 24 Hour								
5/16/2012	05/17/2012	17:21 653892	(SM 9223)	24 Hour E. Coli Confirmed	ND	PositiveTube		1
5/16/2012	05/17/2012	17:21 653892	(SM 9223)	24 Hour Total Coliform Confm	2.0	PositiveTube		1
5/16/2012	05/17/2012	17:21 653892	(SM 9223)	E. Coli Bacteria (P/A)	A	P=Pres/A=Abs		1
5/16/2012	05/17/2012	17:21 653892	(SM 9223)	Total Coliform Bacteria (P/A)	P	P=Pres/A=Abs		1
5/16/2012	05/17/2012	17:21 653892	(SM 9223)	E. Coli Bacteria	<1.1	MPN/100 mL	1.1	1
5/16/2012	05/17/2012	17:21 653892	(SM 9223)	Total Coliform Bacteria	2.2	MPN/100 mL	1.1	1
SM2330B - Hydroxide as OH, Calculated								
06/20/2012	09:40		(SM2330B)	Hydroxide as OH Calculated	ND	mg/L	2	1
SM 2330B - pH of CaCO3 saturation(60C)								
06/20/2012	09:40		(SM 2330B)	pH of CaCO3 saturation(60C)	6.2	Units	0.1	1
EPA 200.8 - Uranium by ICPMS as pCi/L								
05/21/2012	11:35		(EPA 200.8)	Uranium by ICPMS as pCi/L	5.1	pCi/L	0.7	1
SM4500-CO2-D - Carbon Dioxide,Free(25C)-Calc.								
05/25/2012	01:04		(SM4500-CO2-D)	Carbon Dioxide,Free(25C)-Calc.	ND	mg/L	2	1
S4500PE/ 365.1 - Total phosphorus as PO4- Calc.								
05/23/2012	16:49		(S4500PE/ 365.1)	Total phosphorus as PO4- Calc.	ND	mg/L	0.031	1
SM 2330B - Langelier Index - 25 degree								
06/26/2012	02:08		(SM 2330B)	Langelier Index - 25 degree	0.94	None		1
SM2330B - Carbonate as CO3, Calculated								
06/26/2012	02:08		(SM2330B)	Carbonate as CO3, Calculated	ND	mg/L	2	1
SM 2340B - Total Hardness as CaCO3 by ICP								
05/18/2012	10:47		(SM 2340B)	Total Hardness as CaCO3 by ICP (calc)	660	mg/L	3	1
SM 1030E - Anion Sum - Calculated								
05/24/2012	13:55		(SM 1030E)	Anion Sum - Calculated	16	meq/L	0.001	1
SM 1030E - Cation Sum - Calculated								
05/18/2012	10:47		(SM 1030E)	Cation Sum - Calculated	16	meq/L	0.001	1
SM 2330B - pH of CaCO3 saturation(25C)								
06/26/2012	02:08		(SM 2330B)	pH of CaCO3 saturation(25C)	6.7	Units	0.1	1
4500P-E/365.1 - Orthophosphate as PO4 (CAL)								
05/19/2012	15:16		(4500P-E/365.1)	Orthophosphate as PO4	ND	mg/L	0.031	1
SM2330B - Bicarb.Alkalinity as HCO3,calc								
06/20/2012	09:40		(SM2330B)	Bicarb.Alkalinity as HCO3calc	270	mg/L	2	1
SM 2330 - Agressiveness Index-Calculated								
06/20/2012	09:40		(SM 2330)	Agressiveness Index-Calculated	13	None	0.1	1

Rounding on totals after summation.
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05/16/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
SM 2330B - Langlier Index at 60 degrees C								
	06/20/2012	09:40	(SM 2330B)	Langlier Index at 60 degrees C	1.4	None		1
SM 1030E - Cation/Anion Difference								
	06/20/2012	01:12	(SM 1030E)	Cation/Anion Difference	0.47	%		1
EPA 505 - Organochlorine Pesticides/PCBs								
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Alachlor (Alanex)	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Aldrin	ND	ug/L	0.01	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Chlordane	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Dieldrin	ND	ug/L	0.01	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Endrin	ND	ug/L	0.01	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Heptachlor	ND	ug/L	0.01	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Heptachlor Epoxide	ND	ug/L	0.01	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Lindane (gamma-BHC)	ND	ug/L	0.01	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Methoxychlor	ND	ug/L	0.05	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	PCB 1016 Aroclor	ND	ug/L	0.08	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	PCB 1221 Aroclor	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	PCB 1232 Aroclor	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	PCB 1242 Aroclor	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	PCB 1248 Aroclor	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	PCB 1254 Aroclor	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	PCB 1260 Aroclor	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Total PCBs	ND	ug/L	0.1	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Toxaphene	ND	ug/L	0.5	1
5/17/2012	05/17/2012	20:03	654072 (EPA 505)	Tetrachlorometaxylene	97	%		1
EPA 515.4 - Chlorophenoxy Herbicides								
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	2,4,5-T	ND	ug/L	0.2	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	2,4,5-TP (Silvex)	ND	ug/L	0.2	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	2,4-D	ND	ug/L	0.1	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	2,4-DB	ND	ug/L	2	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	3,5-Dichlorobenzoic acid	ND	ug/L	0.5	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	Acifluorfen	ND	ug/L	0.2	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	Bentazon	ND	ug/L	0.5	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	Dalapon	ND	ug/L	1	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	Dicamba	ND	ug/L	0.1	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	Dichlorprop	ND	ug/L	0.5	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	Dinoseb	ND	ug/L	0.2	1
5/16/2012	05/19/2012	03:53	654337 (EPA 515.4)	Pentachlorophenol	ND	ug/L	0.04	1

Rounding on totals after summation.
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1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 396916

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/16/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution	
5/16/2012	05/19/2012	03:53	654337	(EPA 515.4)	Picloram	ND	ug/L	0.1	1
5/16/2012	05/19/2012	03:53	654337	(EPA 515.4)	Tot DCPA Mono&Diacid Degradate	ND	ug/L	0.1	1
5/16/2012	05/19/2012	03:53	654337	(EPA 515.4)	2,4-Dichlorophenyl acetic acid	106	%		1
5/16/2012	05/19/2012	03:53	654337	(EPA 515.4)	4,4-Dibromooctafluorobiphenyl	96	%		1
EPA 504.1 - EPA Method 504.1									
5/29/2012	05/29/2012	14:54	655799	(EPA 504.1)	Dibromochloropropane (DBCP)	ND	ug/L	0.01	1
5/29/2012	05/29/2012	14:54	655799	(EPA 504.1)	Ethylene Dibromide (EDB)	ND (V1)	ug/L	0.01	1
5/29/2012	05/29/2012	14:54	655799	(EPA 504.1)	1,2-Dibromopropane	114	%		1
EPA 525.2 - Semivolatiles by GCMS									
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	2,4-Dinitrotoluene	ND	ug/L	0.1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Acenaphthylene	ND	ug/L	0.1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Alachlor	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Aldrin	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	alpha-Chlordane	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Anthracene	ND	ug/L	0.02	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Atrazine	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Benz(a)Anthracene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Benzo(a)pyrene	ND	ug/L	0.02	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Benzo(b)Fluoranthene	ND	ug/L	0.02	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Benzo(g,h,i)Perylene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Benzo(k)Fluoranthene	ND	ug/L	0.02	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Bromacil	ND	ug/L	0.2	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Butachlor	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Butylbenzylphthalate	ND	ug/L	0.5	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Caffeine by method 525mod	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Chrysene	ND	ug/L	0.02	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Di-(2-Ethylhexyl)adipate	ND	ug/L	0.6	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Di(2-Ethylhexyl)phthalate	ND	ug/L	0.6	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Diazinon (Qualitative)	ND	ug/L	0.1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Dibenz(a,h)Anthracene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Dieldrin	ND	ug/L	0.2	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Diethylphthalate	ND	ug/L	0.5	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Dimethoate	ND	ug/L	0.1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Dimethylphthalate	ND	ug/L	0.5	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Di-n-Butylphthalate	ND	ug/L	1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Endrin	ND	ug/L	0.2	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Fluoranthene	ND	ug/L	0.1	1

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Laboratory Data
Report: 396916

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Samantha Adams
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05/16/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution	
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Fluorene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	gamma-Chlordane	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Heptachlor	ND	ug/L	0.03	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Heptachlor Epoxide (isomer B)	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Hexachlorobenzene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Hexachlorocyclopentadiene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Indeno(1,2,3,c,d)Pyrene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Isophorone	ND	ug/L	0.5	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Lindane	ND	ug/L	0.04	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Methoxychlor	ND	ug/L	0.1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Metolachlor	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Metribuzin	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Molinate	ND	ug/L	0.1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Pentachlorophenol	ND	ug/L	1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Phenanthrene	ND	ug/L	0.04	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Propachlor	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Pyrene	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Simazine	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Thiobencarb (ELAP)	ND	ug/L	0.2	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	trans-Nonachlor	ND	ug/L	0.05	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Trifluralin	ND	ug/L	0.1	1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	1,3-Dimethyl-2-nitrobenzene	99	%		1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Acenaphthene-d10	89	%		1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Chrysene-d12	85	%		1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Perylene-d12	96	%		1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Phenanthrene-d10	92	%		1
5/25/2012	05/31/2012	11:34	656179	(EPA 525.2)	Triphenylphosphate	106	%		1
EPA 548.1 - Endothall									
5/17/2012	05/21/2012	10:52	654481	(EPA 548.1)	Endothall	ND	ug/L	20	4
EPA 1613B - 2,3,7,8-TCDD_Dioxin									
5/18/2012	05/24/2012	01:37	654876	(EPA 1613B)	2,3,7,8-TCDD	ND	pg/L	5	1
5/18/2012	05/24/2012	01:37	654876	(EPA 1613B)	C12-2,3,7,8-TCDD	83	%		1
EPA 547 - Glyphosate									
	05/18/2012	0:49	654042	(EPA 547)	Glyphosate	ND	ug/L	6	1
EPA 531.2 - Aldicarb									
	05/27/2012	16:48	655465	(EPA 531.2)	3-Hydroxycarbofuran	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	Aldicarb (Temik)	ND	ug/L	0.5	1

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Laboratory Data
Report: 396916

Wildermuth Environmental, Inc.
Samantha Adams
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Lake Forest, CA 92630-1790

Samples Received on:
05/16/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution	
	05/27/2012	16:48	655465	(EPA 531.2)	Aldicarb sulfone	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	Aldicarb sulfoxide	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	Baygon	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	Carbaryl	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	Carbofuran (Furadan)	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	Methiocarb	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	Methomyl	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	Oxamyl (Vydate)	ND	ug/L	0.5	1
	05/27/2012	16:48	655465	(EPA 531.2)	4-Bromo-3,5-dimethylphenyl-N-methylc arbamate	84	%		1
EPA 549.2 - Diquat and Paraquat									
5/21/2012	05/22/2012	13:08	654652	(EPA 549.2)	Diquat	ND	ug/L	0.4	1
5/21/2012	05/22/2012	13:08	654652	(EPA 549.2)	Paraquat	ND	ug/L	2	1
EPA 218.6 - Hexavalent chromium(Dissolved)									
	05/17/2012	10:30	654048	(EPA 218.6)	Hexavalent chromium(Dissolved)	4.4	ug/L	0.02	1
EPA 300.0 - Nitrate, Nitrite by EPA 300.0									
	05/17/2012	12:36	653888	(EPA 300.0)	Nitrate as Nitrogen by IC	55	mg/L	1	10
	05/17/2012	12:36	653888	(EPA 300.0)	Nitrate as NO3 (calc)	240	mg/L	4.4	10
	05/17/2012	12:36	653888	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.13	10
	05/17/2012	12:36	653888	(EPA 300.0)	Total Nitrate, Nitrite-N, CALC	55	mg/L	0.1	1
EPA 300.0 - Disinfection ByProducts by 300.0									
	06/05/2012	20:45	656816	(EPA 300.0)	Bromide	400	ug/L	25	5
	06/05/2012	20:45	656816	(EPA 300.0)	Chlorate by IC	ND	ug/L	50	5
EPA 300.0 - Chloride, Sulfate by EPA 300.0									
	05/16/2012	18:09	653732	(EPA 300.0)	Chloride	110	mg/L	5	5
	05/16/2012	18:09	653732	(EPA 300.0)	Sulfate	230	mg/L	2.5	5
EPA 314.0 - Perchlorate with 0.5 ppb DL									
	05/22/2012	12:33	655051	(EPA 314.0)	Perchlorate	ND	ug/L	1	2
Ra-226 GA - Radium 226									
5/23/2012	06/16/2012	17:02	654842	(Ra-226 GA)	Radium 226	ND (L1)	pCi/L	1	1
5/23/2012	06/16/2012	17:02	654842	(Ra-226 GA)	Radium 226 Min Detect Activity	0.41	pCi/L		1
5/23/2012	06/16/2012	17:02	654842	(Ra-226 GA)	Radium 226 Two Sigma Error	0	pCi/L		1
RA-228 GA - Radium 228									
5/23/2012	06/16/2012	17:02	654839	(RA-228 GA)	Radium 228	ND	pCi/L	1	1
5/23/2012	06/16/2012	17:02	654839	(RA-228 GA)	Radium 228 Min Detect Activity	0.86	pCi/L		1
5/23/2012	06/16/2012	17:02	654839	(RA-228 GA)	Radium 228 Two Sigma Error	0	pCi/L		1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									

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Laboratory Data
Report: 396916

Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Samples Received on:
05/16/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
	05/25/2012	13:16	655102	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	0.02	1
EPA 524.2 - Volatile Organics by GCMS								
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,1,1-Trichloroethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,1,2-Trichloroethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,1-Dichloroethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,1-Dichloroethylene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,1-Dichloropropene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,2,3-Trichlorobenzene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,2,3-Trichloropropane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,2,4-Trichlorobenzene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,2,4-Trimethylbenzene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,2-Dichloroethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,2-Dichloropropane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,3,5-Trimethylbenzene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,3-Dichloropropane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	2,2-Dichloropropane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	2-Butanone (MEK)	ND	5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Benzene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Bromobenzene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Bromochloromethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Bromodichloromethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Bromoethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Bromoform	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Bromomethane (Methyl Bromide)	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Carbon disulfide	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Carbon Tetrachloride	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Chlorobenzene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Chlorodibromomethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Chloroethane	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Chloroform (Trichloromethane)	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Chloromethane(Methyl Chloride)	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	cis-1,2-Dichloroethylene	ND	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	cis-1,3-Dichloropropene	ND	0.5	1

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Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution	
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Dibromomethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Dichlorodifluoromethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Dichloromethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Di-isopropyl ether	ND	ug/L	3	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Ethyl benzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Hexachlorobutadiene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Isopropylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	m,p-Xylenes	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Naphthalene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	n-Butylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	n-Propylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	o-Chlorotoluene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	o-Xylene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	p-Chlorotoluene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	p-Isopropyltoluene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	sec-Butylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Styrene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	tert-amyl Methyl Ether	ND	ug/L	3	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/L	3	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	tert-Butylbenzene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Toluene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Total 1,3-Dichloropropene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Total THM	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Total xylenes	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	trans-1,3-Dichloropropene	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Trichloroethylene (TCE)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Trichlorofluoromethane	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Trichlorotrifluoroethane(Freon 113)	ND	ug/L	0.5	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	Vinyl chloride (VC)	ND	ug/L	0.3	1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	1,2-Dichloroethane-d4	99	%		1
5/24/2012	05/24/2012	19:52	655442	(EPA 524.2)	4-Bromofluorobenzene	104	%		1

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



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Laboratory Data
Report: 396916

Wildermuth Environmental, Inc.
 Samantha Adams
 23692 Birtcher Drive
 Lake Forest, CA 92630-1790

Samples Received on:
 05/16/2012

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
5/24/2012	05/24/2012	19:52 655442	(EPA 524.2)	Toluene-d8	97	%		1
CASRL 524M-TCP - 1,2,3-Trichloropropane (SIM)								
5/24/2012	05/24/2012	19:18 655249	(CASRL 524M-TCP)	1,2,3-Trichloropropane	ND	ug/L	0.005	1
5/24/2012	05/24/2012	19:18 655249	(CASRL 524M-TCP)	Toluene-d8	83	%		1
EPA 524.2 SIM - TBA by EPA 524.2 Modified								
5/24/2012	05/24/2012	17:28 655446	(EPA 524.2 SIM)	t-Butyl Alcohol	ND	ug/L	2	1
5/24/2012	05/24/2012	17:28 655446	(EPA 524.2 SIM)	1,2-Dichloroethane-d4	96	%		1
5/24/2012	05/24/2012	17:28 655446	(EPA 524.2 SIM)	4-Bromofluorobenzene	106	%		1
5/24/2012	05/24/2012	17:28 655446	(EPA 524.2 SIM)	Toluene-d8	98	%		1
SM4500CN-F - Cyanide								
	05/17/2012	22:39 654221	(SM4500CN-F)	Cyanide	ND	mg/L	0.025	1
SM 2150B - Odor at 60 C (TON)								
	05/17/2012	09:51 653926	(SM 2150B)	Odor at 60 C (TON)	1.0	TON	1	1
SM 4500F-C - Fluoride								
	05/18/2012	20:59 654218	(SM 4500F-C)	Fluoride	0.081	mg/L	0.05	1
SM 2320B - Alkalinity in CaCO3 units								
	05/24/2012	09:23 654853	(SM 2320B)	Alkalinity in CaCO3 units	220	mg/L	2	1
SM4500-HB - PH (H3=past HT not compliant)								
	06/19/2012	18:43 659054	(SM4500-HB)	PH (H3=past HT not compliant)	7.6	Units	0.1	1
SM 5540C/EPA 425.1 - Surfactants								
	05/16/2012	14:42 654206	(SM 5540C/EPA 425.1)	Surfactants	ND	mg/L	0.05	1
EPA 180.1 - Turbidity								
	05/18/2012	09:56 654350	(EPA 180.1)	Turbidity	0.093	NTU	0.05	1
SM2510B - Specific Conductance								
	05/24/2012	09:23 654851	(SM2510B)	Specific Conductance, 25 C	1500	umho/cm	2	1
SM 2120B - Apparent Color								
	05/17/2012	17:06 653910	(SM 2120B)	Apparent Color	ND	ACU	3	1
4500P-E/365.1 - Orthophosphate as P (OPO4)								
	05/16/2012	16:50 654211	(4500P-E/365.1)	Orthophosphate as P	ND	mg/L	0.01	1

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



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Wildermuth Environmental, Inc.
Samantha Adams
23692 Birtcher Drive
Lake Forest, CA 92630-1790

Laboratory Comments
Report: #396916

Group Comments

Analytical results for TDS are submitted by Calscience Environmental Laboratories, Inc.
Garden Grove, CA
Analytical results for Gross Alpha and Beta are submitted by Pace Analytical Services,
Greensburg, PA

Flags Legend:

L1 - The associated blank spike recovery was above laboratory acceptance limits.

V1 - CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.



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Laboratory
QC Summary: 396916

Wildermuth Environmental, Inc.

QC Ref # 653632 - Nitrate, Nitrite by EPA 300.0

201205160395 CCPA-2

Analysis Date: 05/16/2012

Analyzed by: CYP

QC Ref # 653732 - Chloride, Sulfate by EPA 300.0

201205160395 CCPA-2

Analysis Date: 05/16/2012

Analyzed by: CYP

QC Ref # 653888 - Nitrate, Nitrite by EPA 300.0

201205160395 CCPA-2

Analysis Date: 05/17/2012

Analyzed by: CYP

QC Ref # 653892 - Total & Fecal Coliform, 24 Hour

201205160395 CCPA-2

Analysis Date: 05/17/2012

Analyzed by: JXC2

QC Ref # 653910 - Apparent Color

201205160395 CCPA-2

Analysis Date: 05/17/2012

Analyzed by: ADV

QC Ref # 653926 - Odor at 60 C (TON)

201205160395 CCPA-2

Analysis Date: 05/17/2012

Analyzed by: NEM

QC Ref # 653944 - ICP Metals

201205160395 CCPA-2

Analysis Date: 05/18/2012

Analyzed by: NINA

QC Ref # 653985 - ICPMS Metals

201205160395 CCPA-2

Analysis Date: 05/18/2012

Analyzed by: DTN

QC Ref # 654042 - Glyphosate

201205160395 CCPA-2

Analysis Date: 05/18/2012

Analyzed by: SZZ

QC Ref # 654048 - Hexavalent chromium(Dissolved)

201205160395 CCPA-2

Analysis Date: 05/17/2012

Analyzed by: TLH

QC Ref # 654072 - Organochlorine Pesticides/PCBs

201205160395 CCPA-2

Analysis Date: 05/17/2012

Analyzed by: LRL

QC Ref # 654206 - Surfactants

201205160395 CCPA-2

Analysis Date: 05/16/2012

Analyzed by: QMK

QC Ref # 654211 - Orthophosphate as P (OPO4)

201205160395 CCPA-2

Analysis Date: 05/16/2012

Analyzed by: QMK

QC Ref # 654218 - Fluoride

201205160395 CCPA-2

Analysis Date: 05/18/2012

Analyzed by: QMK

QC Ref # 654221 - Cyanide

201205160395 CCPA-2

Analysis Date: 05/17/2012

Analyzed by: QMK

QC Ref # 654337 - Chlorophenoxy Herbicides

201205160395 CCPA-2

Analysis Date: 05/19/2012

Analyzed by: SFL

QC Ref # 654350 - Turbidity

201205160395 CCPA-2

Analysis Date: 05/18/2012

Analyzed by: NEM

QC Ref # 654481 - Endothall

Analysis Date: 05/21/2012



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Laboratory
QC Summary: 396916

Wildermuth Environmental, Inc.

(continued)

201205160395	CCPA-2	Analyzed by: CRW
QC Ref # 654627 - Mercury Total		Analysis Date: 05/22/2012
201205160395	CCPA-2	Analyzed by: MXT
QC Ref # 654652 - Diquat and Paraquat		Analysis Date: 05/22/2012
201205160395	CCPA-2	Analyzed by: SZZ
QC Ref # 654839 - Radium 228		Analysis Date: 06/16/2012
201205160395	CCPA-2	Analyzed by: WBH
QC Ref # 654842 - Radium 226		Analysis Date: 06/16/2012
201205160395	CCPA-2	Analyzed by: WBH
QC Ref # 654851 - Specific Conductance		Analysis Date: 05/24/2012
201205160395	CCPA-2	Analyzed by: SFL
QC Ref # 654853 - Alkalinity in CaCO3 units		Analysis Date: 05/24/2012
201205160395	CCPA-2	Analyzed by: SFL
QC Ref # 654876 - 2,3,7,8-TCDD_Dioxin		Analysis Date: 05/24/2012
201205160395	CCPA-2	Analyzed by: PAC
QC Ref # 655051 - Perchlorate with 0.5 ppb DL		Analysis Date: 05/22/2012
201205160395	CCPA-2	Analyzed by: AZS
QC Ref # 655102 - Total phosphorus as P (T-P)		Analysis Date: 05/25/2012
201205160395	CCPA-2	Analyzed by: KXS
QC Ref # 655249 - 1,2,3-Trichloropropane (SIM)		Analysis Date: 05/24/2012
201205160395	CCPA-2	Analyzed by: MCB
QC Ref # 655442 - Volatile Organics by GCMS		Analysis Date: 05/24/2012
201205160395	CCPA-2	Analyzed by: MCB
QC Ref # 655446 - TBA by EPA 524.2 Modified		Analysis Date: 05/24/2012
201205160395	CCPA-2	Analyzed by: MCB
QC Ref # 655465 - Aldicarbs		Analysis Date: 05/27/2012
201205160395	CCPA-2	Analyzed by: XWO
QC Ref # 655799 - EPA Method 504.1		Analysis Date: 05/29/2012
201205160395	CCPA-2	Analyzed by: HETAL
QC Ref # 655839 - Asbestos by TEM - >10 microns		Analysis Date: 05/30/2012
201205160395	CCPA-2	Analyzed by: CJB
QC Ref # 656179 - Semivolatiles by GCMS		Analysis Date: 05/31/2012
201205160395	CCPA-2	Analyzed by: JWC
QC Ref # 656524 - ICPMS Metals		Analysis Date: 06/04/2012
201205160395	CCPA-2	Analyzed by: RPD



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Laboratory
QC Summary: 396916

Wildermuth Environmental, Inc.

(continued)

QC Ref # 656816 - Disinfection ByProducts by 300.0

201205160395 CCPA-2

Analysis Date: 06/05/2012

Analyzed by: LUPE

QC Ref # 659054 - PH (H3=past HT not compliant)

201205160395 CCPA-2

Analysis Date: 06/19/2012

Analyzed by: SFL



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Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 653632 - Nitrate, Nitrite by EPA 300.0 by EPA 300.0					Analysis Date: 05/16/2012				
LCS1	Nitrate as Nitrogen by IC		2.5	2.47	mg/L	99	(90-110)		
LCS2	Nitrate as Nitrogen by IC		2.5	2.48	mg/L	99	(90-110)	20	0.0
MBLK	Nitrate as Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrate as Nitrogen by IC		0.05	0.0522	mg/L	104	(50-150)		
MRLLW	Nitrate as Nitrogen by IC		0.013	0.0133	mg/L	106	(50-150)		
MS_201205150287	Nitrate as Nitrogen by IC	0.28	1.3	6.33	mg/L	97	(80-120)		
MSD_201205150287	Nitrate as Nitrogen by IC	0.28	1.3	6.3	mg/L	96	(80-120)	20	0.48
LCS1	Nitrite Nitrogen by IC		1.0	0.976	mg/L	98	(90-110)		
LCS2	Nitrite Nitrogen by IC		1.0	0.982	mg/L	98	(90-110)	20	2.9
MBLK	Nitrite Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrite Nitrogen by IC		0.05	0.0517	mg/L	103	(50-150)		
MRLLW	Nitrite Nitrogen by IC		0.013	0.0117	mg/L	94	(50-150)		
MS_201205150287	Nitrite Nitrogen by IC	ND	0.5	2.33	mg/L	93	(80-120)		
MSD_201205150287	Nitrite Nitrogen by IC	ND	0.5	2.32	mg/L	93	(80-120)	20	0.43
QC Ref# 653732 - Chloride, Sulfate by EPA 300.0 by EPA 300.0					Analysis Date: 05/16/2012				
LCS1	Chloride		25	26.0	mg/L	104	(90-110)		
LCS2	Chloride		25	26.1	mg/L	105	(90-110)	20	0.38
MBLK	Chloride			<0.5	mg/L				
MRL_CHK	Chloride		0.5	0.442	mg/L	88	(50-150)		
MS_201205150287	Chloride	92	13	156	mg/L	103	(80-120)		
MSD_201205150287	Chloride	92	13	155	mg/L	101	(80-120)	20	0.64
LCS1	Sulfate		50	51.1	mg/L	102	(90-110)		
LCS2	Sulfate		50	51.3	mg/L	103	(90-110)	20	1.2
MBLK	Sulfate			<0.25	mg/L				
MRL_CHK	Sulfate		1.0	0.981	mg/L	98	(50-150)		
MRLLW	Sulfate		0.25	0.261	mg/L	104	(50-150)		
MS_201205150287	Sulfate	240	25	365	mg/L	98	(80-120)		
MSD_201205150287	Sulfate	240	25	362	mg/L	96	(80-120)	20	0.83
QC Ref# 653888 - Nitrate, Nitrite by EPA 300.0 by EPA 300.0					Analysis Date: 05/17/2012				
LCS1	Nitrate as Nitrogen by IC		2.5	2.54	mg/L	102	(90-110)		
LCS2	Nitrate as Nitrogen by IC		2.5	2.53	mg/L	101	(90-110)	20	0.39
MBLK	Nitrate as Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrate as Nitrogen by IC		0.05	0.0521	mg/L	104	(50-150)		
MRLLW	Nitrate as Nitrogen by IC		0.013	0.0150	mg/L	120	(50-150)		
MS_201205160256	Nitrate as Nitrogen by IC	7.0	1.3	13.1	mg/L	98	(80-120)		
MS_201205180242	Nitrate as Nitrogen by IC	ND	1.3	2.52	mg/L	97	(80-120)		

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.



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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD_201205160256	Nitrate as Nitrogen by IC	7.0	1.3	13.1	mg/L	98	(80-120)	20	0.0
MSD_201205180242	Nitrate as Nitrogen by IC	ND	1.3	2.41	mg/L	93	(80-120)	20	4.5
LCS1	Nitrite Nitrogen by IC		1.0	0.983	mg/L	98	(90-110)		
LCS2	Nitrite Nitrogen by IC		1.0	0.974	mg/L	97	(90-110)	20	0.92
MBLK	Nitrite Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrite Nitrogen by IC		0.05	0.0519	mg/L	104	(50-150)		
MRLW	Nitrite Nitrogen by IC		0.013	0.0120	mg/L	96	(50-150)		
MS_201205180242	Nitrite Nitrogen by IC	ND	0.5	0.881	mg/L	88	(80-120)		
MS_201205160256	Nitrite Nitrogen by IC	ND	0.5	2.31	mg/L	92	(80-120)		
MSD_201205160256	Nitrite Nitrogen by IC	ND	0.5	2.34	mg/L	93	(80-120)	20	1.3
MSD_201205180242	Nitrite Nitrogen by IC	ND	0.5	0.889	mg/L	89	(80-120)	20	0.90

QC Ref# 653910 - Apparent Color by SM 2120B

Analysis Date: 05/17/2012

DUP1_201205160206	Apparent Color	ND		ND	ACU		(0-20)		
DUP2_201205160377	Apparent Color	ND		ND	ACU		(0-20)		
MBLK	Apparent Color			<3	ACU				

QC Ref# 653926 - Odor at 60 C (TON) by SM 2150B

Analysis Date: 05/17/2012

DUP1_201205170082	Odor at 60 C (TON)	2.0		2.00	TON		(0-20)	20	0.0
DUP2_201205170112	Odor at 60 C (TON)	1.0		1.00	TON		(0-20)	20	0.0
MBLK	Odor at 60 C (TON)			<1	TON				

QC Ref# 653944 - ICP Metals by EPA 200.7

Analysis Date: 05/18/2012

LCS1	Boron Total ICAP		0.5	0.511	mg/L	102	(85-115)		
LCS2	Boron Total ICAP		0.5	0.498	mg/L	100	(85-115)	20	2.6
MBLK	Boron Total ICAP			<0.05	mg/L				
MRL_CHK	Boron Total ICAP		0.05	0.0518	mg/L	104	(50-150)		
MS_201205150037	Boron Total ICAP	ND	0.5	0.514	mg/L	102	(70-130)		
MS2_201205150543	Boron Total ICAP	ND	0.5	0.501	mg/L	99	(70-130)		
MSD_201205150037	Boron Total ICAP	ND	0.5	0.507	mg/L	100	(70-130)	20	1.4
MSD2_201205150543	Boron Total ICAP	ND	0.5	0.498	mg/L	98	(70-130)	20	0.60
LCS1	Calcium Total ICAP		50	51.6	mg/L	103	(85-115)		
LCS2	Calcium Total ICAP		50	50.5	mg/L	101	(85-115)	20	2.1
MBLK	Calcium Total ICAP			<1	mg/L				
MRL_CHK	Calcium Total ICAP		1.0	1.1	mg/L	110	(50-150)		
MS_201205150037	Calcium Total ICAP	6.4	50	56.3	mg/L	100	(70-130)		
MS2_201205150543	Calcium Total ICAP	30	50	77.2	mg/L	94	(70-130)		
MSD_201205150037	Calcium Total ICAP	6.4	50	55.2	mg/L	98	(70-130)	20	2.0
MSD2_201205150543	Calcium Total ICAP	30	50	78.0	mg/L	96	(70-130)	20	1.0
LCS1	Iron Total ICAP		5.0	5.06	mg/L	101	(85-115)		

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.

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Iron Total ICAP		5.0	4.95	mg/L	99	(85-115)	20	2.2
MBLK	Iron Total ICAP			<0.02	mg/L				
MRL_CHK	Iron Total ICAP		0.02	0.0215	mg/L	107	(50-150)		
MS_201205150037	Iron Total ICAP	ND	5.0	4.92	mg/L	98	(70-130)		
MS2_201205150543	Iron Total ICAP	ND	5.0	4.83	mg/L	97	(70-130)		
MSD_201205150037	Iron Total ICAP	ND	5.0	4.88	mg/L	98	(70-130)	20	0.82
MSD2_201205150543	Iron Total ICAP	ND	5.0	4.83	mg/L	97	(70-130)	20	0.0
LCS1	Magnesium Total ICAP		20	21.1	mg/L	105	(85-115)		
LCS2	Magnesium Total ICAP		20	20.7	mg/L	103	(85-115)	20	1.9
MBLK	Magnesium Total ICAP			<0.1	mg/L				
MRL_CHK	Magnesium Total ICAP		0.1	0.108	mg/L	108	(50-150)		
MS_201205150037	Magnesium Total ICAP	2.3	20	22.9	mg/L	103	(70-130)		
MS2_201205150543	Magnesium Total ICAP	7.4	20	27.1	mg/L	98	(70-130)		
MSD_201205150037	Magnesium Total ICAP	2.3	20	22.7	mg/L	102	(70-130)	20	0.88
MSD2_201205150543	Magnesium Total ICAP	7.4	20	27.1	mg/L	99	(70-130)	20	0.0
LCS1	Potassium Total ICAP		20	20.2	mg/L	101	(85-115)		
LCS2	Potassium Total ICAP		20	19.8	mg/L	99	(85-115)	20	2.0
MBLK	Potassium Total ICAP			<1	mg/L				
MRL_CHK	Potassium Total ICAP		1.0	0.926	mg/L	93	(50-150)		
MS_201205150037	Potassium Total ICAP	1.5	20	21.4	mg/L	99	(70-130)		
MS2_201205150543	Potassium Total ICAP	1.2	20	20.9	mg/L	98	(70-130)		
MSD_201205150037	Potassium Total ICAP	1.5	20	21.2	mg/L	99	(70-130)	20	0.94
MSD2_201205150543	Potassium Total ICAP	1.2	20	21.0	mg/L	99	(70-130)	20	0.48
LCS1	Sodium Total ICAP		50	51.6	mg/L	103	(85-115)		
LCS2	Sodium Total ICAP		50	50.6	mg/L	101	(85-115)	20	2.0
MBLK	Sodium Total ICAP			<1	mg/L				
MRL_CHK	Sodium Total ICAP		1.0	1.24	mg/L	124	(50-150)		
MS_201205150037	Sodium Total ICAP	4.1	50	54.5	mg/L	101	(70-130)		
MS2_201205150543	Sodium Total ICAP	22	50	70.5	mg/L	98	(70-130)		
MSD_201205150037	Sodium Total ICAP	4.1	50	54.1	mg/L	100	(70-130)	20	0.74
MSD2_201205150543	Sodium Total ICAP	22	50	71.0	mg/L	99	(70-130)	20	0.71
LCS1	Strontium ICAP		1.0	0.964	mg/L	96	(85-115)		
LCS2	Strontium ICAP		1.0	0.945	mg/L	95	(85-115)	20	2.0
MBLK	Strontium ICAP			<0.01	mg/L				
MRL_CHK	Strontium ICAP		0.01	0.0105	mg/L	105	(50-150)		
MS_201205150037	Strontium ICAP	0.078	1.0	1.02	mg/L	94	(70-130)		
MS2_201205150543	Strontium ICAP	0.11	1.0	1.02	mg/L	91	(70-130)		
MSD_201205150037	Strontium ICAP	0.078	1.0	0.996	mg/L	92	(70-130)	20	2.4

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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD2_201205150543	Strontium ICAP	0.11	1.0	1.03	mg/L	92	(70-130)	20	0.98
QC Ref# 653985 - ICPMS Metals by EPA 200.8						Analysis Date: 05/18/2012			
LCS1	Aluminum Total ICAP/MS		200	198	ug/L	99	(85-115)		
LCS2	Aluminum Total ICAP/MS		200	198	ug/L	99	(85-115)	20	0.0
MBLK	Aluminum Total ICAP/MS			<20	ug/L				
MRL_CHK	Aluminum Total ICAP/MS		20	20.9	ug/L	104	(50-150)		
MS_201205170018	Aluminum Total ICAP/MS	47	200	232	ug/L	93	(70-130)		
MS2_201205170165	Aluminum Total ICAP/MS	55	200	235	ug/L	90	(70-130)		
MSD_201205170018	Aluminum Total ICAP/MS	47	200	238	ug/L	96	(70-130)	20	2.5
MSD2_201205170165	Aluminum Total ICAP/MS	55	200	253	ug/L	99	(70-130)	20	7.4
LCS1	Antimony Total ICAP/MS		50	48.7	ug/L	97	(85-115)		
LCS2	Antimony Total ICAP/MS		50	49.6	ug/L	99	(85-115)	20	1.8
MBLK	Antimony Total ICAP/MS			<1	ug/L				
MRL_CHK	Antimony Total ICAP/MS		1.0	1.02	ug/L	102	(50-150)		
MS_201205170018	Antimony Total ICAP/MS	ND	50	47.4	ug/L	95	(70-130)		
MS2_201205170165	Antimony Total ICAP/MS	ND	50	45.2	ug/L	90	(70-130)		
MSD_201205170018	Antimony Total ICAP/MS	ND	50	45.8	ug/L	91	(70-130)	20	3.4
MSD2_201205170165	Antimony Total ICAP/MS	ND	50	48.5	ug/L	97	(70-130)	20	7.0
LCS1	Arsenic Total ICAP/MS		20	19.6	ug/L	98	(85-115)		
LCS2	Arsenic Total ICAP/MS		20	19.8	ug/L	99	(85-115)	20	1.0
MBLK	Arsenic Total ICAP/MS			<1	ug/L				
MRL_CHK	Arsenic Total ICAP/MS		1.0	1.04	ug/L	104	(50-150)		
MS_201205170018	Arsenic Total ICAP/MS	ND	20	20.3	ug/L	99	(70-130)		
MS2_201205170165	Arsenic Total ICAP/MS	ND	20	18.9	ug/L	94	(70-130)		
MSD_201205170018	Arsenic Total ICAP/MS	ND	20	19.9	ug/L	97	(70-130)	20	2.0
MSD2_201205170165	Arsenic Total ICAP/MS	ND	20	20.0	ug/L	100	(70-130)	20	5.7
LCS1	Barium Total ICAP/MS		100	95.5	ug/L	96	(85-115)		
LCS2	Barium Total ICAP/MS		100	96.8	ug/L	97	(85-115)	20	1.5
MBLK	Barium Total ICAP/MS			<2	ug/L				
MRL_CHK	Barium Total ICAP/MS		2.0	2.00	ug/L	100	(50-150)		
MS_201205170018	Barium Total ICAP/MS	18	100	108	ug/L	90	(70-130)		
MS2_201205170165	Barium Total ICAP/MS	21	100	107	ug/L	86	(70-130)		
MSD_201205170018	Barium Total ICAP/MS	18	100	105	ug/L	87	(70-130)	20	2.8
MSD2_201205170165	Barium Total ICAP/MS	21	100	114	ug/L	93	(70-130)	20	6.3
LCS1	Beryllium Total ICAP/MS		5.0	4.78	ug/L	96	(85-115)		
LCS2	Beryllium Total ICAP/MS		5.0	4.81	ug/L	96	(85-115)	20	0.63
MBLK	Beryllium Total ICAP/MS			<1	ug/L				

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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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Beryllium Total ICAP/MS		1.0	1.01	ug/L	101	(50-150)		
MS_201205170018	Beryllium Total ICAP/MS	ND	5.0	4.83	ug/L	97	(70-130)		
MS2_201205170165	Beryllium Total ICAP/MS	ND	5.0	4.61	ug/L	92	(70-130)		
MSD_201205170018	Beryllium Total ICAP/MS	ND	5.0	4.78	ug/L	96	(70-130)	20	1.0
MSD2_201205170165	Beryllium Total ICAP/MS	ND	5.0	4.84	ug/L	97	(70-130)	20	4.9
LCS1	Cadmium Total ICAP/MS		20	19.9	ug/L	99	(85-115)		
LCS2	Cadmium Total ICAP/MS		20	20.0	ug/L	100	(85-115)	20	0.50
MBLK	Cadmium Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Cadmium Total ICAP/MS		0.5	0.526	ug/L	105	(50-150)		
MS_201205170018	Cadmium Total ICAP/MS	ND	20	19.0	ug/L	95	(70-130)		
MS2_201205170165	Cadmium Total ICAP/MS	ND	20	18.3	ug/L	91	(70-130)		
MSD_201205170018	Cadmium Total ICAP/MS	ND	20	18.5	ug/L	92	(70-130)	20	2.7
MSD2_201205170165	Cadmium Total ICAP/MS	ND	20	19.4	ug/L	97	(70-130)	20	6.3
LCS1	Chromium Total ICAP/MS		100	98.1	ug/L	98	(85-115)		
LCS2	Chromium Total ICAP/MS		100	98.4	ug/L	98	(85-115)	20	0.31
MBLK	Chromium Total ICAP/MS			<1	ug/L				
MRL_CHK	Chromium Total ICAP/MS		1.0	1.05	ug/L	105	(50-150)		
MS_201205170018	Chromium Total ICAP/MS	ND	100	92.8	ug/L	93	(70-130)		
MS2_201205170165	Chromium Total ICAP/MS	ND	100	90.2	ug/L	90	(70-130)		
MSD_201205170018	Chromium Total ICAP/MS	ND	100	92.5	ug/L	92	(70-130)	20	0.32
MSD2_201205170165	Chromium Total ICAP/MS	ND	100	94.8	ug/L	95	(70-130)	20	5.0
LCS1	Copper Total ICAP/MS		100	97.3	ug/L	97	(85-115)		
LCS2	Copper Total ICAP/MS		100	98.0	ug/L	98	(85-115)	20	0.72
MBLK	Copper Total ICAP/MS			<2	ug/L				
MRL_CHK	Copper Total ICAP/MS		2.0	2.1	ug/L	105	(50-150)		
MS_201205170018	Copper Total ICAP/MS	3.5	100	93.4	ug/L	90	(70-130)		
MS2_201205170165	Copper Total ICAP/MS	6.4	100	92.4	ug/L	86	(70-130)		
MSD_201205170018	Copper Total ICAP/MS	3.5	100	91.0	ug/L	88	(70-130)	20	2.6
MSD2_201205170165	Copper Total ICAP/MS	6.4	100	97.2	ug/L	91	(70-130)	20	5.1
LCS1	Lead Total ICAP/MS		20	20.2	ug/L	101	(85-115)		
LCS2	Lead Total ICAP/MS		20	20.5	ug/L	103	(85-115)	20	1.5
MBLK	Lead Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.523	ug/L	105	(50-150)		
MS_201205170018	Lead Total ICAP/MS	ND	20	18.1	ug/L	90	(70-130)		
MS2_201205170165	Lead Total ICAP/MS	0.54	20	18.7	ug/L	91	(70-130)		
MSD_201205170018	Lead Total ICAP/MS	ND	20	17.7	ug/L	88	(70-130)	20	2.2
MSD2_201205170165	Lead Total ICAP/MS	0.54	20	20.8	ug/L	101	(70-130)	20	11
LCS1	Manganese Total ICAP/MS		50	50.3	ug/L	101	(85-115)		

Spike recovery is already corrected for native results.

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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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Manganese Total ICAP/MS		50	51.0	ug/L	102	(85-115)	20	1.4
MBLK	Manganese Total ICAP/MS			<2	ug/L				
MRL_CHK	Manganese Total ICAP/MS		2.0	2.11	ug/L	106	(50-150)		
MS_201205170018	Manganese Total ICAP/MS	ND	50	48.1	ug/L	95	(70-130)		
MS2_201205170165	Manganese Total ICAP/MS	ND	50	46.3	ug/L	92	(70-130)		
MSD_201205170018	Manganese Total ICAP/MS	ND	50	47.6	ug/L	94	(70-130)	20	1.0
MSD2_201205170165	Manganese Total ICAP/MS	ND	50	48.3	ug/L	96	(70-130)	20	4.2
LCS1	Nickel Total ICAP/MS		50	49.0	ug/L	98	(85-115)		
LCS2	Nickel Total ICAP/MS		50	49.1	ug/L	98	(85-115)	20	0.20
MBLK	Nickel Total ICAP/MS			<5	ug/L				
MRL_CHK	Nickel Total ICAP/MS		5.0	5.14	ug/L	103	(50-150)		
MS_201205170018	Nickel Total ICAP/MS	ND	50	45.5	ug/L	89	(70-130)		
MS2_201205170165	Nickel Total ICAP/MS	ND	50	43.6	ug/L	86	(70-130)		
MSD_201205170018	Nickel Total ICAP/MS	ND	50	44.8	ug/L	88	(70-130)	20	1.6
MSD2_201205170165	Nickel Total ICAP/MS	ND	50	46.0	ug/L	90	(70-130)	20	5.4
LCS1	Selenium Total ICAP/MS		20	19.8	ug/L	99	(85-115)		
LCS2	Selenium Total ICAP/MS		20	20.5	ug/L	102	(85-115)	20	3.5
MBLK	Selenium Total ICAP/MS			<5	ug/L				
MRL_CHK	Selenium Total ICAP/MS		5.0	5.13	ug/L	103	(50-150)		
MS_201205170018	Selenium Total ICAP/MS	ND	20	22.0	ug/L	109	(70-130)		
MS2_201205170165	Selenium Total ICAP/MS	ND	20	21.3	ug/L	106	(70-130)		
MSD_201205170018	Selenium Total ICAP/MS	ND	20	21.7	ug/L	108	(70-130)	20	1.4
MSD2_201205170165	Selenium Total ICAP/MS	ND	20	22.4	ug/L	112	(70-130)	20	5.0
LCS1	Thallium Total ICAP/MS		20	19.8	ug/L	99	(85-115)		
LCS2	Thallium Total ICAP/MS		20	20.2	ug/L	101	(85-115)	20	2.0
MBLK	Thallium Total ICAP/MS			<1	ug/L				
MRL_CHK	Thallium Total ICAP/MS		1.0	1.06	ug/L	106	(50-150)		
MS_201205170018	Thallium Total ICAP/MS	ND	20	18.6	ug/L	92	(70-130)		
MS2_201205170165	Thallium Total ICAP/MS	ND	20	14.0	ug/L	70	(70-130)		
MSD_201205170018	Thallium Total ICAP/MS	ND	20	18.3	ug/L	91	(70-130)	20	1.6
MSD2_201205170165	Thallium Total ICAP/MS	ND	20	15.7	ug/L	79	(70-130)	20	11
LCS1	Uranium ICAP/MS		20	20.9	ug/L	104	(85-115)		
LCS2	Uranium ICAP/MS		20	21.0	ug/L	105	(85-115)	20	0.48
MBLK	Uranium ICAP/MS			<1	ug/L				
MRL_CHK	Uranium ICAP/MS		1.0	0.960	ug/L	96	(50-150)		
MS_201205170018	Uranium ICAP/MS	ND	20	18.9	ug/L	94	(70-130)		
MS2_201205170165	Uranium ICAP/MS	ND	20	18.5	ug/L	93	(70-130)		
MSD_201205170018	Uranium ICAP/MS	ND	20	18.5	ug/L	92	(70-130)	20	2.1

Spike recovery is already corrected for native results.

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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).

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Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD2_201205170165	Uranium ICAP/MS	ND	20	20.6	ug/L	103	(70-130)	20	11
LCS1	Zinc Total ICAP/MS		100	99.0	ug/L	99	(85-115)		
LCS2	Zinc Total ICAP/MS		100	99.5	ug/L	100	(85-115)	20	0.50
MBLK	Zinc Total ICAP/MS			<20	ug/L				
MRL_CHK	Zinc Total ICAP/MS		20	20.6	ug/L	103	(50-150)		
MS_201205170018	Zinc Total ICAP/MS	ND	100	98.9	ug/L	99	(70-130)		
MS2_201205170165	Zinc Total ICAP/MS	ND	100	101	ug/L	95	(70-130)		
MSD_201205170018	Zinc Total ICAP/MS	ND	100	97.9	ug/L	98	(70-130)	20	1.0
MSD2_201205170165	Zinc Total ICAP/MS	ND	100	108	ug/L	102	(70-130)	20	6.7

QC Ref# 654042 - Glyphosate by EPA 547

Analysis Date: 05/17/2012

CCCH	Glyphosate		25	24.1	ug/L	96	(80-120)		
CCCM	Glyphosate		10	9.48	ug/L	95	(80-120)		
LCS1	Glyphosate		10	9.61	ug/L	96	(80-120)		
MBLK	Glyphosate			<6	ug/L				
MRL_CHK	Glyphosate		6.0	5.04	ug/L	84	(50-150)		
MS_201205150439	Glyphosate	ND	10	9.2	ug/L	92	(83-119)		
MS2_201205150466	Glyphosate	ND	10	11.0	ug/L	110	(83-119)		
MSD_201205150439	Glyphosate	ND	10	10.4	ug/L	104	(83-119)	20	12

QC Ref# 654048 - Hexavalent chromium(Dissolved) by EPA 218.6

Analysis Date: 05/17/2012

LCS1	Hexavalent chromium(Dissolved)		2.0	1.97	ug/L	99	(90-110)		
LCS2	Hexavalent chromium(Dissolved)		2.0	1.97	ug/L	98	(90-110)		
MBLK	Hexavalent chromium(Dissolved)			<0.020	ug/L				
MRL_CHK	Hexavalent chromium(Dissolved)		0.02	0.0244	ug/L	122	(50-150)		
MS_201205180258	Hexavalent chromium(Dissolved)	0.98	2.0	2.98	ug/L	100	(90-110)		
MS_201205170091	Hexavalent chromium(Dissolved)	ND	2.0	2.04	ug/L	102	(90-110)		
MSD_201205170091	Hexavalent chromium(Dissolved)	ND	2.0	2.02	ug/L	101	(90-110)	20	0.99
MSD_201205180258	Hexavalent chromium(Dissolved)	0.98	2.0	2.96	ug/L	99	(90-110)	20	0.67

QC Ref# 654072 - Organochlorine Pesticides/PCBs by EPA 505

Analysis Date: 05/17/2012

CCCH	Alachlor (Alanex)		1.0	1.11	ug/L	111	(70-130)		
CCCH	Alachlor (Alanex)		1.0	1.18	ug/L	118	(70-130)		
MBLK	Alachlor (Alanex)			<0.1	ug/L				
MRL_CHK	Alachlor (Alanex)		0.1	0.115	ug/L	115	(50-150)		
MS1_201205170064	Alachlor (Alanex)	ND	0.2	0.218	ug/L	109	(65-135)		
MS2_201205170068	Alachlor (Alanex)	ND	1.0	1.18	ug/L	118	(65-135)		
CCCH	Aldrin		0.1	0.104	ug/L	104	(70-130)		
CCCH	Aldrin		0.1	0.110	ug/L	110	(70-130)		
MBLK	Aldrin			<0.01	ug/L				

Spike recovery is already corrected for native results.

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1 800 566 LABS (1 800 566 5227)

Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Aldrin		0.01	0.0139	ug/L	139	(50-150)		
MS1_201205170064	Aldrin	ND	0.02	0.0229	ug/L	115	(65-135)		
MS2_201205170068	Aldrin	ND	0.1	0.111	ug/L	111	(65-135)		
CCCH	Chlordane		0.5	0.468	ug/L	94	(70-130)		
MBLK	Chlordane			<0.1	ug/L				
MRL_CHK	Chlordane		0.1	0.146	ug/L	146	(50-150)		
MS2_201205170068	Chlordane	ND	0.5	0.475	ug/L	95	(65-135)		
CCCH	Dieldrin		0.1	0.107	ug/L	107	(70-130)		
CCCH	Dieldrin		0.1	0.101	ug/L	101	(70-130)		
MBLK	Dieldrin			<0.01	ug/L				
MRL_CHK	Dieldrin		0.01	0.0133	ug/L	133	(50-150)		
MS1_201205170064	Dieldrin	ND	0.02	0.0214	ug/L	107	(65-135)		
MS2_201205170068	Dieldrin	ND	0.1	0.0969	ug/L	97	(65-135)		
CCCH	Endrin		0.1	0.0985	ug/L	99	(70-130)		
CCCH	Endrin		0.1	0.103	ug/L	103	(70-130)		
MBLK	Endrin			<0.01	ug/L				
MRL_CHK	Endrin		0.01	0.0129	ug/L	129	(50-150)		
MS1_201205170064	Endrin	ND	0.02	0.0208	ug/L	104	(65-135)		
MS2_201205170068	Endrin	ND	0.1	0.0916	ug/L	92	(65-135)		
CCCH	Heptachlor		0.1	0.115	ug/L	115	(70-130)		
CCCH	Heptachlor		0.1	0.109	ug/L	109	(70-130)		
MBLK	Heptachlor			<0.01	ug/L				
MRL_CHK	Heptachlor		0.01	0.0142	ug/L	142	(50-150)		
MS1_201205170064	Heptachlor	ND	0.02	0.0249	ug/L	124	(65-135)		
MS2_201205170068	Heptachlor	ND	0.1	0.113	ug/L	113	(65-135)		
CCCH	Heptachlor Epoxide		0.1	0.108	ug/L	108	(70-130)		
CCCH	Heptachlor Epoxide		0.1	0.113	ug/L	113	(70-130)		
MBLK	Heptachlor Epoxide			<0.01	ug/L				
MRL_CHK	Heptachlor Epoxide		0.01	0.0115	ug/L	115	(50-150)		
MS1_201205170064	Heptachlor Epoxide	ND	0.02	0.0209	ug/L	105	(65-135)		
MS2_201205170068	Heptachlor Epoxide	ND	0.1	0.109	ug/L	109	(65-135)		
CCCH	Lindane (gamma-BHC)		0.1	0.113	ug/L	113	(70-130)		
CCCH	Lindane (gamma-BHC)		0.1	0.106	ug/L	106	(70-130)		
MBLK	Lindane (gamma-BHC)			<0.01	ug/L				
MRL_CHK	Lindane (gamma-BHC)		0.01	0.0120	ug/L	120	(50-150)		
MS1_201205170064	Lindane (gamma-BHC)	ND	0.02	0.0196	ug/L	98	(65-135)		
MS2_201205170068	Lindane (gamma-BHC)	ND	0.1	0.113	ug/L	113	(65-135)		
CCCH	Methoxychlor		0.5	0.469	ug/L	94	(70-130)		

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MWH
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 A Division of MWH Americas, Inc.

Laboratory QC
Report: 396916

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Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCH	Methoxychlor		0.5	0.518	ug/L	103	(70-130)		
MBLK	Methoxychlor			<0.05	ug/L				
MRL_CHK	Methoxychlor		0.05	0.0576	ug/L	115	(50-150)		
MS1_201205170064	Methoxychlor	ND	0.1	0.103	ug/L	103	(65-135)		
MS2_201205170068	Methoxychlor	ND	0.5	0.502	ug/L	100	(65-135)		
MBLK	PCB 1016 Aroclor			<0.08	ug/L				
MBLK	PCB 1221 Aroclor			<0.1	ug/L				
MBLK	PCB 1232 Aroclor			<0.1	ug/L				
MBLK	PCB 1242 Aroclor			<0.1	ug/L				
MBLK	PCB 1248 Aroclor			<0.1	ug/L				
MBLK	PCB 1254 Aroclor			<0.1	ug/L				
MBLK	PCB 1260 Aroclor			<0.1	ug/L				
CCCH	Tetrachlorometaxylene (S)			101	%	101	(70-130)		
CCCH	Tetrachlorometaxylene (S)			111	%	111	(70-130)		
MBLK	Tetrachlorometaxylene (S)			99.2	%	99	(70-130)		
MRL_CHK	Tetrachlorometaxylene (S)			105	%	105	(70-130)		
MS1_201205170064	Tetrachlorometaxylene (S)			98.4	%	98	(70-130)		
MS2_201205170068	Tetrachlorometaxylene (S)			106	%	106	(70-130)		
MBLK	Total PCBs			<0.08	ug/L				
CCCH	Toxaphene		2.5	2.61	ug/L	104	(70-130)		
MBLK	Toxaphene			<0.5	ug/L				
MRL_CHK	Toxaphene		0.5	0.528	ug/L	106	(50-150)		
MS1_201205170064	Toxaphene		2.5	2.67	ug/L	107	(65-135)		

QC Ref# 654206 - Surfactants by SM 5540C/EPA 425.1

Analysis Date: 05/16/2012

LCS1	Surfactants		0.2	0.190	mg/L	95	(90-110)		
LCS2	Surfactants		0.2	0.196	mg/L	98	(90-110)	20	3.1
MBLK	Surfactants			<0.05	mg/L				
MRL_CHK	Surfactants		0.05	0.0372	mg/L	75	(50-150)		
MS_201205140167	Surfactants	ND	0.2	0.192	mg/L	96	(80-120)		
MSD_201205140167	Surfactants	ND	0.2	0.194	mg/L	97	(80-120)	20	1.0

QC Ref# 654211 - Orthophosphate as P (OPO4) by 4500P-E/365.1

Analysis Date: 05/16/2012

LCS1	Orthophosphate as P		0.25	0.262	mg/L	105	(90-110)		
LCS2	Orthophosphate as P		0.25	0.264	mg/L	106	(90-110)	20	0.76
MBLK	Orthophosphate as P			<0.01	mg/L				
MRL_CHK	Orthophosphate as P		0.01	0.0110	mg/L	110	(50-150)		
MS_201205140167	Orthophosphate as P	ND	0.5	0.533	mg/L	106	(90-110)		
MSD_201205140167	Orthophosphate as P	ND	0.5	0.528	mg/L	105	(90-110)	20	0.94

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Laboratory QC
Report: 396916

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 654218 - Fluoride by SM 4500F-C						Analysis Date: 05/18/2012			
LCS1	Fluoride		1.0	1.05	mg/L	105	(81-116)		
LCS2	Fluoride		1.0	1.05	mg/L	105	(81-116)	20	0.0
MBLK	Fluoride			<0.05	mg/L				
MRL_CHK	Fluoride		0.05	0.0583	mg/L	117	(50-150)		
MS_201205160164	Fluoride	0.28	1.0	1.39	mg/L	110	(73-124)		
MS2_201205160173	Fluoride	0.34	1.0	1.45	mg/L	112	(73-124)		
MSD_201205160164	Fluoride	0.28	1.0	1.41	mg/L	113	(73-124)	20	1.4
MSD2_201205160173	Fluoride	0.34	1.0	1.47	mg/L	114	(-124)	20	1.4
QC Ref# 654221 - Cyanide by SM4500CN-F						Analysis Date: 05/17/2012			
LCS1	Cyanide		0.1	0.101	mg/L	101	(80-120)		
LCS2	Cyanide		0.1	0.105	mg/L	105	(80-120)	20	3.9
MBLK	Cyanide			<0.025	mg/L				
MRL_CHK	Cyanide		0.025	0.0265	mg/L	106	(50-150)		
MS_201205170067	Cyanide	ND	0.1	0.100	mg/L	95	(80-120)		
MS2_201205170021	Cyanide	ND	0.1	0.100	mg/L	94	(80-120)		
MSD_201205170067	Cyanide	ND	0.1	0.103	mg/L	97	(80-120)	20	3.0
MSD2_201205170021	Cyanide	ND	0.1	0.107	mg/L	101	(80-120)	20	6.8
QC Ref# 654337 - Chlorophenoxy Herbicides by EPA 515.4						Analysis Date: 05/18/2012			
CCCH	2,4,5-T		4.0	4.23	ug/L	106	(70-130)		
CCCM	2,4,5-T		1.0	1.03	ug/L	103	(70-130)		
MBLK	2,4,5-T			<0.1	ug/L				
MRL_CHK	2,4,5-T		0.2	0.146	ug/L	73	(50-150)		
MS2_201205040287	2,4,5-T	ND	0.75	0.897	ug/L	120	(70-130)		
MSD2_201205040287	2,4,5-T	ND	0.75	0.859	ug/L	115	(70-130)	30	4.3
CCCH	2,4,5-TP (Silvex)		4.0	4.32	ug/L	108	(70-130)		
CCCM	2,4,5-TP (Silvex)		1.0	1.18	ug/L	118	(70-130)		
MBLK	2,4,5-TP (Silvex)			<0.1	ug/L				
MRL_CHK	2,4,5-TP (Silvex)		0.2	0.298	ug/L	149	(50-150)		
MS2_201205040287	2,4,5-TP (Silvex)	ND	0.75	0.933	ug/L	124	(70-130)		
MSD2_201205040287	2,4,5-TP (Silvex)	ND	0.75	0.935	ug/L	125	(70-130)	30	0.21
CCCH	2,4-D		2.0	1.99	ug/L	100	(70-130)		
CCCM	2,4-D		0.5	0.545	ug/L	109	(70-130)		
MBLK	2,4-D			<0.05	ug/L				
MRL_CHK	2,4-D		0.1	0.102	ug/L	102	(50-150)		
MS2_201205040287	2,4-D	ND	0.38	0.489	ug/L	94	(70-130)		
MSD2_201205040287	2,4-D	ND	0.38	0.415	ug/L	74	(70-130)	30	16

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCH	2,4-DB		40	39.4	ug/L	99	(70-130)		
CCCM	2,4-DB		10	8.68	ug/L	87	(70-130)		
MBLK	2,4-DB			<1	ug/L				
MRL_CHK	2,4-DB		2.0	2.42	ug/L	121	(50-150)		
MS2_201205040287	2,4-DB	ND	7.5	6.72	ug/L	90	(70-130)		
MSD2_201205040287	2,4-DB	ND	7.5	6.62	ug/L	88	(70-130)	30	1.5
CCCH	2,4-Dichlorophenyl acetic acid (S)			101	%	101	(70-130)		
CCCM	2,4-Dichlorophenyl acetic acid (S)			101	%	101	(70-130)		
MBLK	2,4-Dichlorophenyl acetic acid (S)			100	%	100	(70-130)		
MRL_CHK	2,4-Dichlorophenyl acetic acid (S)			100	%	100	(70-130)		
MS2_201205040287	2,4-Dichlorophenyl acetic acid (S)			108	%	108	(70-130)		
MSD2_201205040287	2,4-Dichlorophenyl acetic acid (S)			101	%	101	(70-130)		
CCCH	3,5-Dichlorobenzoic acid		10	9.87	ug/L	99	(70-130)		
CCCM	3,5-Dichlorobenzoic acid		2.5	2.62	ug/L	105	(70-130)		
MBLK	3,5-Dichlorobenzoic acid			<0.25	ug/L				
MRL_CHK	3,5-Dichlorobenzoic acid		0.5	0.507	ug/L	101	(50-150)		
MS2_201205040287	3,5-Dichlorobenzoic acid	ND	1.9	2.66	ug/L	129	(70-130)		
MSD2_201205040287	3,5-Dichlorobenzoic acid	ND	1.9	2.5	ug/L	120	(70-130)	30	6.2
CCCH	4,4-Dibromooctafluorobiphenyl (I)			97.1	%	97	(50-150)		
CCCM	4,4-Dibromooctafluorobiphenyl (I)			94.9	%	95	(50-150)		
MBLK	4,4-Dibromooctafluorobiphenyl (I)			99.9	%	100	(50-150)		
MRL_CHK	4,4-Dibromooctafluorobiphenyl (I)			101	%	101	(50-150)		
MS2_201205040287	4,4-Dibromooctafluorobiphenyl (I)			80.6	%	81	(50-150)		
MSD2_201205040287	4,4-Dibromooctafluorobiphenyl (I)			85.4	%	85	(50-150)		
CCCH	Acifluorfen		4.0	4.44	ug/L	111	(70-130)		
CCCM	Acifluorfen		1.0	1.12	ug/L	112	(70-130)		
MBLK	Acifluorfen			<0.1	ug/L				
MRL_CHK	Acifluorfen		0.2	0.164	ug/L	82	(50-150)		
MS2_201205040287	Acifluorfen	ND	0.75	0.957	ug/L	128	(70-130)		
MSD2_201205040287	Acifluorfen	ND	0.75	0.930	ug/L	124	(70-130)	30	2.9
CCCH	Bentazon		10	10.4	ug/L	104	(70-130)		
CCCM	Bentazon		2.5	2.68	ug/L	107	(70-130)		
MBLK	Bentazon			<0.25	ug/L				
MRL_CHK	Bentazon		0.5	0.410	ug/L	82	(50-150)		
MS2_201205040287	Bentazon	ND	1.9	2.78	ug/L	149	(70-130)		
MSD2_201205040287	Bentazon	ND	1.9	2.3	ug/L	123	(70-130)	30	19
CCCH	Dalapon		20	20.6	ug/L	103	(70-130)		
CCCM	Dalapon		5.0	5.00	ug/L	100	(70-130)		

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Laboratory QC
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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	Dalapon			<0.5	ug/L				
MRL_CHK	Dalapon		1.0	0.975	ug/L	98	(50-150)		
MS2_201205040287	Dalapon	ND	3.8	4.85	ug/L	121	(70-130)		
MSD2_201205040287	Dalapon	ND	3.8	4.73	ug/L	118	(70-130)	30	2.5
CCCH	Dicamba		2.0	2.15	ug/L	108	(70-130)		
CCCM	Dicamba		0.5	0.580	ug/L	116	(70-130)		
MBLK	Dicamba			<0.04	ug/L				
MRL_CHK	Dicamba		0.1	0.0817	ug/L	82	(50-150)		
MS2_201205040287	Dicamba	ND	0.38	0.340	ug/L	91	(70-130)		
MSD2_201205040287	Dicamba	ND	0.38	0.368	ug/L	98	(70-130)	30	7.9
CCCH	Dichlorprop		10	10.0	ug/L	100	(70-130)		
CCCM	Dichlorprop		2.5	2.63	ug/L	105	(70-130)		
MBLK	Dichlorprop			<0.25	ug/L				
MRL_CHK	Dichlorprop		0.5	0.505	ug/L	101	(50-150)		
MS2_201205040287	Dichlorprop	ND	1.9	1.44	ug/L	77	(70-130)		
MSD2_201205040287	Dichlorprop	ND	1.9	1.39	ug/L	74	(70-130)	30	3.5
CCCH	Dinoseb		4.0	4.27	ug/L	107	(70-130)		
CCCM	Dinoseb		1.0	1.06	ug/L	106	(70-130)		
MBLK	Dinoseb			<0.1	ug/L				
MRL_CHK	Dinoseb		0.2	0.154	ug/L	77	(50-150)		
MS2_201205040287	Dinoseb	ND	0.75	0.960	ug/L	128	(70-130)		
MSD2_201205040287	Dinoseb	ND	0.75	0.937	ug/L	125	(70-130)	30	2.4
CCCH	Pentachlorophenol		0.8	0.831	ug/L	104	(70-130)		
CCCM	Pentachlorophenol		0.2	0.205	ug/L	102	(70-130)		
MBLK	Pentachlorophenol			<0.02	ug/L				
MRL_CHK	Pentachlorophenol		0.04	0.0363	ug/L	91	(50-150)		
MS2_201205040287	Pentachlorophenol	ND	0.15	0.165	ug/L	110	(70-130)		
MSD2_201205040287	Pentachlorophenol	ND	0.15	0.138	ug/L	92	(70-130)	30	18
CCCH	Picloram		2.0	2.02	ug/L	101	(70-130)		
CCCM	Picloram		0.5	0.571	ug/L	114	(70-130)		
MBLK	Picloram			<0.05	ug/L				
MRL_CHK	Picloram		0.1	0.143	ug/L	143	(50-150)		
MS2_201205040287	Picloram	ND	0.38	0.510	ug/L	123	(70-130)		
MSD2_201205040287	Picloram	ND	0.38	0.452	ug/L	107	(70-130)	30	12
CCCH	Tot DCPA Mono&Diacid Degradate		2.0	2.15	ug/L	108	(70-130)		
CCCM	Tot DCPA Mono&Diacid Degradate		0.5	0.586	ug/L	117	(70-130)		
MBLK	Tot DCPA Mono&Diacid Degradate			<0.5	ug/L				
MRL_CHK	Tot DCPA Mono&Diacid Degradate		0.1	0.125	ug/L	124	(50-150)		

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS2_201205040287	Tot DCPA Mono&Diacid Degradate	ND	0.38	0.450	ug/L	120	(70-130)		
MSD2_201205040287	Tot DCPA Mono&Diacid Degradate	ND	0.38	0.430	ug/L	115	(70-130)	30	4.5
QC Ref# 654350 - Turbidity by EPA 180.1						Analysis Date: 05/18/2012			
DUP1_201205230434	Turbidity	0.13		0.133	NTU		(0-20)	20	0.76
DUP2_201205160350	Turbidity	0.099		0.0970	NTU		(0-10)	10	2.0
LCS1	Turbidity		20	20.0	NTU	100	(90-110)		
LCS2	Turbidity		20	19.9	NTU	100	(90-110)	20	0.50
MBLK	Turbidity			<0.05	NTU				
MRL_CHK	Turbidity		0.05	0.0600	NTU	120	(50-150)		
QC Ref# 654481 - Endothall by EPA 548.1						Analysis Date: 05/21/2012			
LCS1	Endothall		25	22.5	ug/L	90	(63-144)		
MBLK	Endothall			<5	ug/L				
MRL_CHK	Endothall		5.0	5.83	ug/L	117	(50-150)		
MS_201205170064	Endothall	ND	25	24.9	ug/L	99	(38-157)		
MS_2ND_201205170067	Endothall	ND	25	24.6	ug/L	99	(38-157)		
MSD_201205170064	Endothall	ND	25	26.1	ug/L	105	(38-157)	30	5.1
QC Ref# 654627 - Mercury Total by EPA 245.1						Analysis Date: 05/22/2012			
LCS1	Mercury		1.5	1.56	ug/L	104	(85-115)		
LCS2	Mercury		1.5	1.36	ug/L	91	(85-115)	20	14
MBLK	Mercury			<0.2	ug/L				
MRL_CHK	Mercury		0.2	0.162	ug/L	81	(50-150)		
MS_201205160056	Mercury	ND	1.5	1.73	ug/L	115	(70-130)		
MS_201205160164	Mercury	ND	1.5	1.7	ug/L	113	(70-130)		
MSD_201205160164	Mercury	ND	1.5	1.66	ug/L	111	(70-130)	20	2.4
MSD_201205160056	Mercury	ND	1.5	1.72	ug/L	115	(70-130)	20	0.58
QC Ref# 654652 - Diquat and Paraquat by EPA 549.2						Analysis Date: 05/22/2012			
CCCL	Diquat		0.4	0.429	ug/L	107	(80-120)		
CCCM	Diquat		10	10.6	ug/L	106	(80-120)		
LCS1	Diquat		5.0	4.9	ug/L	98	(70-130)		
LCS2	Diquat		5.0	4.97	ug/L	99	(70-130)	20	1.4
MBLK	Diquat			<0.2	ug/L				
MRL_CHK	Diquat		0.4	0.365	ug/L	91	(50-150)		
MS_201205180093	Diquat	ND	5.0	4.72	ug/L	95	(70-130)		
MS2_201205170067	Diquat	ND	5.0	4.4	ug/L	88	(70-130)		
MSD_201205180093	Diquat	ND	5.0	4.77	ug/L	95	(70-130)	20	1.1
CCCL	Paraquat		2.0	2.15	ug/L	107	(80-120)		

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.



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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCM	Paraquat		10	10.1	ug/L	101	(80-120)		
LCS1	Paraquat		5.0	4.84	ug/L	97	(70-130)		
LCS2	Paraquat		5.0	5.17	ug/L	103	(70-130)	20	6.6
MBLK	Paraquat			<1	ug/L				
MRL_CHK	Paraquat		2.0	2.34	ug/L	117	(50-150)		
MS_201205180093	Paraquat	ND	5.0	4.95	ug/L	99	(70-130)		
MS2_201205170067	Paraquat	ND	5.0	4.6	ug/L	92	(70-130)		
MSD_201205180093	Paraquat	ND	5.0	4.94	ug/L	99	(70-130)	20	0.20
QC Ref# 654839 - Radium 228 by RA-228 GA						Analysis Date: 06/08/2012			
LCS1	Radium 228		3.1	3.33	pCi/L	106	(80-120)		
LCS2	Radium 228		3.1	2.8	pCi/L	89	(80-120)	20	17
MBLK	Radium 228			<1	pCi/L				
MS_201205170064	Radium 228	ND	3.1	3.55	pCi/L	113	(70-130)		
QC Ref# 654842 - Radium 226 by Ra-226 GA						Analysis Date: 06/08/2012			
LCS1	Radium 226		3.6	4.61	pCi/L	<u>126</u>	(80-120)		
LCS2	Radium 226		3.6	3.75	pCi/L	103	(80-120)	20	<u>21</u>
MBLK	Radium 226			<1	pCi/L				
MS_201205170064	Radium 226	ND	3.6	4.55	pCi/L	125	(70-130)		
QC Ref# 654851 - Specific Conductance by SM2510B						Analysis Date: 05/24/2012			
DUP1_201205180094	Specific Conductance	2.9		2.5	umho/cm		(0-20)	20	15
DUP1_201205210053	Specific Conductance	100		101	umho/cm		(0-20)	20	0.099
LCS1	Specific Conductance		1000	990	umho/cm	99	(95-105)		
LCS2	Specific Conductance		1000	987	umho/cm	99	(95-105)	20	0.30
MBLK	Specific Conductance			<2	umho/cm				
MRL_CHK	Specific Conductance		2.0	2.4	umho/cm	120	(50-150)		
QC Ref# 654853 - Alkalinity in CaCO3 units by SM 2320B						Analysis Date: 05/24/2012			
LCS1	Alkalinity in CaCO3 units		100	97.1	mg/L	97	(90-110)		
LCS2	Alkalinity in CaCO3 units		100	97.8	mg/L	98	(90-110)	20	0.72
MBLK	Alkalinity in CaCO3 units			<2	mg/L				
MRL_CHK	Alkalinity in CaCO3 units		2.0	2.05	mg/L	102	(50-150)		
MS_201205210053	Alkalinity in CaCO3 units	8.6	100	104	mg/L	95	(80-120)		
MS_201205180094	Alkalinity in CaCO3 units	ND	100	94.0	mg/L	94	(80-120)		
MSD_201205180094	Alkalinity in CaCO3 units	ND	100	94.4	mg/L	94	(80-120)	20	0.43
MSD_201205210053	Alkalinity in CaCO3 units	8.6	100	104	mg/L	96	(80-120)	20	0.0
QC Ref# 654876 - 2,3,7,8-TCDD_Dioxin by EPA 1613B						Analysis Date: 05/23/2012			
LCS1	2,3,7,8-TCDD		200	166	pg/L	83	(73-146)		

Spike recovery is already corrected for native results.

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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.



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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

Table with columns: QC Type, Analyte, Native, Spiked, Recovered, Units, Yield (%), Limits (%), RPDLimit (%), RPD%. Contains multiple rows of data for various analytes like 2,3,7,8-TCDD, Perchlorate, and 1,2,3-Trichloropropane.

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Toluene-d8 (S)			85.5	%	85	(80-120)		
MBLK	Toluene-d8 (S)			85.5	%	86	(80-120)		
MBLK	Toluene-d8 (S)			83.0	%	83	(80-120)		
MRL_CHK	Toluene-d8 (S)			85.5	%	86	(80-120)		

QC Ref# 655442 - Volatile Organics by GCMS by EPA 524.2

Analysis Date: 05/24/2012

LCS1	1,1,1,2-Tetrachloroethane		5.0	5.52	ug/L	110	(70-130)		
LCS2	1,1,1,2-Tetrachloroethane		5.0	5.46	ug/L	109	(70-130)	20	1.1
MBLK	1,1,1,2-Tetrachloroethane			<0.25	ug/L				
MRL_CHK	1,1,1,2-Tetrachloroethane		0.5	0.620	ug/L	124	(50-150)		
LCS1	1,1,1-Trichloroethane		5.0	5.19	ug/L	104	(70-130)		
LCS2	1,1,1-Trichloroethane		5.0	5.34	ug/L	107	(70-130)	20	2.9
MBLK	1,1,1-Trichloroethane			<0.25	ug/L				
MRL_CHK	1,1,1-Trichloroethane		0.5	0.480	ug/L	96	(50-150)		
LCS1	1,1,2,2-Tetrachloroethane		5.0	5.22	ug/L	104	(70-130)		
LCS2	1,1,2,2-Tetrachloroethane		5.0	5.29	ug/L	106	(70-130)	20	1.3
MBLK	1,1,2,2-Tetrachloroethane			<0.25	ug/L				
MRL_CHK	1,1,2,2-Tetrachloroethane		0.5	0.550	ug/L	110	(50-150)		
LCS1	1,1,2-Trichloroethane		5.0	5.52	ug/L	110	(70-130)		
LCS2	1,1,2-Trichloroethane		5.0	5.43	ug/L	109	(70-130)	20	1.6
MBLK	1,1,2-Trichloroethane			<0.25	ug/L				
MRL_CHK	1,1,2-Trichloroethane		0.5	0.570	ug/L	114	(50-150)		
LCS1	1,1-Dichloroethane		5.0	5.43	ug/L	109	(70-130)		
LCS2	1,1-Dichloroethane		5.0	5.25	ug/L	105	(70-130)	20	3.4
MBLK	1,1-Dichloroethane			<0.25	ug/L				
MRL_CHK	1,1-Dichloroethane		0.5	0.520	ug/L	104	(50-150)		
LCS1	1,1-Dichloroethylene		5.0	5.29	ug/L	106	(70-130)		
LCS2	1,1-Dichloroethylene		5.0	5.16	ug/L	103	(70-130)	20	2.5
MBLK	1,1-Dichloroethylene			<0.25	ug/L				
MRL_CHK	1,1-Dichloroethylene		0.5	0.540	ug/L	108	(50-150)		
LCS1	1,1-Dichloropropene		5.0	5.21	ug/L	104	(70-130)		
LCS2	1,1-Dichloropropene		5.0	5.13	ug/L	103	(70-130)	20	1.6
MBLK	1,1-Dichloropropene			<0.25	ug/L				
MRL_CHK	1,1-Dichloropropene		0.5	0.520	ug/L	104	(50-150)		
LCS1	1,2,3-Trichlorobenzene		5.0	5.39	ug/L	108	(70-130)		
LCS2	1,2,3-Trichlorobenzene		5.0	5.67	ug/L	113	(70-130)	20	5.1
MBLK	1,2,3-Trichlorobenzene			<0.25	ug/L				
MRL_CHK	1,2,3-Trichlorobenzene		0.5	0.600	ug/L	120	(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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	1,2,3-Trichloropropane		5.0	5.35	ug/L	107	(70-130)		
LCS2	1,2,3-Trichloropropane		5.0	5.46	ug/L	109	(70-130)	20	2.0
MBLK	1,2,3-Trichloropropane			<0.25	ug/L				
MRL_CHK	1,2,3-Trichloropropane		0.5	0.530	ug/L	106	(50-150)		
LCS1	1,2,4-Trichlorobenzene		5.0	5.28	ug/L	106	(70-130)		
LCS2	1,2,4-Trichlorobenzene		5.0	5.59	ug/L	112	(70-130)	20	5.7
MBLK	1,2,4-Trichlorobenzene			<0.25	ug/L				
MRL_CHK	1,2,4-Trichlorobenzene		0.5	0.610	ug/L	122	(50-150)		
LCS1	1,2,4-Trimethylbenzene		5.0	5.23	ug/L	105	(70-130)		
LCS2	1,2,4-Trimethylbenzene		5.0	5.27	ug/L	105	(70-130)	20	0.76
MBLK	1,2,4-Trimethylbenzene			<0.25	ug/L				
MRL_CHK	1,2,4-Trimethylbenzene		0.5	0.530	ug/L	106	(50-150)		
LCS1	1,2-Dichloroethane		5.0	5.22	ug/L	104	(70-130)		
LCS2	1,2-Dichloroethane		5.0	5.16	ug/L	103	(70-130)	20	1.2
MBLK	1,2-Dichloroethane			<0.25	ug/L				
MRL_CHK	1,2-Dichloroethane		0.5	0.510	ug/L	102	(50-150)		
LCS1	1,2-Dichloroethane-d4 (S)			97.2	%	97	(70-130)		
LCS2	1,2-Dichloroethane-d4 (S)			99.4	%	99	(70-130)		
MBLK	1,2-Dichloroethane-d4 (S)			99.2	%	99	(70-130)		
MRL_CHK	1,2-Dichloroethane-d4 (S)			97.6	%	98	(70-130)		
MRLLW	1,2-Dichloroethane-d4 (S)			102	%	102	(70-130)		
LCS1	1,2-Dichloropropane		5.0	5.2	ug/L	104	(70-130)		
LCS2	1,2-Dichloropropane		5.0	5.22	ug/L	104	(70-130)	20	0.38
MBLK	1,2-Dichloropropane			<0.25	ug/L				
MRL_CHK	1,2-Dichloropropane		0.5	0.480	ug/L	96	(50-150)		
LCS1	1,3,5-Trimethylbenzene		5.0	5.32	ug/L	106	(70-130)		
LCS2	1,3,5-Trimethylbenzene		5.0	5.38	ug/L	108	(70-130)	20	1.1
MBLK	1,3,5-Trimethylbenzene			<0.25	ug/L				
MRL_CHK	1,3,5-Trimethylbenzene		0.5	0.520	ug/L	104	(50-150)		
LCS1	1,3-Dichloropropane		5.0	5.43	ug/L	109	(70-130)		
LCS2	1,3-Dichloropropane		5.0	5.4	ug/L	108	(70-130)	20	0.55
MBLK	1,3-Dichloropropane			<0.25	ug/L				
MRL_CHK	1,3-Dichloropropane		0.5	0.510	ug/L	102	(50-150)		
LCS1	2,2-Dichloropropane		5.0	4.86	ug/L	97	(70-130)		
LCS2	2,2-Dichloropropane		5.0	5.25	ug/L	105	(70-130)	20	7.7
MBLK	2,2-Dichloropropane			<0.25	ug/L				
MRL_CHK	2,2-Dichloropropane		0.5	0.550	ug/L	110	(50-150)		
LCS1	2-Butanone (MEK)		50	49.0	ug/L	98	(70-130)		

Spike recovery is already corrected for native results.

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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.

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	2-Butanone (MEK)		50	46.7	ug/L	93	(70-130)	20	4.8
MBLK	2-Butanone (MEK)			<2.5	ug/L				
MRL_CHK	2-Butanone (MEK)		5.0	5.26	ug/L	105	(50-150)		
LCS1	4-Bromofluorobenzene (S)			97.2	%	97	(70-130)		
LCS2	4-Bromofluorobenzene (S)			100	%	100	(70-130)		
MBLK	4-Bromofluorobenzene (S)			102	%	102	(70-130)		
MRL_CHK	4-Bromofluorobenzene (S)			103	%	103	(70-130)		
MRL_W	4-Bromofluorobenzene (S)			104	%	104	(70-130)		
LCS1	4-Methyl-2-Pentanone (MIBK)		50	52.5	ug/L	105	(70-130)		
LCS2	4-Methyl-2-Pentanone (MIBK)		50	52.0	ug/L	104	(70-130)	20	0.96
MBLK	4-Methyl-2-Pentanone (MIBK)			<2.5	ug/L				
MRL_CHK	4-Methyl-2-Pentanone (MIBK)		5.0	5.07	ug/L	101	(50-150)		
LCS1	Benzene		5.0	5.23	ug/L	105	(70-130)		
LCS2	Benzene		5.0	5.09	ug/L	102	(70-130)	20	2.7
MBLK	Benzene			<0.25	ug/L				
MRL_CHK	Benzene		0.5	0.540	ug/L	108	(50-150)		
LCS1	Bromobenzene		5.0	5.13	ug/L	103	(70-130)		
LCS2	Bromobenzene		5.0	5.32	ug/L	106	(70-130)	20	3.6
MBLK	Bromobenzene			<0.25	ug/L				
MRL_CHK	Bromobenzene		0.5	0.560	ug/L	112	(50-150)		
LCS1	Bromochloromethane		5.0	5.3	ug/L	106	(70-130)		
LCS2	Bromochloromethane		5.0	5.33	ug/L	107	(70-130)	20	0.56
MBLK	Bromochloromethane			<0.25	ug/L				
MRL_CHK	Bromochloromethane		0.5	0.530	ug/L	106	(50-150)		
LCS1	Bromodichloromethane		5.0	5.23	ug/L	105	(70-130)		
LCS2	Bromodichloromethane		5.0	5.05	ug/L	101	(70-130)	20	3.5
MBLK	Bromodichloromethane			<0.25	ug/L				
MRL_CHK	Bromodichloromethane		0.5	0.590	ug/L	118	(50-150)		
LCS1	Bromoethane		5.0	5.07	ug/L	101	(70-130)		
LCS2	Bromoethane		5.0	5.16	ug/L	103	(70-130)	20	1.8
MBLK	Bromoethane			<0.25	ug/L				
MRL_CHK	Bromoethane		0.5	0.500	ug/L	100	(50-150)		
LCS1	Bromoform		5.0	5.3	ug/L	106	(70-130)		
LCS2	Bromoform		5.0	4.98	ug/L	100	(70-130)	20	6.2
MBLK	Bromoform			<0.25	ug/L				
MRL_CHK	Bromoform		0.5	0.600	ug/L	120	(50-150)		
LCS1	Bromomethane (Methyl Bromide)		5.0	5.15	ug/L	103	(70-130)		
LCS2	Bromomethane (Methyl Bromide)		5.0	4.75	ug/L	95	(70-130)	20	8.1

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 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).
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Laboratory QC
Report: 396916

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	Bromomethane (Methyl Bromide)			<0.25	ug/L				
MRL_CHK	Bromomethane (Methyl Bromide)		0.5	0.580	ug/L	116	(50-150)		
LCS1	Carbon disulfide		5.0	5.02	ug/L	100	(70-130)		
LCS2	Carbon disulfide		5.0	5.08	ug/L	102	(70-130)	20	1.2
MBLK	Carbon disulfide			<0.25	ug/L				
MRL_CHK	Carbon disulfide		0.5	0.570	ug/L	114	(50-150)		
LCS1	Carbon Tetrachloride		5.0	5.28	ug/L	106	(70-130)		
LCS2	Carbon Tetrachloride		5.0	5.11	ug/L	102	(70-130)	20	3.3
MBLK	Carbon Tetrachloride			<0.25	ug/L				
MRL_CHK	Carbon Tetrachloride		0.5	0.460	ug/L	92	(50-150)		
LCS1	Chlorobenzene		5.0	5.54	ug/L	111	(70-130)		
LCS2	Chlorobenzene		5.0	5.42	ug/L	108	(70-130)	20	2.2
MBLK	Chlorobenzene			<0.25	ug/L				
MRL_CHK	Chlorobenzene		0.5	0.520	ug/L	104	(50-150)		
LCS1	Chlorodibromomethane		5.0	5.26	ug/L	105	(70-130)		
LCS2	Chlorodibromomethane		5.0	5.01	ug/L	100	(70-130)	20	4.9
MBLK	Chlorodibromomethane			<0.25	ug/L				
MRL_CHK	Chlorodibromomethane		0.5	0.600	ug/L	120	(50-150)		
LCS1	Chloroethane		5.0	5.00	ug/L	100	(70-130)		
LCS2	Chloroethane		5.0	4.95	ug/L	99	(70-130)	20	1.0
MBLK	Chloroethane			<0.25	ug/L				
MRL_CHK	Chloroethane		0.5	0.440	ug/L	88	(50-150)		
LCS1	Chloroform (Trichloromethane)		5.0	5.26	ug/L	105	(70-130)		
LCS2	Chloroform (Trichloromethane)		5.0	5.14	ug/L	103	(70-130)	20	2.3
MBLK	Chloroform (Trichloromethane)			<0.25	ug/L				
MRL_CHK	Chloroform (Trichloromethane)		0.5	0.490	ug/L	98	(50-150)		
LCS1	Chloromethane(Methyl Chloride)		5.0	5.12	ug/L	102	(70-130)		
LCS2	Chloromethane(Methyl Chloride)		5.0	5.19	ug/L	104	(70-130)	20	1.4
MBLK	Chloromethane(Methyl Chloride)			<0.25	ug/L				
MRL_CHK	Chloromethane(Methyl Chloride)		0.5	0.520	ug/L	104	(50-150)		
LCS1	cis-1,2-Dichloroethylene		5.0	5.35	ug/L	107	(70-130)		
LCS2	cis-1,2-Dichloroethylene		5.0	5.09	ug/L	102	(70-130)	20	5.0
MBLK	cis-1,2-Dichloroethylene			<0.25	ug/L				
MRL_CHK	cis-1,2-Dichloroethylene		0.5	0.490	ug/L	98	(50-150)		
LCS1	cis-1,3-Dichloropropene		5.0	5.42	ug/L	108	(70-130)		
LCS2	cis-1,3-Dichloropropene		5.0	5.44	ug/L	109	(70-130)	20	0.37
MBLK	cis-1,3-Dichloropropene			<0.25	ug/L				
MRL_CHK	cis-1,3-Dichloropropene		0.5	0.540	ug/L	108	(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.



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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Dibromomethane		5.0	5.29	ug/L	106	(70-130)		
LCS2	Dibromomethane		5.0	5.39	ug/L	108	(70-130)	20	1.9
MBLK	Dibromomethane			<0.25	ug/L				
MRL_CHK	Dibromomethane		0.5	0.500	ug/L	100	(50-150)		
LCS1	Dichlorodifluoromethane		5.0	5.52	ug/L	110	(70-130)		
LCS2	Dichlorodifluoromethane		5.0	5.26	ug/L	105	(70-130)	20	4.8
MBLK	Dichlorodifluoromethane			<0.25	ug/L				
MRL_CHK	Dichlorodifluoromethane		0.5	0.450	ug/L	90	(50-150)		
LCS1	Dichloromethane		5.0	5.23	ug/L	105	(70-130)		
LCS2	Dichloromethane		5.0	5.08	ug/L	102	(70-130)	20	2.9
MBLK	Dichloromethane			<0.25	ug/L				
MRL_CHK	Dichloromethane		0.5	0.540	ug/L	108	(50-150)		
LCS1	Di-isopropyl ether		5.0	4.83	ug/L	97	(70-130)		
LCS2	Di-isopropyl ether		5.0	4.83	ug/L	97	(70-130)	20	0.0
MBLK	Di-isopropyl ether			<1.5	ug/L				
MRL_CHK	Di-isopropyl ether		0.5	0.490	ug/L	98	(50-150)		
LCS1	Ethyl benzene		5.0	5.29	ug/L	106	(70-130)		
LCS2	Ethyl benzene		5.0	5.2	ug/L	104	(70-130)	20	1.7
MBLK	Ethyl benzene			<0.25	ug/L				
MRL_CHK	Ethyl benzene		0.5	0.520	ug/L	104	(50-150)		
LCS1	Hexachlorobutadiene		5.0	5.13	ug/L	103	(70-130)		
LCS2	Hexachlorobutadiene		5.0	5.44	ug/L	109	(70-130)	20	5.9
MBLK	Hexachlorobutadiene			<0.25	ug/L				
MRL_CHK	Hexachlorobutadiene		0.5	0.570	ug/L	114	(50-150)		
LCS1	Isopropylbenzene		5.0	5.29	ug/L	106	(70-130)		
LCS2	Isopropylbenzene		5.0	5.37	ug/L	107	(70-130)	20	1.5
MBLK	Isopropylbenzene			<0.25	ug/L				
MRL_CHK	Isopropylbenzene		0.5	0.510	ug/L	102	(50-150)		
LCS1	m,p-Xylenes		10	10.8	ug/L	108	(70-130)		
LCS2	m,p-Xylenes		10	10.9	ug/L	109	(70-130)	20	0.92
MBLK	m,p-Xylenes			<0.25	ug/L				
MRL_CHK	m,p-Xylenes		1.0	1.02	ug/L	102	(50-150)		
MRLW	m,p-Xylenes		0.5	0.520	ug/L	104	(50-150)		
LCS1	m-Dichlorobenzene (1,3-DCB)		5.0	5.36	ug/L	107	(70-130)		
LCS2	m-Dichlorobenzene (1,3-DCB)		5.0	5.34	ug/L	107	(70-130)	20	0.37
MBLK	m-Dichlorobenzene (1,3-DCB)			<0.25	ug/L				
MRL_CHK	m-Dichlorobenzene (1,3-DCB)		0.5	0.540	ug/L	108	(50-150)		
LCS1	Methyl Tert-butyl ether (MTBE)		5.0	4.83	ug/L	97	(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.

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Methyl Tert-butyl ether (MTBE)		5.0	4.84	ug/L	97	(70-130)	20	0.21
MBLK	Methyl Tert-butyl ether (MTBE)			<0.25	ug/L				
MRL_CHK	Methyl Tert-butyl ether (MTBE)		0.5	0.480	ug/L	96	(50-150)		
LCS1	Naphthalene		5.0	5.53	ug/L	111	(70-130)		
LCS2	Naphthalene		5.0	5.73	ug/L	115	(70-130)	20	3.5
MBLK	Naphthalene			<0.25	ug/L				
MRL_CHK	Naphthalene		0.5	0.610	ug/L	122	(50-150)		
LCS1	n-Butylbenzene		5.0	5.34	ug/L	107	(70-130)		
LCS2	n-Butylbenzene		5.0	5.56	ug/L	111	(70-130)	20	4.0
MBLK	n-Butylbenzene			<0.25	ug/L				
MRL_CHK	n-Butylbenzene		0.5	0.530	ug/L	106	(50-150)		
LCS1	n-Propylbenzene		5.0	5.56	ug/L	111	(70-130)		
LCS2	n-Propylbenzene		5.0	5.53	ug/L	111	(70-130)	20	0.54
MBLK	n-Propylbenzene			<0.25	ug/L				
MRL_CHK	n-Propylbenzene		0.5	0.490	ug/L	98	(50-150)		
LCS1	o-Chlorotoluene		5.0	5.49	ug/L	110	(70-130)		
LCS2	o-Chlorotoluene		5.0	5.41	ug/L	108	(70-130)	20	1.5
MBLK	o-Chlorotoluene			<0.25	ug/L				
MRL_CHK	o-Chlorotoluene		0.5	0.530	ug/L	106	(50-150)		
LCS1	o-Dichlorobenzene (1,2-DCB)		5.0	5.25	ug/L	105	(70-130)		
LCS2	o-Dichlorobenzene (1,2-DCB)		5.0	5.43	ug/L	109	(70-130)	20	3.4
MBLK	o-Dichlorobenzene (1,2-DCB)			<0.25	ug/L				
MRL_CHK	o-Dichlorobenzene (1,2-DCB)		0.5	0.530	ug/L	106	(50-150)		
LCS1	o-Xylene		5.0	5.64	ug/L	113	(70-130)		
LCS2	o-Xylene		5.0	5.51	ug/L	110	(70-130)	20	2.3
MBLK	o-Xylene			<0.25	ug/L				
MRL_CHK	o-Xylene		0.5	0.510	ug/L	102	(50-150)		
LCS1	p-Chlorotoluene		5.0	5.28	ug/L	106	(70-130)		
LCS2	p-Chlorotoluene		5.0	5.25	ug/L	105	(70-130)	20	0.57
MBLK	p-Chlorotoluene			<0.25	ug/L				
MRL_CHK	p-Chlorotoluene		0.5	0.490	ug/L	98	(50-150)		
LCS1	p-Dichlorobenzene (1,4-DCB)		5.0	5.39	ug/L	108	(70-130)		
LCS2	p-Dichlorobenzene (1,4-DCB)		5.0	5.56	ug/L	111	(70-130)	20	3.1
MBLK	p-Dichlorobenzene (1,4-DCB)			<0.25	ug/L				
MRL_CHK	p-Dichlorobenzene (1,4-DCB)		0.5	0.530	ug/L	106	(50-150)		
LCS1	p-Isopropyltoluene		5.0	5.58	ug/L	112	(70-130)		
LCS2	p-Isopropyltoluene		5.0	5.69	ug/L	114	(70-130)	20	2.0
MBLK	p-Isopropyltoluene			<0.25	ug/L				

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.



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Laboratory QC
Report: 396916

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Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	p-Isopropyltoluene		0.5	0.540	ug/L	108	(50-150)		
LCS1	sec-Butylbenzene		5.0	5.24	ug/L	105	(70-130)		
LCS2	sec-Butylbenzene		5.0	5.37	ug/L	107	(70-130)	20	2.5
MBLK	sec-Butylbenzene			<0.25	ug/L				
MRL_CHK	sec-Butylbenzene		0.5	0.540	ug/L	108	(50-150)		
LCS1	Styrene		5.0	5.62	ug/L	112	(70-130)		
LCS2	Styrene		5.0	5.42	ug/L	108	(70-130)	20	3.6
MBLK	Styrene			<0.25	ug/L				
MRL_CHK	Styrene		0.5	0.530	ug/L	106	(50-150)		
LCS1	tert-amyl Methyl Ether		5.0	5.12	ug/L	102	(70-130)		
LCS2	tert-amyl Methyl Ether		5.0	5.01	ug/L	100	(70-130)	20	2.2
MBLK	tert-amyl Methyl Ether			<1.5	ug/L				
MRL_CHK	tert-amyl Methyl Ether		0.5	0.500	ug/L	100	(50-150)		
LCS1	tert-Butyl Ethyl Ether		5.0	5.03	ug/L	101	(70-130)		
LCS2	tert-Butyl Ethyl Ether		5.0	5.02	ug/L	100	(70-130)	20	0.20
MBLK	tert-Butyl Ethyl Ether			<1.5	ug/L				
MRL_CHK	tert-Butyl Ethyl Ether		0.5	0.530	ug/L	106	(50-150)		
LCS1	tert-Butylbenzene		5.0	5.37	ug/L	107	(70-130)		
LCS2	tert-Butylbenzene		5.0	5.43	ug/L	109	(70-130)	20	1.1
MBLK	tert-Butylbenzene			<0.25	ug/L				
MRL_CHK	tert-Butylbenzene		0.5	0.540	ug/L	108	(50-150)		
LCS1	Tetrachloroethylene (PCE)		5.0	5.05	ug/L	101	(70-130)		
LCS2	Tetrachloroethylene (PCE)		5.0	5.00	ug/L	100	(70-130)	20	1
MBLK	Tetrachloroethylene (PCE)			<0.25	ug/L				
MRL_CHK	Tetrachloroethylene (PCE)		0.5	0.490	ug/L	98	(50-150)		
LCS1	Toluene		5.0	5.23	ug/L	105	(70-130)		
LCS2	Toluene		5.0	5.1	ug/L	102	(70-130)	20	2.5
MBLK	Toluene			<0.25	ug/L				
MRL_CHK	Toluene		0.5	0.550	ug/L	110	(50-150)		
LCS1	Toluene-d8 (S)			101	%	101	(70-130)		
LCS2	Toluene-d8 (S)			100	%	100	(70-130)		
MBLK	Toluene-d8 (S)			98.4	%	98	(70-130)		
MRL_CHK	Toluene-d8 (S)			101	%	101	(70-130)		
MRLLW	Toluene-d8 (S)			99.0	%	99	(70-130)		
LCS1	trans-1,2-Dichloroethylene		5.0	5.3	ug/L	106	(70-130)		
LCS2	trans-1,2-Dichloroethylene		5.0	5.19	ug/L	104	(70-130)	20	2.1
MBLK	trans-1,2-Dichloroethylene			<0.25	ug/L				
MRL_CHK	trans-1,2-Dichloroethylene		0.5	0.530	ug/L	106	(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.



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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	trans-1,3-Dichloropropene		5.0	5.33	ug/L	107	(70-130)		
LCS2	trans-1,3-Dichloropropene		5.0	5.28	ug/L	106	(70-130)	20	0.94
MBLK	trans-1,3-Dichloropropene			<0.25	ug/L				
MRL_CHK	trans-1,3-Dichloropropene		0.5	0.570	ug/L	114	(50-150)		
LCS1	Trichloroethylene (TCE)		5.0	5.29	ug/L	106	(70-130)		
LCS2	Trichloroethylene (TCE)		5.0	5.13	ug/L	103	(70-130)	20	3.1
MBLK	Trichloroethylene (TCE)			<0.25	ug/L				
MRL_CHK	Trichloroethylene (TCE)		0.5	0.500	ug/L	100	(50-150)		
LCS1	Trichlorofluoromethane		5.0	5.04	ug/L	101	(70-130)		
LCS2	Trichlorofluoromethane		5.0	4.95	ug/L	99	(70-130)	20	1.8
MBLK	Trichlorofluoromethane			<0.25	ug/L				
MRL_CHK	Trichlorofluoromethane		0.5	0.480	ug/L	96	(50-150)		
LCS1	Trichlorotrifluoroethane(Freon)		5.0	4.74	ug/L	95	(70-130)		
LCS2	Trichlorotrifluoroethane(Freon)		5.0	4.58	ug/L	92	(70-130)	20	3.4
MBLK	Trichlorotrifluoroethane(Freon)			<0.25	ug/L				
MRL_CHK	Trichlorotrifluoroethane(Freon)		0.5	0.470	ug/L	94	(50-150)		
LCS1	Vinyl chloride (VC)		5.0	5.48	ug/L	110	(70-130)		
LCS2	Vinyl chloride (VC)		5.0	5.21	ug/L	104	(70-130)	20	5.0
MBLK	Vinyl chloride (VC)			<0.15	ug/L				
MRL_CHK	Vinyl chloride (VC)		0.5	0.550	ug/L	110	(50-150)		
MRLLW	Vinyl chloride (VC)		0.25	0.240	ug/L	96	(50-150)		

QC Ref# 655446 - TBA by EPA 524.2 Modified by EPA 524.2 SIM

Analysis Date: 05/24/2012

LCS1	1,2-Dichloroethane-d4			96.0	%	96	(70-130)		
LCS2	1,2-Dichloroethane-d4			96.0	%	96	(70-130)		
MBLK	1,2-Dichloroethane-d4			96.0	%				
MRL_CHK	1,2-Dichloroethane-d4			96.0	%	96	(70-130)		
LCS1	4-Bromofluorobenzene			104	%	104	(70-130)		
LCS2	4-Bromofluorobenzene			104	%	104	(70-130)		
MBLK	4-Bromofluorobenzene			104	%				
MRL_CHK	4-Bromofluorobenzene			104	%	104	(70-130)		
LCS1	t-Butyl Alcohol		5.0	3.96	ug/L	79	(70-130)		
LCS2	t-Butyl Alcohol		5.0	4.34	ug/L	87	(70-130)	20	9.2
MBLK	t-Butyl Alcohol			<1	ug/L				
MRL_CHK	t-Butyl Alcohol		2.0	1.46	ug/L	73	(50-150)		
LCS1	Toluene-d8			98.0	%	98	(70-130)		
LCS2	Toluene-d8			100	%	100	(70-130)		
MBLK	Toluene-d8			100	%				

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.

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Toluene-d8			100	%	100	(70-130)		
QC Ref# 655465 - Aldicarbs by EPA 531.2						Analysis Date: 05/27/2012			
CCCH	3-Hydroxycarbofuran		25	26.2	ug/L	105	(70-130)		
CCCM	3-Hydroxycarbofuran		10	10.5	ug/L	105	(70-130)		
LCS1	3-Hydroxycarbofuran		10	11.0	ug/L	110	(70-130)		
MBLK	3-Hydroxycarbofuran			<0.25	ug/L				
MRL_CHK	3-Hydroxycarbofuran		0.5	0.513	ug/L	103	(50-150)		
MS_201205070041	3-Hydroxycarbofuran	ND	10	10.3	ug/L	103	(70-130)		
MSD_201205070041	3-Hydroxycarbofuran	ND	10	10.4	ug/L	104	(70-130)	20	0.97
CCCH	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (:			109	%	109	(70-130)		
CCCM	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (:			106	%	106	(70-130)		
LCS1	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (:			103	%	103	(70-130)		
MBLK	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (:			89.9	%	90	(70-130)		
MRL_CHK	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (:			87.0	%	87	(70-130)		
MS_201205070041	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (:			106	%	106	(70-130)		
MSD_201205070041	4-Bromo-3,5-dimethylphenyl-N-methylcarbamate (:			109	%	109	(70-130)		
CCCH	Aldicarb (Temik)		25	24.8	ug/L	99	(70-130)		
CCCM	Aldicarb (Temik)		10	9.83	ug/L	98	(70-130)		
LCS1	Aldicarb (Temik)		10	10.1	ug/L	101	(70-130)		
MBLK	Aldicarb (Temik)			<0.25	ug/L				
MRL_CHK	Aldicarb (Temik)		0.5	0.453	ug/L	91	(50-150)		
MS_201205070041	Aldicarb (Temik)	ND	10	10.3	ug/L	103	(70-130)		
MSD_201205070041	Aldicarb (Temik)	ND	10	9.85	ug/L	99	(70-130)	20	4.5
CCCH	Aldicarb sulfone		25	26.2	ug/L	105	(70-130)		
CCCM	Aldicarb sulfone		10	10.4	ug/L	104	(70-130)		
LCS1	Aldicarb sulfone		10	10.2	ug/L	102	(70-130)		
MBLK	Aldicarb sulfone			<0.25	ug/L				
MRL_CHK	Aldicarb sulfone		0.5	0.490	ug/L	98	(50-150)		
MS_201205070041	Aldicarb sulfone	ND	10	10.6	ug/L	106	(70-130)		
MSD_201205070041	Aldicarb sulfone	ND	10	10.7	ug/L	107	(70-130)	20	0.94
CCCH	Aldicarb sulfoxide		25	25.5	ug/L	102	(70-130)		
CCCM	Aldicarb sulfoxide		10	10.5	ug/L	105	(70-130)		
LCS1	Aldicarb sulfoxide		10	11.6	ug/L	116	(70-130)		
MBLK	Aldicarb sulfoxide			<0.25	ug/L				
MRL_CHK	Aldicarb sulfoxide		0.5	0.461	ug/L	92	(50-150)		
MS_201205070041	Aldicarb sulfoxide	ND	10	9.88	ug/L	99	(70-130)		
MSD_201205070041	Aldicarb sulfoxide	ND	10	10.1	ug/L	101	(70-130)	20	2.2

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.



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1 800 566 LABS (1 800 566 5227)

Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCH	Baygon		25	25.6	ug/L	103	(70-130)		
CCCM	Baygon		10	10.5	ug/L	105	(70-130)		
LCS1	Baygon		10	11.0	ug/L	110	(70-130)		
MBLK	Baygon			<0.25	ug/L				
MRL_CHK	Baygon		0.5	0.539	ug/L	108	(50-150)		
MS_201205070041	Baygon	ND	10	10.3	ug/L	103	(70-130)		
MSD_201205070041	Baygon	ND	10	9.99	ug/L	100	(70-130)	20	3.1
CCCH	Carbaryl		25	26.4	ug/L	106	(70-130)		
CCCM	Carbaryl		10	10.5	ug/L	105	(70-130)		
LCS1	Carbaryl		10	11.1	ug/L	111	(70-130)		
MBLK	Carbaryl			<0.25	ug/L				
MRL_CHK	Carbaryl		0.5	0.487	ug/L	97	(50-150)		
MS_201205070041	Carbaryl	ND	10	10.1	ug/L	101	(70-130)		
MSD_201205070041	Carbaryl	ND	10	10.5	ug/L	105	(70-130)	20	3.9
CCCH	Carbofuran (Furadan)		25	25.6	ug/L	102	(70-130)		
CCCM	Carbofuran (Furadan)		10	10.7	ug/L	107	(70-130)		
LCS1	Carbofuran (Furadan)		10	11.2	ug/L	112	(70-130)		
MBLK	Carbofuran (Furadan)			<0.25	ug/L				
MRL_CHK	Carbofuran (Furadan)		0.5	0.514	ug/L	103	(50-150)		
MS_201205070041	Carbofuran (Furadan)	ND	10	10.3	ug/L	103	(70-130)		
MSD_201205070041	Carbofuran (Furadan)	ND	10	10.5	ug/L	105	(70-130)	20	1.9
CCCH	Methiocarb		25	24.9	ug/L	100	(70-130)		
CCCM	Methiocarb		10	10.3	ug/L	103	(70-130)		
LCS1	Methiocarb		10	10.3	ug/L	103	(70-130)		
MBLK	Methiocarb			<0.25	ug/L				
MRL_CHK	Methiocarb		0.5	0.337	ug/L	67	(50-150)		
MS_201205070041	Methiocarb	ND	10	9.99	ug/L	100	(70-130)		
MSD_201205070041	Methiocarb	ND	10	10.3	ug/L	103	(70-130)	20	3.1
CCCH	Methomyl		25	26.2	ug/L	105	(70-130)		
CCCM	Methomyl		10	10.7	ug/L	107	(70-130)		
LCS1	Methomyl		10	11.1	ug/L	111	(70-130)		
MBLK	Methomyl			<0.25	ug/L				
MRL_CHK	Methomyl		0.5	0.444	ug/L	89	(50-150)		
MS_201205070041	Methomyl	ND	10	10.1	ug/L	101	(70-130)		
MSD_201205070041	Methomyl	ND	10	10.5	ug/L	105	(70-130)	20	3.9
CCCH	Oxamyl (Vydate)		25	24.5	ug/L	98	(70-130)		
CCCM	Oxamyl (Vydate)		10	10.3	ug/L	103	(70-130)		
LCS1	Oxamyl (Vydate)		10	11.3	ug/L	113	(70-130)		

Spike recovery is already corrected for native results.

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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).

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	Oxamyl (Vydate)			<0.25	ug/L				
MRL_CHK	Oxamyl (Vydate)		0.5	0.471	ug/L	94	(50-150)		
MS_201205070041	Oxamyl (Vydate)	ND	10	10.4	ug/L	104	(70-130)		
MSD_201205070041	Oxamyl (Vydate)	ND	10	10.4	ug/L	104	(70-130)	20	0.0
QC Ref# 655799 - EPA Method 504.1 by EPA 504.1						Analysis Date: 05/29/2012			
CCCM	1,2-Dibromo-3-chloropropane		0.25	0.261	ug/L	104	(70-130)		
DUP_201205180059	1,2-Dibromo-3-chloropropane	ND		ND	ug/L		(0-20)		
MBLK	1,2-Dibromo-3-chloropropane			<0.01	ug/L				
MRL_CHK	1,2-Dibromo-3-chloropropane		0.01	0.0127	ug/L	127	(60-140)		
MS_201205160395	1,2-Dibromo-3-chloropropane	ND	0.25	0.216	ug/L	86	(65-135)		
CCCM	1,2-Dibromoethane		0.25	0.304	ug/L	122	(70-130)		
DUP_201205180059	1,2-Dibromoethane	ND		ND	ug/L		(0-20)		
MBLK	1,2-Dibromoethane			<0.01	ug/L				
MRL_CHK	1,2-Dibromoethane		0.01	0.0150	ug/L	<u>150</u>	(60-140)		
MS_201205160395	1,2-Dibromoethane	ND	0.25	0.240	ug/L	96	(65-135)		
CCCM	1,2-Dibromopropane (S)			132	%	132	(60-140)		
DUP_201205180059	1,2-Dibromopropane (S)			97.5	%	98	(60-140)		
MBLK	1,2-Dibromopropane (S)			106	%	106	(60-140)		
MRL_CHK	1,2-Dibromopropane (S)			134	%	134	(60-140)		
MRLW	1,2-Dibromopropane (S)			104	%	104	(60-140)		
MS_201205160395	1,2-Dibromopropane (S)			102	%	102	(60-140)		
QC Ref# 656179 - Semivolatiles by GCMS by EPA 525.2						Analysis Date: 05/31/2012			
LCS1	1,3-Dimethyl-2-nitrobenzene (S)			99.5	%	99	(70-130)		
LCS2	1,3-Dimethyl-2-nitrobenzene (S)			99.2	%	99	(70-130)		
MBLK	1,3-Dimethyl-2-nitrobenzene (S)			97.2	%	97	(70-130)		
MRL_CHK	1,3-Dimethyl-2-nitrobenzene (S)			99.1	%	99	(70-130)		
MS_201205180143	1,3-Dimethyl-2-nitrobenzene (S)			95.6	%	96	(70-130)		
LCS1	2,4-Dinitrotoluene		2.0	2.06	ug/L	103	(70-130)		
LCS2	2,4-Dinitrotoluene		2.0	2.14	ug/L	107	(70-130)	20	3.8
MBLK	2,4-Dinitrotoluene			<0.05	ug/L				
MRL_CHK	2,4-Dinitrotoluene		0.1	0.0850	ug/L	85	(50-150)		
MS_201205180143	2,4-Dinitrotoluene		2.0	2.06	ug/L	103	(70-130)		
LCS1	Acenaphthene-d10 (I)			88.6	%	89	(50-150)		
LCS2	Acenaphthene-d10 (I)			86.1	%	86	(50-150)		
MBLK	Acenaphthene-d10 (I)			95.7	%	96	(50-150)		
MRL_CHK	Acenaphthene-d10 (I)			91.1	%	91	(50-150)		
MS_201205180143	Acenaphthene-d10 (I)			90.3	%	90	(50-150)		

Spike recovery is already corrected for native results.

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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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Acenaphthylene		2.0	1.75	ug/L	87	(70-130)		
LCS2	Acenaphthylene		2.0	1.84	ug/L	92	(70-130)	20	5.0
MBLK	Acenaphthylene			<0.05	ug/L				
MRL_CHK	Acenaphthylene		0.1	0.0940	ug/L	94	(50-150)		
MS_201205180143	Acenaphthylene		2.0	1.8	ug/L	90	(70-130)		
LCS1	Alachlor		2.0	2.02	ug/L	101	(70-130)		
LCS2	Alachlor		2.0	1.97	ug/L	98	(70-130)	20	2.5
MBLK	Alachlor			<0.025	ug/L				
MRL_CHK	Alachlor		0.05	0.0550	ug/L	110	(50-150)		
MS_201205180143	Alachlor		2.0	1.93	ug/L	97	(70-130)		
LCS1	Aldrin		2.0	1.66	ug/L	83	(70-130)		
LCS2	Aldrin		2.0	1.72	ug/L	86	(70-130)	20	3.5
MBLK	Aldrin			<0.025	ug/L				
MRL_CHK	Aldrin		0.05	0.0350	ug/L	70	(50-150)		
MS_201205180143	Aldrin		2.0	1.7	ug/L	85	(70-130)		
LCS1	alpha-Chlordane		2.0	1.94	ug/L	97	(70-130)		
LCS2	alpha-Chlordane		2.0	1.83	ug/L	92	(70-130)	20	5.8
MBLK	alpha-Chlordane			<0.025	ug/L				
MRL_CHK	alpha-Chlordane		0.05	0.0420	ug/L	84	(50-150)		
MS_201205180143	alpha-Chlordane		2.0	1.79	ug/L	90	(70-130)		
LCS1	Anthracene		2.0	1.83	ug/L	92	(70-130)		
LCS2	Anthracene		2.0	1.72	ug/L	86	(70-130)	20	6.2
MBLK	Anthracene			<0.02	ug/L				
MRL_CHK	Anthracene		0.02	0.0140	ug/L	70	(50-150)		
MS_201205180143	Anthracene		2.0	1.31	ug/L	<u>65</u>	(70-130)		
LCS1	Atrazine		2.0	2.13	ug/L	107	(70-130)		
LCS2	Atrazine		2.0	2.14	ug/L	107	(70-130)	20	0.47
MBLK	Atrazine			<0.025	ug/L				
MRL_CHK	Atrazine		0.05	0.0600	ug/L	120	(50-150)		
MS_201205180143	Atrazine	ND	2.0	2.08	ug/L	104	(70-130)		
LCS1	Benz(a)Anthracene		2.0	1.97	ug/L	99	(70-130)		
LCS2	Benz(a)Anthracene		2.0	1.94	ug/L	97	(70-130)	20	1.5
MBLK	Benz(a)Anthracene			<0.025	ug/L				
MRL_CHK	Benz(a)Anthracene		0.05	0.0500	ug/L	100	(50-150)		
MS_201205180143	Benz(a)Anthracene		2.0	1.78	ug/L	89	(70-130)		
LCS1	Benzo(a)pyrene		2.0	2.16	ug/L	108	(70-130)		
LCS2	Benzo(a)pyrene		2.0	2.13	ug/L	106	(70-130)	20	1.4
MBLK	Benzo(a)pyrene			<0.01	ug/L				

Spike recovery is already corrected for native results.

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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.

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Benzo(a)pyrene		0.02	0.0140	ug/L	70	(50-150)		
MS_201205180143	Benzo(a)pyrene	ND	2.0	1.95	ug/L	97	(70-130)		
LCS1	Benzo(b)Fluoranthene		2.0	2.19	ug/L	110	(70-130)		
LCS2	Benzo(b)Fluoranthene		2.0	2.29	ug/L	115	(70-130)	20	4.5
MBLK	Benzo(b)Fluoranthene			<0.01	ug/L				
MRL_CHK	Benzo(b)Fluoranthene		0.02	0.0210	ug/L	105	(50-150)		
MS_201205180143	Benzo(b)Fluoranthene		2.0	2.09	ug/L	105	(70-130)		
LCS1	Benzo(g,h,i)Perylene		2.0	2.34	ug/L	117	(70-130)		
LCS2	Benzo(g,h,i)Perylene		2.0	2.31	ug/L	116	(70-130)	20	1.3
MBLK	Benzo(g,h,i)Perylene			<0.025	ug/L				
MRL_CHK	Benzo(g,h,i)Perylene		0.05	0.0430	ug/L	86	(50-150)		
MS_201205180143	Benzo(g,h,i)Perylene		2.0	2.1	ug/L	105	(70-130)		
LCS1	Benzo(k)Fluoranthene		2.0	2.3	ug/L	115	(70-130)		
LCS2	Benzo(k)Fluoranthene		2.0	2.19	ug/L	109	(70-130)	20	4.9
MBLK	Benzo(k)Fluoranthene			<0.01	ug/L				
MRL_CHK	Benzo(k)Fluoranthene		0.02	0.0170	ug/L	85	(50-150)		
MS_201205180143	Benzo(k)Fluoranthene		2.0	1.92	ug/L	96	(70-130)		
LCS1	Bromacil		2.0	2.15	ug/L	108	(70-130)		
LCS2	Bromacil		2.0	2.1	ug/L	105	(70-130)	20	2.4
MBLK	Bromacil			<0.05	ug/L				
MRL_CHK	Bromacil		0.1	0.0780	ug/L	78	(50-150)		
MS_201205180143	Bromacil		2.0	2.05	ug/L	102	(70-130)		
LCS1	Butachlor		2.0	2.16	ug/L	108	(70-130)		
LCS2	Butachlor		2.0	2.04	ug/L	102	(70-130)	20	5.7
MBLK	Butachlor			<0.025	ug/L				
MRL_CHK	Butachlor		0.05	0.0450	ug/L	90	(50-150)		
MS_201205180143	Butachlor		2.0	1.98	ug/L	99	(70-130)		
LCS1	Butylbenzylphthalate		2.0	2.06	ug/L	103	(70-130)		
LCS2	Butylbenzylphthalate		2.0	2.02	ug/L	101	(70-130)	20	2.0
MBLK	Butylbenzylphthalate			<0.15	ug/L				
MRL_CHK	Butylbenzylphthalate		0.15	0.157	ug/L	105	(50-150)		
MS_201205180143	Butylbenzylphthalate		2.0	1.91	ug/L	95	(70-130)		
LCS1	Caffeine by method 525mod		2.0	1.91	ug/L	96	(45-137)		
LCS2	Caffeine by method 525mod		2.0	1.91	ug/L	95	(45-137)	20	0.0
MBLK	Caffeine by method 525mod			<0.01	ug/L				
MRL_CHK	Caffeine by method 525mod		0.05	0.0430	ug/L	86	(50-150)		
MS_201205180143	Caffeine by method 525mod		2.0	1.84	ug/L	92	(46-144)		
LCS1	Chrysene		2.0	2.07	ug/L	104	(70-130)		

Spike recovery is already corrected for native results.

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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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Chrysene		2.0	2.03	ug/L	102	(70-130)	20	2.0
MBLK	Chrysene			<0.01	ug/L				
MRL_CHK	Chrysene		0.02	0.0220	ug/L	110	(50-150)		
MS_201205180143	Chrysene		2.0	1.92	ug/L	96	(70-130)		
LCS1	Chrysene-d12 (I)			88.7	%	89	(50-150)		
LCS2	Chrysene-d12 (I)			86.6	%	87	(50-150)		
MBLK	Chrysene-d12 (I)			93.1	%	93	(50-150)		
MRL_CHK	Chrysene-d12 (I)			77.8	%	78	(50-150)		
MS_201205180143	Chrysene-d12 (I)			93.8	%	94	(50-150)		
LCS1	Di-(2-Ethylhexyl)adipate		2.0	2.00	ug/L	100	(70-130)		
LCS2	Di-(2-Ethylhexyl)adipate		2.0	1.93	ug/L	97	(70-130)	20	3.6
MBLK	Di-(2-Ethylhexyl)adipate			<0.15	ug/L				
MRL_CHK	Di-(2-Ethylhexyl)adipate		0.3	0.280	ug/L	93	(50-150)		
MS_201205180143	Di-(2-Ethylhexyl)adipate	ND	2.0	1.82	ug/L	91	(70-130)		
LCS1	Di(2-Ethylhexyl)phthalate		2.0	1.97	ug/L	98	(70-130)		
LCS2	Di(2-Ethylhexyl)phthalate		2.0	1.91	ug/L	95	(70-130)	20	3.1
MBLK	Di(2-Ethylhexyl)phthalate			<0.15	ug/L				
MRL_CHK	Di(2-Ethylhexyl)phthalate		0.6	0.634	ug/L	106	(50-150)		
MS_201205180143	Di(2-Ethylhexyl)phthalate	ND	2.0	1.79	ug/L	90	(70-130)		
LCS1	Diazinon (Qualitative)		2.0	1.92	ug/L	96	(70-130)		
LCS2	Diazinon (Qualitative)		2.0	1.92	ug/L	96	(70-130)	20	0.0
MBLK	Diazinon (Qualitative)			<0.10	ug/L				
MRL_CHK	Diazinon (Qualitative)		0.1	0.0820	ug/L	82	(50-150)		
MS_201205180143	Diazinon (Qualitative)		2.0	1.92	ug/L	96	(70-130)		
LCS1	Dibenz(a,h)Anthracene		2.0	2.29	ug/L	114	(70-130)		
LCS2	Dibenz(a,h)Anthracene		2.0	2.32	ug/L	116	(70-130)	20	1.3
MBLK	Dibenz(a,h)Anthracene			<0.025	ug/L				
MRL_CHK	Dibenz(a,h)Anthracene		0.05	0.0510	ug/L	102	(50-150)		
MS_201205180143	Dibenz(a,h)Anthracene		2.0	2.11	ug/L	106	(70-130)		
LCS1	Dieldrin		2.0	1.83	ug/L	92	(70-130)		
LCS2	Dieldrin		2.0	1.8	ug/L	90	(70-130)	20	1.6
MBLK	Dieldrin			<0.05	ug/L				
MRL_CHK	Dieldrin		0.1	0.0900	ug/L	90	(50-150)		
MS_201205180143	Dieldrin		2.0	1.74	ug/L	87	(70-130)		
LCS1	Diethylphthalate		2.0	2.1	ug/L	105	(70-130)		
LCS2	Diethylphthalate		2.0	2.12	ug/L	106	(70-130)	20	0.95
MBLK	Diethylphthalate			<0.15	ug/L				
MRL_CHK	Diethylphthalate		0.15	0.169	ug/L	113	(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.



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1 800 566 LABS (1 800 566 5227)

Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS_201205180143	Diethylphthalate		2.0	2.05	ug/L	103	(70-130)		
LCS1	Dimethoate		2.0	1.84	ug/L	92	(35-100)		
LCS2	Dimethoate		2.0	1.85	ug/L	93	(35-100)	20	0.54
MBLK	Dimethoate			<0.05	ug/L				
MRL_CHK	Dimethoate		0.1	0.0700	ug/L	70	(35-100)		
MS_201205180143	Dimethoate		2.0	1.79	ug/L	89	(34-111)		
LCS1	Dimethylphthalate		2.0	1.99	ug/L	100	(70-130)		
LCS2	Dimethylphthalate		2.0	2.04	ug/L	102	(70-130)	20	2.5
MBLK	Dimethylphthalate			<0.15	ug/L				
MRL_CHK	Dimethylphthalate		0.3	0.302	ug/L	101	(50-150)		
MS_201205180143	Dimethylphthalate		2.0	1.94	ug/L	97	(70-130)		
LCS1	Di-n-Butylphthalate		4.0	4.07	ug/L	102	(70-130)		
LCS2	Di-n-Butylphthalate		4.0	3.94	ug/L	99	(70-130)	20	3.3
MBLK	Di-n-Butylphthalate			<0.15	ug/L				
MRL_CHK	Di-n-Butylphthalate		0.3	0.325	ug/L	108	(50-150)		
MS_201205180143	Di-n-Butylphthalate		4.0	3.72	ug/L	93	(70-130)		
LCS1	Endrin		2.0	2.04	ug/L	102	(70-130)		
LCS2	Endrin		2.0	2.07	ug/L	104	(70-130)	20	1.5
MBLK	Endrin			<0.05	ug/L				
MRL_CHK	Endrin		0.1	0.105	ug/L	105	(50-150)		
MS_201205180143	Endrin		2.0	1.88	ug/L	94	(70-130)		
LCS1	Fluoranthene		2.0	2.03	ug/L	102	(70-130)		
LCS2	Fluoranthene		2.0	1.93	ug/L	97	(70-130)	20	5.0
MBLK	Fluoranthene			<0.05	ug/L				
MRL_CHK	Fluoranthene		0.05	0.0460	ug/L	92	(50-150)		
MS_201205180143	Fluoranthene		2.0	1.84	ug/L	92	(70-130)		
LCS1	Fluorene		2.0	2.00	ug/L	100	(70-130)		
LCS2	Fluorene		2.0	2.02	ug/L	101	(70-130)	20	1
MBLK	Fluorene			<0.05	ug/L				
MRL_CHK	Fluorene		0.05	0.0470	ug/L	94	(50-150)		
MS_201205180143	Fluorene		2.0	1.93	ug/L	97	(70-130)		
LCS1	gamma-Chlordane		2.0	1.93	ug/L	97	(70-130)		
LCS2	gamma-Chlordane		2.0	1.8	ug/L	90	(70-130)	20	7.0
MBLK	gamma-Chlordane			<0.025	ug/L				
MRL_CHK	gamma-Chlordane		0.05	0.0450	ug/L	90	(50-150)		
MS_201205180143	gamma-Chlordane		2.0	1.8	ug/L	90	(70-130)		
LCS1	Heptachlor		2.0	1.86	ug/L	93	(70-130)		
LCS2	Heptachlor		2.0	1.87	ug/L	94	(70-130)	20	0.54

Spike recovery is already corrected for native results.

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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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	Heptachlor			<0.015	ug/L				
MRL_CHK	Heptachlor		0.04	0.0370	ug/L	93	(50-150)		
MS_201205180143	Heptachlor		2.0	1.77	ug/L	88	(70-130)		
LCS1	Heptachlor Epoxide (isomer B)		2.0	2.02	ug/L	101	(70-130)		
LCS2	Heptachlor Epoxide (isomer B)		2.0	1.98	ug/L	99	(70-130)	20	2.0
MBLK	Heptachlor Epoxide (isomer B)			<0.025	ug/L				
MRL_CHK	Heptachlor Epoxide (isomer B)		0.05	0.0430	ug/L	86	(50-150)		
MS_201205180143	Heptachlor Epoxide (isomer B)		2.0	1.92	ug/L	96	(70-130)		
LCS1	Hexachlorobenzene		2.0	1.97	ug/L	99	(70-130)		
LCS2	Hexachlorobenzene		2.0	1.99	ug/L	99	(70-130)	20	1.0
MBLK	Hexachlorobenzene			<0.025	ug/L				
MRL_CHK	Hexachlorobenzene		0.05	0.0500	ug/L	100	(50-150)		
MS_201205180143	Hexachlorobenzene	ND	2.0	1.89	ug/L	94	(70-130)		
LCS1	Hexachlorocyclopentadiene		2.0	2.06	ug/L	103	(70-130)		
LCS2	Hexachlorocyclopentadiene		2.0	2.03	ug/L	102	(70-130)	20	1.5
MBLK	Hexachlorocyclopentadiene			<0.025	ug/L				
MRL_CHK	Hexachlorocyclopentadiene		0.05	0.0430	ug/L	86	(50-150)		
MS_201205180143	Hexachlorocyclopentadiene	ND	2.0	1.81	ug/L	91	(70-130)		
LCS1	Indeno(1,2,3,c,d)Pyrene		2.0	2.31	ug/L	115	(70-130)		
LCS2	Indeno(1,2,3,c,d)Pyrene		2.0	2.31	ug/L	116	(70-130)	20	0.43
MBLK	Indeno(1,2,3,c,d)Pyrene			<0.025	ug/L				
MRL_CHK	Indeno(1,2,3,c,d)Pyrene		0.05	0.0500	ug/L	100	(50-150)		
MS_201205180143	Indeno(1,2,3,c,d)Pyrene		2.0	2.1	ug/L	105	(70-130)		
LCS1	Isophorone		2.0	2.01	ug/L	101	(70-130)		
LCS2	Isophorone		2.0	2.00	ug/L	100	(70-130)	20	0.50
MBLK	Isophorone			<0.25	ug/L				
MRL_CHK	Isophorone		0.1	0.111	ug/L	111	(50-150)		
MS_201205180143	Isophorone		2.0	1.91	ug/L	96	(70-130)		
LCS1	Lindane		2.0	2.08	ug/L	104	(70-130)		
LCS2	Lindane		2.0	2.08	ug/L	104	(70-130)	20	0.0
MBLK	Lindane			<0.02	ug/L				
MRL_CHK	Lindane		0.04	0.0400	ug/L	100	(50-150)		
MS_201205180143	Lindane		2.0	2.05	ug/L	102	(70-130)		
LCS1	Methoxychlor		2.0	2.13	ug/L	106	(70-130)		
LCS2	Methoxychlor		2.0	2.11	ug/L	106	(70-130)	20	0.94
MBLK	Methoxychlor			<0.05	ug/L				
MRL_CHK	Methoxychlor		0.1	0.111	ug/L	111	(50-150)		
MS_201205180143	Methoxychlor		2.0	1.96	ug/L	98	(70-130)		

Spike recovery is already corrected for native results.

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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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Metolachlor		2.0	1.98	ug/L	99	(70-130)		
LCS2	Metolachlor		2.0	1.92	ug/L	96	(70-130)	20	3.1
MBLK	Metolachlor			<0.025	ug/L				
MRL_CHK	Metolachlor		0.05	0.0560	ug/L	112	(50-150)		
MS_201205180143	Metolachlor		2.0	1.85	ug/L	93	(70-130)		
LCS1	Metribuzin		2.0	2.1	ug/L	105	(70-130)		
LCS2	Metribuzin		2.0	2.05	ug/L	103	(70-130)	20	2.4
MBLK	Metribuzin			<0.05	ug/L				
MRL_CHK	Metribuzin		0.05	0.0440	ug/L	88	(50-150)		
MS_201205180143	Metribuzin		2.0	2.01	ug/L	101	(70-130)		
LCS1	Molinate		2.0	2.04	ug/L	102	(70-130)		
LCS2	Molinate		2.0	2.06	ug/L	103	(70-130)	20	0.98
MBLK	Molinate			<0.05	ug/L				
MRL_CHK	Molinate		0.1	0.102	ug/L	102	(50-150)		
MS_201205180143	Molinate	ND	2.0	1.99	ug/L	100	(70-130)		
LCS1	Pentachlorophenol		8.0	8.21	ug/L	103	(70-130)		
LCS2	Pentachlorophenol		8.0	8.35	ug/L	104	(70-130)	20	1.7
MBLK	Pentachlorophenol			<0.6	ug/L				
MRL_CHK	Pentachlorophenol		0.5	0.615	ug/L	123	(50-150)		
MS_201205180143	Pentachlorophenol		8.0	8.39	ug/L	105	(70-130)		
LCS1	Perylene-d12 (S)			92.7	%	93	(70-130)		
LCS2	Perylene-d12 (S)			92.2	%	92	(70-130)		
MBLK	Perylene-d12 (S)			84.2	%	84	(70-130)		
MRL_CHK	Perylene-d12 (S)			81.6	%	82	(70-130)		
MS_201205180143	Perylene-d12 (S)			89.5	%	90	(70-130)		
LCS1	Phenanthrene		2.0	1.92	ug/L	96	(70-130)		
LCS2	Phenanthrene		2.0	1.9	ug/L	95	(70-130)	20	1.1
MBLK	Phenanthrene			<0.02	ug/L				
MRL_CHK	Phenanthrene		0.02	0.0170	ug/L	85	(50-150)		
MS_201205180143	Phenanthrene		2.0	1.81	ug/L	91	(70-130)		
LCS1	Phenanthrene-d10 (I)			91.9	%	92	(50-150)		
LCS2	Phenanthrene-d10 (I)			91.6	%	92	(50-150)		
MBLK	Phenanthrene-d10 (I)			98.5	%	99	(50-150)		
MRL_CHK	Phenanthrene-d10 (I)			93.4	%	93	(50-150)		
MS_201205180143	Phenanthrene-d10 (I)			97.3	%	97	(50-150)		
LCS1	Propachlor		2.0	1.98	ug/L	99	(70-130)		
LCS2	Propachlor		2.0	1.98	ug/L	99	(70-130)	20	0.0
MBLK	Propachlor			<0.025	ug/L				

Spike recovery is already corrected for native results.

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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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Propachlor		0.05	0.0590	ug/L	118	(50-150)		
MS_201205180143	Propachlor		2.0	1.93	ug/L	97	(70-130)		
LCS1	Pyrene		2.0	2.06	ug/L	103	(70-130)		
LCS2	Pyrene		2.0	1.98	ug/L	99	(70-130)	20	4.0
MBLK	Pyrene			<0.025	ug/L				
MRL_CHK	Pyrene		0.05	0.0420	ug/L	84	(50-150)		
MS_201205180143	Pyrene		2.0	1.88	ug/L	94	(70-130)		
LCS1	Simazine		2.0	2.11	ug/L	105	(70-130)		
LCS2	Simazine		2.0	2.1	ug/L	105	(70-130)	20	0.48
MBLK	Simazine			<0.025	ug/L				
MRL_CHK	Simazine		0.05	0.0450	ug/L	90	(50-150)		
MS_201205180143	Simazine	ND	2.0	2.02	ug/L	101	(70-130)		
LCS1	Thiobencarb		2.0	2.06	ug/L	103	(70-130)		
LCS2	Thiobencarb		2.0	2.00	ug/L	100	(70-130)	20	3.4
MBLK	Thiobencarb			<0.1	ug/L				
MRL_CHK	Thiobencarb		0.1	0.0940	ug/L	94	(50-150)		
MS_201205180143	Thiobencarb	ND	2.0	1.92	ug/L	96	(70-130)		
LCS1	trans-Nonachlor		2.0	1.9	ug/L	95	(70-130)		
LCS2	trans-Nonachlor		2.0	1.84	ug/L	92	(70-130)	20	3.2
MBLK	trans-Nonachlor			<0.025	ug/L				
MRL_CHK	trans-Nonachlor		0.05	0.0460	ug/L	92	(50-150)		
MS_201205180143	trans-Nonachlor		2.0	1.76	ug/L	88	(70-130)		
LCS1	Trifluralin		2.0	2.02	ug/L	101	(70-130)		
LCS2	Trifluralin		2.0	2.05	ug/L	102	(70-130)	20	1.5
MBLK	Trifluralin			<0.05	ug/L				
MRL_CHK	Trifluralin		0.1	0.105	ug/L	105	(50-150)		
MS_201205180143	Trifluralin		2.0	1.97	ug/L	98	(70-130)		
LCS1	Triphenylphosphate (S)			104	%	104	(70-130)		
LCS2	Triphenylphosphate (S)			100	%	100	(70-130)		
MBLK	Triphenylphosphate (S)			102	%	102	(70-130)		
MRL_CHK	Triphenylphosphate (S)			104	%	104	(70-130)		
MS_201205180143	Triphenylphosphate (S)			105	%	105	(70-130)		

QC Ref# 656524 - ICPMS Metals by EPA 200.8

Analysis Date: 06/04/2012

LCS1	Silver Total ICAP/MS		50	48.7	ug/L	97	(85-115)		
LCS2	Silver Total ICAP/MS		50	48.6	ug/L	97	(85-115)	20	0.21
MBLK	Silver Total ICAP/MS			<0.5	ug/L				
MRL_CHK	Silver Total ICAP/MS		0.5	0.532	ug/L	106	(50-150)		

Spike recovery is already corrected for native results.

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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).

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Laboratory QC
Report: 396916

Wildermuth Environmental, Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS_201205180307	Silver Total ICAP/MS	ND	50	42.6	ug/L	85	(70-130)		
MS2_201205180308	Silver Total ICAP/MS	ND	50	45.2	ug/L	90	(70-130)		
MSD_201205180307	Silver Total ICAP/MS	ND	50	43.5	ug/L	87	(70-130)	20	2.1
MSD2_201205180308	Silver Total ICAP/MS	ND	50	44.9	ug/L	90	(70-130)	20	0.67

QC Ref# 656816 - Disinfection ByProducts by 300.0 by EPA 300.0

Analysis Date: 06/05/2012

LCS1	Bromide		100	99.1	ug/L	99	(90-110)		
LCS2	Bromide		100	101	ug/L	101	(90-110)	20	1.9
MBLK	Bromide			<5.0	ug/L				
MRL_CHK	Bromide		5.0	3.94	ug/L	79	(50-150)		
MS_201205250157	Bromide	7.3	50	61.9	ug/L	109	(80-120)		
MS_201205230176	Bromide	21	50	75.4	ug/L	108	(80-120)		
MSD_201205230176	Bromide	21	50	74.1	ug/L	106	(80-120)	15	1.7
MSD_201205250157	Bromide	7.3	50	61.2	ug/L	108	(80-120)	15	1.1
LCS1	Chlorate by IC		200	197	ug/L	99	(90-110)		
LCS2	Chlorate by IC		200	200	ug/L	100	(90-110)	20	1.5
MBLK	Chlorate by IC			<10	ug/L				
MRL_CHK	Chlorate by IC		10	9.4	ug/L	94	(75-125)		
MS_201205230176	Chlorate by IC	ND	100	104	ug/L	104	(80-120)		
MS_201205250157	Chlorate by IC	180	100	289	ug/L	106	(80-120)		
MSD_201205230176	Chlorate by IC	ND	100	106	ug/L	106	(80-120)	15	1.9
MSD_201205250157	Chlorate by IC	180	100	290	ug/L	107	(80-120)	15	0.35

QC Ref# 659054 - PH (H3=past HT not compliant) by SM4500-HB

Analysis Date: 06/19/2012

DUP_201206130262	PH (H3=past HT not compliant)	7.5		7.53	Units		(0-20)	20	0.054
DUP_201206120497	PH (H3=past HT not compliant)	8.6		8.64	Units		(0-20)	20	0.036
LCS1	PH (H3=past HT not compliant)		6.0	6.03	Units	101	(98-102)		
LCS2	PH (H3=past HT not compliant)		6.0	6.03	Units	101	(98-102)	20	0.0

Spike recovery is already corrected for native results.

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CALSCIENCE

WORK ORDER NUMBER: 12-05-1516

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Analytical Report For

Client: MWH Americas, Inc.

Client Project Name: 396916

Attention: Jackie Contreras
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Approved for release on 05/23/2012 by:
Virendra Patel
Project Manager

ResultLink ▶

Email your PM ▶



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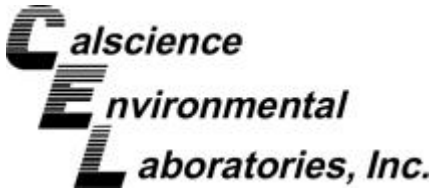




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Work Order Number: 12-05-1516

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Analytical Report



MWH Americas, Inc.
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Date Received: 05/22/12
Work Order No: 12-05-1516
Preparation: N/A
Method: SM 2540 C

Project: 396916

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
201205160395	12-05-1516-1-A	05/16/12 11:00	Aqueous	N/A	05/22/12	05/22/12 17:00	C0522TDSB2

Comment(s): -Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

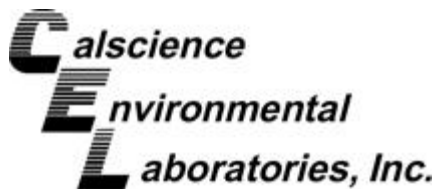
Parameter	Result	RL	MDL	DF	Qual	Units
Solids, Total Dissolved	1120	10.0	0.820	1		mg/L
Method Blank		099-12-180-3,193	N/A	Aqueous	N/A	05/22/12 05/22/12 17:00

Comment(s): -Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
Solids, Total Dissolved	ND	1.0	0.82	1		mg/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Duplicate



MWH Americas, Inc.
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Date Received: 05/22/12
Work Order No: 12-05-1516
Preparation: N/A
Method: SM 2540 C

Project: 396916

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
201205160395	Aqueous	N/A	05/22/12	05/22/12	C0522TDSD2

Parameter	Sample Conc.	DUP Conc	RPD	RPD CL	Qualifiers
Solids, Total Dissolved	1120	1060	5	0-10	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Work Order Number: 12-05-1516

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
MPN - Most Probable Number



Date: 5/23/2012

Submission Form & Purchase Order 99-16394

***REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different MWH Folder Numbers!**
Report & Invoice must have the MWH Folder # 396916 Sub PO# 99-16394 and Job # 1000014

Report all quality control data according to Method. Include dates analyzed. Date extracted (if extracted) and Method reference on the report.
Results must have Complete data & QC with Approval Signature.


Reports: Jackie Contreras Sub-Contracting Administrator
EMAIL TO: mwhlabs-subcontractreports@mwhglobal.com
MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Monrovia, CA 91016
Phone (626) 386-1165 Fax (626) 386-1122
Invoices to: MWH LABORATORIES
Accounts Payable PO BOX 6610, Broomfield, CO 80021

Provide in each Report the Specified State Certification # & Exp Date for requested tests + matrix.
Samples from: CALIFORNIA

please provide MDL/RL reporting

Revised COC received 05/23/2012 at 16:44

12-05-1516



Ship To:
7440 Lincoln Way
Calscience Environmental Labs, Inc.
Garden Grove, CA 92641-1432

Phone: 714-895-5494 Fax: 714-894-7501

MWH Folder #: 396916 **Report Due: 05/31/2012** **Sub PO #: 99-16394**

JLS	Use MWH Lab Order # for ID	Client Sample ID for reference only	Analysis Requested	Sample Date & Time	Matrix	PWS Systemcode	PWSID
SM 2540C	201205160395	CCPA-2	TDS Subbed Calscience	05/16/12 1100	DW		

Relinquished by: _____ Date _____ Time _____ Sample Control _____

Received by: _____ Date _____ Time _____

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS

An Acknowledgement of Receipt is requested to attn: Jackie Contreras



MWH
LABORATORIES

Ship To:
7440 Lincoln Way
Calscience Environmental Labs, Inc.

Garden Grove, CA 92641-1432

Phone: 714-895-5494 Fax: 714-894-7501

MWH Folder #: 396916 Report Due: 05/31/2012 Sub PO #: 99-16394

Submittal Form & Purchase Order 99-16394

Date: 5/21/2012

*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different MWH Folder Numbers! Report & Invoice must have the MWH Folder# 396916 Sub PO# 99-16394 and Job # 1000014

Report all quality control data according to Method. Include dates analyzed. Date extracted (if extracted) and Method reference on the report. Results must have Complete data & QC with Approval Signature.

Reports: Jackie Contreras Sub-Contracting Administrator
EMAIL TO: mwhlabs-subcontractreports@mwhglobal.com
MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Monrovia, CA 91016
Phone (626) 386-1165 Fax (626) 386-1122
Invoices to: MWH LABORATORIES
Accounts Payable PO BOX 6610, Broomfield, CO 80021

Provide in each Report the Specified State Certification # & Exp Date for requested tests + matrix.

Samples from: CALIFORNIA

12-05-1516

JLS Use MWH Lab Order # for ID Client Sample ID for reference only Analysis Requested Sample Date & Time Matrix PWS Systemcode PWSID

201205160395 CCPA-2 05/16/12 1100 DW

TDS Subbed Calscience TDS Subbed Calscience

Relinquished by: M. Dewar Date: 5/22/12 Time: 1000

Received by: [Signature] Date: 5/22/12 Time: 1600

Sample Control

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS

An Acknowledgement of Receipt is requested to attn: Jackie Contreras

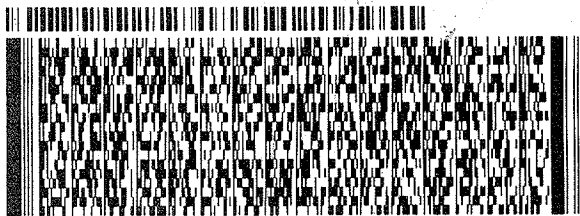
1516

ORIGIN ID: WHPA (625) 386-1116
JEREMY HANSEN
MWH LABS
750 ROYAL OAKS DR
MONROVIA, CA 91016
UNITED STATES US

SHIP DATE: 21MAY12
ACTWGT: 36.0 LB
CAD: 0031999/CAFE2511
DIMS: 15x12x14 IN
BILL SENDER

TO RICHARD VILLAFANIA
CALSCIENCE ENVIRONMENTAL LAB
7440 LINCOLN WAY

GARDEN GROVE CA 928411427
(714) 895-5494 PO: MLD
DEPT: SAMPLE PREP. / SHIPPING

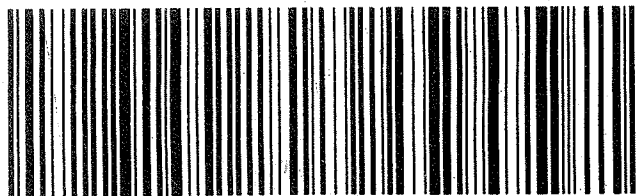


TUE - 22 MAY A1
PRIORITY OVERNIGHT

TRK# 4294 2881 0577
0201

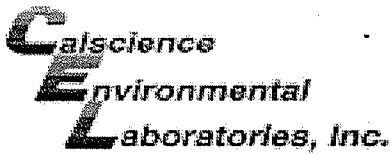
92 APVA

92841
CA-US SNA



Part # 156097-434 FIT 05/10 11

Return to Contents



WORK ORDER #: 12-05-1516

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: MWH

DATE: 05/22/12

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0°C - 6.0°C, not frozen)

Temperature 1.5°C - 0.3°C (CF) = 1.2°C [] Blank [x] Sample

[] Sample(s) outside temperature criteria (PM/APM contacted by: _____).

[] Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

[] Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: [] Air [] Filter

Initial: JP

CUSTODY SEALS INTACT:

[] Cooler [] _____ [] No (Not Intact) [x] Not Present [] N/A

Initial: JP

[] Sample [] _____ [] No (Not Intact) [x] Not Present

Initial: JP

SAMPLE CONDITION:

Table with 4 columns: Item, Yes, No, N/A. Rows include Chain-Of-Custody (COC) document(s) received with samples, COC document(s) received complete, Sampler's name indicated on COC, Sample container label(s) consistent with COC, etc.

CONTAINER TYPE:

Solid: [] 4ozCGJ [] 8ozCGJ [] 16ozCGJ [] Sleeve (____) [] EnCores® [] TerraCores® [] _____
Water: [] VOA [] VOAh [] VOAna2 [] 125AGB [] 125AGBh [] 125AGBp [] 1AGB [] 1AGBna2 [] 1AGBs
[] 500AGB [] 500AGJ [] 500AGJs [] 250AGB [] 250CGB [] 250CGBs [] 1PB [] 1PBna [] 500PB
[] 250PB [] 250PBn [] 125PB [] 125PBzanna [] 100PJ [] 100PJna2 [] _____ [] _____ [] _____

Air: [] Tedlar® [] Summa® Other: [] _____ Trip Blank Lot#: _____ Labeled/Checked by: JP
Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: JP
Preservative: h: HCL n: HNO3 na2:Na2S2O3 na: NaOH p: H3PO4 s: H2SO4 u: Ultra-pure zanna: ZnAc2+NaOH f: Filtered Scanned by: JP



SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

- Sample(s) NOT RECEIVED but listed on COC
- Sample(s) received but NOT LISTED on COC
- Holding time expired – list sample ID(s) and test
- Insufficient quantities for analysis – list test
- Improper container(s) used – list test
- Improper preservative used – list test
- No preservative noted on COC or label – list test & notify lab
- Sample labels illegible – note test/container type
- Sample label(s) do not match COC – Note in comments
 - Sample ID
 - Date and/or Time Collected
 - Project Information
 - # of Container(s)
 - Analysis
- Sample container(s) compromised – Note in comments
 - Water present in sample container
 - Broken
- Sample container(s) not labeled
- Air sample container(s) compromised – Note in comments
 - Flat
 - Very low in volume
 - Leaking (Not transferred - duplicate bag submitted)
 - Leaking (transferred into Calscience Tedlar® Bag*)
 - Leaking (transferred into Client's Tedlar® Bag*)
- Other: _____

Comments:

Received 500 ml of sample for TDS

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: *HP* 05/22/12



May 31, 2012

Ms. Jaclyn L. Contreras
MWH Americas, Inc.
Royal Oaks Dr.
Suite 100
Monrovia, CA 910163629

RE: Project: PACE PA 396916
Pace Project No.: 3070103

Dear Ms. Contreras:

Enclosed are the analytical results for sample(s) received by the laboratory on May 23, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jacquelyn Collins

jacquelyn.collins@pacelabs.com
Project Manager

Enclosures

cc: Mr. Aleksandar D. Tomovich, MWH Americas, Inc.



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: PACE PA 396916

Pace Project No.: 3070103

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601

ACLASS DOD-ELAP Accreditation #: ADE-1544

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California/TNI Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH 0694

Delaware Certification

Florida/TNI Certification #: E87683

Guam/PADEP Certification

Hawaii/PADEP Certification

Idaho Certification

Illinois/PADEP Certification

Indiana/PADEP Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana/TNI Certification #: LA080002

Louisiana/TNI Certification #: 4086

Maine Certification #: PA0091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nevada Certification

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188

Utah/TNI Certification #: ANTE

Virgin Island/PADEP Certification

Virginia Certification #: 00112

Virginia VELAP (Cert # 460198)

Washington Certification #: C868

West Virginia Certification #: 143

Wisconsin/PADEP Certification

Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

Page 2 of 10

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SAMPLE SUMMARY

Project: PACE PA 396916
Pace Project No.: 3070103

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3070103001	201205160395	Drinking Water	05/16/12 11:00	05/23/12 10:10

REPORT OF LABORATORY ANALYSIS

Page 3 of 10

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SAMPLE ANALYTE COUNT

Project: PACE PA 396916

Pace Project No.: 3070103

Lab ID	Sample ID	Method	Analysts	Analytes Reported
3070103001	201205160395	SM 7110C	JC2	1
		EPA 900.0	JC2	1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: PACE PA 396916

Pace Project No.: 3070103

Method: SM 7110C

Description: 7110C Gross Alpha

Client: MWH Laboratories

Date: May 31, 2012

General Information:

1 sample was analyzed for SM 7110C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 5 of 10

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: PACE PA 396916
Pace Project No.: 3070103

Method: EPA 900.0
Description: 900.0 Gross Alpha/Beta
Client: MWH Laboratories
Date: May 31, 2012

General Information:

1 sample was analyzed for EPA 900.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: PACE PA 396916

Pace Project No.: 3070103

Sample: 201205160395 **Lab ID: 3070103001** Collected: 05/16/12 11:00 Received: 05/23/12 10:10 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	SM 7110C	4.47 ± 0.989 (0.997)	pCi/L	05/30/12 19:23	12587-46-1	
Gross Beta	EPA 900.0	1.27 ± 1.21 (2.01)	pCi/L	05/29/12 20:13	12587-47-2	

QUALITY CONTROL DATA

Project: PACE PA 396916

Pace Project No.: 3070103

QC Batch: RADC/12171

Analysis Method: EPA 900.0

QC Batch Method: EPA 900.0

Analysis Description: 900.0 Gross Alpha/Beta

Associated Lab Samples: 3070103001

METHOD BLANK: 444816

Matrix: Water

Associated Lab Samples: 3070103001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Gross Beta	-0.076 ± 0.869 (2.14)	pCi/L	05/31/12 09:22	
Gross Beta	-0.502 ± 0.729 (1.98)	pCi/L	05/29/12 09:16	

QUALITY CONTROL DATA

Project: PACE PA 396916

Pace Project No.: 3070103

QC Batch: RADC/12202

Analysis Method: SM 7110C

QC Batch Method: SM 7110C

Analysis Description: 7110C Gross Alpha

Associated Lab Samples: 3070103001

METHOD BLANK: 446089

Matrix: Water

Associated Lab Samples: 3070103001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Gross Alpha	-0.371 ± 0.323 (1.02)	pCi/L	05/30/12 19:48	

QUALIFIERS

Project: PACE PA 396916

Pace Project No.: 3070103

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.



LABORATORIES

Ship To:
1638 Roseytown Road, Suite 2
PACE Analytical Services, Inc.

Greensburg, PA 15601

Phone: 724-850-5600 Fax: 724-850-5601

MWH Folder #: 396916 Report Due: 05/31/2012 Sub PO #: 99-16388



201205160395 CCPA-2
@ACOPEDD
@BETA

JLS Client Sample ID for reference only

Analysis Requested

Gross Alpha by Co-precipitation (Sub)
Gross Beta (Sub)

Sample

Date & Time Matrix

05/16/12 1100 DW

PWS Systemcode PWSID

3075103
001

10 day tat

Reports: Jackie Contreras Sub-Contracting Administrator
EMAIL TO: mwhlabs-subcontractingreports@mwhglobal.com
MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Monrovia, CA 91016
Phone (626) 386-1165 Fax (626) 386-1122
Invoices to: MWH LABORATORIES
Accounts Payable PO BOX 6810, Broomfield, CO 80021

Provide in each Report the Specified State Certification # & Exp Date for requested tests +
Samples from: CALIFORNIA

Date: 5/21/2012

Submittal Form & Purchase Order 99-16388

*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different MWH Folder Numbers!
Report & Invoice must have the MWH Folder # 396916 Sub PO# 99-16388 and Job # 1000014

Report all quality control data according to Method. Include dates analyzed. Date extracted (if extracted) and Method reference on the report.
Results must have Complete data & QC with Approval Signature.

Relinquished by: M. DEWASA Sample Control Date 5-21-12 Time 1205
Received by: Jackie Contreras Date 5/23/12 Time 1010

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS
An Acknowledgement of Receipt is requested to attn: Jackie Contreras



Sample Condition Upon Receipt

JH

Client Name: MWH

Project # 3070103

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 429428810479

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used 5 6 7 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature NA
Temp should be above freezing to 6°C

Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: RL 5/23/12

		Comments:	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes date/time/ID/Analysis Matrix:	<u>WT</u>		
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	PHK2	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
		Initial when completed <u>RL</u>	Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.	
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: _____ Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature] Date: 5/24/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Project Number: 3070103

Client Name: MWH

Item No.	Matrix Code	Glass Jar (120 / 250 / 500 / 1L)	Soil kit (2 SB, 1M, soil jar)	Chemistry (250 / 500 / 1L)	Organics (1L)	Nutrient (250 / 500)	Phenolics (250 ml)	TOC (40 ml / 250 ml)	TOX (250 ml)	Total Metals	Dissolved Metals preserved Y	O & G (1L)	TPH (1L)	VOA (40 ml 30 ml)	Cyanide (250 ml)	Sulfide (500 ml)	Bacteria (120 ml)	Wipes / swipe/ smear/ filter	Radchem NaIgene (125 / 250 / 500 / 1L)	Radchem NaIgene (1/2 gal / 1 galL)	Cubtrainer (500 ml / 4L)	Ziploc	Other	Other	
001	WT																								

Quality Control Sample Performance Assessment

RCDU Upload

Analyst: JMC
Date: 5/30/2012
Worklist: 12171
Matrix: DW
Method: EPA 900.0
SOP: PGR-R-001
MS Sample ID: 444815



Method Blank Assessment			
Analyte	Activity	MDC	Assessment
Gross Alpha	0.1210	2.7160	
Gross Beta	-0.5020	1.9630	

Laboratory Control Sample Assessment				
Analyte	Gross Alpha		Gross Beta	
	LCS	LCS/D	LCS	LCS/D
Count Rate	5/29/2012 9:16	5/29/2012 9:16	5/29/2012 9:16	5/29/2012 9:16
Spikes I.D.	12-016	12-014GB	12-014GB	
Spikes Concentration [pCi/mL]	54.890	88.564	88.564	
Volume Used [mL]	0.050	0.050	0.050	
Aliquot Volume [L, g, F]	0.200	0.200	0.200	
Target Conc. [pCi/L, g, F]	13.722	13.722	22.141	
1.96 Sigma Unc.	0.484	0.484	0.434	
Result [pCi/L, g, F]	13.104	13.770	24.243	
1.96 Sigma Unc.	2.624	2.613	2.623	
% Recovery	95.49%	100.35%	109.49%	
Assessment	Pass	Pass	Pass	
Upper % Recovery Limits	149.00%	119.00%	130.00%	
Lower % Recovery Limits	62.00%	62.00%	79.00%	

Duplicate Sample Assessment				
LCS/LCSD Y or N?	Y		Y	
	Gross Alpha	Gross Beta	Gross Alpha	Gross Beta
Sample I.D.	LCS12171	LCS12171	LCS12171	LCS12171
Duplicate Sample I.D.	LCS012171	LCS012171	LCS012171	LCS012171
Sample Result [pCi/L, g, F]	13.1040	24.2430	24.2430	24.2430
1.96 Sigma Unc.	2.6240	2.6230	2.6230	2.6230
Sample Duplicate Result [pCi/L, g, F]	13.7700	23.6510	23.6510	23.6510
Duplicate Sample 1.96 Sigma Unc.	2.6130	2.5910	2.5910	2.5910
Either results below MDC?	No	No	No	No
Relative Percent Difference	4.96%	2.47%	2.47%	2.47%
Assessment	Pass	Pass	Pass	Pass
% RPD Limit	35.00%	17.00%	17.00%	17.00%

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

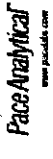
Comments:

CF/31h

Sample Matrix Spike Control Assessment				
Sample Collection Date	Gross Alpha		Gross Beta	
	Sample I.D.	Sample MS I.D.	Sample I.D.	Sample MS I.D.
5/22/2012	3070130001	3070130001MS	3070130001	3070130001MS
Sample MS I.D.	3070130001MS	3070130001MS	3070130001MS	3070130001MS
Sample MSD I.D.	12-016	12-016	12-014GB	12-014GB
Spikes I.D.	54.890	54.890	88.607	88.607
MS/MSD Decay Corrected Spike Conc. [pCi/mL]	0.10	0.10	0.10	0.10
Spike Volume Used in MS [mL]	0.2000	0.2000	0.2000	0.2000
MS Aliquot [L, g, F]	27.445	27.445	44.304	44.304
MS Target Conc. [pCi/L, g, F]	0.968	0.968	0.868	0.868
MSD Target Conc. [pCi/L, g, F]	5.892	5.892	7.144	7.144
MSD Spike Uncertainty (calculated)	2.962	2.962	1.819	1.819
Sample Result	27.409	27.409	48.115	48.115
Sample 1.96 Sigma Unc.	4.909	4.909	3.609	3.609
Sample MS 1.96 Sigma Unc.	78.40%	78.40%	92.48%	92.48%
MS % Recovery	Pass	Pass	Pass	Pass
MSD % Recovery	133.00%	133.00%	130.00%	130.00%
MS Assessment	55.00%	55.00%	79.00%	79.00%
MS/MSD Upper % Recovery Limits	MS/MSD Relative Percent Difference	MS/MSD RPD Assessment	% RPD Limit	
MS/MSD Lower % Recovery Limits	Matrix Spike/Matrix Spike Duplicate Sample Assessment			

Quality Control Sample Performance Assessment

RCDU Upload



Analyst: JMC
Date: 5/31/2012
Worksheet: 12/202
Matrix: DW
Method: SM 7110C
SOP: PGHR-001
MB Sample ID: 446089

Method Blank Assessment			
Activity	1.96 Sig Unc.	MDC	Assessment
-0.3710	0.3160	1.0160	

Laboratory Control Sample Assessment			
Activity	LCS	LCSD	Assessment
Gross Alpha	5/31/2012 7:45	5/31/2012 7:46	
Count Rate	12-016	12-016	
Spikes / D.	54.890	54.890	
Spike Concentration (pCi/mL)	0.050	0.050	
Volume Used (mL)	0.200	0.200	
Aliquot Volume (L, g, F)	13.722	13.722	
Target Conc. (pCi/L, g, F)	0.484	0.484	
1.96 Sigma Uncertainty (Calculated)	13.410	14.434	
Result (pCi/L, g, F)	2.618	2.766	
1.96 Sigma (inc)	97.72%	105.19%	
% Recov. (Y)	Pass	Pass	
Assess/Unit	119.00%	119.00%	
Upper % Recovery Limits	62.00%	62.00%	
Lower % Recovery Limits			

Duplicate Sample Assessment			
Activity	LCS	LCSD	Assessment
Gross Alpha	5/31/2012 7:45	5/31/2012 7:46	
Count Rate	12-016	12-016	
Spikes / D.	54.890	54.890	
Spike Concentration (pCi/mL)	0.050	0.050	
Volume Used (mL)	0.200	0.200	
Aliquot Volume (L, g, F)	13.722	13.722	
Target Conc. (pCi/L, g, F)	0.484	0.484	
1.96 Sigma Uncertainty (Calculated)	13.410	14.434	
Result (pCi/L, g, F)	2.618	2.766	
1.96 Sigma (inc)	97.72%	105.19%	
% Recov. (Y)	Pass	Pass	
Assess/Unit	119.00%	119.00%	
Upper % Recovery Limits	62.00%	62.00%	
Lower % Recovery Limits			

Evaluation of duplicate precision is not applicable. If either the sample or duplicate results are below the MDC.

Comments:

05/31/12

Sample Matrix Spike Control Assessment			
Activity	LCS	LCSD	Assessment
Gross Alpha	5/17/2012	5/17/2012	
Count Rate	3070091001MS	3070091001MS	
Spikes / D.	12-016	12-016	
Spike Concentration (pCi/mL)	54.890	54.890	
Volume Used (mL)	0.10	0.10	
Aliquot Volume (L, g, F)	0.2000	0.2000	
Target Conc. (pCi/L, g, F)	27.445	27.445	
MS Target Conc. (pCi/L, g, F)			
MSD Target Conc. (pCi/L, g, F)	0.968	0.968	
MS Spike uncertainty (calculated)	13.441	13.441	
Result (pCi/L, g, F)	1.703	1.703	
1.96 Sigma (inc)	39.657	39.657	
% Recov. (Y)	4.658	4.658	
Assess/Unit	95.52%	95.52%	
Upper % Recovery Limits	Pass	Pass	
Lower % Recovery Limits	135.00%	135.00%	
MS/MSD Upper % Recovery Limits	55.00%	55.00%	
MS/MSD Lower % Recovery Limits			

Appendix H

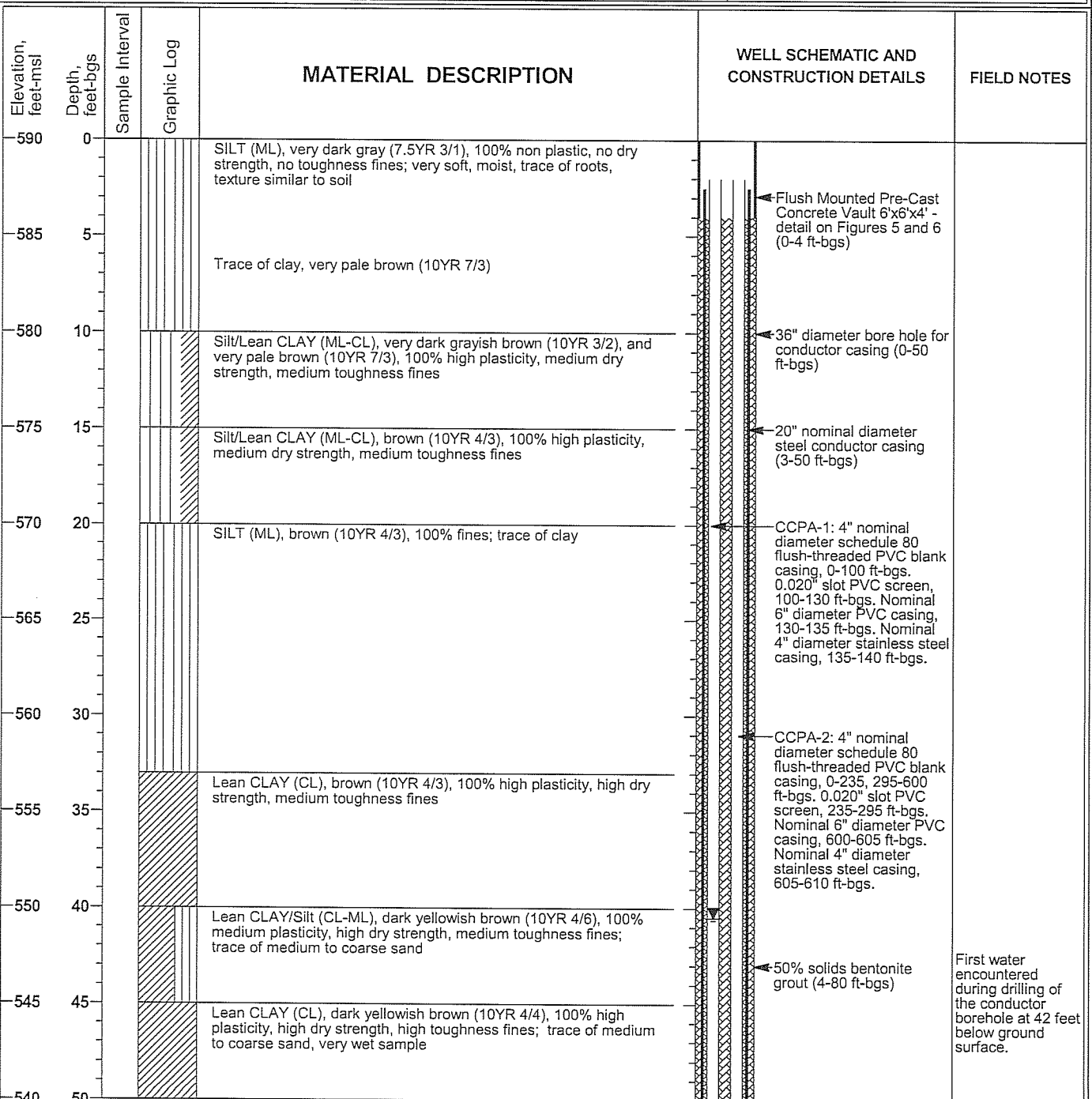
State of California Well Completion Report

Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 1 of 12

Date Started	4/24/12	Date Finished	5/25/12	Borehole Depth	635 feet	Drilling Contractor	Best Drilling & Pump
Lat.	33° 58' 1.91"	Long.	-117° 38' 50.64"	Drill Bit Size/Type	12.25-inch Tricone Mill-Tooth	Driller	Ernest Trinidad
Ground Surface Elevation	590 feet mean sea level		Screened Interval(s)	100-130 feet (CCPA-1), 235-295 feet (CCPA-2)		Drill Rig Type	Failing JED A
Top of Casing Elevation	588 feet mean sea level		Depth to Groundwater	CCPA-1 = 40.5 ft-bgs on 5/24/12 CCPA-2 = 59.6 ft-bgs on 5/24/12		Drilling Method	Flooded Reverse Circulation
Logged By	M. Blazevic, PG/T. Rolfe, PG		Reviewed By	A. Malone, PG		Sampling Method	Grab

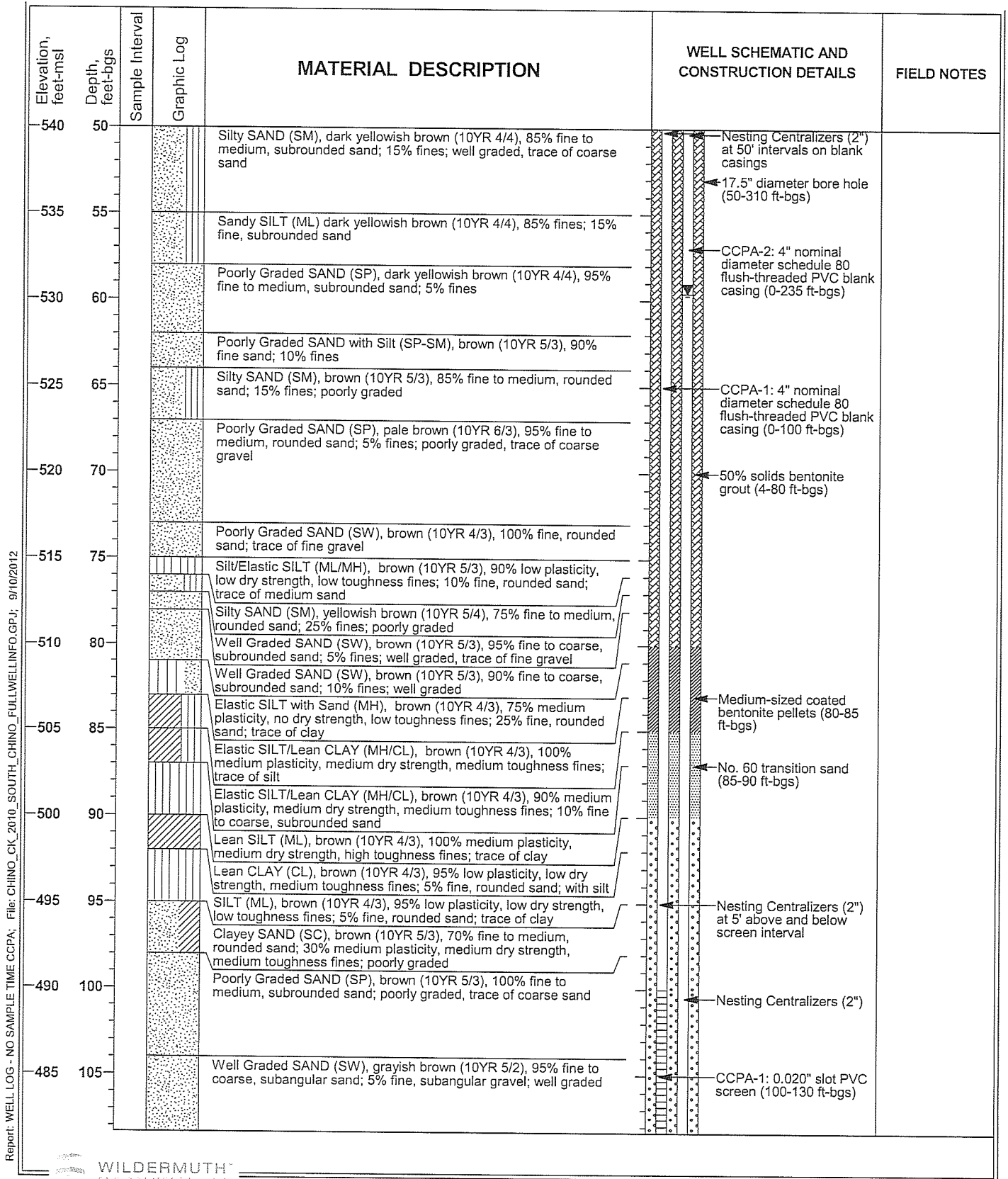


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

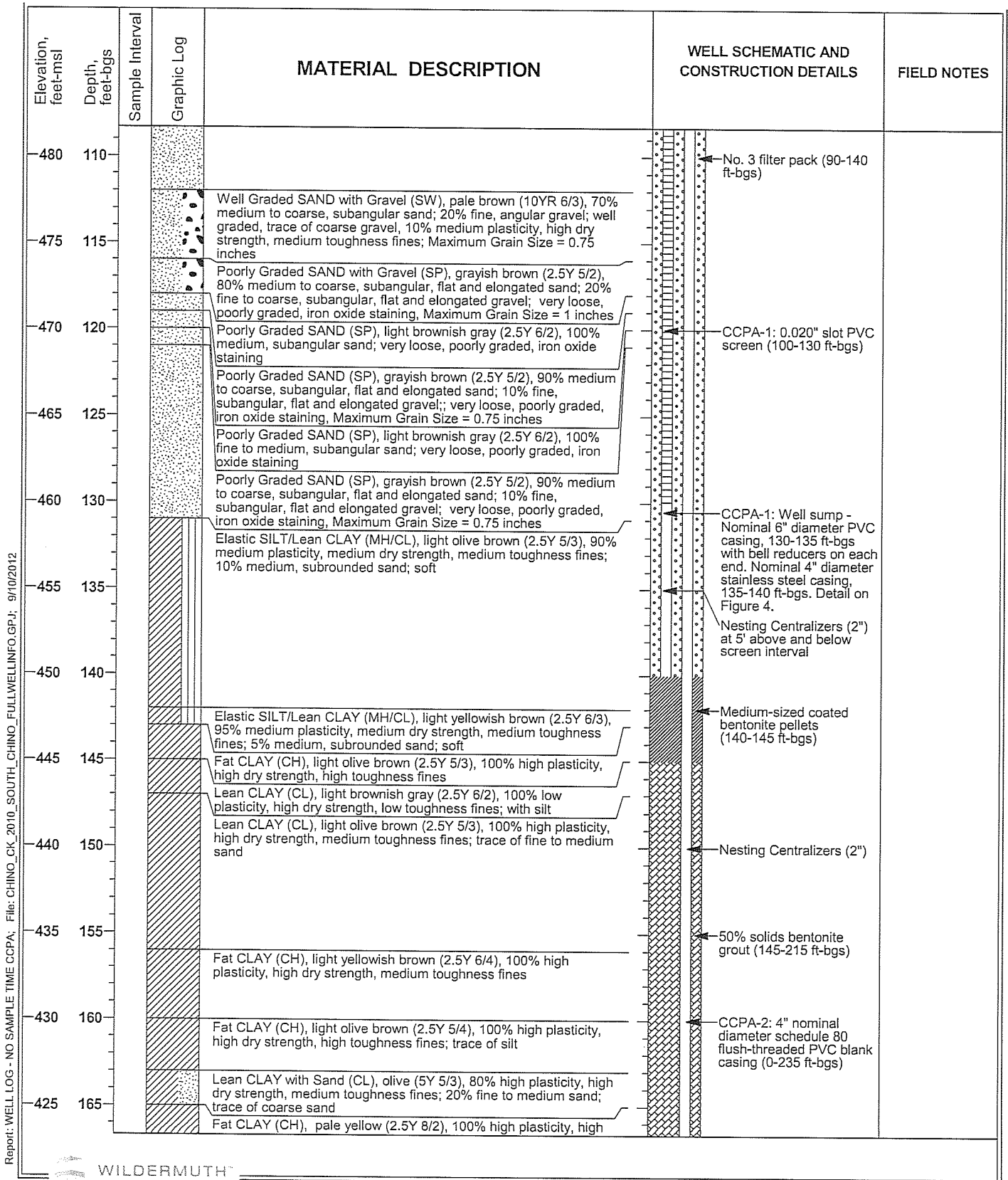
Sheet 2 of 12



Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

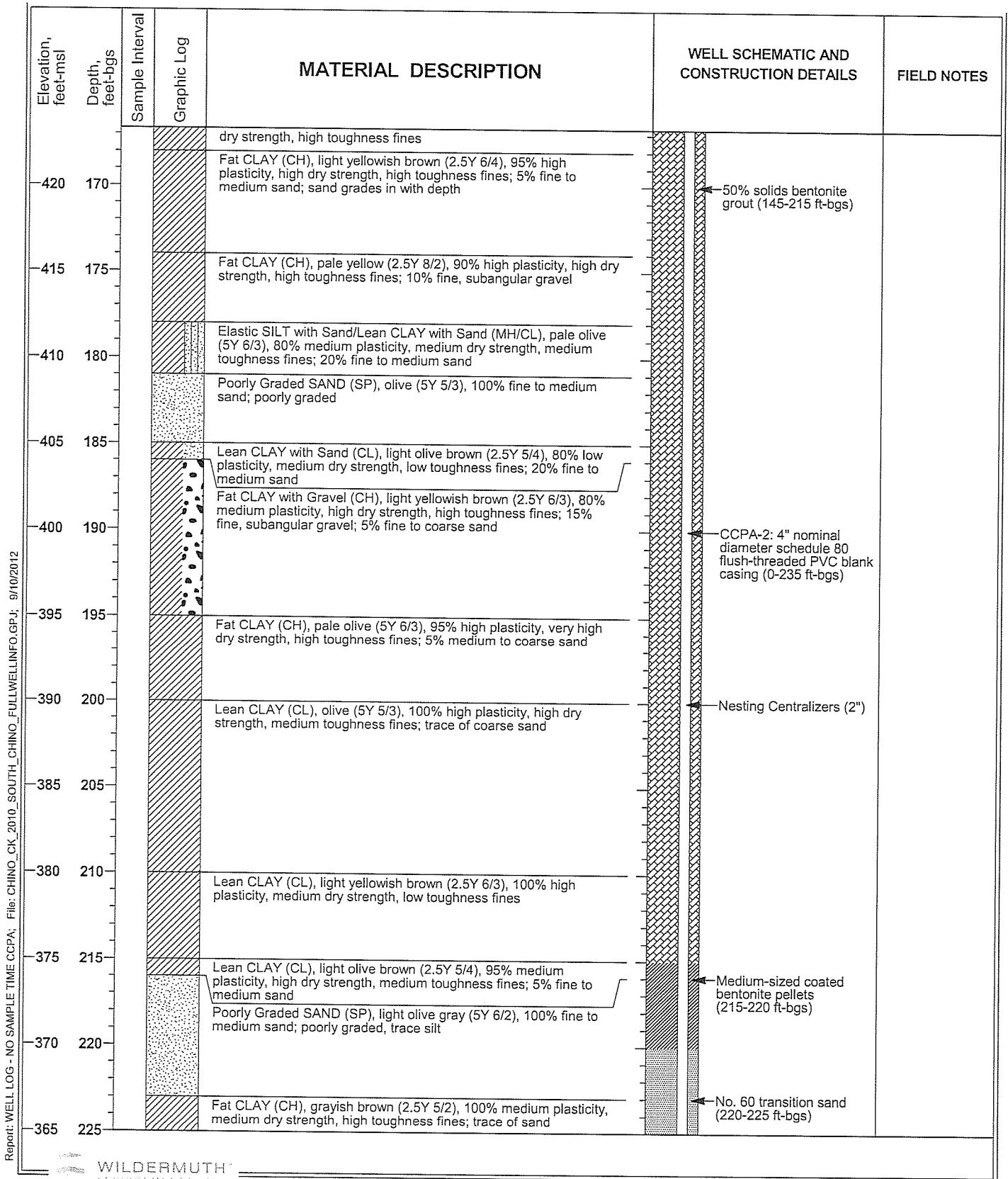
Sheet 3 of 12



Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

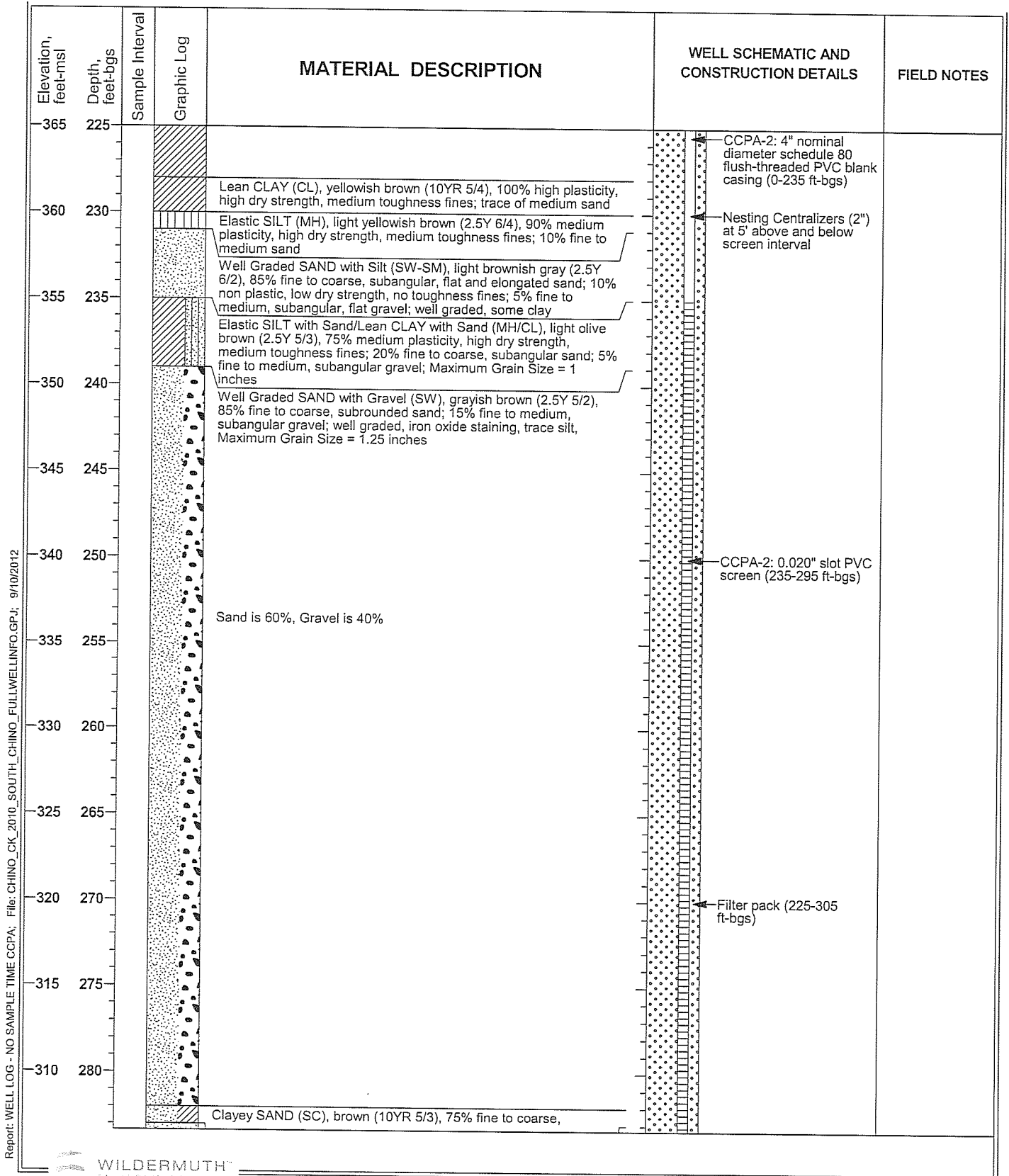
Sheet 4 of 12



Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 5 of 12

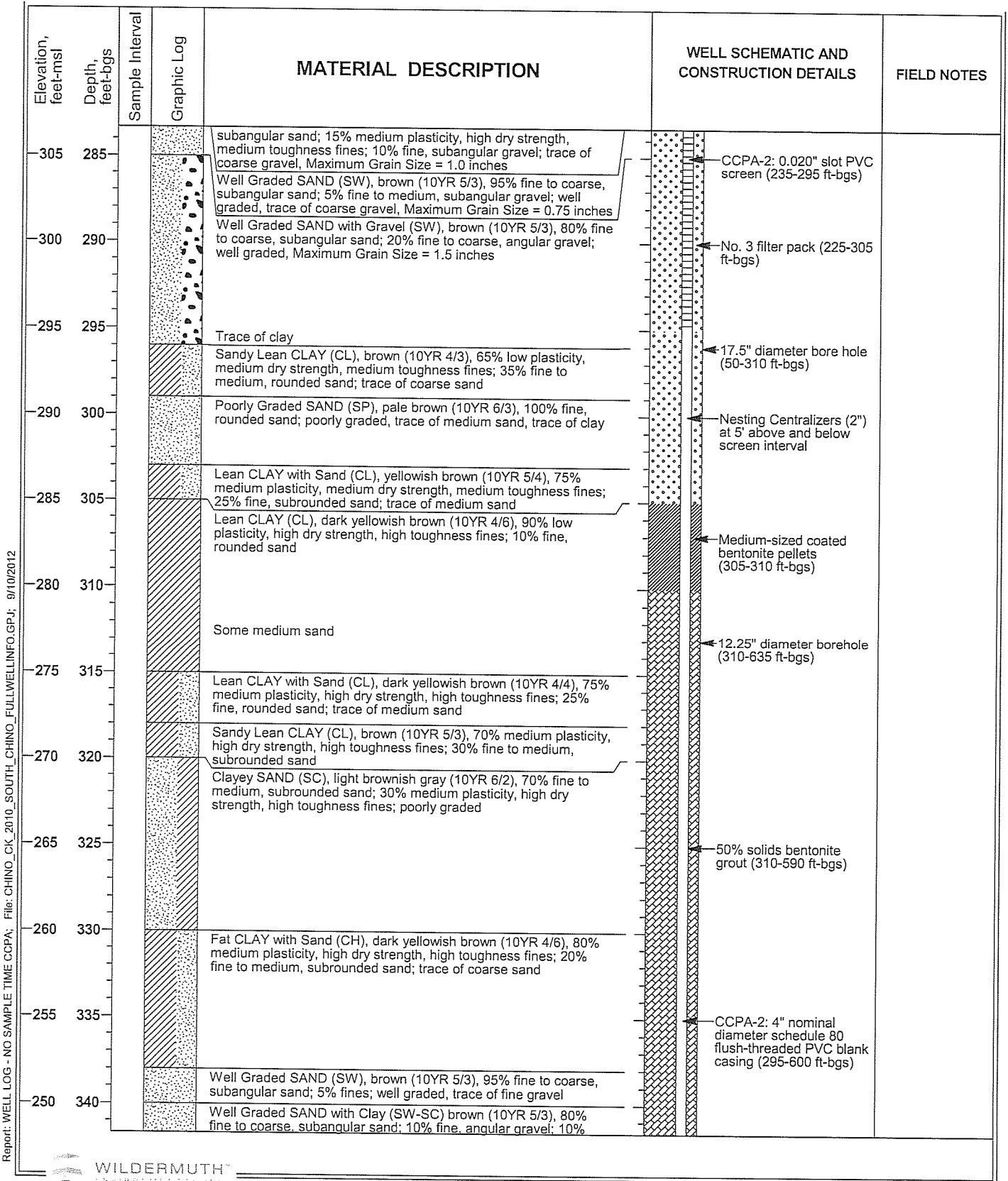


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Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 6 of 12

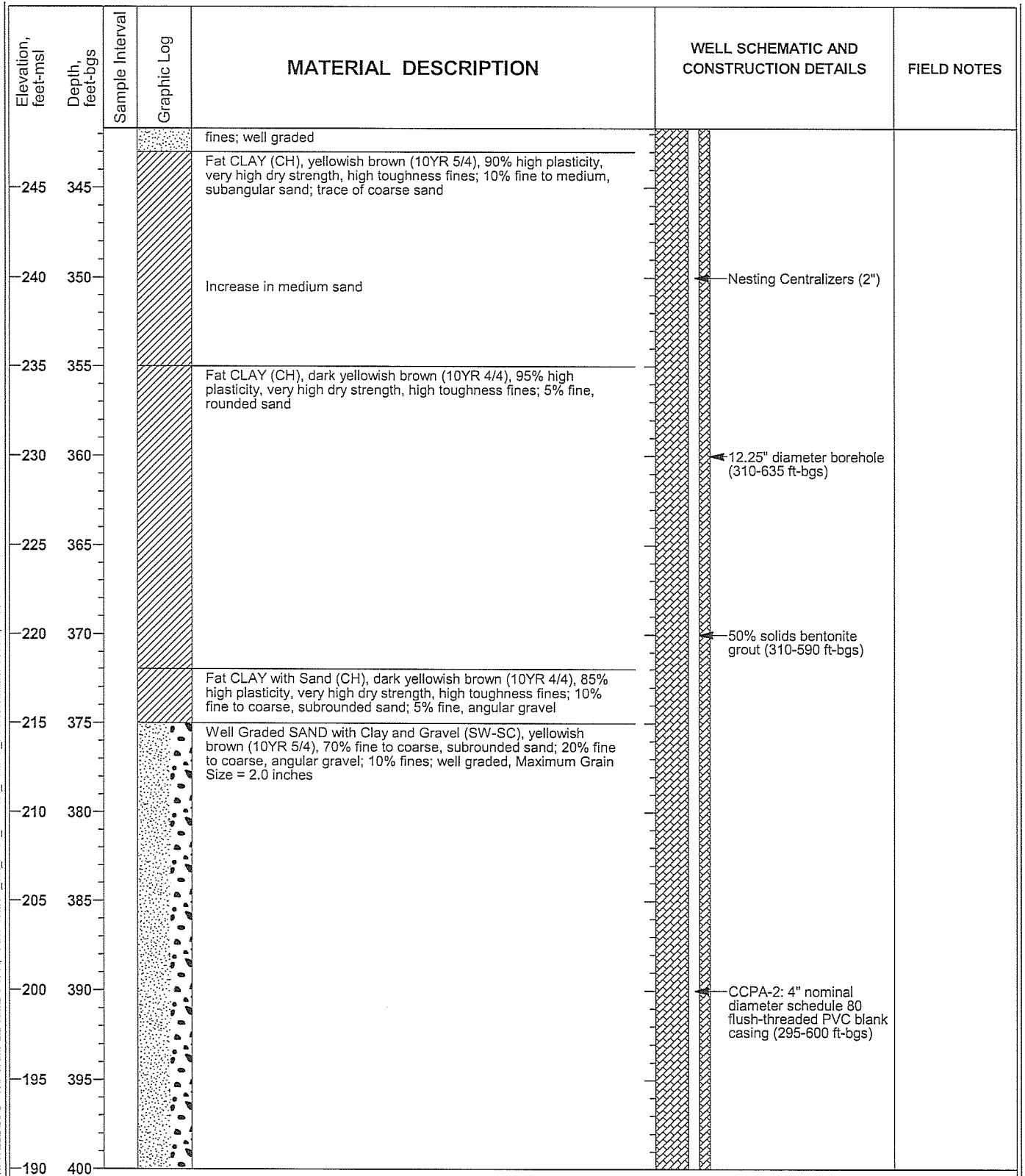


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 7 of 12

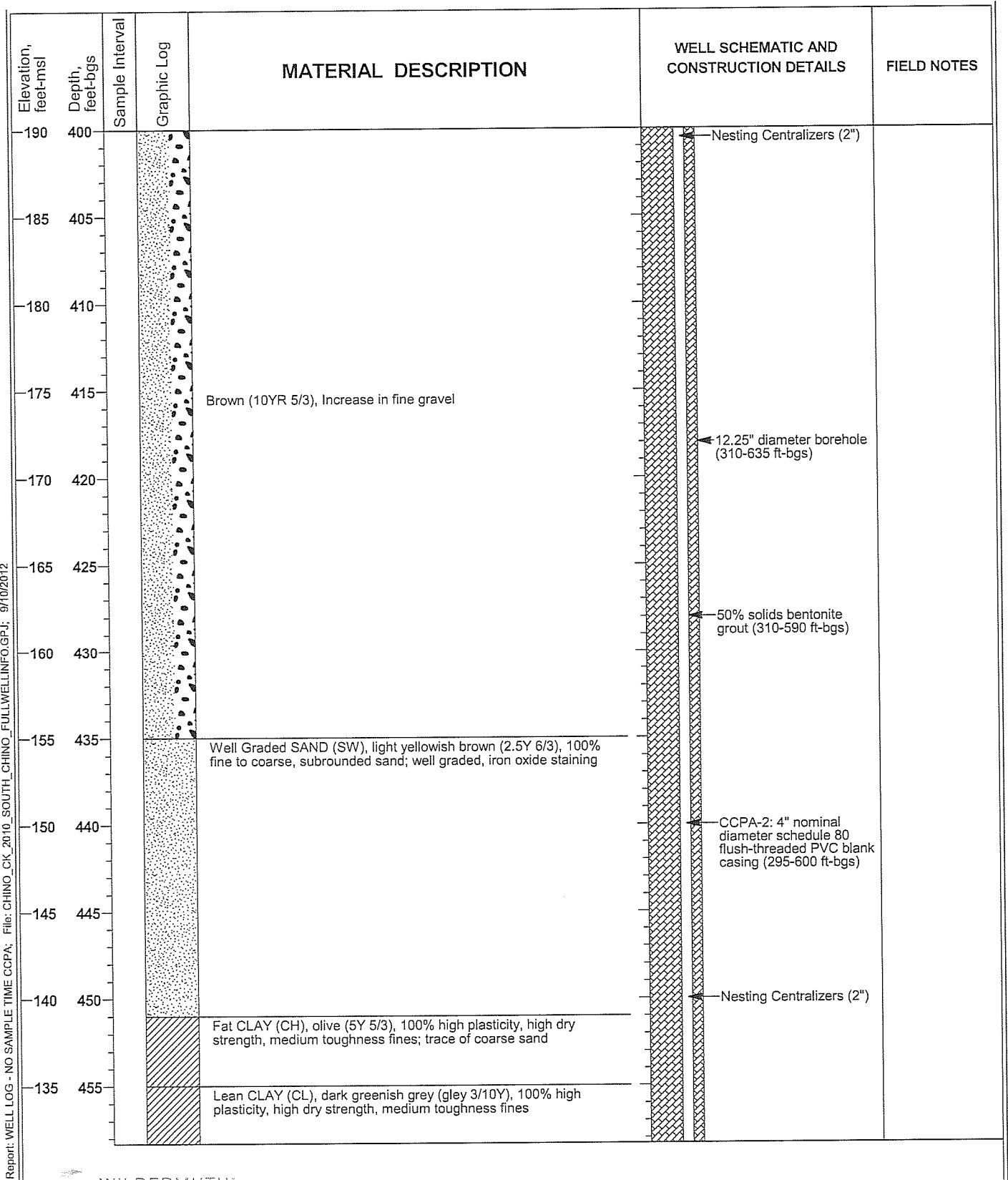


Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 8 of 12

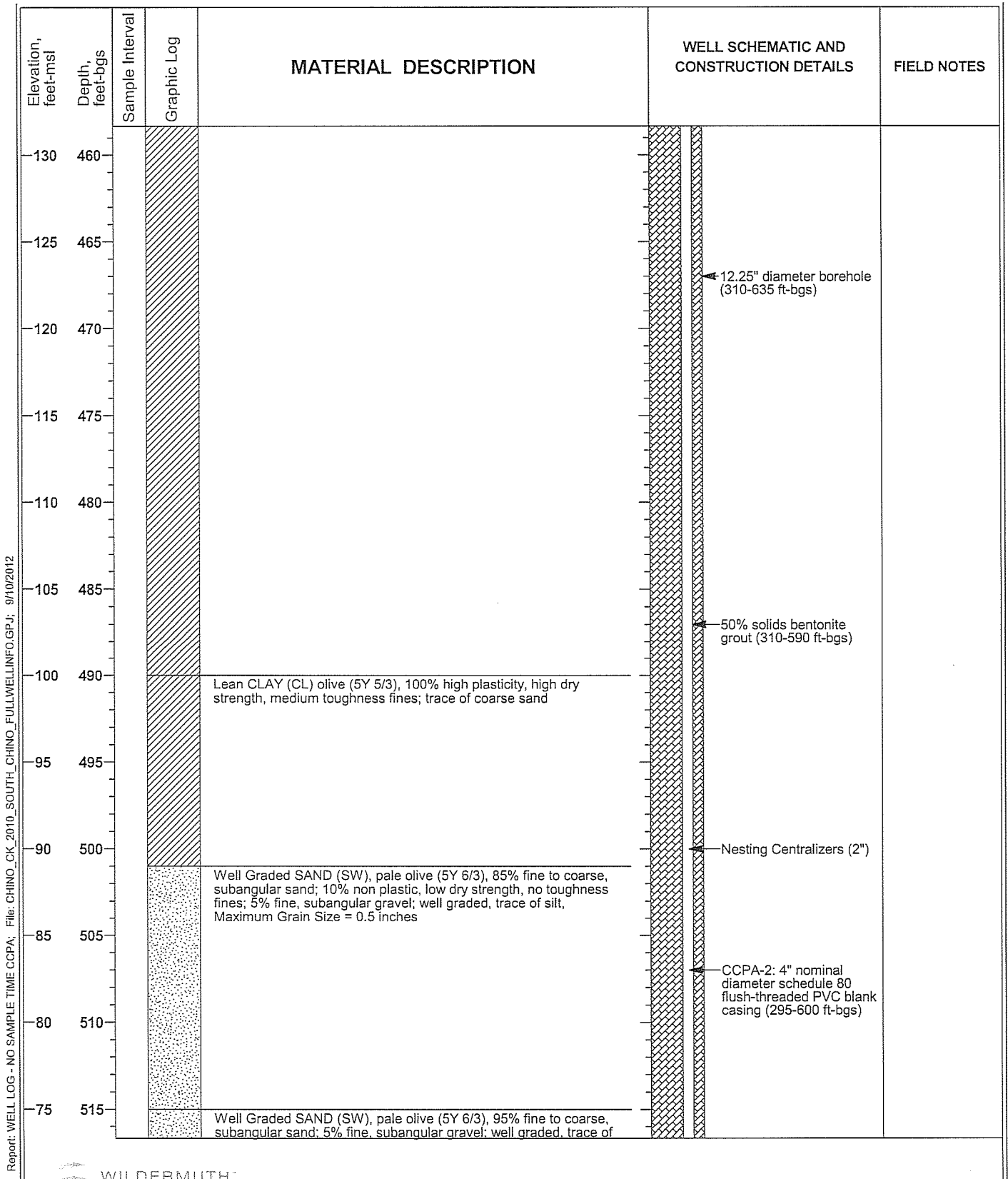


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Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 9 of 12

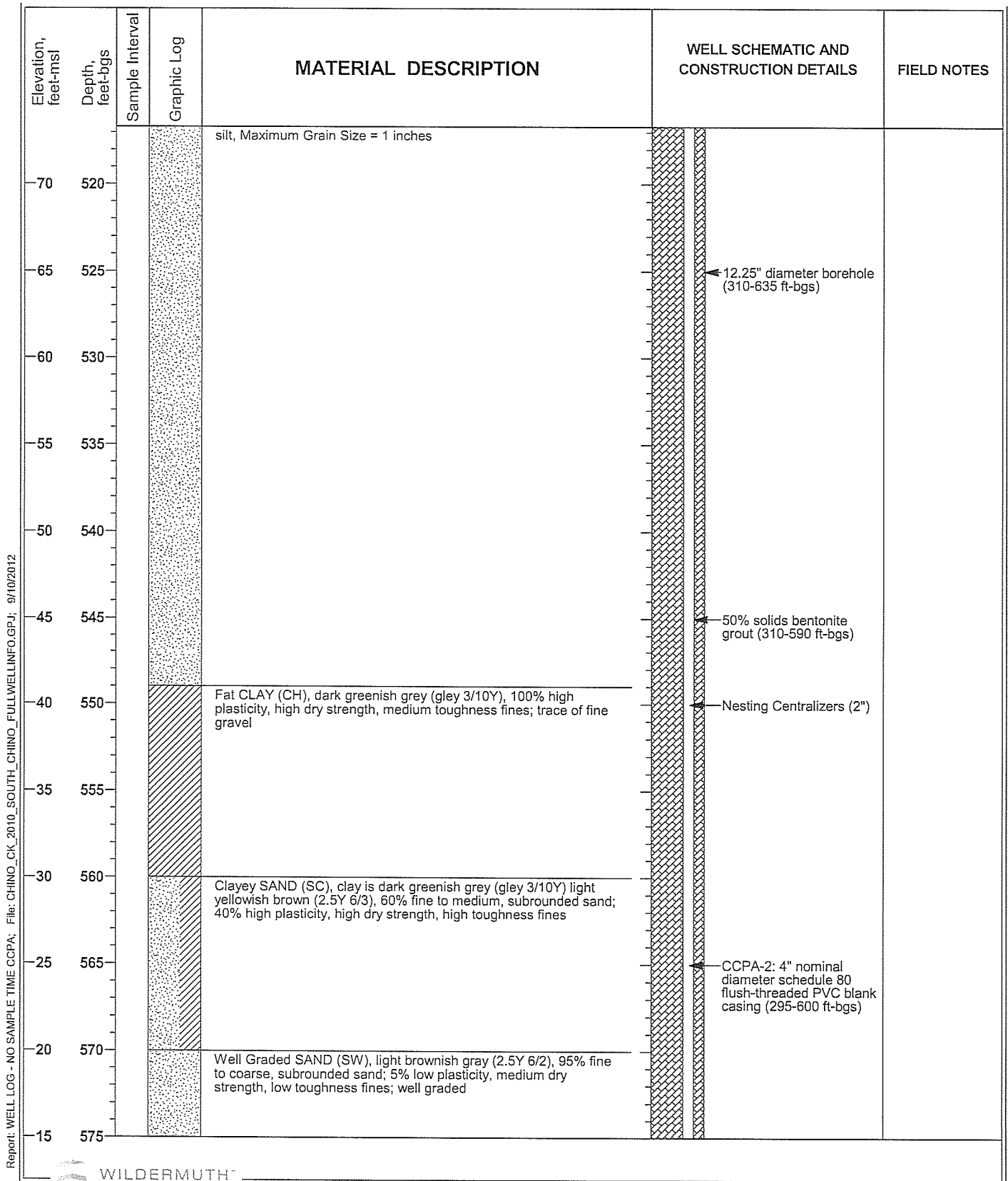


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Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

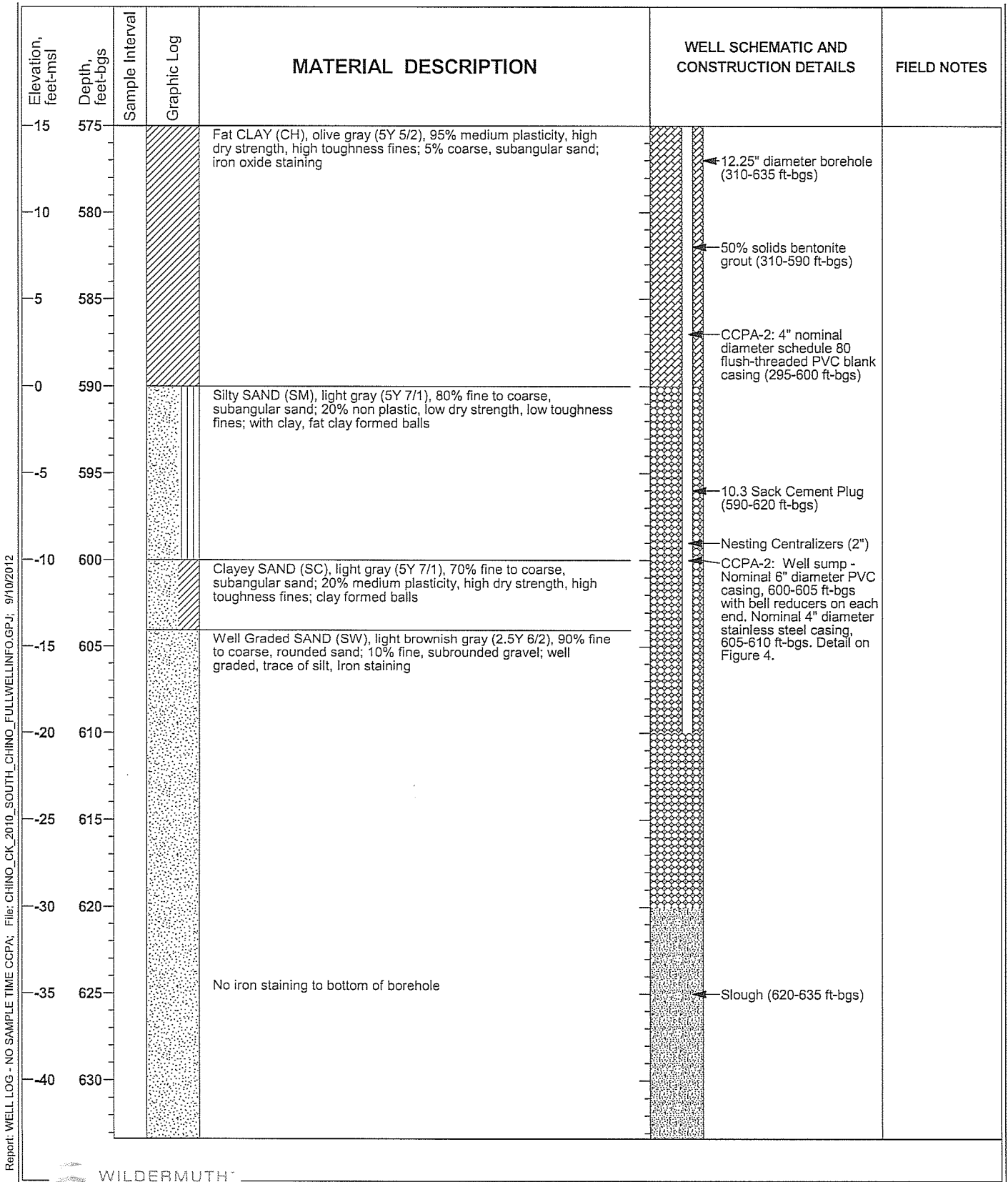
Sheet 10 of 12



Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 11 of 12



Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Project Name: Chino Creek Extensometer Facility
 Project Location: Chino, California
 Project Number: 007-012-061
 Client: Chino Basin Watermaster

Well Log / CCPA

Sheet 12 of 12

Elevation, feet-msl	Depth, feet-bgs	Sample Interval	Graphic Log	MATERIAL DESCRIPTION	WELL SCHEMATIC AND CONSTRUCTION DETAILS	FIELD NOTES
-45	635			Bottom of borehole = 635 ft-bgs	← Slough (620-635 ft-bgs)	
-50	640					
-55	645					
-60	650					
-65	655					
-70	660					
-75	665					
-80	670					
-85	675					
-90	680					
-95	685					
-100	690					

Report: WELL LOG - NO SAMPLE TIME CCPA; File: CHINO_CK_2010_SOUTH_CHINO_FULLWELLINFO.GPJ; 9/10/2012

Appendix I

Video Survey Reports

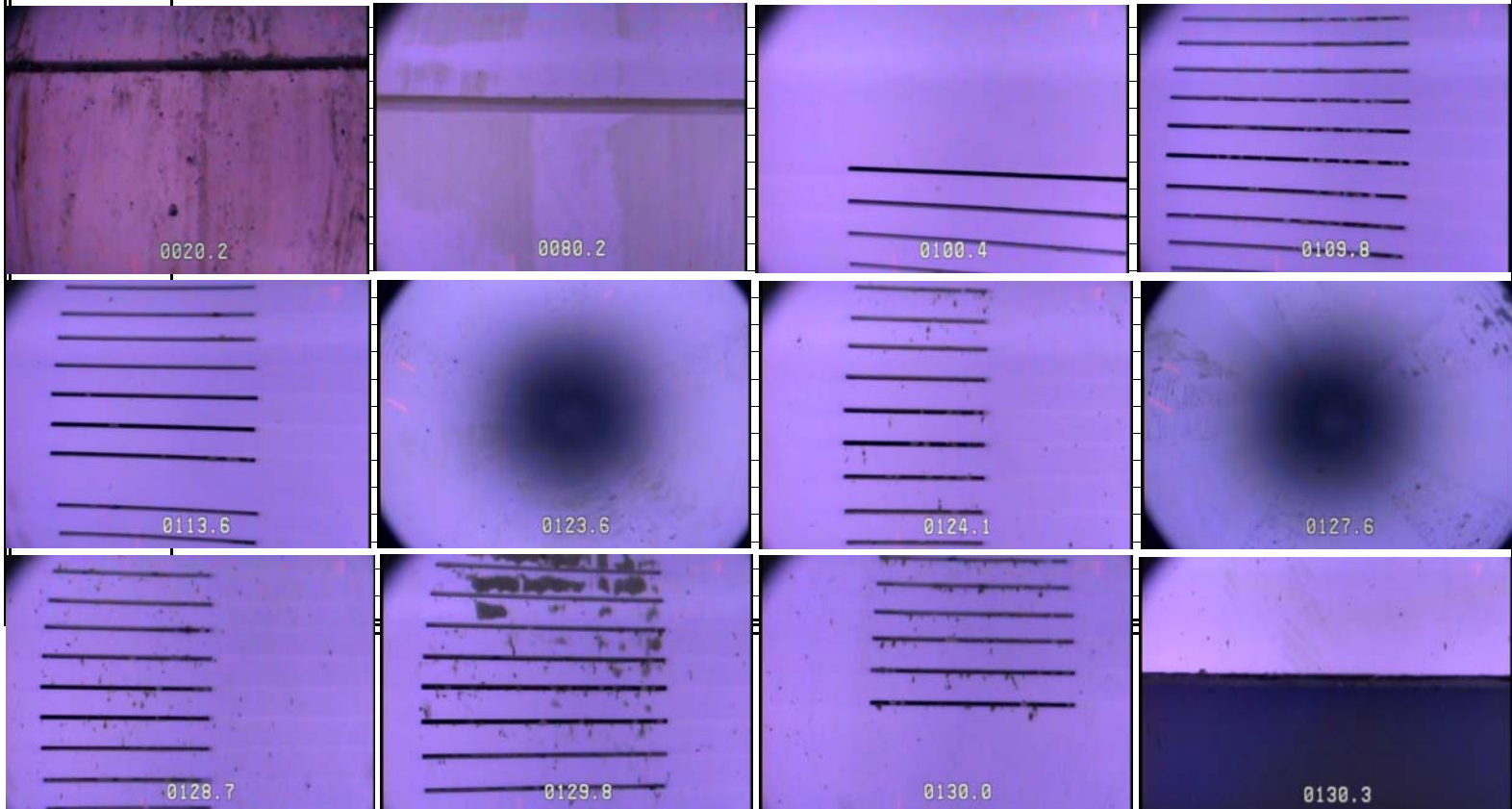
Pacific Surveys

a full service geophysical well logging company

Video Survey Report

Company:	Best Drilling and Pump	Date:	25-May-12
Well:	CCPA Well 1	Run No.	One Truck PS-6
Field:	Chino	Job Ticket:	16599
State:	California	Total Depth:	133 ft
Location:	Kimball Ave East of Euclid	Water Level:	41 ft SWL
	GPS: N33o 58.022' W117o 38.840'	Oil on Water:	No Amount: N/A
Zero Datum:	Top of CSG	Operator:	Afoh
Reason for Survey:	New Well Inspection	Side-Scan	Dead Space: 0"
		Guides Set @	3 inches

Depth	Observations	Perforation	As-Built
0.0 ft	Start survey at top of casing		
40.5 ft	SWL: water is clear with some suspended particles on surface.	Horizontal Mill Slot	100.00 ft to 130.00ft
80.1 ft	Joint: all joints appear in good shape.		
100.4 ft	Top of Screen: all slots appear open with some gravel pack visible.		
130.0 ft	Bottom of Screen: entire screen appears open with some gravel pack visible.		
130.3 ft	Transition from PVC to stainless steel.		
133.2 ft	Fill, soft material, end survey.		
		Casing Size	As-Built
		4 in ID	0.00 ft to 140.00ft
		Casing Material	PVC
		Screen Material	PVC



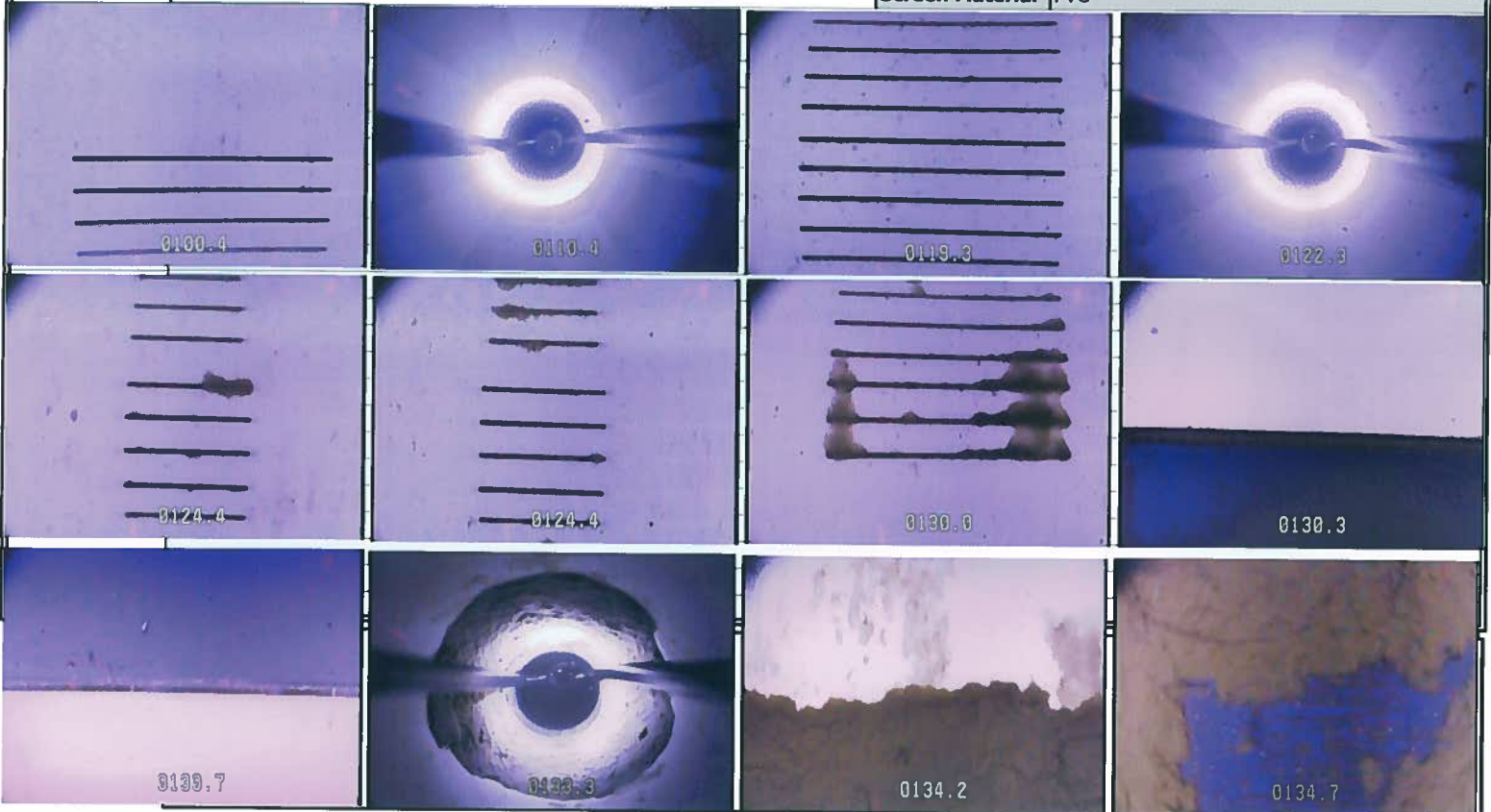
Pacific Surveys

a full service geophysical well logging company

Video Survey Report

Company: Best Drilling and Pump	Date: 25-Jun-12
Well: CCPA Well 1	Run No.: Two Truck: PS-6
Field: Chino	Job Ticket: 16652
State: California	Total Depth: 140 ft
Location: Kimball Ave East of Euclid	Water Level: 42 ft SWL:
GPS: N33o 58.022' W117o 38.840'	Oil on Water: No Amount: N/A
Zero Datum: Top of CSG	Operator: Afoh
Reason for Survey: General Inspection	Side-Scan: Dead Space: 0"
	Guides Set @ 3 inches

Depth	Observations	Perforation	As-Built
0.0 ft	Start survey at top of casing.		
41.6 ft	SWL: water is clear. Visibility is good.	Horizontal Mill Slot	100.00 ft to 130.00ft
100.4 ft	Top of screen: all slots appear open.		
124.4 ft	Observed some greenish bio-growth on casing wall.		
130.0 ft	Bottom of screen: entire screen appears open with the bottom slots plugged		
130.3 ft	Transition from 4 inch PVC to 6 inch PVC.		
130.7 ft	Top of 6 inch PVC.		
134.2 ft	Encountered soft mud in casing from 134.2 ft to 139.8 ft		
134.7 ft	Transition from 6 inch PVC to 4 inch PVC.		
139.8 ft	Fill, hard material, end survey.		
		Casing Size	As-Built
		4 in ID	0.00 ft to 130.00ft
		6 in ID	130.00 ft to 135.00ft
		4 in ID	135.00 ft to 140.00ft
		Casing Material	PVC/Stainless Steel
		Screen Material	PVC



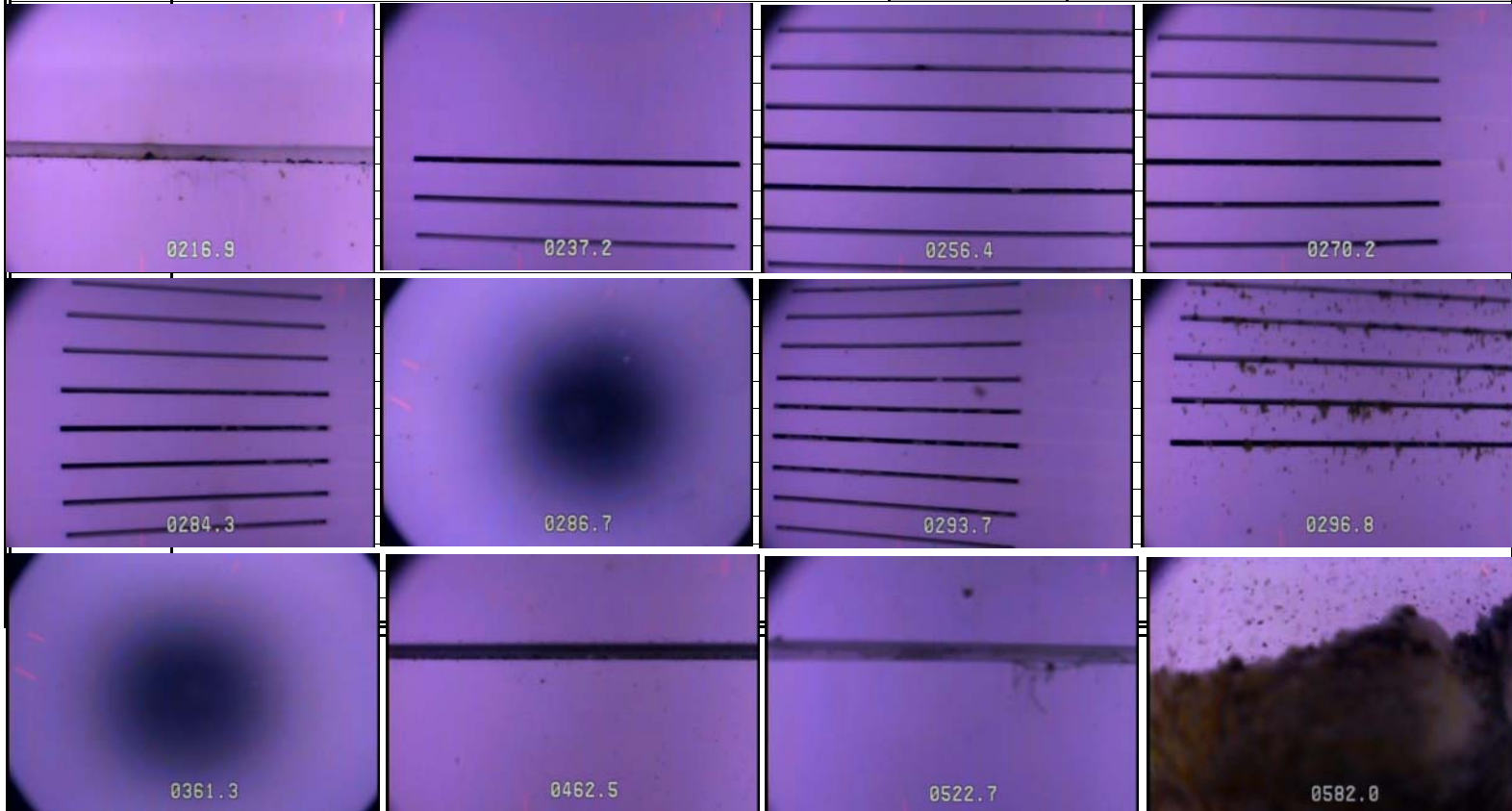
Pacific Surveys

a full service geophysical well logging company

Video Survey Report

Company:	Best Drilling and Pump	Date:	25-May-12
Well:	CCPA Well 2	Run No.	One Truck PS-6
Field:	Chino	Job Ticket:	16599
State:	California	Total Depth:	606 ft
Location:	Kimball Ave East of Euclid	Water Level:	56 ft SWL
	GPS: N33o 58.022' W117o 38.840'	Oil on Water:	No Amount: N/A
Zero Datum:	Top of CSG	Operator:	Afoh
Reason for Survey:	New Well Inspection	Side-Scan	Dead Space: 0"
		Guides Set @	3 inches

Depth	Observations	Perforation	As-Built
0.0 ft	Start survey at top of casing.		
56.4 ft	SWL: water is clear with some suspended particles on surface.	Horizontal Mill Slot	235.00 ft to 295.00ft
216.9 ft	Joint: all joints appear in good shape.		
237.2 ft	Top of Screen: all slots appear open with some gravel pack visible.		
296.8 ft	Bottom of Screen: entire screen appears open with some gravel pack visible. Some sediment observed on louvers at the bottom.		
462.5 ft	Joint: all joints appear in good shape.		
582.0 ft	Appears to be soft sediment.		
606.0 ft	Fill, soft material, end survey.		
		Casing Size	As-Built
		4 in ID	0.00 ft to 610.00ft
		Casing Material	PVC
		Screen Material	PVC



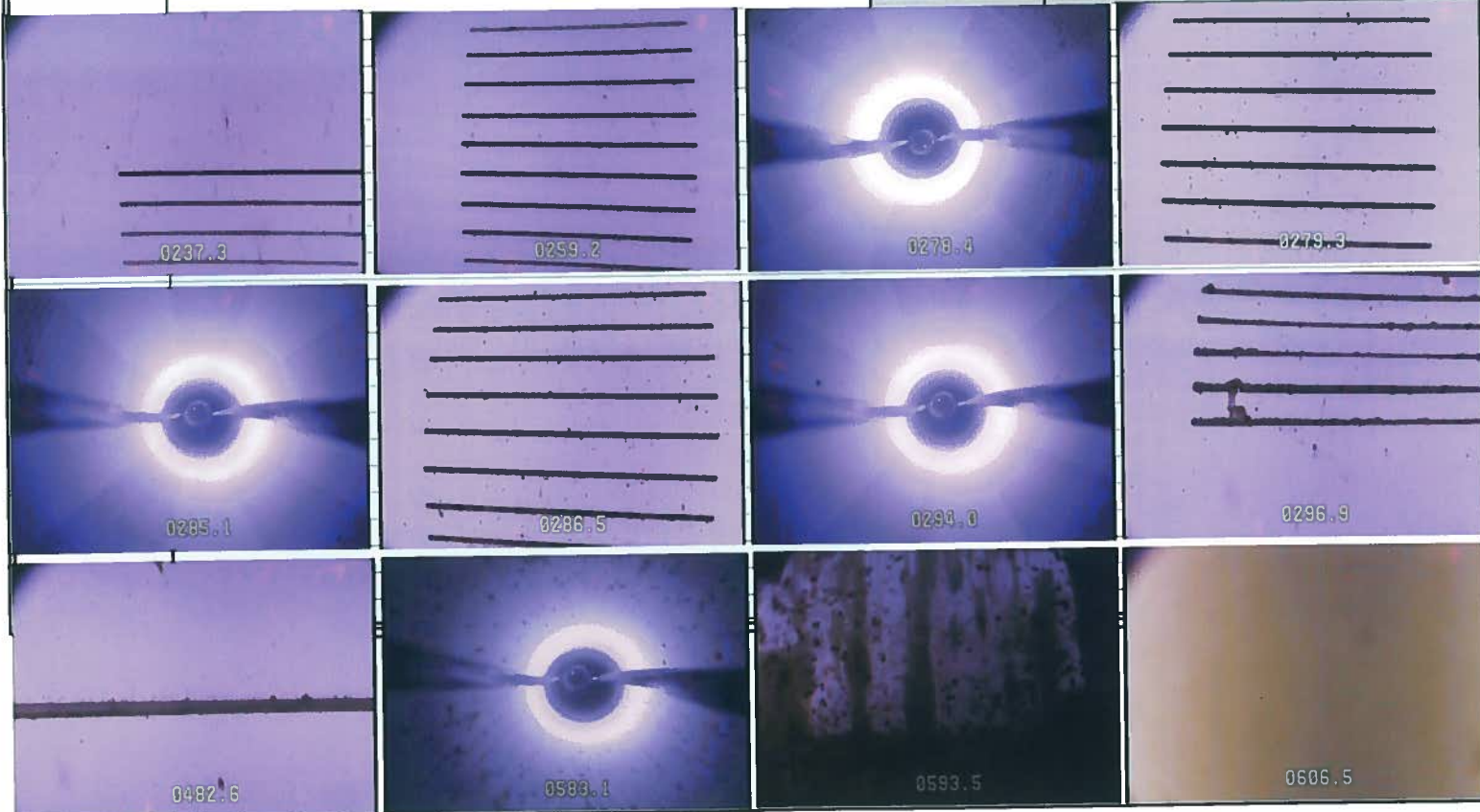
Pacific Surveys

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Video Survey Report

Company: Best Drilling and Pump	Date: 25-Jun-12	Truck: PS-6
Well: CCPA Well 2	Run No.: Two	
Field: Chino	Job Ticket: 16652	
State: California	Total Depth: 608 ft	
	Water Level: 60 ft SWL	
Location: Kimball Ave East of Euclid	Oil on Water: No	Amount: N/A
GPS: N33o 58.022' W117o 38.840'	Operator: Afoh	
Zero Datum: Top of CSG	Side-Scan:	Dead Space: 0"
Reason for Survey: General Inspection	Guides Set @ 3 inches	

Depth	Observations	Perforation	As-Built
0.0 ft	Start survey at top of casing		
59.6 ft	SWL: water is clear with some suspended particles on surface.	Horizontal Mill Slot	235.00 ft to 295.00ft
145.0 ft	Observed some bio-growth on casing wall.		
184.0 ft	Casing appears normal and in good shape.		
237.3 ft	Top of screen: all slots appear open.		
279.3 ft	Fine sediment observed on louvers from 279.3 ft to the bottom of screen.		
296.9 ft	Bottom of screen: entire screen appears open with some fine sediment on louvers and some bio-growth at the bottom of slots.		
482.6 ft	Joint: all joints appear in good shape.		
585.0 ft	Appears to be bio-growth on casing wall.		
593.0 ft	Encountered soft mud in casing.		
608.3 ft	Fill, soft material, end survey.		
		Casing Size	As-Built
		4 in ID	0.00 ft to 600.00ft
		6 in ID	600.00 ft to 605.00ft
		4 in ID	605.00 ft to 610.00ft
		Casing Material	PVC/Stainless Steel
		Screen Material	PVC





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