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Subject:

Well Installation Completion Report
Former Watkins-Johnson Superfund Site
440 Kings Village Road, Scotts Valley, California

Dear Ms. Davila:

On behalf of TriQuint Semiconductor Inc., ARCADIS has prepared this *Well Installation Completion Report* for the former Watkins-Johnson Superfund Site, 440 Kings Village Road, Scotts Valley, California (Site). This report presents the results of the installation of five upgradient monitoring well activities completed as part of the approved *Final Remedy Optimization Work Plan* dated October 26, 2012 and the *Responsiveness Summary-Final Remedy Optimization Work Plan* dated January 28, 2013. The United States Environmental Protection Agency (USEPA) approved the scope of work in a letter dated February 11, 2013. If you have any questions regarding the attached report, please do not hesitate to contact the undersigned.

Please note that soil cores from boring KV-7 remain in boxes onsite pending USEPA approval for disposal. At this time, ARCADIS requests USEPA concurrence that these cores be disposed.

Sincerely,

ARCADIS U.S., Inc.

Liz Sewell
Resource Manager

Enclosure:

Well Installation Completion Report

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Well Installation Completion Report

Former Watkins-Johnson Superfund Site
440 Kings Village Road, Scotts Valley, California

February 13, 2014



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**Well Installation Completion
Report**

Former Watkins-Johnson
Superfund Site

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1. Introduction	1
2. Site Description and Background	1
3. Pre-Field Activities	2
4. Investigation Activities	2
4.1 Deviations from the Work Plan	3
4.2 Soil Boring and Well Installation Activities	4
4.3 Groundwater Sampling	5
4.4 Soil Sampling	6
4.5 Monitoring Well Development	6
4.6 Survey	6
4.7 Waste Characterization, Handling, and Disposal	6
5. Groundwater Gauging Event	7
6. Analytical Results	7
6.1 Groundwater Analytical Results	7
6.2 Soil Analytical Results	8
6.3 Data Validation	8
7. Data Evaluation	8
8. Summary	10
9. References	11

Tables

Table 1	Well Construction Details
Table 2	Groundwater Sample Analytical Results
Table 3	Soil Analytical Results
Table 4	Groundwater Elevation Data

Figures

Figure 1	Site Plan
Figure 2	Cross Section A-A'
Figure 3	Potentiometric Surface Map
Figure 4	PCE Isocontour Map

Appendices

A	USEPA Approval Letter
B	Permits
C	Boring Logs
D	Laboratory Reports and Chain-of-Custody
E	Well Development Logs
F	Survey Data
G	Waste Manifests
H	Data Validation

Acronyms and Abbreviations

µg/L	micrograms per liter
amsl	above mean sea level
bgs	below ground surface
btoc	below top of casing
cis-1,2-DCE	cis-1,2-dichloroethene
HASP	health and safety plan
MCL	maximum contaminant levels
MTBE	methyl tertiary butyl ether
ND	Not Detected
NTU	Nephelometric Turbidity Units
OD	outer diameter
PCE	tetrachloroethene
PID	photoionization detector
PDB	passive diffusion bag
pH	potential hydrogen
ppm	parts per million
PVC	poly vinyl chloride
QA	quality assurance
QAPP	quality assurance project plan
QC	quality control
RWQCB	Regional Water Quality Control Board, Central Coast Region
SAP	sampling and analysis plan
SCCEHD	Santa Cruz County Environmental Health Department
SCM	site conceptual model
SVWD	Scotts Valley Water District
TCE	trichloroethene
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
W-J	Watkins-Johnson

1. Introduction

This *Well Installation Completion Report* (Report) has been prepared on behalf of TriQuint Semiconductor, Inc. by ARCADIS U.S., Inc. (ARCADIS) for the former Watkins-Johnson (W-J) Superfund Site (Site), located at 440 Kings Village Road, Scotts Valley, California (Figure 1). This Report documents the offsite well installation activities associated with the approved *Final Remedy Optimization Work Plan* (Work Plan) dated October 29, 2012. The United States Environmental Protection Agency (USEPA) approved the Work Plan on February 11, 2013 (Appendix A).

Offsite well installation activities were proposed to further delineate the boundaries of Regional Aquifer within the Santa Margarita Formation and to define the extent of tetrachloroethene (PCE) in groundwater to the south of the Site. It should be noted that significant schedule delays of more than six months were encountered during this phase of field work due to securing access agreements from the City of Santa Cruz.

2. Site Description and Background

The Site occupies approximately 43.7 acres of land and has significant topographic relief ranging from 528 to 450 feet above mean sea level (amsl). Three individual structures exist at the Site. One structure (Buildings 1, 2, and 7) is located along the west side of the property and two structures (Buildings 3, 4, and 5; and Buildings 6, 8, and 9) are located along the east side of the property (Figure 1).

The Site has been used for manufacturing since 1960. W-J owned and operated a semiconductor manufacturing facility at the Site from 1963 until 1999. Manufacturing activities continued under several subsequent property owners until the facility was decommissioned in 2011.

Activities conducted at the Site have included research and development, and manufacturing of industrial furnaces and electronic parts. Industrial processes included metal machining, degreasing operations, metal plating, glass cleaning, glass etching, welding, soldering, painting, and photo lab activities. A variety of organic chemicals, inorganic acids and metals associated with the industrial processes have been used at the facility.

3. Pre-Field Activities

Prior to the initiation of field activities, well installation permits were obtained from the Santa Cruz County Environmental Health Department (SCCEHD) and the Scotts Valley Water District (SVWD). Copies of the approved well installation permits are included in Appendix B. Additionally an access agreement was obtained from the City of Santa Cruz.

Field activities were completed in accordance with the site-specific Health and Safety Plan (HASP) and as required by the Occupational Health and Safety Administration Standard Hazardous Waste Operations and Emergency Response guidelines (29 CFR 1910.120). The HASP was reviewed and signed by ARCADIS personnel and subcontractors prior to performing work.

Underground Service Alert North (USA North) was contacted to identify locations of subsurface utilities and Cruz Brothers Locators, of Scotts Valley, California, an underground utility location company, was contracted to clear the drilling locations. Prior to drilling, a hand auger was advanced to a minimum depth of 5 feet below ground surface (bgs) to confirm no utilities were in the path of the drilling equipment.

4. Investigation Activities

Between October 15 and December 13, 2013, ARCADIS oversaw the advancement and installation of five groundwater monitoring wells (KV-5 through KV-9). At each well location, soil borings were continuously cored to:

- Collect local lithology;
- Evaluate low permeability zones which may allow localized perching of groundwater;
- Identify the depth of the regional aquifer within the Santa Margarita Formation;
and
- Ascertain the depth to the top of the underlying Monterey Formation.

ARCADIS collected grab groundwater samples from depth discrete intervals to obtain screening information on groundwater quality. If a water-bearing zone was observed in

shallow soil, a grab groundwater sample was collected and analyzed. Monitoring well locations are presented on Figure 1.

4.1 Deviations from the Work Plan

Several minor deviations from the Work Plan occurred due to site conditions encountered and information obtained during the field activities. The Work Plan proposed: four boring locations on property owned by the City of Santa Cruz; two locations on property owned by the City of Scotts Valley (adjacent to the Scotts Valley Skate Park and northwest of the Post Office); and one location on private property (near SVWD#10). After review of the data collected from the soil borings, the work plan indicated that up to four monitoring wells would be installed using air rotary drilling techniques. The wells were installed sequentially in order to determine the most appropriate location for the next boring. Consequently, not every well location originally proposed was necessary to further delineate the boundaries of the Regional Aquifer or the extent of PCE in the groundwater further to the south. The details of the field program are discussed below.

- Rotosonic drilling techniques were used during this investigation to provide higher quality soil cores for lithologic logging. Rotosonic drilling techniques were previously approved by USEPA in the *Revised Addendum to Quality Assurance Project Plan* dated June 21, 2010.
- A total of five monitoring wells were installed on City of Santa Cruz property based on the presence of PCE in groundwater samples collected during this investigation. The locations of wells on the City of Santa Cruz property were adjusted slightly based on access discussions with the City.
- The proposed well on the City of Scotts Valley property near the Skate Park was not installed based on the low to non-detect PCE concentrations in Well KV-8.
- The proposed well on the City of Scotts Valley property northwest of the Post Office was not installed. Based on a revised interpretation of the regional geology (Section 7 below), the regional aquifer at this location is within the Lompico Formation.
- An additional location northwest of KV-7 was proposed in an email dated November 20, 2013 to further delineate impacts encountered in this well. Access

from the City of Scotts Valley to complete a well at this location has not been obtained at this time.

- The proposed monitoring well located near SVWD#10 well was not installed. This well was originally proposed to allow for the collection of water level measurements in this area and the completion of a transducer survey. Based on a revised interpretation of the regional geology (Section 7 below), this well will not be necessary for the transducer study.

4.2 Soil Boring and Well Installation Activities

ARCADIS supervised Cascade Drilling, LP (Cascade) of West Sacramento, California during the advancement, sampling, and installation of five soil borings/ groundwater monitoring wells (KV-5 through KV-9). Well locations are shown on Figure 1 and well construction details are presented in Table 1.

Drilling and sampling activities were conducted in accordance with the *Addendum to Sampling Analysis Plan – Background Groundwater Assessment* (ARCADIS 2010a) and the *Revised Addendum to Quality Assurance Project Plan* (ARCADIS 2010b). Each location was hand cleared to 5 feet bgs to ensure no underground utilities were present prior to drilling activities. One location KV-7 was moved approximately 10 feet from the original location due to the presence of an unknown underground utility. Once the boreholes were hand cleared, the locations were advanced using sonic drilling technology.

The soil borings were advanced until the contact with the Monterey Formation was observed. Monitoring wells were completed within the same borehole. Once the bottom of the boring was reached the annulus space was backfilled with hydrated bentonite chips to approximately one foot below the bottom of the well screen interval.

Soils encountered during drilling were logged by an ARCADIS field geologist working under the supervision of a California Professional Geologist. Soil borings were continuously cored and logged using the United Soil Classification System and soil color was compared with a Munsell color chart. Soil cores collected from KV-7 were placed in soil boxes and covered to ensure core integrity and allow for USEPA review of the cores prior to disposal. Boring logs are included in Appendix C.

During the drilling, the regional aquifer was encountered at depths between approximately 110 and 173 feet bgs. The Santa Margarita Formation was observed to

consist primarily of varying amounts of fine to coarse sand, ranging in color from light yellowish brown to light gray and interbedded gravel zones. The contact between the Santa Margarita and the Monterey Formation was observed in locations KV-6 through KV-9 between approximately 135 feet bgs and 210 feet bgs. The contact consisted of dark greenish gray to very dark gray silt to cemented sand with little fines. A cross section is presented on Figure 2. In Well KV-5, the regional aquifer is interpreted to be present in the Lompico Formation as discussed below in Section 7.

Monitoring wells were constructed with 4-inch outer diameter (OD), continuous wire-wrapped 0.020-inch slotted screens and a solid Schedule 80 polyvinyl chloride (PVC) riser. The annular space of each well was filled with No. 3 Monterey filter sand pack extending from one-foot below the capped well screen bottom to 5 feet above the top of the screen. A 3-foot hydrated bentonite slurry seal was placed on top of the sand pack. The remaining space was filled with neat cement grout that was tremie piped from the top of the bentonite seal to the surface grade. The wells were then fitted with a locking well cap and a flush-mounted, traffic-rated well box.

4.3 Groundwater Sampling

During the advancement of the soil borings, grab groundwater samples were collected using a Hydropunch™ from saturated portions within the vadose zone and the regional aquifer to obtain screening level information on groundwater quality. At each target interval, the Hydropunch™ was advanced and then retracted to expose the screen and allow groundwater to accumulate in the screened interval. The boreholes remained open for a minimum of 30 minutes to allow sufficient groundwater to accumulate prior to sampling. A stainless steel or disposable bailer was used to collect grab groundwater samples.

A potential perched groundwater zone was observed at KV-8 at 24 feet bgs, and a grab groundwater sample was collected at this location. Regional aquifer grab groundwater samples were collected in all five well locations at multiple depths within the aquifer.

Following monitoring well development (Section 4.5), passive diffusion bags (PDBs) were deployed at multiple depths in KV-5 through KV-9 based on well screen intervals and depth to water measurements. PDB deployment depths are presented in Table 1. The PDBs were allowed to equilibrate with ambient groundwater for a minimum of two weeks prior to removal for the collection of groundwater samples.

The groundwater collected from the bailers and PDBs was decanted into laboratory persevered containers and placed on ice. Sample containers were labeled and packed in ice-chilled coolers and transported to Curtis and Tompkins Laboratory (C&T) in Berkley, California under chain-of-custody protocol. Groundwater samples were analyzed for the presence of volatile organic compounds (VOCs) by USEPA Method 8260B but reported under the 8010 list. Laboratory reports with chain-of-custodies are included in Appendix D. Groundwater analytical results from the grab and PDB samples are presented in Table 2.

4.4 Soil Sampling

Soil sampling was not routinely completed during the installation the well locations; however, one soil sample was collected from KV-7 at 75 feet bgs due to high photoionization detector (PID) readings observed at 72 and 75 feet bgs of 363 and 1,030 parts per million (ppm), respectively. The soil sample was collected in a stainless steel sleeve, labeled, placed in an ice-chilled cooler and sent under chain of custody to C&T laboratory. The soil samples was analyzed for the presence of VOCs by USEPA Method 8260B but reported under the 8010 list. Laboratory reports with chain-of-custodies are included in Appendix D. Soil analytical results are presented in Table 3.

4.5 Monitoring Well Development

ARCADIS oversaw the development of the newly installed monitoring wells on November 5, November 7, November 15, December 6, and December 13, 2013. The development procedures for each well consisted of surging, bailing, and pumping water from each location until a maximum of 10 casing volumes of groundwater were purged. Temperature, pH, conductivity, dissolved oxygen and turbidity were measured during the development. Development logs are included in Appendix E.

4.6 Survey

Newly installed monitoring wells KV-5 through KV-9 were surveyed on November 15, 2013 and December 16, 2013 by Muir Consulting, Inc., of Oakdale, California, a licensed surveyor. Survey information is included in Appendix F.

4.7 Waste Characterization, Handling, and Disposal

Investigated-derived waste from soil cuttings generated during the drilling operations was temporarily stored on site in Department of Transportation approved soil bins. The

waste and accompanying manifest documentation was transported to an off-site licensed disposal facility following characterization. Waste manifests generated from the soil bin removal are included in Appendix G.

Soil cores from KV-7 remain in boxes onsite pending USEPA approval for disposal. At this time, ARCADIS requests USEPA concurrence that these cores be disposed.

The rinsate water generated during the drilling and development operations were temporarily stored on-site in a baker tank and then treated through the on-site groundwater extraction and treatment system.

5. Groundwater Gauging Event

ARCADIS conducted a groundwater gauging event on January 9, 2014 in wells KV-1 through KV-9, WJ-11, WJ-41, WJ-43, WJ-37A, and EX-1. Groundwater elevations and depth to water data are listed in Table 4, and a potentiometric surface map showing the groundwater flow direction and gradient is presented in Figure 3. Depth to groundwater ranged from 109.06 feet below the top of casing (btoc) at KV-7 to 174.38 feet btoc at WJ-41. The groundwater elevations ranged from 408.78 feet amsl at KV-7 to 349.27 feet amsl WJ-41. The groundwater flow direction in the expanded study area is toward the northeast at a gradient of 0.063 feet per foot (ft/ft).

6. Analytical Results

6.1 Groundwater Analytical Results

Groundwater analytical results from grab samples and PDBs in wells KV-5 through KV-9 are presented in Table 2. Figure 4 presents the most recent detected concentrations of PCE for the W-J wells and the Scotts Valley Dry Cleaners wells.

Grab groundwater results indicated the following:

- PCE concentrations in monitoring wells KV-6, KV-7, and KV-9 were above the site remediation goal of 5 micrograms per liter ($\mu\text{g/L}$), ranging from 10 $\mu\text{g/L}$ (KV-9 at 135 feet bgs) to 58 $\mu\text{g/L}$ (KV-7 at 107 feet bgs).
- TCE concentrations were below the remediation goal of 5 $\mu\text{g/L}$, ranging from 0.6 $\mu\text{g/L}$ (KV-7 at 107 feet bgs) to 2.1 $\mu\text{g/L}$ (KV-6 at 124 feet bgs).

- Cis-1,2-DCE was detected below the remediation goal of 6 µg/L at a concentration of 0.8 µg/L in KV-6 at 124 feet bgs.

PDB sample results for the newly installed wells indicated the following:

- PCE concentrations above the remediation goal ranged from 17 µg/L (KV-9 at 148 feet bgs) to 60 µg/L (KV-7 at 115 feet bgs).
- Well locations KV-5 and KV-8 were non-detect for PCE at all PDB depths.
- TCE concentrations were below the remediation goal, ranging from 0.6 µg/L (KV-7 at 115 feet bgs) to 2.7 (KV-7 at 125 feet bgs).
- Cis 1,2-DCE was detected at two well locations below the remediation goal: KV-6 at 133 feet bgs and KV-7 at 125 feet bgs at a concentration of 0.8 µg/L.
- No other analytes were detected above reporting limits.

6.2 Soil Analytical Results

The soil sample collected from location KV-7 was non-detect for all analytes. Analytical results are presented on Table 3 and laboratory data with chain-of-custody are included in Appendix D.

6.3 Data Validation

Analytical data were reviewed for quality assurance and quality control parameters. Data validation results are included in Appendix H.

7. Data Evaluation

ARCADIS has recently completed several scopes of work to further delineate the Regional Aquifer and the extent of PCE in groundwater to the south of the site. The results of recent investigation activities are presented in the *Geophysical Investigation Summary Report* (ARCADIS 2013), *Extraction Well Installation and Pumping Test Summary Report* (ARCADIS 2014) and this *Well Installation Completion Report*.

The Work Plan (ARCADIS 2012) included a Site Conceptual Model (SCM) with the interpretation that a northeast-southwest trending fault was located in the vicinity of

KV-3, and that this fault offset the contact between the Monterey and Santa Margarita Formations between wells KV-2 and KV-3. The SCM interpreted, in a very general sense, that on the downthrown (west) side of the fault, the thickness of the Santa Margarita Formation is 200 feet or more; on the upthrown (east) it is less than 80 feet. On the downthrown (west) side of the fault, the bottom 20 to 50 feet of Santa Margarita Formation is saturated; on the upthrown (east) side of the fault, the Santa Margarita Formation is largely unsaturated.

Based on lithologic logging conducted during this investigation, the recent geophysical investigations, aquifer pump testing, and discussions with Mike Cloud, County of Santa Cruz hydrogeologist, ARCADIS re-interpreted groundwater in well KV-4 to be present within the Lompico Formation rather than within the Santa Margarita Formation (ARCADIS 2013). Additionally, the contact between the Santa Margarita and the Lompico Formation in the vicinity of KV-4 is interpreted to be a depositional unconformity rather than a fault.

These interpretations are consistent with the unpublished County of Santa Cruz SCM of local and regional geology. As noted in the Work Plan SCM, there are areas to the south of the Site where the Monterey Formation is missing and the Santa Margarita Formation directly overlies the uplifted and eroded members of the Lompico Formation. The Lompico consists of sequences of coarse and fine grained members. This complexity in deposition and permeabilities, combined with increasing elevations of the Lompico surface beneath the surrounding landscape, results in a highly variable water levels between members. Monitoring wells KV-3, KV-4, and KV-5 are completed in the Lompico, and wells KV-3 and KV-4 in different members. This SCM provides a consistent interpretation for water level differences between, KV-3 and KV-4, as well as why changes in pumping in the Lompico do not change the water table in the Santa Margarita.

Groundwater elevations are greater than 50 feet higher in well KV-7 than in other wells installed during this investigation and in onsite wells. KV-7 appears to have similar groundwater elevations to deep wells located at the Scotts Valley Dry Cleaners including MW-22A.

The PCE plume appears to be connected between the W-J onsite wells, the southernmost KV wells installed during this investigation, and the deep wells installed near the Scotts Valley Dry Cleaners. The general trend in PCE concentrations in the Santa Margarita are increasing southward. It should be noted that many of the wells on

the Scotts Valley Dry Cleaners site southwest of KV-7 are installed in a shallow perched groundwater zone and are not deep enough to evaluate delineation.

8. Summary

The primary objectives of the offsite well installation activities were to delineate the PCE plume south of the Site, evaluate the boundaries of Regional Aquifer within the Santa Margarita Formation, and provide supporting data to optimize the remedy. The installation and groundwater sampling of the five offsite monitoring wells KV-5 through KV-9 has completed these objectives.

- The highest concentration of PCE in groundwater (60 µg/L) was detected in KV-7 at the PDB depth of 115 feet bgs. This is higher than any current PCE concentration at the W-J site.
- The highest concentration of TCE was collected at KV-7 at depth of PDB depth of 125 feet bgs at a concentration of 2.7 µg/L. This concentration is similar to recent concentrations detected in other W-J wells including WJ-41, KV-2, and KV-3.
- PCE concentrations decrease with depth in all well locations.
- Cis-1,2-DCE was detected two well locations (KV-6 at 133 feet bgs and KV-7 at 125 feet bgs) at 0.8 µg/L. Cis-1,2-DCE has typically not been observed in other wells associated with the W-J site.
- Groundwater flow direction is towards the northeast at a gradient 0.063 ft/ft. Groundwater is captured by pumping well RA-2 on the W-J site.



Well Installation Completion Report

Former Watkins-Johnson
Superfund Site

9. References

ARCADIS 2012. Final Remedy Optimization Work Plan. Watkins-Johnson Superfund Site. October 29.

ARCADIS 2013. Geophysical Investigation Summary Report. Former Watkins-Johnson Superfund Site. December 19.

ARCADIS 2014. Extraction Well Installation and Pumping Test Summary Report. Watkins-Johnson Superfund Site. February 7.

Tables

Table 1
Well Construction Details
Former Watkins-Johnson Superfund Site
Scotts Valley, California
Well Installation Completion Report

Well Number	Aquifer Zone	Date Completed	Depth Drilled (ft bgs)	Depth Completed (ft bgs)	Depth of Screened Interval (ft bgs)	Concrete Seal (ft bgs)	Bentonite Seal (ft bgs)	Sand Interval (ft bgs)	Elevation of TOC (ft amsl)	Casing ID (inches)	Borehole Diameter (inches)	PDB Placement (ft bgs)
REGIONAL ZONE												
<i>Groundwater Monitoring Wells</i>												
KV-5	Regional	12/11/2013	149	136	115-135	0-107	107-110	110-136	517.49	4	10	128
KV-6	Regional	11/4/2013	143	137	107-137	0-99	99-102	102-138	516.85	4	10	125,133
KV-7	Regional	10/29/2013	170	137	97-137	0-89	89-92	92-140	517.84	4	10	115, 125, 135
KV-8	Regional	11/13/2013	210	198	158-198	0-150	150-153	153-199	524.29	4	10	174, 185, 195
KV-9	Regional	12/4/2013	168	155	125-155	0-117	117-120	120-156	522.17	4	10	138, 148
EX-1	Regional	9/16/2013	175	170	125-170	0-116	116-117	117-175	470.89	6	12	125, 145

Notes:

- PDB Passive Diffusion Bag
- ft bgs feet below ground surface
- ft amsl feet above mean sea level
- TOC Top of Casing
- ID Inner Diameter

Table 2
Groundwater Sample Analytical Results

Former Watkins-Johnson Superfund Site
Scotts Valley, California
Well Installation Completion Report

Regional Monitoring Well	Sample ID	Sample Depth	Sample Date	PCE µg/L	TCE µg/L	1,1-DCE µg/L	1,1-DCA µg/L	cis-1,2-DCE µg/L	CFM µg/L	Freon 113 µg/L	1,1,1-TCA µg/L	1,1,2-TCA µg/L
Remediation Goal (µg/L) ^a				5	5	6	5	6	100	---	200	32
Perched Groundwater Sample Collected During Well Installation Activities												
KV-8	KV-8-GW-24	24	11/06/13	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
Regional Grab Groundwater Samples Collected During Well Installation Activities												
KV-5	KV-5-GW-010914	---	01/09/14	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
KV-6	KV-6-GW-124	124	11/04/13	58	2.1	<0.5	<0.5	0.8	<1.0	<2.0	<0.5	<0.5
KV-7	KV-7-GW-107	107	10/22/2013	55	0.6	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
KV-8	KV-8-GW-168	168	11/12/13	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
	KV-8-GW-172	172	11/11/13	1.7	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
KV-8	KV-8-20131115	---	11/15/13	1.1	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
	KV-9	KV-9-GW-135	135	12/02/13	10	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
Regional Groundwater Samples Collected Using PDBs ^{**}												
KV-5	KV-5-GW-126	126	12/10/2013	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
KV-6	KV-6 @ 125	125	11/27/13	25	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
	KV-6 @ 133	133	11/27/13	24	2.4	<0.5	<0.5	0.8	<1.0	<2.0	<0.5	<0.5
KV-7	KV-7 @ 115	115	11/27/2013	60	0.6	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
	KV-7 @ 125	125	11/27/2013	42	2.7	<0.5	<0.5	0.8	<1.0	<2.0	<0.5	<0.5
	KV-7 @ 135	135	11/27/2013	20	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
KV-8	KV-8-GW-174	174	01/09/14	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
	KV-8-GW-185	185	01/09/14	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
	KV-8-GW-195	195	01/09/14	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
KV-9	KV-9-GW-138	138	01/09/14	18	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5
	KV-9-GW-148	148	01/09/14	17	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<0.5	<0.5

Notes:

Analyses performed by Curtis & Tompkins Ltd., Berkeley, California.

Selected purgeable halocarbons analyzed by United States Environmental Protection Agency (USEPA) Method 8260B.

BOLD results are above remediation goal.

All other analytes sampled and analyzed are presented in the laboratory report

- ^a Remediation goal established in the Environmental Protection Agency *Record of Decision* date June 29, 1990.
- PCE tetrachloroethene
- TCE trichloroethene
- 1,1-DCE 1,1-dichloroethene
- 1,1-DCA 1,1-dichloroethane
- cis-1,2-DCE cis-1,2-dichloroethene
- CFM chloroform
- 1,1,1-TCA 1,1,1-trichloroethane
- 1,1,2-TCA 1,1,2-trichloroethane
- µg/L micrograms per liter
- < Not detected at or above laboratory detection limit as noted.
- data not available
- PDB Passive Diffusion Bag
- ** Sampling conducted using PDB bags that were allowed to equilibrate for a minimum of 2 weeks prior to sampling.

Table 3
Soil Analytical Results

Former Watkins-Johnson Superfund Site
Scotts Valley, California
Well Installation Completion Report

Regional Monitoring Well	Sample ID/Depth (ft bgs)	Sample Date	PCE µg/Kg	TCE µg/Kg	1,1-DCE µg/Kg	1,1-DCA µg/Kg	cis-1,2-DCE µg/Kg	CFM µg/Kg	Freon 113 µg/Kg	1,1,1-TCA µg/Kg	1,1,2-TCA µg/Kg
KV-7	KV-7-75	10/17/2013	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8

Notes:

Analyses performed by Curtis & Tompkins Ltd., Berkeley, California.

- PCE tetrachloroethene
- TCE trichloroethene
- 1,1-DCE 1,1-dichloroethene
- 1,1-DCA 1,1-dichloroethane
- cis-1,2-DCE cis-1,2-dichloroethene
- CFM chloroform
- 1,1,1-TCA 1,1,1-trichloroethane
- 1,1,2-TCA 1,1,2-trichloroethane
- µg/kg micrograms per kilogram
- < Not detected at or above laboratory detection limit as noted.
- ft bgs feet below ground surface

Table 4
Groundwater Elevation Data

Former Watkins-Johnson Superfund Site
Scotts Valley, California
Well Installation Completion Report

Monitoring Well	Date	TOC Elevation (feet amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)
EX-01	1/9/2014	470.89	120.48	350.41
KV-1	1/9/2014	526.51	175.37	351.14
KV-2	1/9/2014	527.70	176.68	351.02
KV-3	1/9/2014	528.19	127.89	400.30
KV-4	1/9/2014	527.69	175.46	352.23
KV-5	1/9/2014	517.49	118.46	399.03
KV-6	1/9/2014	516.85	121.88	394.97
KV-7	1/9/2014	517.84	109.06	408.78
KV-8	1/9/2014	524.29	171.50	352.79
KV-9	1/9/2014	522.17	134.11	388.06
WJ-11	1/9/2014	470.22	119.92	350.30
WJ-37A	1/9/2014	465.28	115.13	350.15
WJ-41	1/9/2014	523.65	174.38	349.27
WJ-43	1/9/2014	470.19	120.07	350.12

Notes:

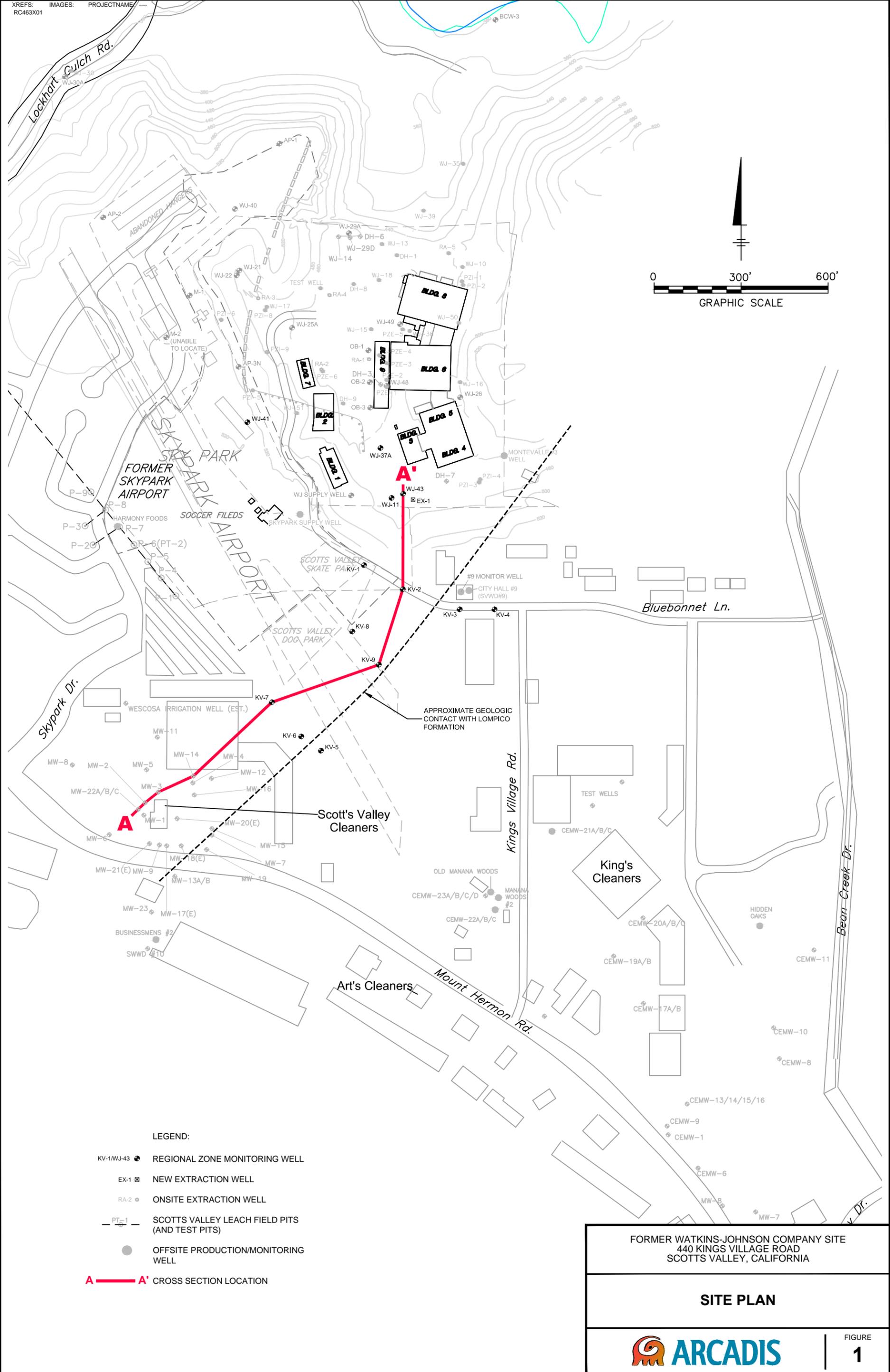
ft btoc feet below top of casing
ft amsl feet above mean sea level

Muir Consulting conducted the survey for the newly installed wells on November 15 and December 16, 2013.

ARCADIS

Figures

XREFS: IMAGES: PROJECTNAME/ RC463X01



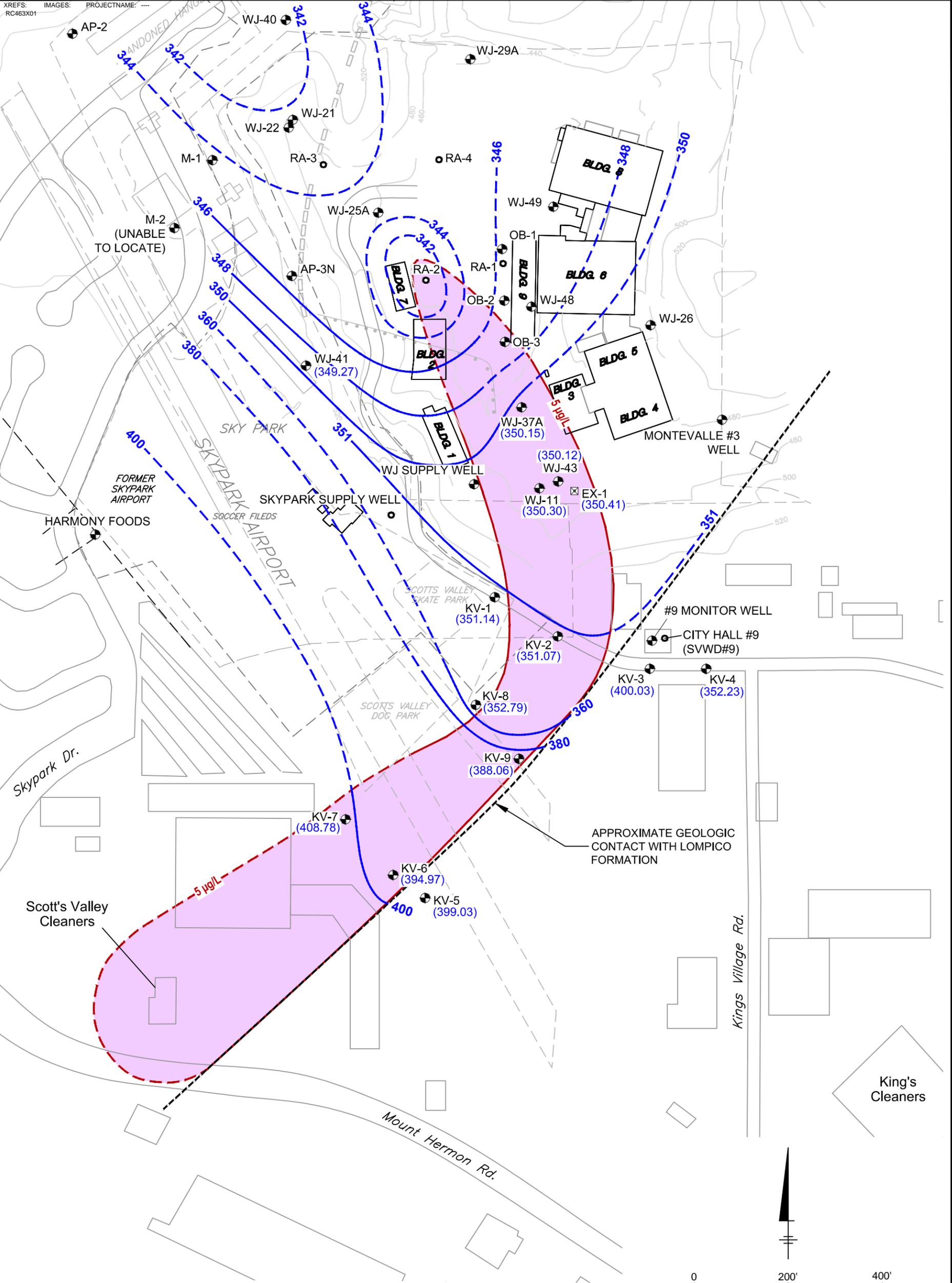
- LEGEND:**
- KV-1/WJ-43 ● REGIONAL ZONE MONITORING WELL
 - EX-1 ▣ NEW EXTRACTION WELL
 - RA-2 ● ONSITE EXTRACTION WELL
 - PT-1 - - SCOTT'S VALLEY LEACH FIELD PITS (AND TEST PITS)
 - OFFSITE PRODUCTION/MONITORING WELL
 - A — A'** CROSS SECTION LOCATION

FORMER WATKINS-JOHNSON COMPANY SITE
 440 KINGS VILLAGE ROAD
 SCOTT'S VALLEY, CALIFORNIA

SITE PLAN

ARCADIS

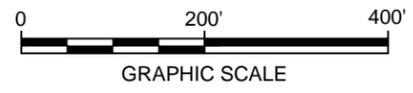
FIGURE
1



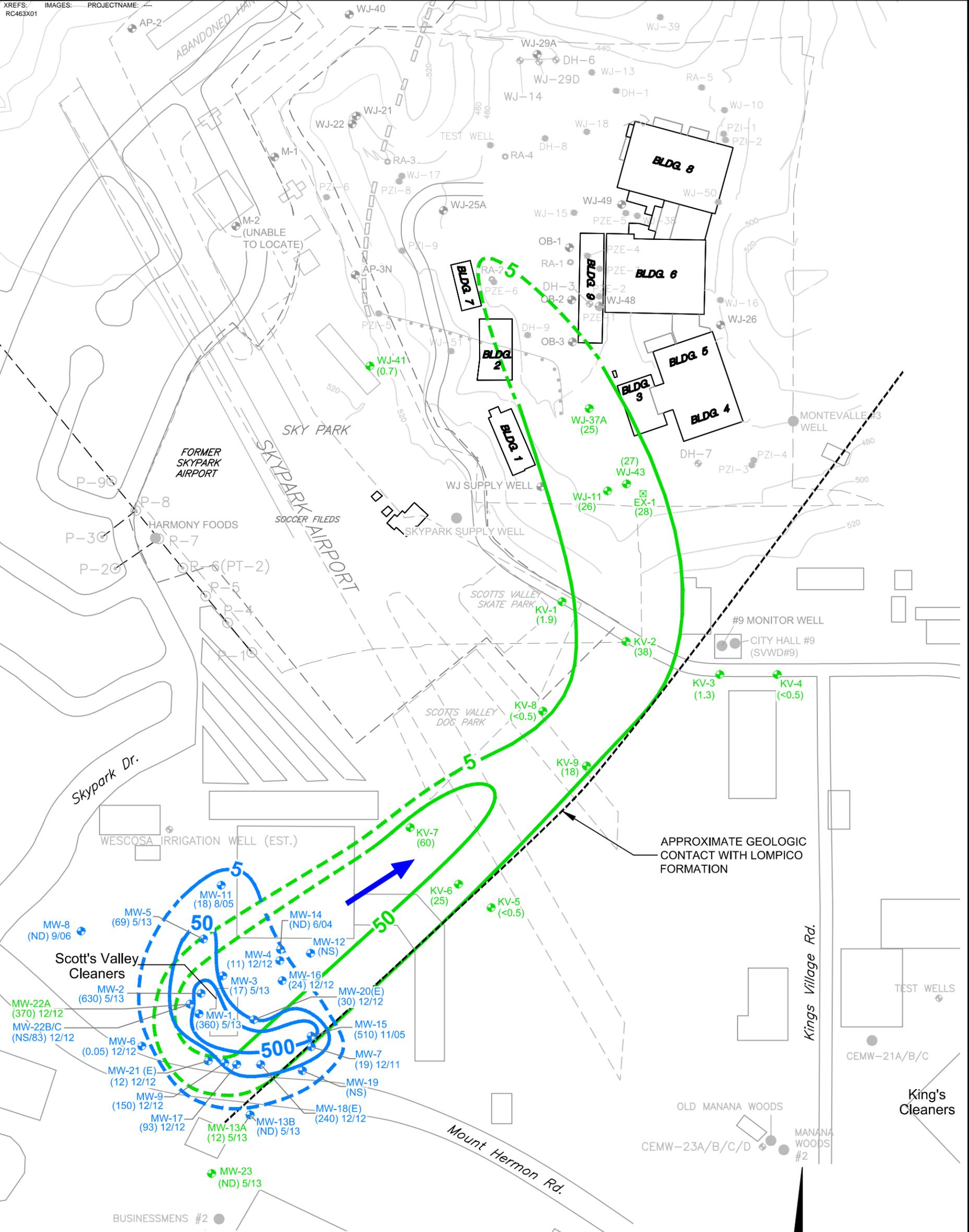
LEGEND:

- KV-1/WJ-43 ● REGIONAL ZONE MONITORING WELL
- EX-1 ☒ ONSITE EXTRACTION WELL
- RA-2 ● EXTRACTION WELL
- PARCEL BOUNDARY
- (408.78) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (1/19/2012)
- GROUNDWATER ELEVATION CONTOUR
- ESTIMATED WATER LEVEL BASED ON 2012 ASSESSMENT

- PCE ISOCONCENTRATION CONTOUR (5 µg/L)
- PCE TETRACHLOROETHENE
- µg/L MICROGRAMS PER LITER

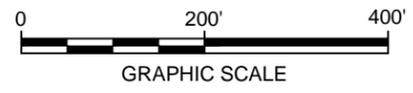


FORMER WATKINS-JOHNSON SUPERFUND SITE 440 KINGS VILLAGE ROAD SCOTT'S VALLEY, CALIFORNIA	
GROUNDWATER ELEVATION CONTOUR MAP - SANTA MARGARITA FORMATION	
ARCADIS	FIGURE 2



LEGEND:

- | | | | |
|--|---|--|-----------------------------------|
| + KV-5 | REGIONAL ZONE MONITORING WELL (DEEP) | (370) | DEEP PCE CONCENTRATION IN µg/L |
| + MW-9 | REGIONAL ZONE MONITORING WELL (SHALLOW) | (32) | SHALLOW PCE CONCENTRATION IN µg/L |
| + EX-1 | ONSITE EXTRACTION WELL (DEEP) | 12/12 | DATE SAMPLED |
| ● RA-2 | EXTRACTION WELL | --- | DEEP WELL PCE CONCENTRATION |
| --- | PARCEL BOUNDARY | --- | SHALLOW WELL PCE CONCENTRATION |
| -PT-1- | SCOTT'S VALLEY LEACH FIELD PITS (AND TEST PITS) | → | GROUNDWATER FLOW DIRECTION |
| ● | OFFSITE PRODUCTION/MONITORING WELL | | |
| PCE | TETRACHLOROETHENE | | |
| µg/L | MICROGRAMS PER LITER | | |
| ND | NON-DETECT | | |
| NS | NOT SAMPLED | | |



FORMER WATKINS-JOHNSON SUPERFUND SITE
 440 KINGS VILLAGE ROAD
 SCOTT'S VALLEY, CALIFORNIA

PCE ISOCONTOUR MAP

FIGURE
4



Appendix A

USEPA Approval Letter



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

February 11, 2013

Mr. Joseph Pugh
Legal Counsel
TriQuint Semiconductor, Inc.
2300 NE Brookwood Parkway
Hillsboro, Oregon 97124

RE: Approval of the *Final Remedy Optimization Work Plan*; Watkins-Johnson Superfund Site

Dear Mr. Pugh:

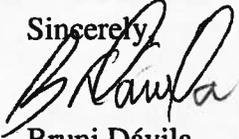
The US Environmental Protection Agency, Region 9 (EPA), hereby approves, with the exception of Section 2, "Site History and Background," Watkins-Johnson's¹ (W-J) submission entitled "Final Remedy Optimization Workplan" and dated October 29, 2012 (Final RO Workplan), as modified by W-J's response to EPA's comments e-mailed to W-J on November 7, 2012 (11/7/12 Comments). As directed by EPA in its 11/7/12 Comments, W-J documented in a responsiveness summary in the form of a letter dated January 28, 2013, and attached errata sheets, its response to EPA's 11/7/12 Comments on the Final RO Workplan, as well its response to EPA's comments on the draft Remedy Optimization Work Plan dated February 9, 2012 (Draft RO Workplan) forwarded to W-J under cover of a letter dated August 31, 2012.

EPA notified W-J in its 11/7/12 Comments that it disagreed with W-J's statement in its transmittal letter to the Final RO Workplan that the site history section of the Draft RO Workplan is accurate. EPA further noted that, given W-J's position on the accuracy of the text in Section 2, it anticipated excluding Section 2 from its approval of the Final RO Workplan. Consistent with its 11/7/12 Comments, as noted in the preceding paragraph, EPA has excluded Section 2 from its approval of the Final RO Workplan.

Please submit an updated fieldwork schedule at least two weeks in advance of mobilization so that, at EPA's discretion, appropriate EPA staff can be present during the fieldwork activities.

¹The Watkins-Johnson Company is signatory to Consent Decree C91 20423 (SW EAI), Section III of which provides that the "Consent Decree shall apply to and be binding upon . . . Defendant [Watkins-Johnson Company], its successors and assigns." TriQuint Semiconductor is the current successor entity; it acquired WJ Communications, the first successor entity to the Watkins-Johnson Company. For ease of reference, we simply refer to "Watkins-Johnson."

If you have any questions, please contact me at 415-972-3162 or at davila.brunilda@epa.gov.

Sincerely,

Bruni Dávila
Remedial Project Manager
Superfund Division

Mr. Joseph Pugh
May 24, 2010
Page 2

cc:

Mr. Stuart Block
Cox, Castle & Nicholson
555 California Street, 10th Floor
San Francisco, CA 94104-1513

Ms. Barbara Cook
CalEPA Department of Toxic Substances Control
70 Heinz Avenue, Building 200
Berkeley, CA 94710

Dr. Wei Liu
California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

Mr. Charles McNiesh
Scotts Valley Water District
PO Box 660006
2 Civic Center Drive
Scotts Valley, CA 95060

Mr. Scott Carson
Santa Cruz County Environmental Health
701 Ocean Street, Room 312
Santa Cruz, CA 95060

Mr. Dale Spencer
AVIZA Technology
440 Kings Village Road
Scotts Valley, CA 95066

Mr. Marc Gottschalk, Esq.
Wilson Sonsini Goodrich & Rosati
650 Page Mill Road
Palo Alto, CA 94304

Mr. Richard Collins
ARCADIS
950 Glenn Drive, Suite 125
Folsom, CA 95630

Ms. Liz Sewell
ARCADIS
950 Glenn Drive, Suite 125
Folsom, CA 95630

Mr. Scott Potter
ARCADIS
950 Glenn Drive, Suite 125
Folsom, CA 95630

Eric Esler/EPA (electronic)

Herb Levine/EPA (electronic)

Lynn Suer/EPA (electronic)



Appendix B

Permits



Scotts Valley Water District
 P.O. BOX 660006 · SCOTTS VALLEY, CA 95067-0006
 Office Address 2 CIVIC CENTER DR, SCOTTS VALLEY, CA 95066
 Phone: (831) 438-2363 · Fax: (831) 438-6235
 contact@svwd.org

WELL INSTALLATION AND DESTRUCTION PERMIT APPLICATION

APPLICANT Katie Wynne Phone: 916.985.2079 ext 33

MAILING ADDRESS: 950 Glenn Drive; Suite 125, Folsom, CA 95630

WELL ADDRESS: Skypark Property - adjacent to 361 Kings Village Road, Scotts Valley, CA

APN: 022-721-07 ; 022-721-08; 022-721-09

DATE OF WORK: 10/14/13

DESCRIPTION OF WORK: Installation of monitoring wells in association with 440 Kings Village Road Site.

(attach sketch and construction details) See Attached Site Plan.

PROPOSED USE:	Domestic	Landscape	Commercial	<u>Not Applicable</u>
PROPOSED SIZE:	<u>4</u> (Diameter)	<u>~200</u> (Depth)	<u> </u> (est. gpm)	<u> </u> (est. gpm)

WELL DRILLER: *[Signature]*

LICENSE NO: 938110 LICENSE EXPIRES: 09/30/13

WELL DRILLER'S ADDRESS: 3000 Duluth St
West Sacramento, CA 95691 Well Driller's Phone No: 916-638-1169

FEE SCHEDULE: FILING FEE PER WELL: \$ 100.00
 NUMBER OF WELLS: X 5
 TOTAL DUE: = \$ 500.00

NOTES:

1. Applicant must submit completed application and application fee for each well (or a single application plus fee for a group of site borings) at least seven (7) days prior to anticipated drilling date and confirm drilling time and date with inspector at least 48 hours prior to drilling.
2. Applicant must comply with any attached well regulations in addition to the California Well Standards as published in DWR Bulletins 74-81 and 74-90, as well as any DWR supplements or updates to these bulletins.
3. A backflow prevention device is required for new water wells if the parcel is also served by SVWD.
4. The Applicant is to attach a site map showing proposed well and/or boring location(s).
5. If applying for a well destruction, the Applicant shall attach any available information concerning the construction, including the original well driller's report.
6. Well Drilling Contractor must provide the Well Completion Report (Form DWR 188) to District within thirty (30) days of well completion. If permit is for well borings only, a copy of soil boring logs and map showing final boring locations prepared by the Soil Engineer may be substituted to satisfy this requirement.
7. If permit is for soil borings, only, applicant agrees to provide a copy of resulting soil report to District within thirty (30) days of completion.
8. If permit is for monitoring wells, applicant must provide copy of installation report to District.
9. Applicant must provide copies of all inorganic, organic, bacteriological and/or mineral analyses of well water and/or soil samples to District.
10. For new water wells, applicant must install a one-inch (1") fitting and PVC sounding tube, with plug, for future water level measurements.
11. For new water wells, applicant agrees to allow access to SVWD for quarterly water level measurements and sample collections.
12. For new monitoring wells, applicant agrees to provide copies of any future monitoring data (water quantity, water level, etc.) to SVWD.

SPECIAL CONDITIONS:

APPLICANT'S SIGNATURE:

Kate P. [Signature]

PROPERTY OWNER'S SIGNATURE:

[Signature]

WELL DRILLER'S SIGNATURE:

[Signature]

Approved:
SCOTTS VALLEY WATER DISTRICT

William O'Brien
General Manager

9/25/13
(date)

BY [Signature] 9-10-13
CITY ATTORNEY

SEP 23 2013

SANTA CRUZ COUNTY HEALTH SERVICES AGENCY - ENVIRONMENTAL HEALTH SERVICE - 701 OCEAN ST, RM 312, SANTA CRUZ, CA 95060 (831) 454-2022

APPLICATION FOR SITE-MITIGATION-PROGRAM WELL PERMIT

New Replacement Supplemental Destruction Other WELL NUMBER: KV-5

022-721-08, 022-721-09 Well APN 022-721-07 Site Mit Case APN (if diff.)

Well Site Address Vacant lot next to 380 Kings Village Road, Scotts Valley, CA "Skypark Property"

Well Site Property Owner City of Santa Cruz Address (if diff.) 337 Locust Street, Santa Cruz, CA 95060

Site Mit Case Address (if different) 440 Kings Village Rd, Scotts Valley

Consultant ARCADIS U.S., Inc. Address 2000 Powell Street, Suite 700, Emeryville, CA

Drilling Contractor Cascade Drilling License # 938110 Phone 916-638-1169

Mail Correspondence To: Katherine Brandt: 2000 Powell Street, Suite 700, Emeryville, CA

WELL INFORMATION (Complete for All Permit Applications):

WELL TYPE (check all that apply) WELL CONSTRUCTION METHOD WELL SPECIFICATIONS WELL CASING SPECIFICATIONS DISTANCE FROM WELL TO (ft.):

WELL SETTING (Complete for all Permit Applications):

WITHIN WATER DISTRICT SERVICE AREA? OTHER WELLS ON PROPERTY? CONDITION OF OTHER WELLS ON PROPERTY: Attach 2 copies of a plot plan (see attached for requirements)

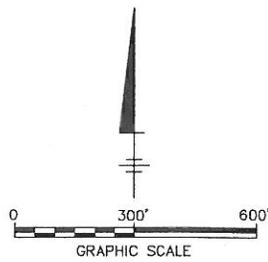
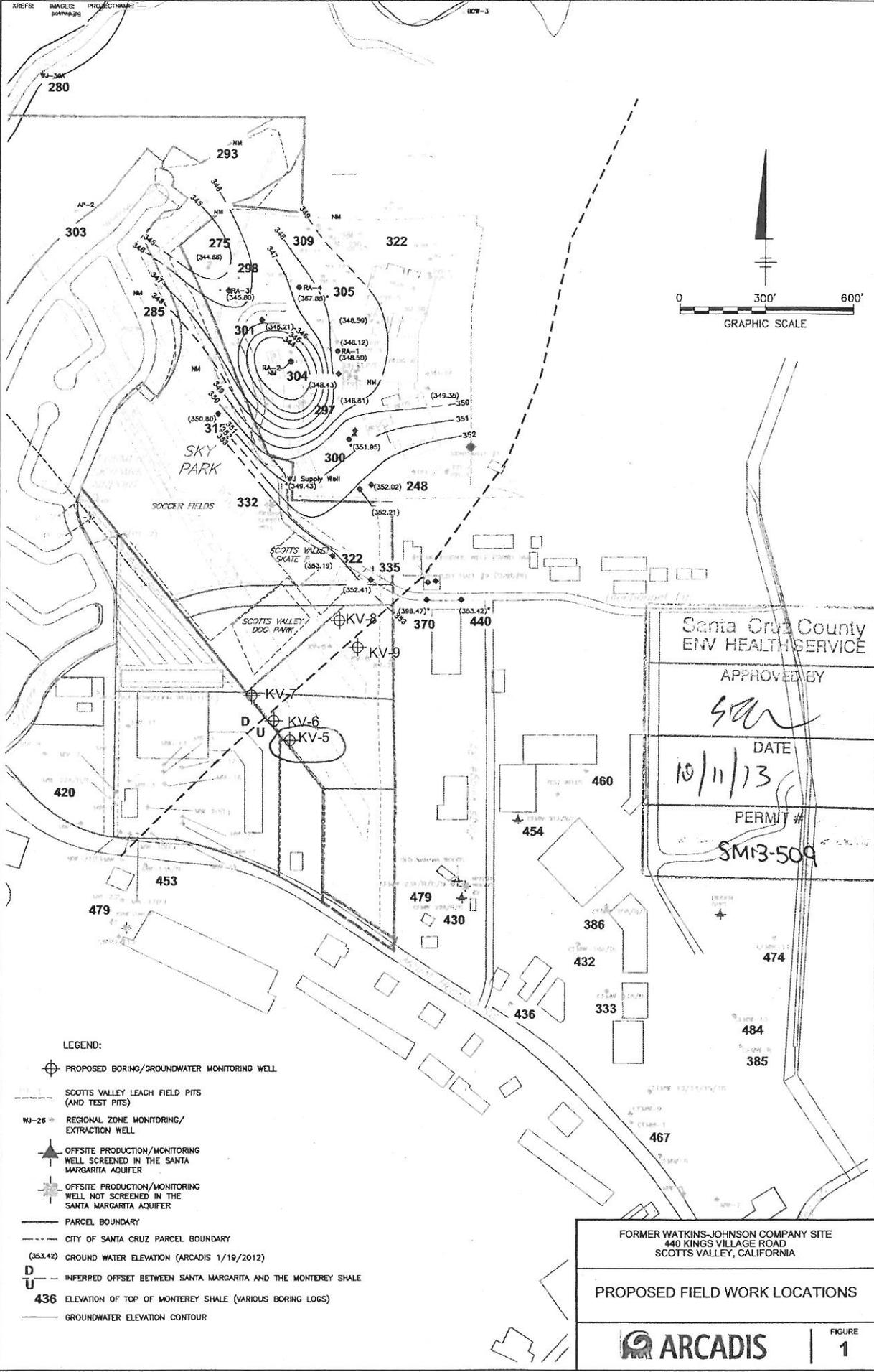
ADDITIONAL WELL DESTRUCTION INFORMATION: Proposed Destruction Method: Attach original well construction log and a description of the proposed destruction method.

WORKER'S COMPENSATION CERTIFICATE A CURRENTLY EFFECTIVE CERTIFICATION OF WORKERS COMPENSATION INSURANCE FOR THE DRILLER IS ATTACHED OR ON FILE WITH EHS, INSURANCE CARRIER Alaska National POLICY # 12JWD30544 351

Signees agree to the following statements: I hereby agree to comply with all laws and regulations of the County of Santa Cruz and State of California pertaining to wells, and declare under penalty of perjury the information submitted on this application is true and correct. I will notify EHS at least 5 business days prior to commencing work. Within 60 days after completion of work, I will furnish EHS with a report of the work performed. I understand this permit expires one year from date of issuance. Signatures: WELL SITE PROP. OWNER DRILLING CONTRACTOR

FOR DEPARTMENT USE ONLY: INITIAL SITE INSPECTION APPLICATION APPROVAL INSTALLATION INSPECTION RECEIPT OF WELL LOG FINAL DATE EHS SPECIALIST SEAL PLACEMENT WITNESSED: DATE DEPTH SEAL MATERIAL APPROVED AS TO FORM BY CITY ATTORNEY

COMMENTS: 09/25/2013 000000 \$320.00 CHECK 1 \$320.00



- LEGEND:
- PROPOSED BORING/GROUNDWATER MONITORING WELL
 - SCOTTS VALLEY LEACH FIELD PITS (AND TEST PITS)
 - REGIONAL ZONE MONITORING/EXTRACTION WELL
 - OFFSITE PRODUCTION/MONITORING WELL SCREENED IN THE SANTA MARGARITA AQUIFER
 - OFFSITE PRODUCTION/MONITORING WELL NOT SCREENED IN THE SANTA MARGARITA AQUIFER
 - PARCEL BOUNDARY
 - CITY OF SANTA CRUZ PARCEL BOUNDARY
 - (353.42) GROUND WATER ELEVATION (ARCADIS 1/19/2012)
 - D U — INFERRED OFFSET BETWEEN SANTA MARGARITA AND THE MONTEREY SHALE
 - 436 ELEVATION OF TOP OF MONTEREY SHALE (VARIOUS BORING LOGS)
 - GROUNDWATER ELEVATION CONTOUR

Santa Cruz County ENV HEALTH SERVICE	
APPROVED BY	
DATE	10/11/13
PERMIT #	SM13-509

FORMER WATKINS-JOHNSON COMPANY SITE
 440 KINGS VILLAGE ROAD
 SCOTTS VALLEY, CALIFORNIA

PROPOSED FIELD WORK LOCATIONS

ARCADIS | FIGURE 1

SEP 23 2013

SANTA CRUZ COUNTY HEALTH SERVICES AGENCY - ENVIRONMENTAL HEALTH SERVICE - 701 OCEAN ST, RM 312, SANTA CRUZ, CA 95000 (831) 464-2022

APPLICATION FOR SITE-MITIGATION-PROGRAM WELL PERMIT

New Replacement Supplemental Destruction Other

WELL NUMBER: KV-6

022-721-08, 022-721-09

022-721-07

Well APN

Site Mit Case APN (if diff.)

Well Site Address Vacant lot next to 360 Kings Village Road, Scotts Valley, CA "Skypark Property"

Well Site Property Owner City of Santa Cruz Address (if diff.) 337 Locust Street, Santa Cruz, CA 95060

Site Mit Case Address (if different) 440 Kings Village Rd, Scotts Valley

Consultant ARCADIS U.S., Inc. Address 2000 Powell Street, Suite 700, Emeryville, CA

Drilling Contractor Cascade Drilling License # 93810 Phone 916-438-1169

Mail Correspondence To: Katherine Brandt: 2000 Powell Street, Suite 700, Emeryville, CA

WELL INFORMATION (Complete for All Permit Applications):

WELL TYPE (check all that apply)

- Groundwater Monitoring
Soil Gas Monitoring
Remediation
Groundwater Extraction
Dual Phase Extraction
Vapor Extraction
Air Sparge
Test Well
Other

WELL CONSTRUCTION METHOD

- Hollow Stem
Rotary
Cable
Sonic
Direct Push
Other

WELL SPECIFICATIONS

Borehole Diameter (in.) 10
Depth of Borehole (ft.) ~200
Depth of Well (ft.) ~185-200
Cap, Lock, Vault Box: Yes No
Seal Material(s) bentonite/cement grout
Depth of Seal (ft.) ~150-160
Cement Interval (ft.) ~0-150
Hydrated Bentonite Int. (ft.) ~150-160
Dry Granular Bentonite Int. (ft.)
Other Seal Material Int. (ft.)
Filter Pack Material(s) #3 Sand
Sand Interval (ft.) ~165-200
Other Filter Pack Interval (ft.)

WELL CASING SPECIFICATIONS

Material PVC/Stainless Steel
Gauge or Wall Thickness Sch. 80
Internal Diameter (in.) 4
Type of Joint threaded
Perforation Interval (ft.) 20
Perforation Size (in.) 0.020

DISTANCE FROM WELL TO (ft.):

Septic Systems
Sewer
Nearest Property Line

WELL SETTING (Complete for all Permit Applications):

WITHIN WATER DISTRICT SERVICE AREA? Yes No
Name: Scotts Valley Water District
OTHER WELLS ON PROPERTY? Yes No
CONDITION OF OTHER WELLS ON PROPERTY: In Use To Be Destroyed Other
Attach 2 copies of a plot plan (see attached for requirements)

ADDITIONAL WELL DESTRUCTION INFORMATION:

Proposed Destruction Method: Attach original well construction log and a description of the proposed destruction method.

WORKER'S COMPENSATION CERTIFICATE

- A CURRENTLY EFFECTIVE CERTIFICATION OF WORKERS COMPENSATION INSURANCE FOR THE DRILLER IS ATTACHED OR ON FILE WITH EHS. INSURANCE CARRIER Alaska National POLICY # 12JWD3062+ 351
SIGNEE'S CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED SIGNEE'S SHALL NOT EMPLOY ANY PERSON IN ANY MANNER SO AS TO BECOME SUBJECT TO THE WORKER'S COMPENSATION LAWS OF CALIFORNIA

Signees agree to the following statements: I hereby agree to comply with all laws and regulations of the County of Santa Cruz and State of California pertaining to wells, and declare under penalty of perjury the information submitted on this application is true and correct. I will notify EHS at least 5 business days prior to commencing work. Within 60 days after completion of work, I will furnish EHS with a report of the work performed. I understand this permit expires one year from date of issuance.

Signatures: WELL SITE PROP. OWNER DRILLING CONTRACTOR



SM13-510 (EHS Permit #)

CASH REGISTER VALIDATION

INITIAL SITE INSPECTION
APPLICATION APPROVAL
INSTALLATION INSPECTION
RECEIPT OF WELL LOG
FINAL

DATE 10/11/13

EHS SPECIALIST

SEAL PLACEMENT WITNESSED:

YES NO N/A

DATE
DEPTH
SEAL MATERIAL

APPROVED AS TO FORM
BY CITY ATTORNEY

09/25/2013

000000

7:29AM

Emiko 0002

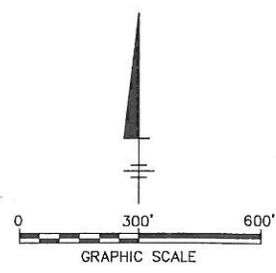
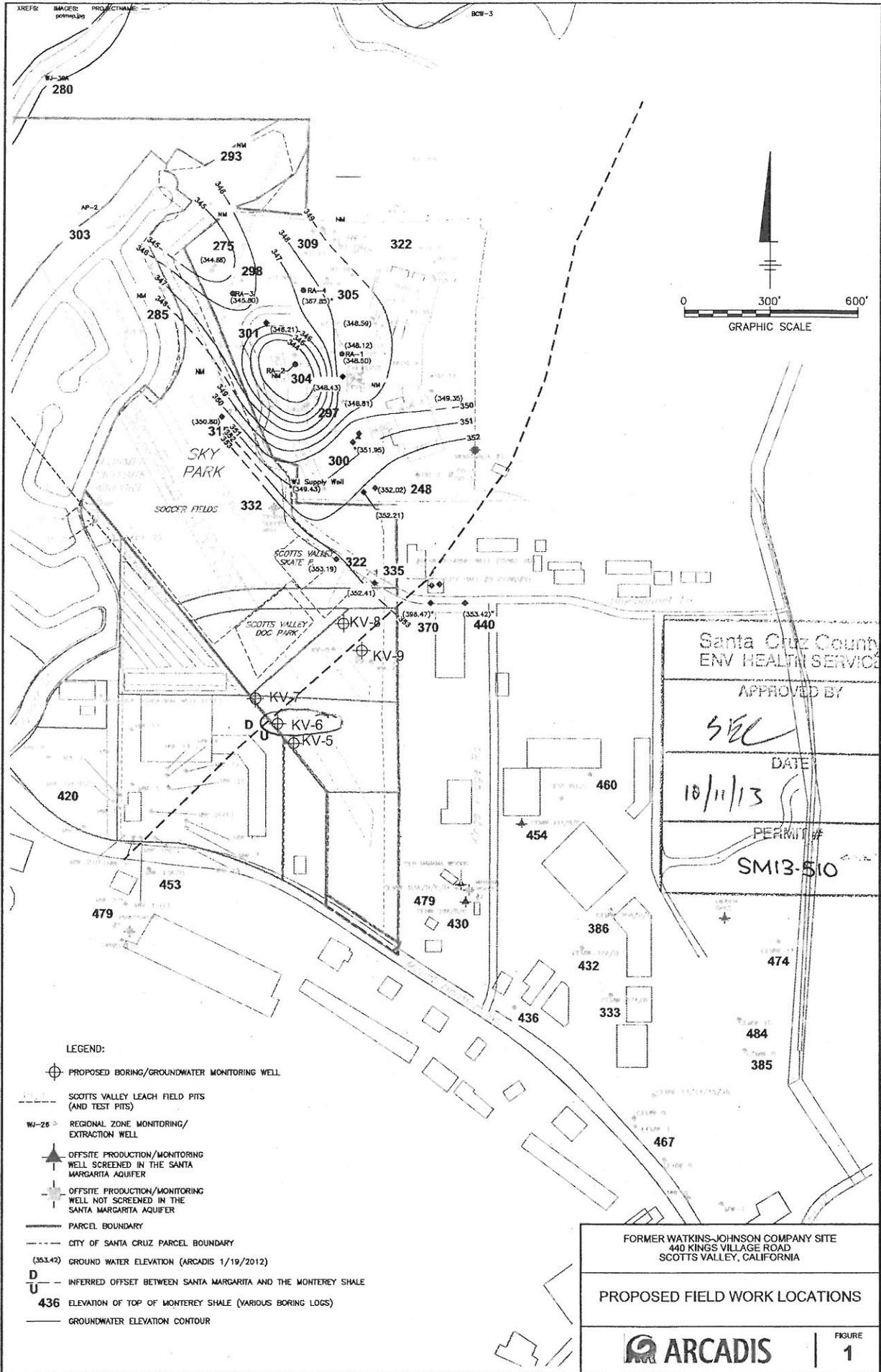
FE # 2380

\$320.00

CHECK 1

\$320.00

COMMENTS:



Santa Cruz County ENV HEALTH SERVICE	
APPROVED BY	<i>SEK</i>
DATE	10/11/13
PERMIT #	SM13-510

- LEGEND:**
- PROPOSED BORING/GROUNDWATER MONITORING WELL
 - SCOTTS VALLEY LEACH FIELD PITS (AND TEST PITS)
 - REGIONAL ZONE MONITORING/ EXTRACTION WELL
 - OFFSITE PRODUCTION/MONITORING WELL SCREENED IN THE SANTA MARGARITA AQUIFER
 - OFFSITE PRODUCTION/MONITORING WELL NOT SCREENED IN THE SANTA MARGARITA AQUIFER
 - PARCEL BOUNDARY
 - CITY OF SANTA CRUZ PARCEL BOUNDARY (353.42)
 - GROUND WATER ELEVATION (ARCADIS 1/19/2012)
 - INFERRED OFFSET BETWEEN SANTA MARGARITA AND THE MONTEREY SHALE
 - 436 ELEVATION OF TOP OF MONTEREY SHALE (VARIOUS BORING LOGS)
 - GROUNDWATER ELEVATION CONTOUR

FORMER WATKINS-JOHNSON COMPANY SITE
 440 KINGS VILLAGE ROAD
 SCOTTS VALLEY, CALIFORNIA

PROPOSED FIELD WORK LOCATIONS

ARCADIS | **FIGURE 1**

SEP 23 2013

SANTA CRUZ COUNTY HEALTH SERVICES AGENCY - ENVIRONMENTAL HEALTH SERVICE - 701 OCEAN ST, RM 312, SANTA CRUZ, CA 95060 (831) 454-2022

APPLICATION FOR SITE-MITIGATION-PROGRAM WELL PERMIT

New Replacment Supplemental Destruction Other WELL NUMBER: KV-7

022-721-08, 022-721-09 Well APN 022-721-07 Site Mit Case APN (if diff.)

Well Site Address Vacant lot next to 360 Kings Village Road, Scotts Valley, CA "Skypark Property"

Well Site Property Owner City of Santa Cruz Address (if diff.) 337 Locust Street, Santa Cruz, CA 95060

Site Mit Case Address (if different) 440 Kings Village Rd, Scotts Valley

Consultant ARCADIS U.S., Inc. Address 2000 Powell Street, Suite 700, Emeryville, CA

Drilling Contractor Cascade Drilling License # 938110 Phone 916-638-1169

Mail Correspondence To: Katherine Brandt: 2000 Powell Street, Suite 700, Emeryville, CA

WELL INFORMATION (Complete for All Permit Applications):

WELL TYPE (check all that apply) WELL CONSTRUCTION METHOD WELL SPECIFICATIONS WELL CASING SPECIFICATIONS DISTANCE FROM WELL TO (ft.):

WELL SETTING (Complete for all Permit Applications):

WITHIN WATER DISTRICT SERVICE AREA? OTHER WELLS ON PROPERTY? CONDITION OF OTHER WELLS ON PROPERTY: Attach 2 copies of a plot plan (see attached for requirements)

ADDITIONAL WELL DESTRUCTION INFORMATION:

Proposed Destruction Method: Attach original well construction log and a description of the proposed destruction method.

WORKER'S COMPENSATION CERTIFICATE

- A CURRENTLY EFFECTIVE CERTIFICATION OF WORKERS COMPENSATION INSURANCE FOR THE DRILLER IS ATTACHED OR ON FILE WITH EHS. SIGNEE'S CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED SIGNEE'S SHALL NOT EMPLOY ANY PERSON IN ANY MANNER SO AS TO BECOME SUBJECT TO THE WORKER'S COMPENSATION LAWS OF CALIFORNIA

Signees agree to the following statements: I hereby agree to comply with all laws and regulations of the County of Santa Cruz and State of California pertaining to wells, and declare under penalty of perjury the information submitted on this application is true and correct.

Signatures: WELL SITE PROP. OWNER DRILLING CONTRACTOR

FOR DEPARTMENT USE ONLY

SM13-511 (EHS Permit #)

CASH REGISTER VALIDATION

Table with columns: DATE, EHS SPECIALIST, SEAL PLACEMENT WITNESSED: INITIAL SITE INSPECTION, APPLICATION APPROVAL, INSTALLATION INSPECTION, RECEIPT OF WELL LOG, FINAL

APPROVED AS TO FORM BY CITY ATTORNEY

COMMENTS: 09/25/2013 CHECK 1 \$320.00

SEP 23 2013

APPLICATION FOR SITE-MITIGATION-PROGRAM WELL PERMIT

New Replacement Supplemental Destruction Other

WELL NUMBER: KV-8

022-721-08, 022-721-09
Well APN

022-721-07
Site Mit Case APN (if diff.)

Well Site Address Vacant lot next to 360 Kings Village Road, Scotts Valley, CA "Skypark Property"

Well Site Property Owner City of Santa Cruz Address (if diff.) 337 Locust Street, Santa Cruz, CA 95060

Site Mit Case Address (if different) 440 Kings Village Rd, Scotts Valley

Consultant ARCADIS U.S., Inc. Address 2000 Powell Street, Suite 700, Emeryville, CA

Drilling Contractor Cascade Drilling License # 9358110 Phone 916-638-1169

Mail Correspondence To: Katharina Brandt: 2000 Powell Street, Suite 700, Emeryville, CA

WELL INFORMATION (Complete for All Permit Applications):

WELL TYPE (check all that apply)

- Groundwater Monitoring
- Soil Gas Monitoring
- Remediation
- Groundwater Extraction
- Dual Phase Extraction
- Vapor Extraction
- Air Sparge
- Test Well
- Other

WELL CONSTRUCTION METHOD

- Hollow Stem
- Rotary
- Cable
- Sonic
- Direct Push
- Other

WELL SPECIFICATIONS

Borehole Diameter (in.) 10
 Depth of Borehole (ft.) ~200
 Depth of Well (ft.) ~185-200
 Cap, Lock, Vault Box: Yes No
 Seal Material(s) bentonite/cement grout
 Depth of Seal (ft.) ~150-160
 Cement Interval (ft.) ~0-150
 Hydrated Bentonite Int. (ft.) ~150-160 *~3' total*
 Dry Granular Bentonite Int. (ft.) _____
 Other Seal Material Int. (ft.) _____
 Filter Pack Material(s) #3 Sand
 Sand Interval (ft.) ~165-200 *~160-200*
 Other Filter Pack Interval (ft.) _____

WELL CASING SPECIFICATIONS

Material PVC/Stainless Steel
 Gauge or Wall Thickness Sch. 80
 Internal Diameter (in.) 4
 Type of Joint threaded
 Perforation Interval (ft.) 20
 Perforation Size (in.) 0.020

DISTANCE FROM WELL TO (ft.):

Septic Systems _____
 Sewer _____
 Nearest Property Line _____

WELL SETTING (Complete for all Permit Applications):

WITHIN WATER DISTRICT SERVICE AREA? Yes No Name: Scotts Valley Water District
 OTHER WELLS ON PROPERTY? Yes No Number: _____ Types: Domestic _____ Irrigation _____ Monitoring _____ Other _____
 CONDITION OF OTHER WELLS ON PROPERTY: In Use _____ To Be Destroyed _____ Other _____
 Attach 2 copies of a plot plan (see attached for requirements)

ADDITIONAL WELL DESTRUCTION INFORMATION:

Proposed Destruction Method: _____ Attach original well construction log and a description of the proposed destruction method.

WORKER'S COMPENSATION CERTIFICATE

- A CURRENTLY EFFECTIVE CERTIFICATION OF WORKERS COMPENSATION INSURANCE FOR THE DRILLER IS ATTACHED OR ON FILE WITH EHS. INSURANCE CARRIER Alaska National POLICY # 12JWD3068+351
- SIGNEE'S CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED SIGNEE'S SHALL NOT EMPLOY ANY PERSON IN ANY MANNER SO AS TO BECOME SUBJECT TO THE WORKER'S COMPENSATION LAWS OF CALIFORNIA

Signees agree to the following statements: I hereby agree to comply with all laws and regulations of the County of Santa Cruz and State of California pertaining to wells, and declare under penalty of perjury the information submitted on this application is true and correct. I will notify EHS at least 5 business days prior to commencing work. Within 60 days after completion of work, I will furnish EHS with a report of the work performed. I understand this permit expires one year from date of issuance.

Signatures: [Signature] 9/12/13 DRILLING CONTRACTOR [Signature] 9/20/13
 WELL SITE PROP. OWNER

FOR DEPARTMENT USE ONLY

SM13-512
(EHS Permit #)

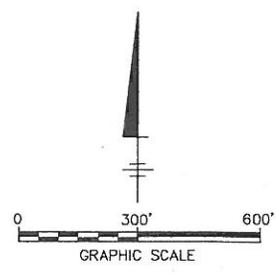
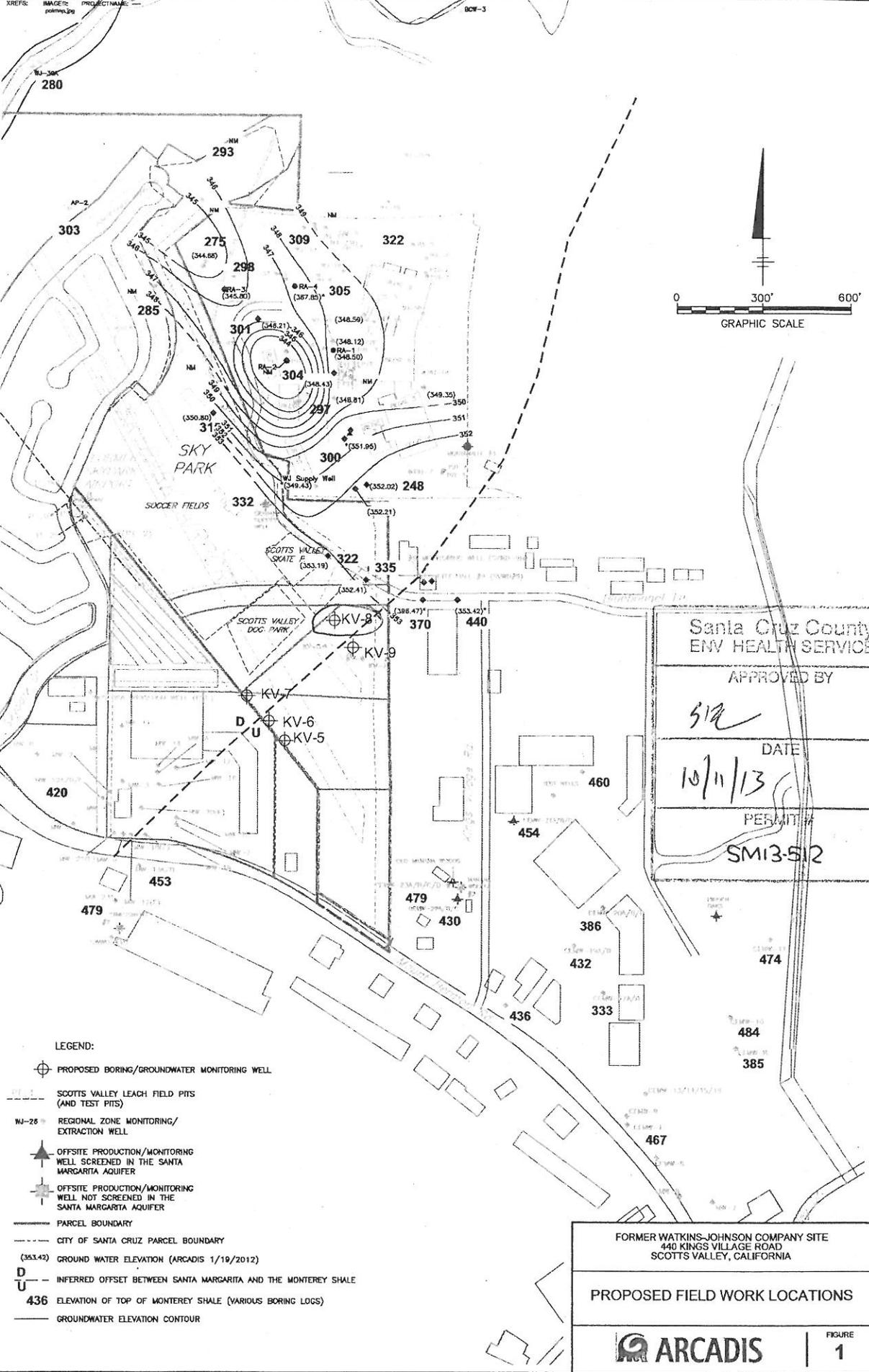
CASH REGISTER VALIDATION

INITIAL SITE INSPECTION	DATE	EHS SPECIALIST	SEAL PLACEMENT WITNESSED:
APPLICATION APPROVAL	<u>10/11/13</u>	<u>[Signature]</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
INSTALLATION INSPECTION	_____	_____	DATE _____
RECEIPT OF WELL LOG	_____	_____	DEPTH _____
FINAL	_____	_____	SEAL MATERIAL _____

APPROVED AS TO FORM
 BY [Signature] 9/10/13
 CITY ATTORNEY

COMMENTS: _____

09/25/2013 000000
 #2557 7:29AM Emiko 0002
 PE # 2380 \$320.00
 CHECK 1 \$320.00



Santa Cruz County ENV HEALTH SERVICE	
APPROVED BY	<i>SJA</i>
DATE	10/11/13
PERMIT #	SM13-512

- LEGEND:
- PROPOSED BORING/GROUNDWATER MONITORING WELL
 - SCOTTS VALLEY LEACH FIELD PITS (AND TEST PITS)
 - REGIONAL ZONE MONITORING/EXTRACTION WELL
 - OFFSITE PRODUCTION/MONITORING WELL SCREENED IN THE SANTA MARGARITA AQUIFER
 - OFFSITE PRODUCTION/MONITORING WELL NOT SCREENED IN THE SANTA MARGARITA AQUIFER
 - PARCEL BOUNDARY
 - CITY OF SANTA CRUZ PARCEL BOUNDARY
 - GROUND WATER ELEVATION (ARCADIS 1/19/2012)
 - INFERRED OFFSET BETWEEN SANTA MARGARITA AND THE MONTEREY SHALE
 - 436 ELEVATION OF TOP OF MONTEREY SHALE (VARIOUS BORING LOGS)
 - GROUNDWATER ELEVATION CONTOUR

FORMER WATKINS-JOHNSON COMPANY SITE
 440 KINGS VILLAGE ROAD
 SCOTTS VALLEY, CALIFORNIA

PROPOSED FIELD WORK LOCATIONS

ARCADIS

FIGURE 1

APPLICATION FOR SITE-MITIGATION-PROGRAM WELL PERMIT

New Replacement Supplemental Destruction Other WELL NUMBER: KV- 9

022-721-06, 022-721-09 Well APN 022-721-07 Site Mit Case APN (if diff.)
Well Site Address Vacant lot next to 360 Kings Village Road, Scotts Valley, CA "Skypark Property"
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Drilling Contractor Cascade Drilling License # 938110 Phone 910-638-1169
Mail Correspondence To: Katherine Brandt: 2000 Powell Street, Suite 700, Emeryville, CA

WELL INFORMATION (Complete for All Permit Applications):

WELL TYPE (check all that apply) WELL CONSTRUCTION METHOD WELL SPECIFICATIONS
WELL CASING SPECIFICATIONS
DISTANCE FROM WELL TO (ft.):

WELL SETTING (Complete for all Permit Applications):

WITHIN WATER DISTRICT SERVICE AREA? Yes No Name: Scotts Valley Water District
OTHER WELLS ON PROPERTY? Yes No Number: Types: Domestic Irrigation Monitoring Other
CONDITION OF OTHER WELLS ON PROPERTY: In Use To Be Destroyed Other
Attach 2 copies of a plot plan (see attached for requirements)

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SIGNEEES CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED SIGNEEES SHALL NOT EMPLOY ANY PERSON IN ANY MANNER SO AS TO BECOME SUBJECT TO THE WORKER'S COMPENSATION LAWS OF CALIFORNIA

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Signatures: WELL SITE PROP. OWNER [Signature] 9/12/13 DRILLING CONTRACTOR [Signature] 9/20/13

FOR DEPARTMENT USE ONLY

SMI3-513 (EHS Permit #)

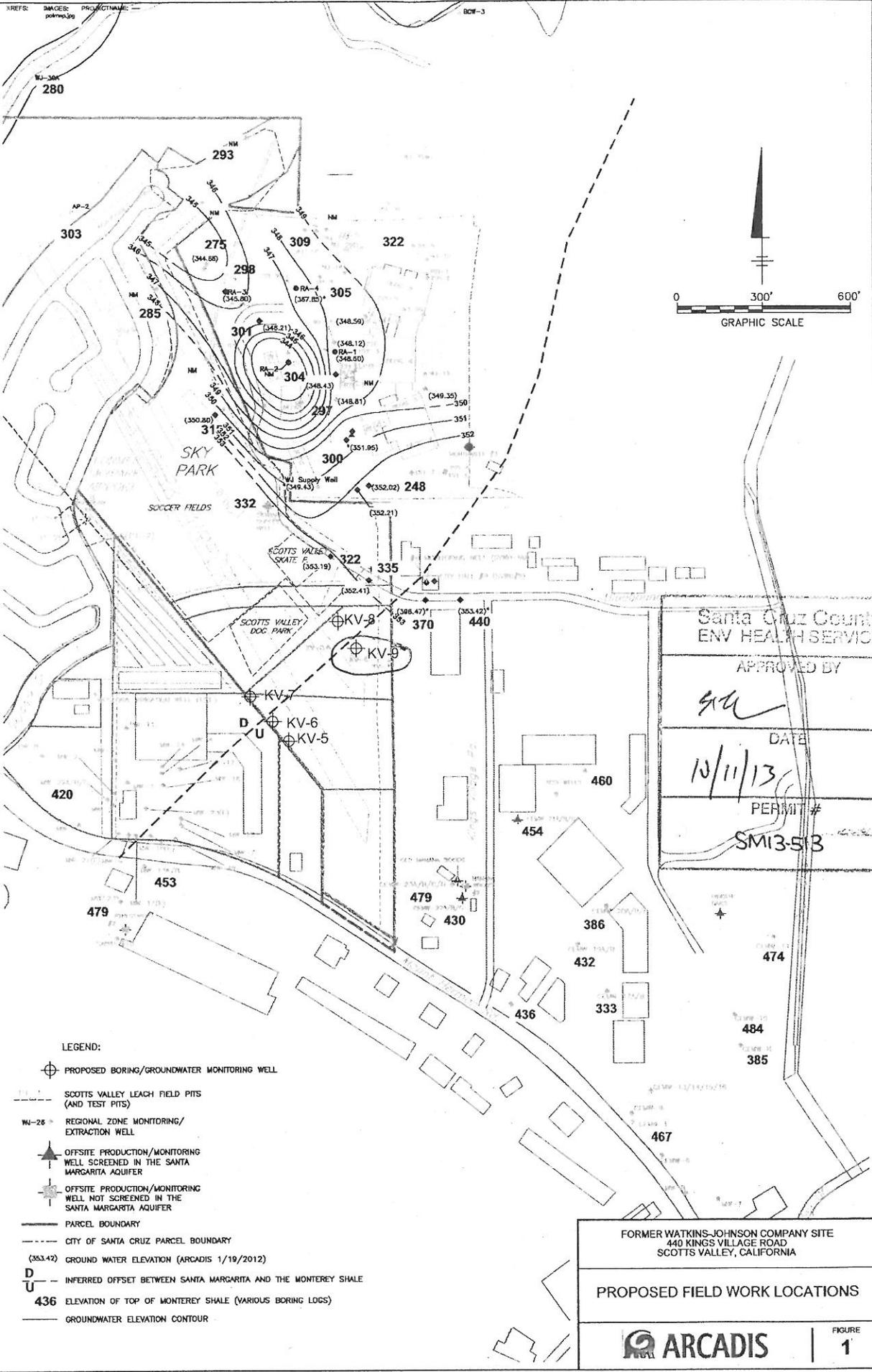
CASH REGISTER VALIDATION

Table with columns: DATE, EHS SPECIALIST, SEAL PLACEMENT WITNESSED: YES NO N/A

APPROVED AS TO FORM BY [Signature] 9-10-13 CITY ATTORNEY

COMMENTS:

09/25/2013 000000
#100 7:30AM Emito 0002
PE # 2380 \$320.00
CHECK 1 \$320.00



- LEGEND:**
- PROPOSED BORING/GROUNDWATER MONITORING WELL
 - SCOTTS VALLEY LEACH FIELD PITS (AND TEST PITS)
 - REGIONAL ZONE MONITORING/EXTRACTION WELL
 - OFFSITE PRODUCTION/MONITORING WELL SCREENED IN THE SANTA MARGARITA AQUIFER
 - OFFSITE PRODUCTION/MONITORING WELL NOT SCREENED IN THE SANTA MARGARITA AQUIFER
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 - ELEVATION OF TOP OF MONTEREY SHALE (VARIOUS BORING LOGS)
 - GROUNDWATER ELEVATION CONTOUR

Santa Cruz County ENV HEALTH SERVICE	
APPROVED BY	<i>gcu</i>
DATE	10/11/13
PERMIT #	SM13-513

FORMER WATKINS-JOHNSON COMPANY SITE
440 KINGS VILLAGE ROAD
SCOTTS VALLEY, CALIFORNIA

PROPOSED FIELD WORK LOCATIONS

ARCADIS | FIGURE 1



Appendix C

Boring Logs

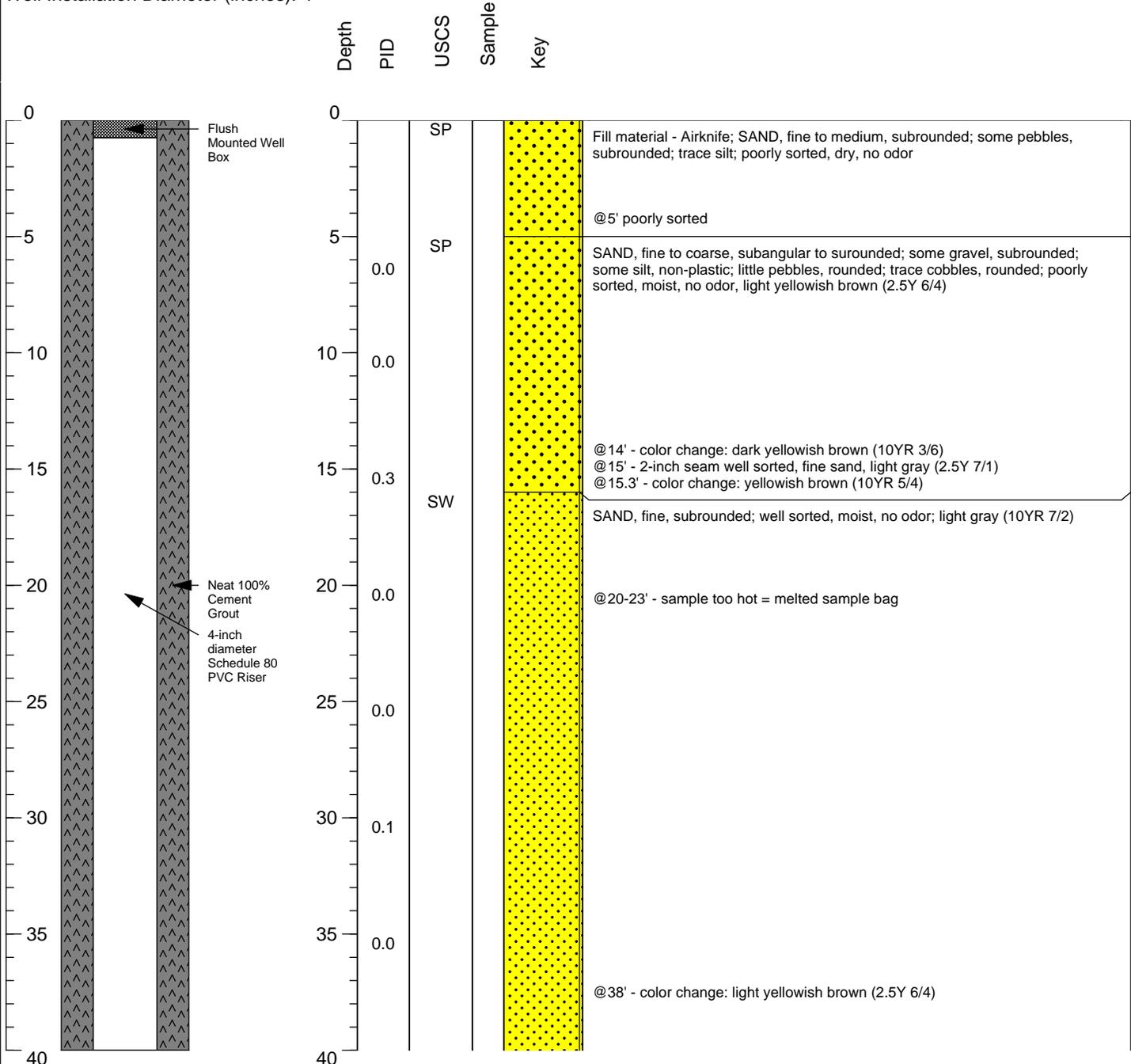
LOG OF BORING KV-5
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	12/4/13
Logged by:	M. Morrow	Date Completed:	12/11/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-509	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10
 Well Installation Diameter (inches): 4



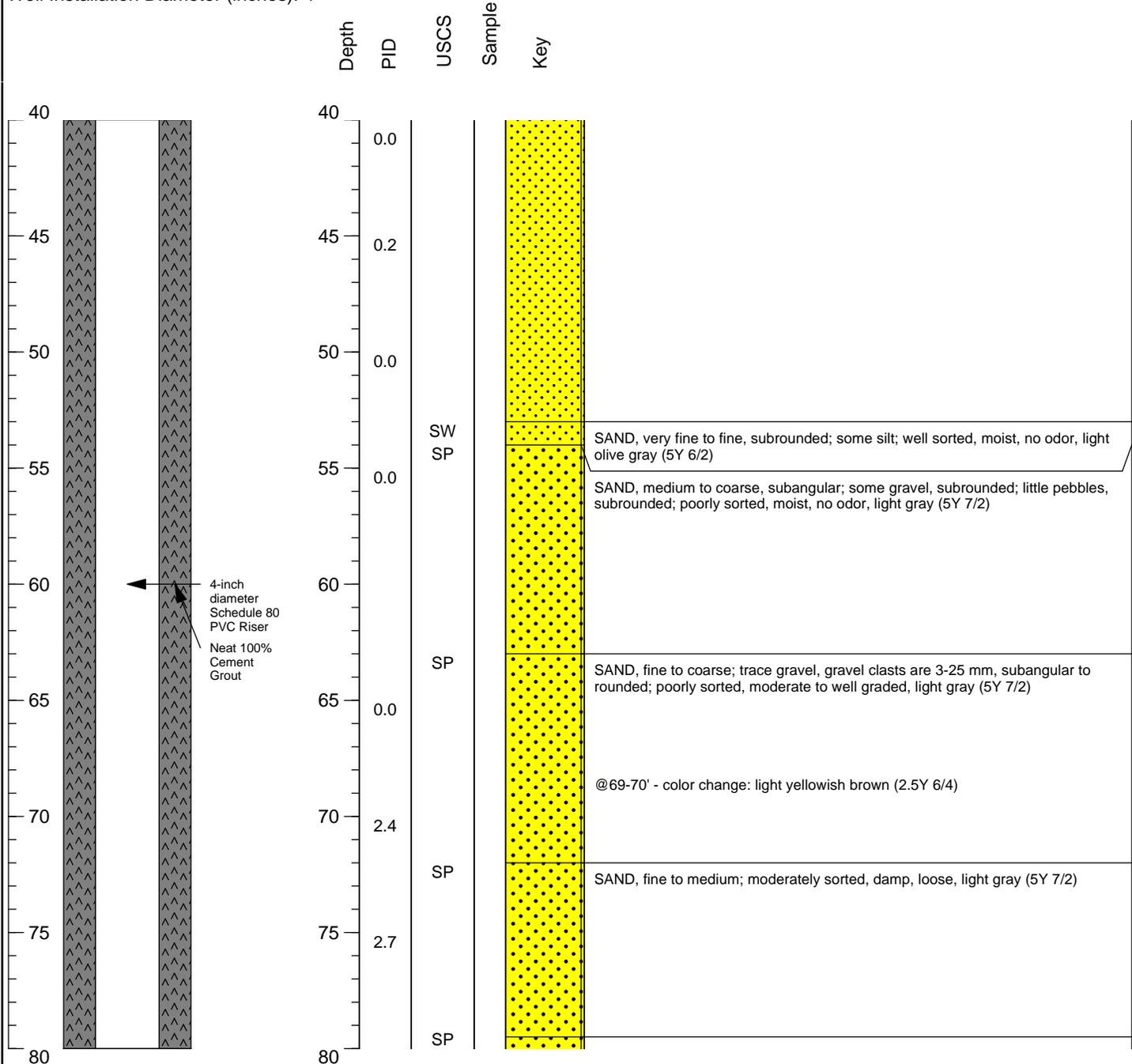
LOG OF BORING KV-5
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	12/4/13
Logged by:	M. Morrow	Date Completed:	12/11/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-509	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10
Well Installation Diameter (inches): 4



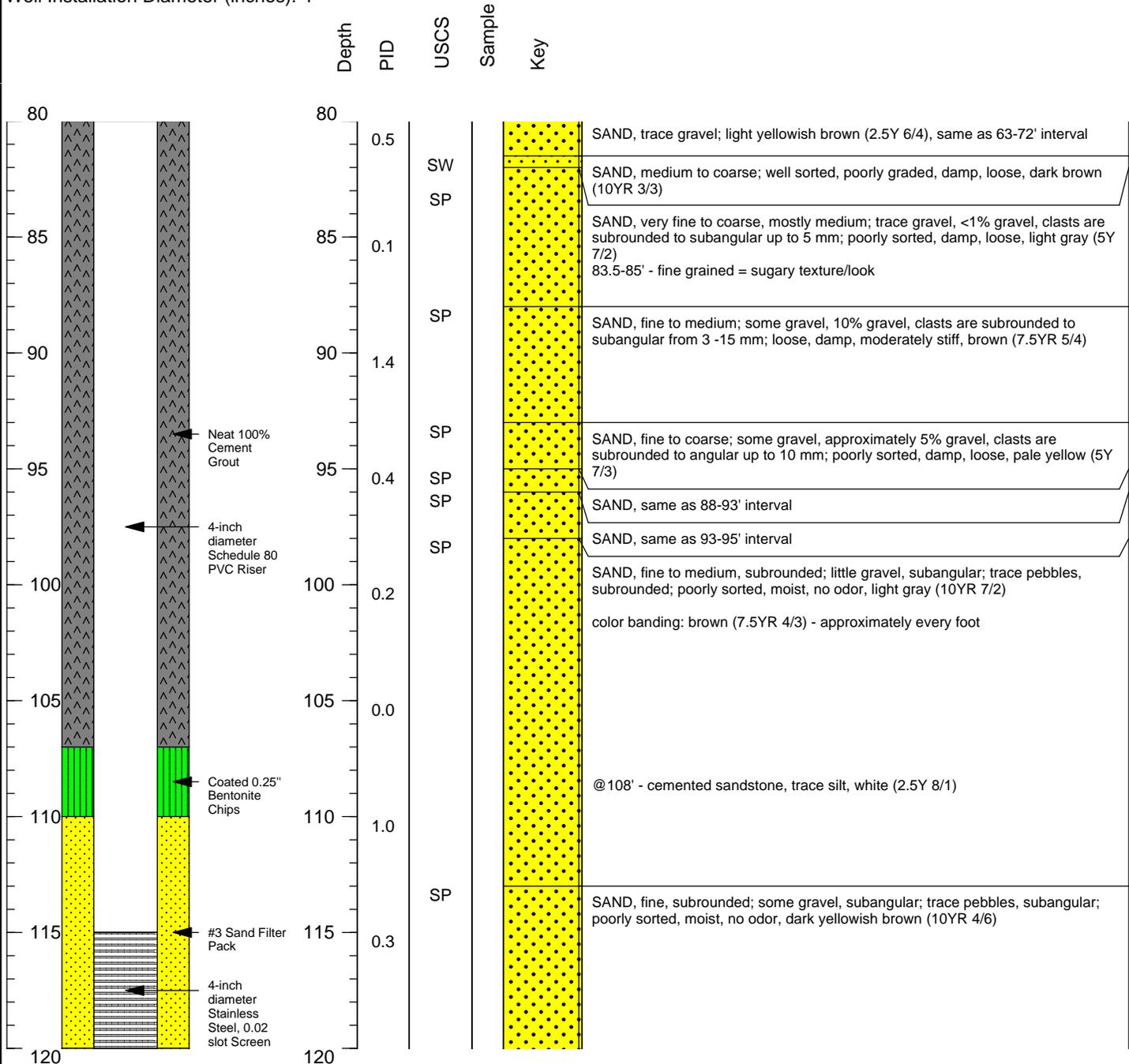
LOG OF BORING KV-5
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	12/4/13
Logged by:	M. Morrow	Date Completed:	12/11/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-509	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10
Well Installation Diameter (inches): 4



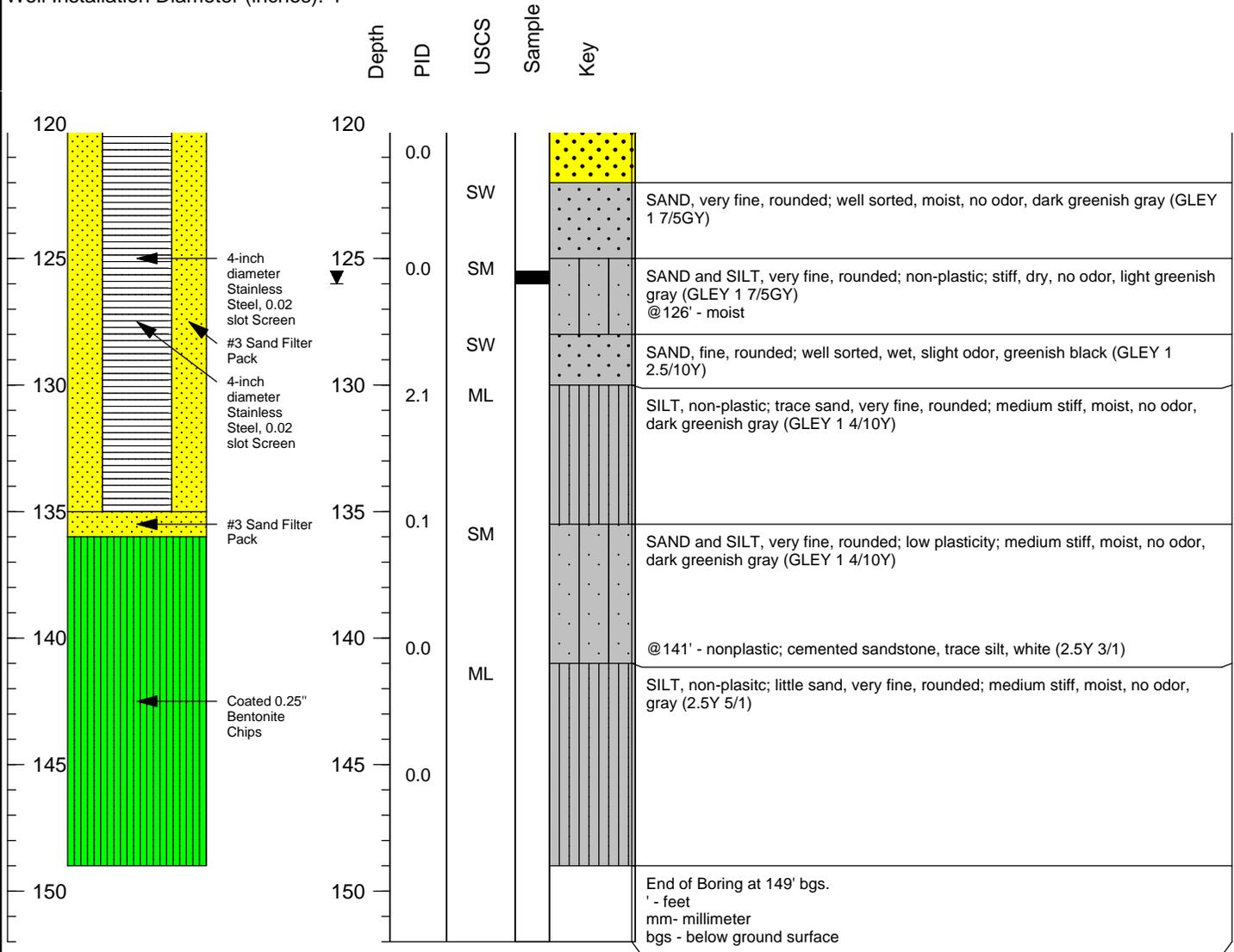
LOG OF BORING KV-5
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	12/4/13
Logged by:	M. Morrow	Date Completed:	12/11/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-509	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10
Well Installation Diameter (inches): 4



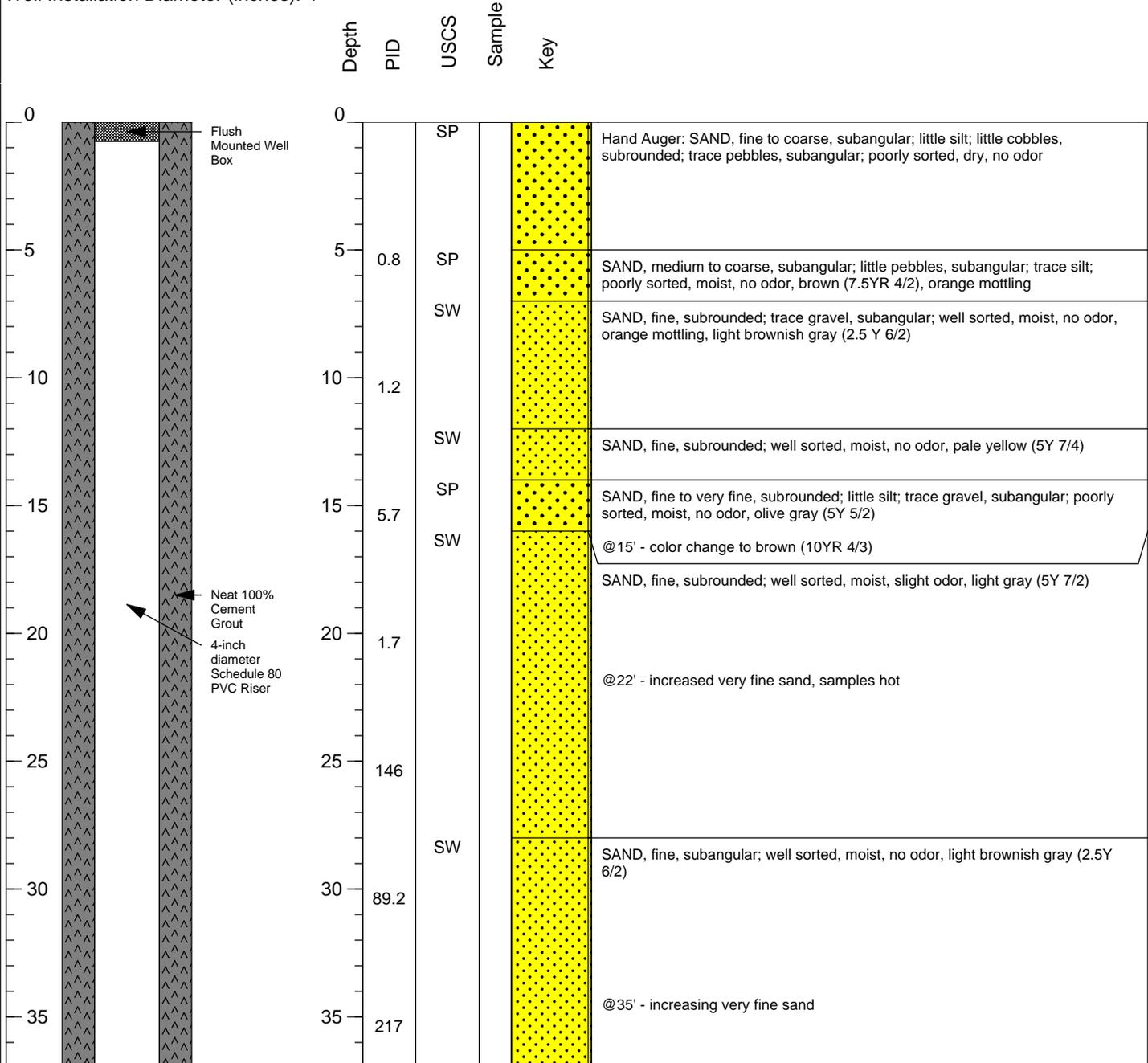
LOG OF BORING KV-6
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	10/29/13
Logged by:	M. Morrow	Date Completed:	11/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic/Air Rotary
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-510	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4



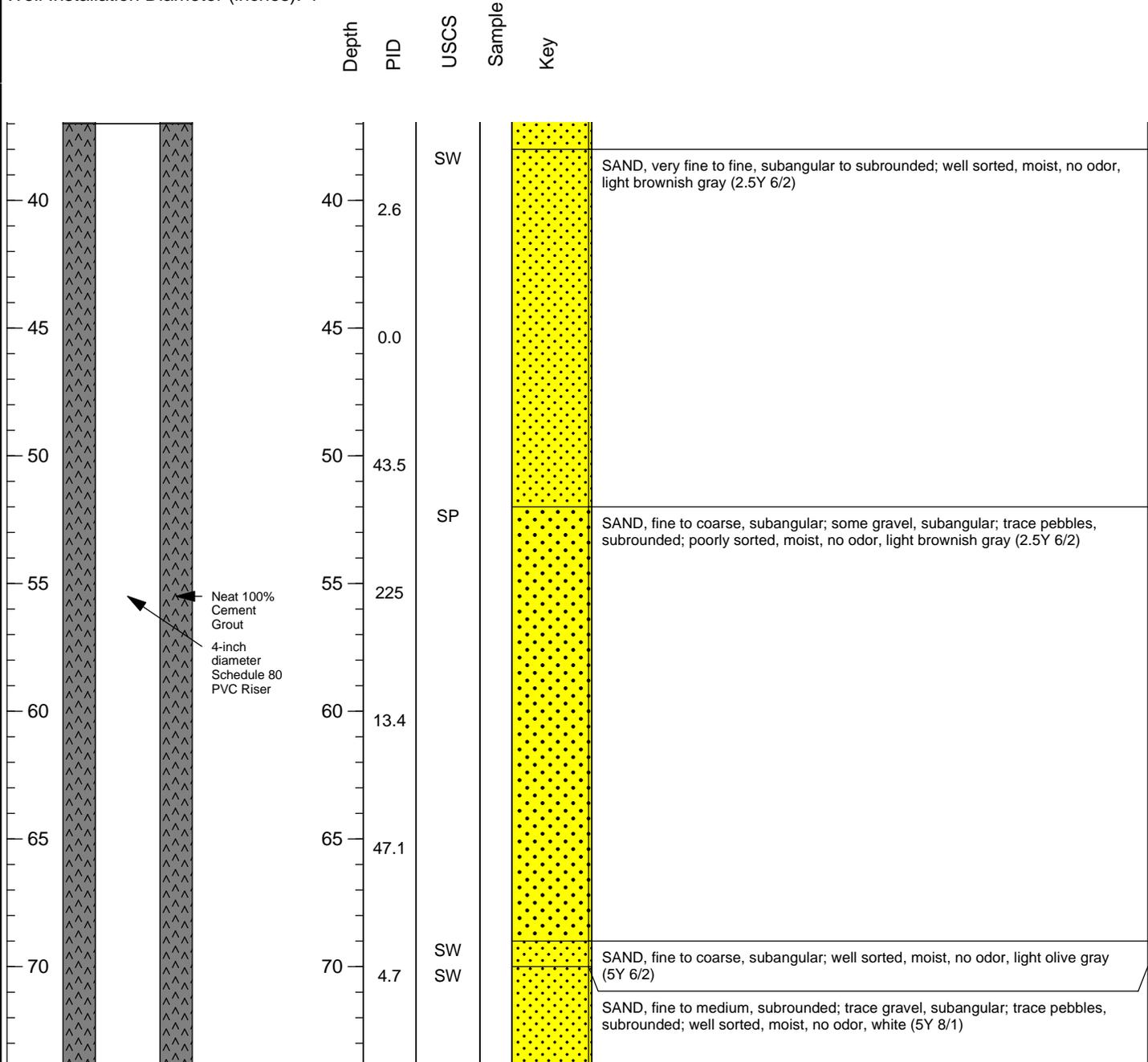
LOG OF BORING KV-6
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	10/29/13
Logged by:	M. Morrow	Date Completed:	11/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic/Air Rotary
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-510	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4



LOG OF BORING KV-6

Silicon Valley Group (SVG)

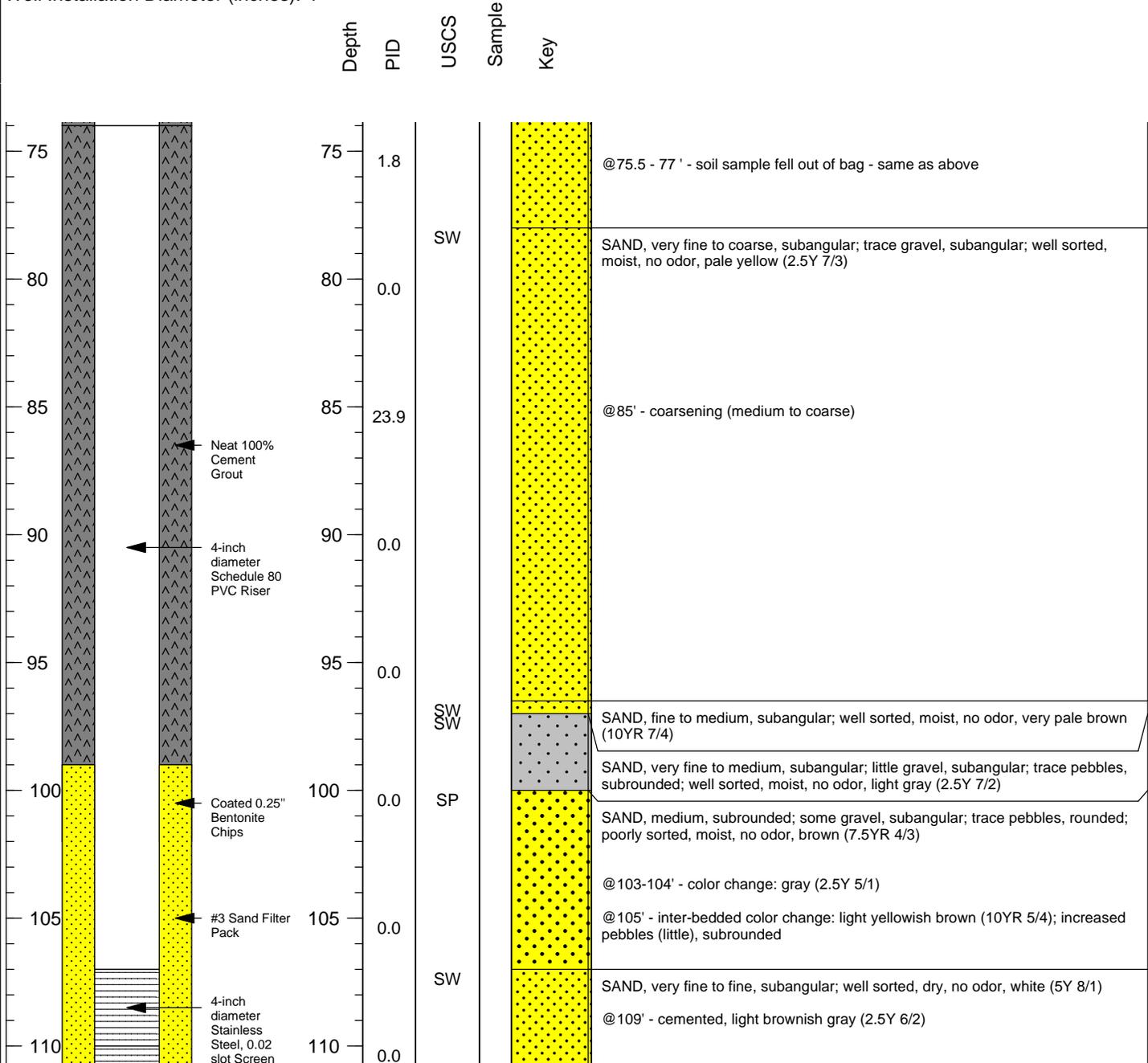
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	10/29/13
Logged by:	M. Morrow	Date Completed:	11/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic/Air Rotary
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-510	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
 Well Installation Diameter (inches): 4



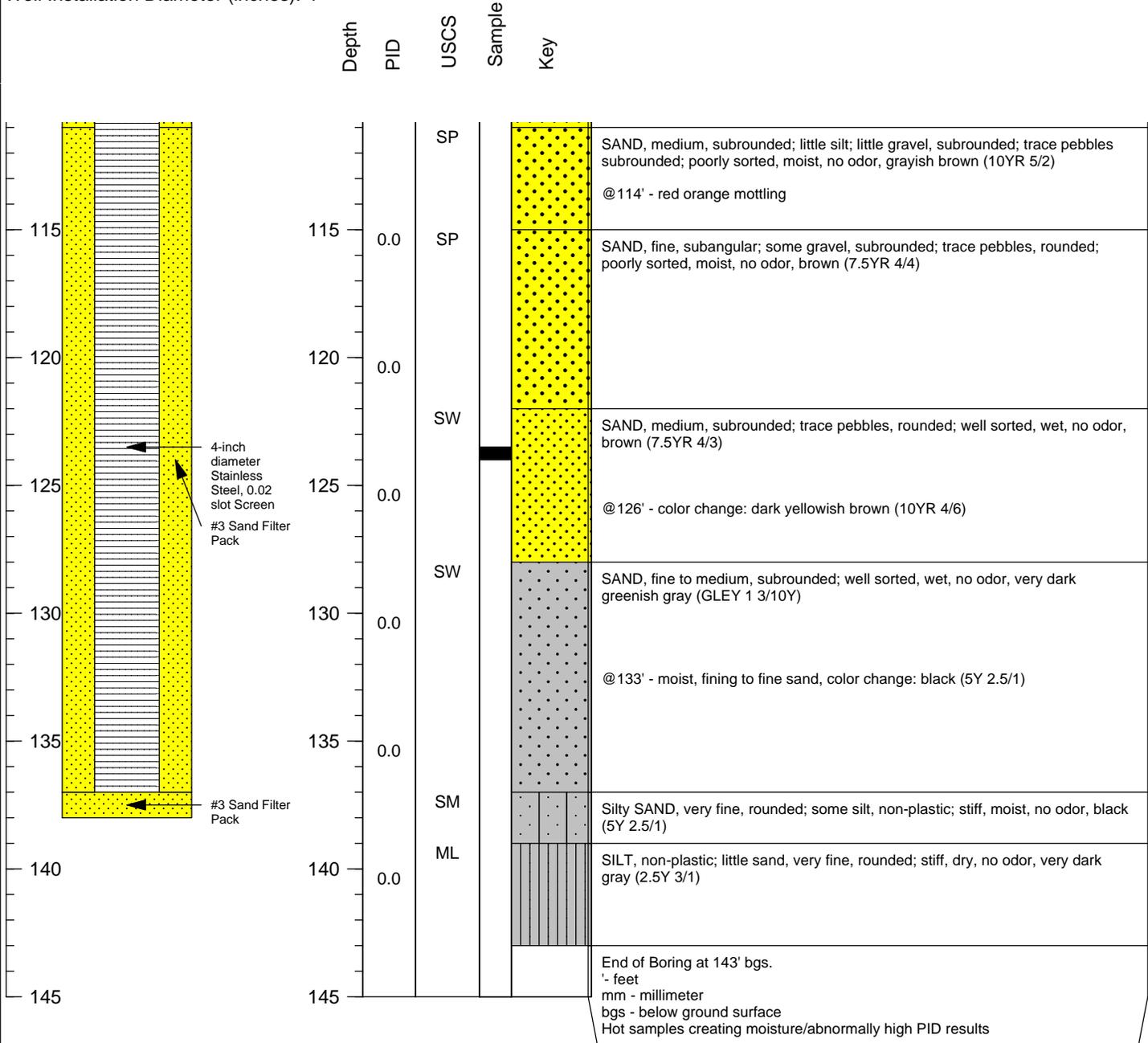
LOG OF BORING KV-6
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	10/29/13
Logged by:	M. Morrow	Date Completed:	11/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic/Air Rotary
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-510	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4



LOG OF BORING KV-7

Silicon Valley Group (SVG)

440 Kings Village Road, Scotts Valley, CA

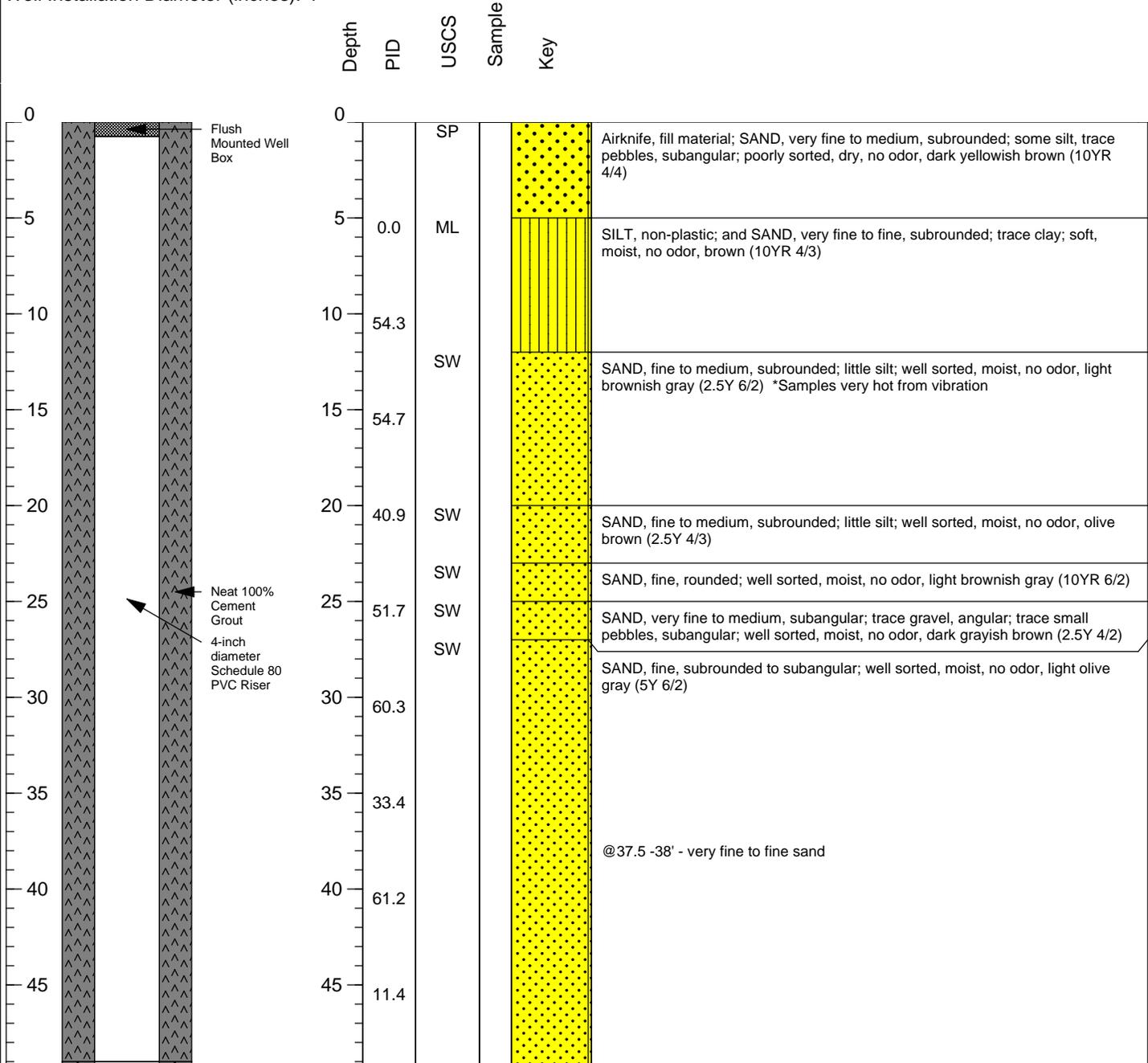
Project No.:	RC000463.0101.DG213	Date Started:	10/15/13
Logged by:	M. Morrow	Date Completed:	10/28/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic/Air Rotary
Drillers:	Jason Hernandez	Sample Method:	4-inch core barrel
Well Permit #:	SM13-511	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 8-inch pilot borehole; 10-inch well install

Well Installation Diameter (inches): 4



LOG OF BORING KV-7

Silicon Valley Group (SVG)

440 Kings Village Road, Scotts Valley, CA

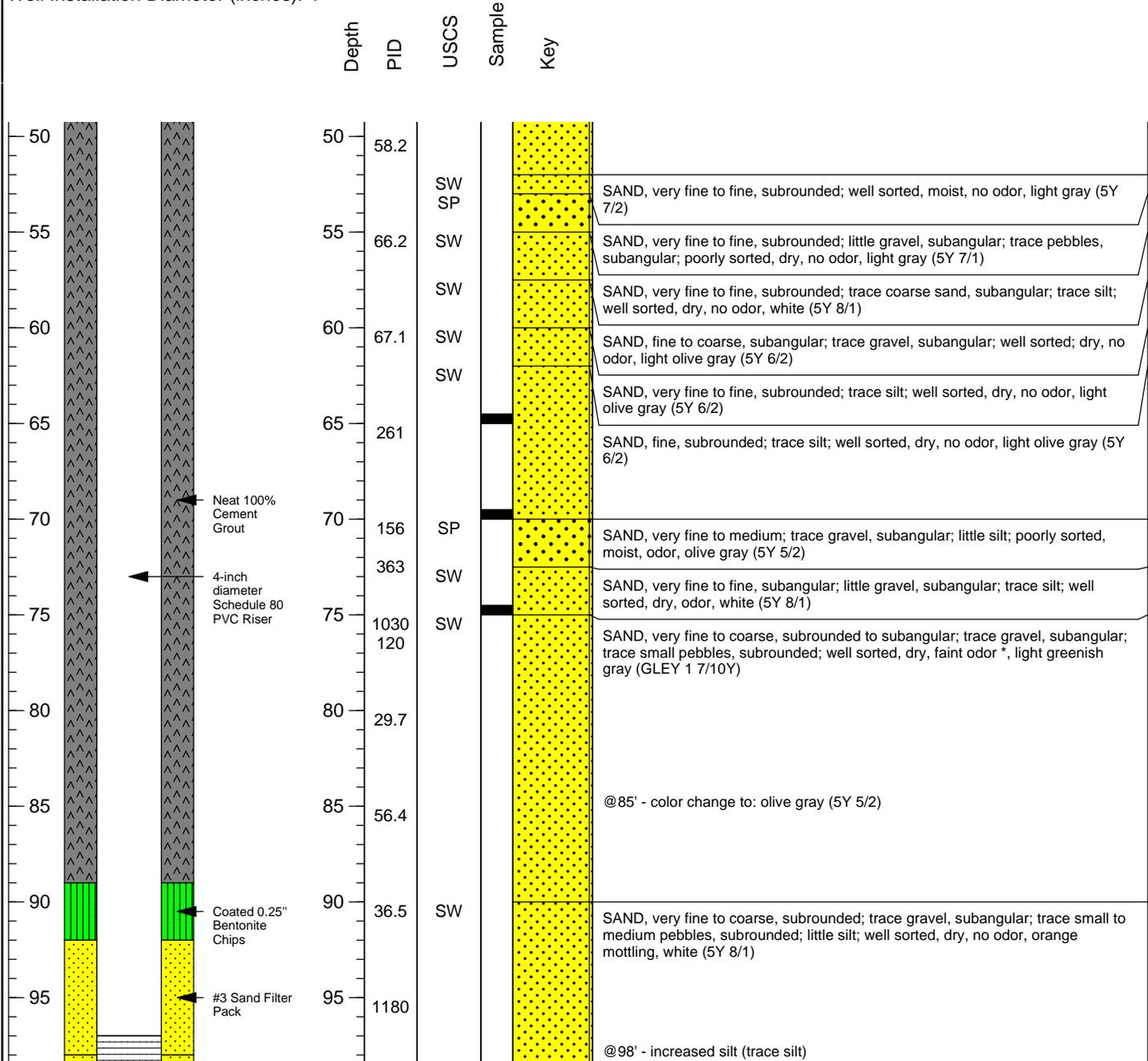
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Logged by:	M. Morrow	Date Completed:	10/28/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic/Air Rotary
Drillers:	Jason Hernandez	Sample Method:	4-inch core barrel
Well Permit #:	SM13-511	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 8-inch pilot borehole; 10-inch well install

Well Installation Diameter (inches): 4



LOG OF BORING KV-7

Silicon Valley Group (SVG)

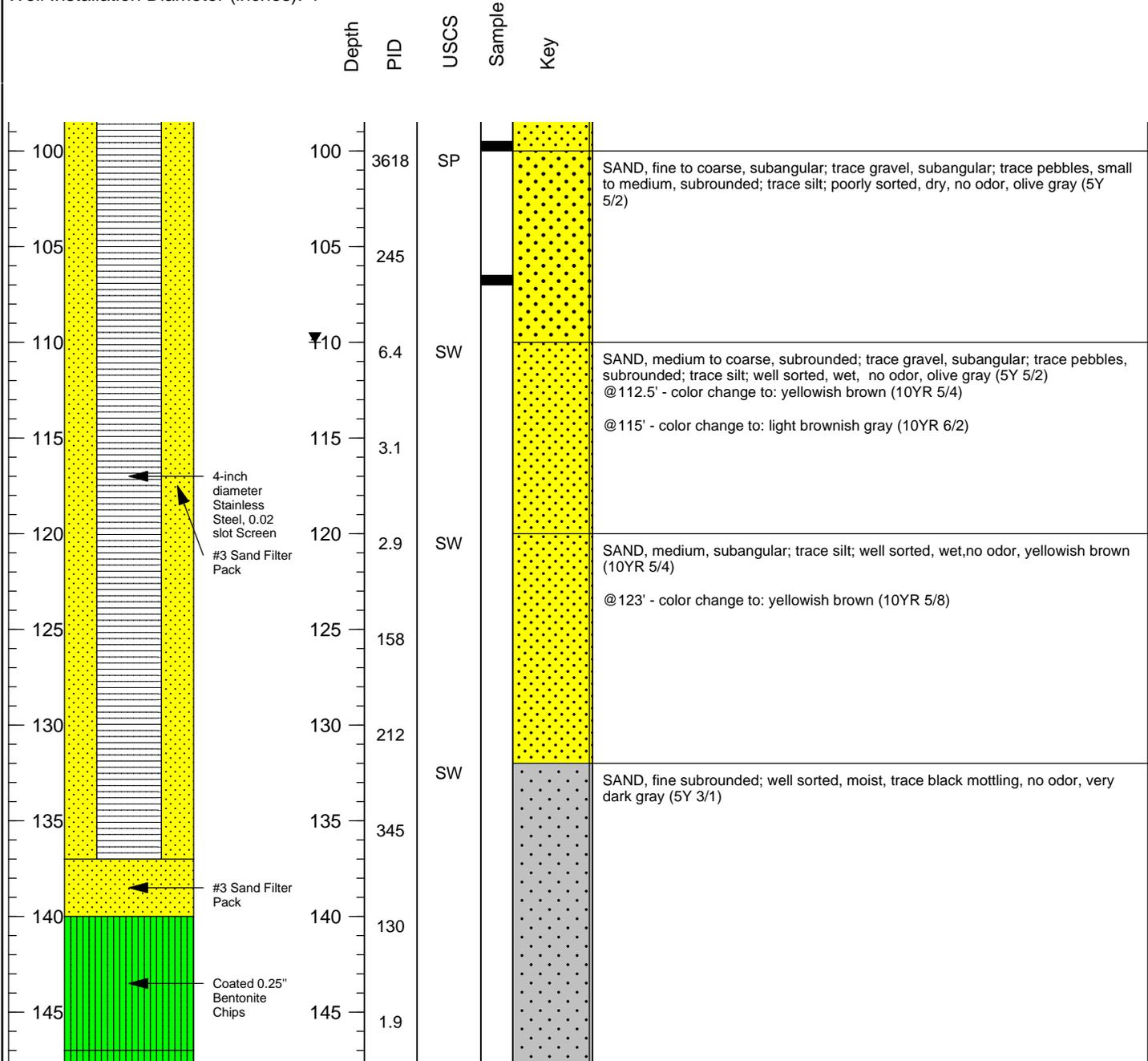
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0101.DG213	Date Started:	10/15/13
Logged by:	M. Morrow	Date Completed:	10/28/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic/Air Rotary
Drillers:	Jason Hernandez	Sample Method:	4-inch core barrel
Well Permit #:	SM13-511	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 8-inch pilot borehole; 10-inch well install
 Well Installation Diameter (inches): 4

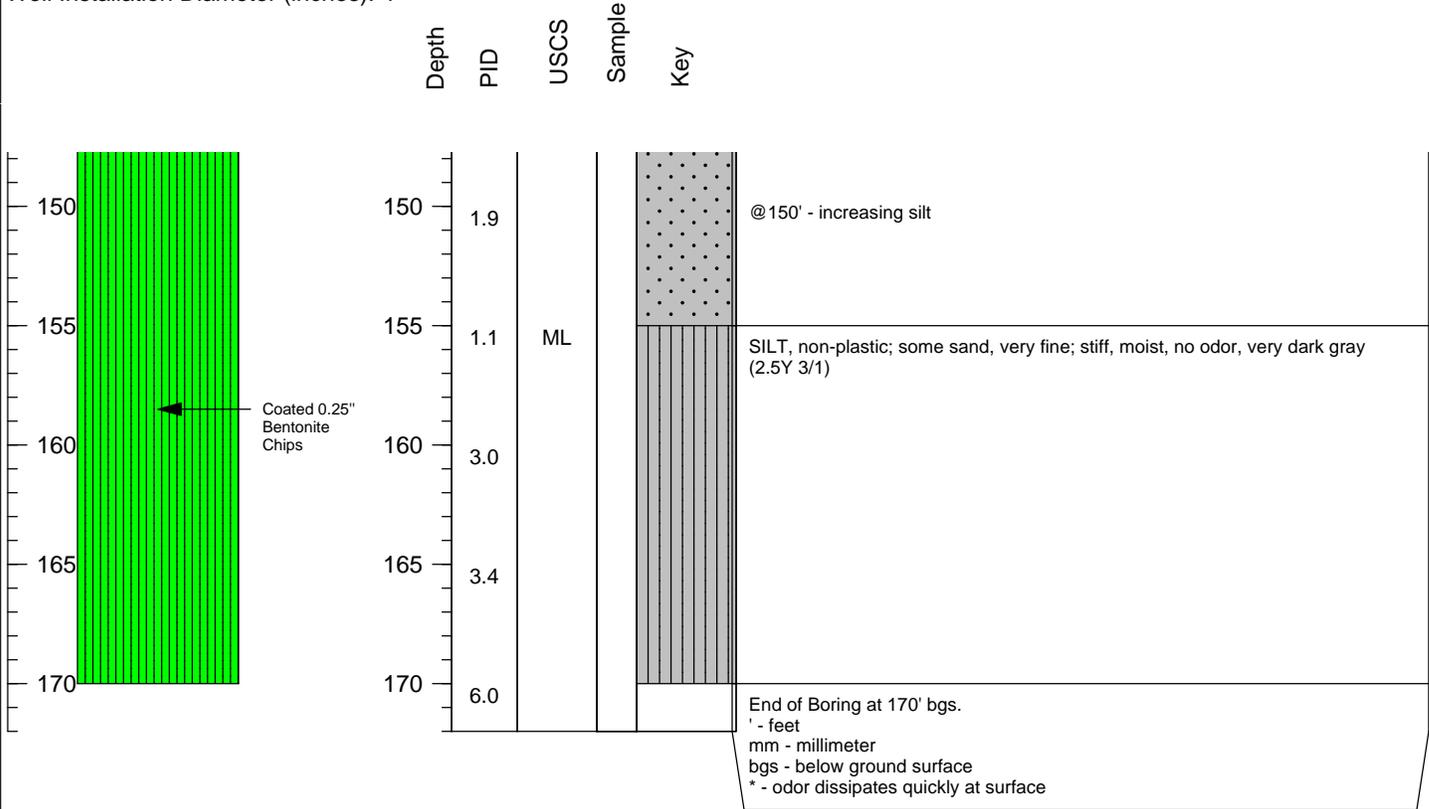


Project No.:	RC000463.0101.DG213	Date Started:	10/15/13
Logged by:	M. Morrow	Date Completed:	10/28/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic/Air Rotary
Drillers:	Jason Hernandez	Sample Method:	4-inch core barrel
Well Permit #:	SM13-511	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 8-inch pilot borehole; 10-inch well install
Well Installation Diameter (inches): 4



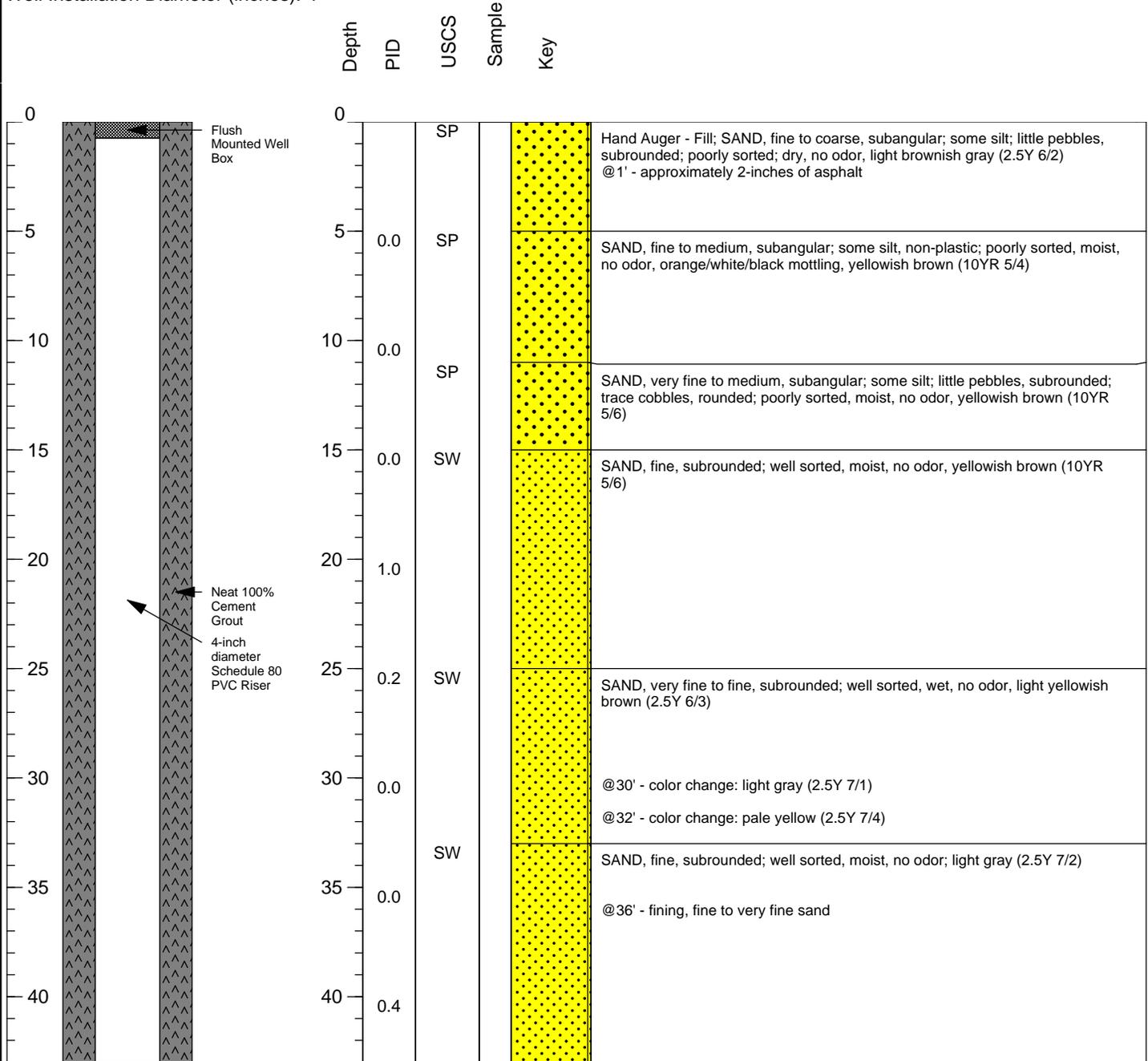
LOG OF BORING KV-8
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC00463.010.DG213	Date Started:	11/6/13
Logged by:	M. Morrow	Date Completed:	11/13/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-512	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
 Well Installation Diameter (inches): 4



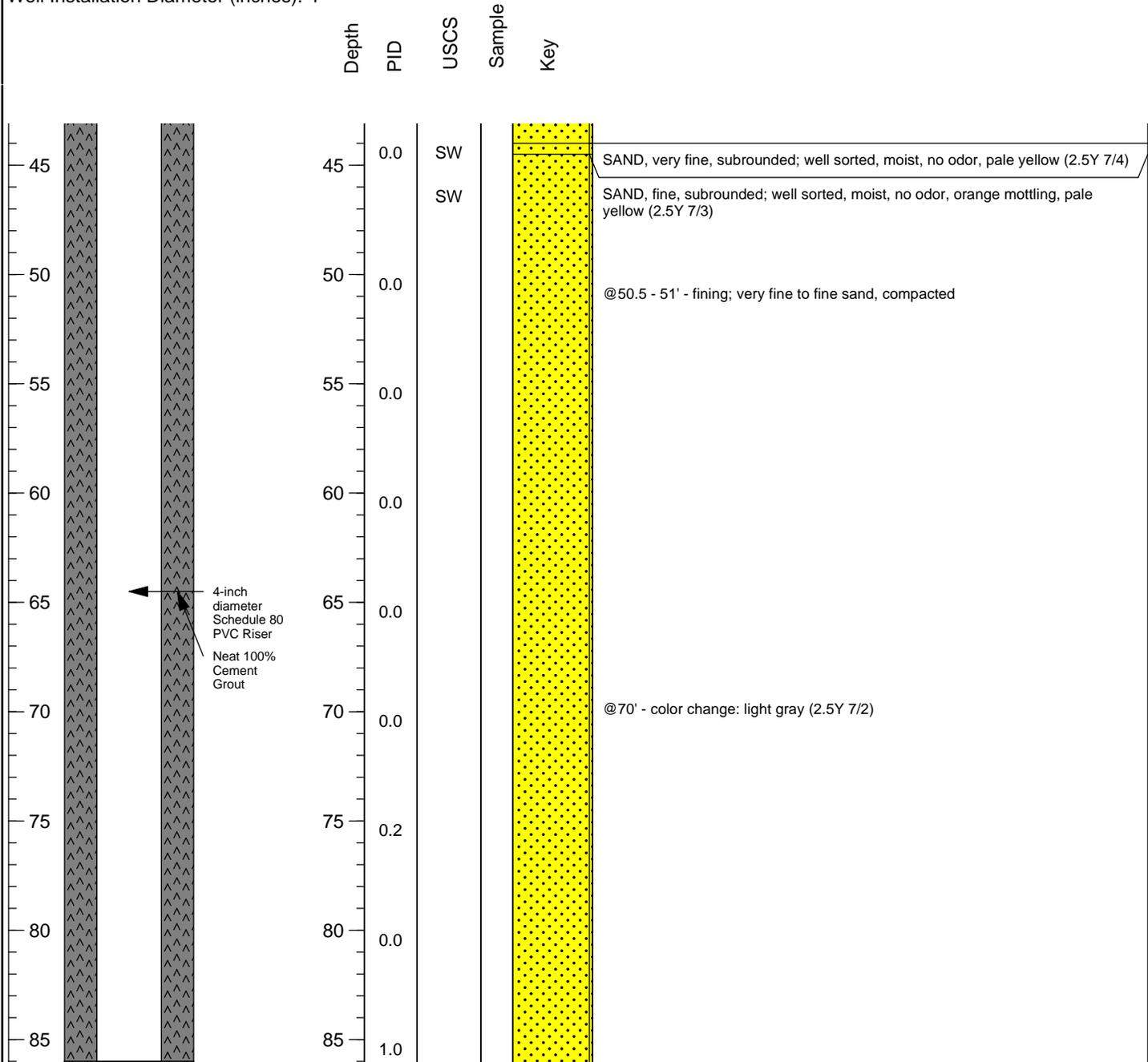
LOG OF BORING KV-8
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC00463.010.DG213	Date Started:	11/6/13
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Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-512	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4



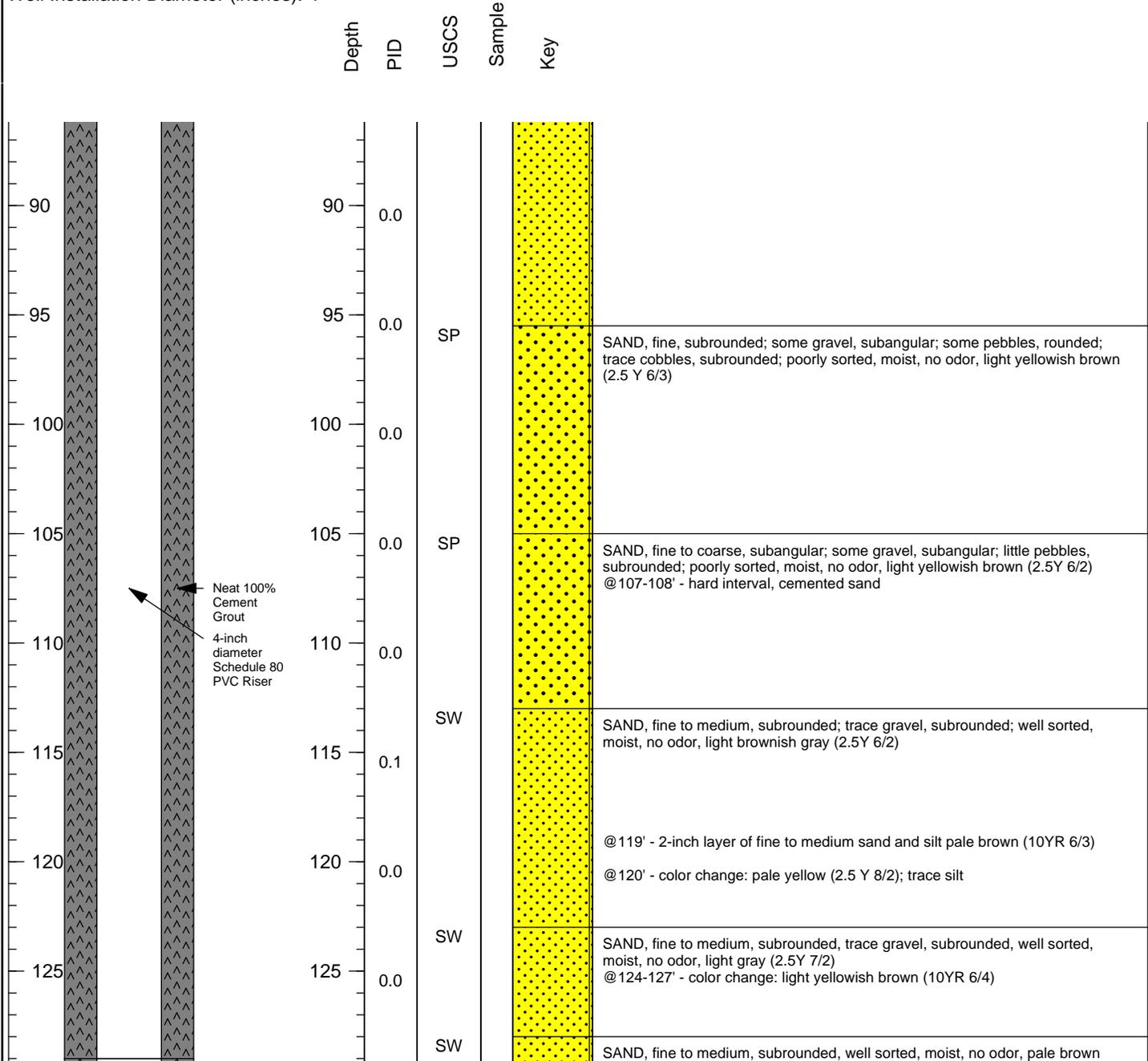
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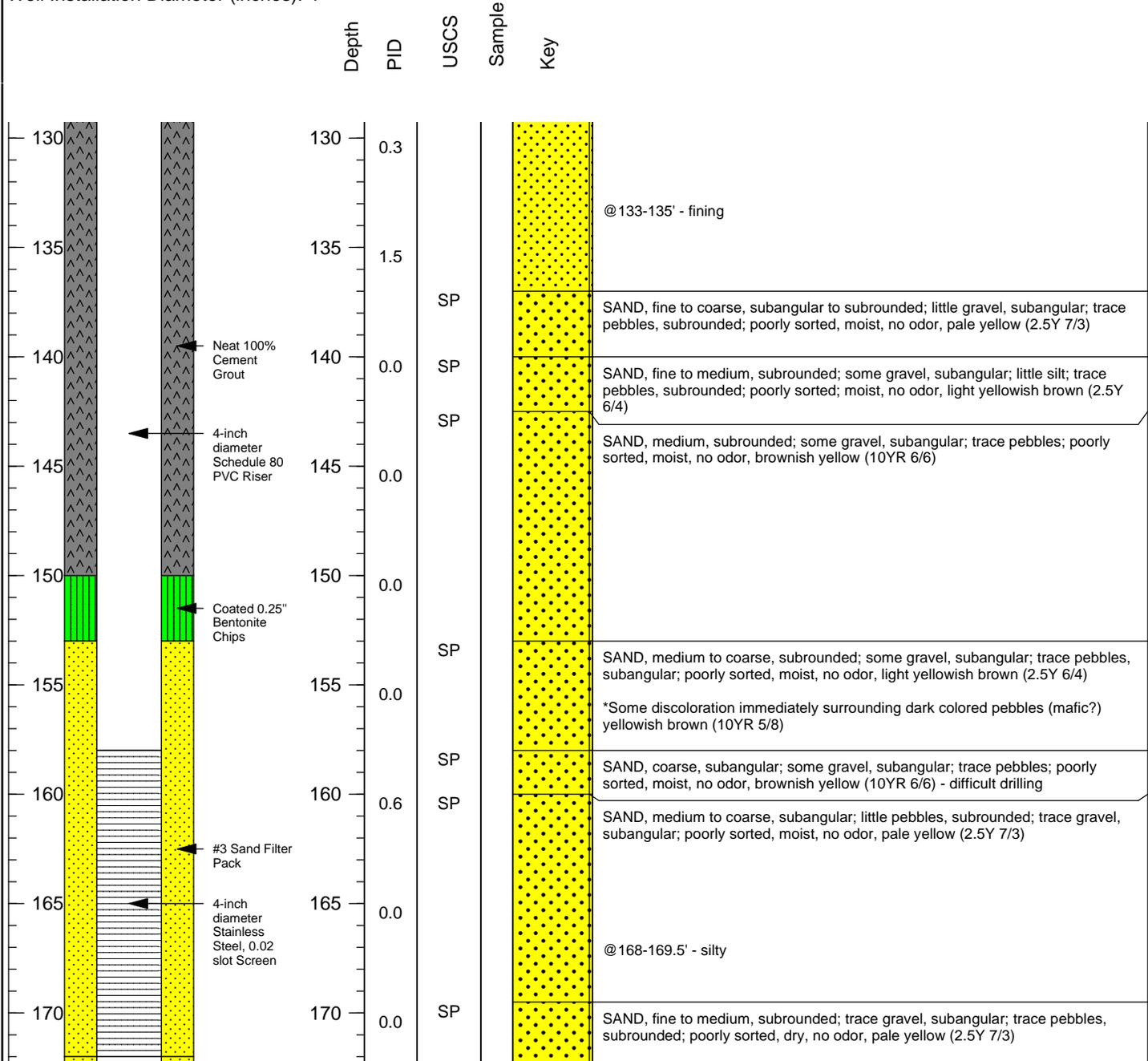
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Well Permit #:	SM13-512	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4

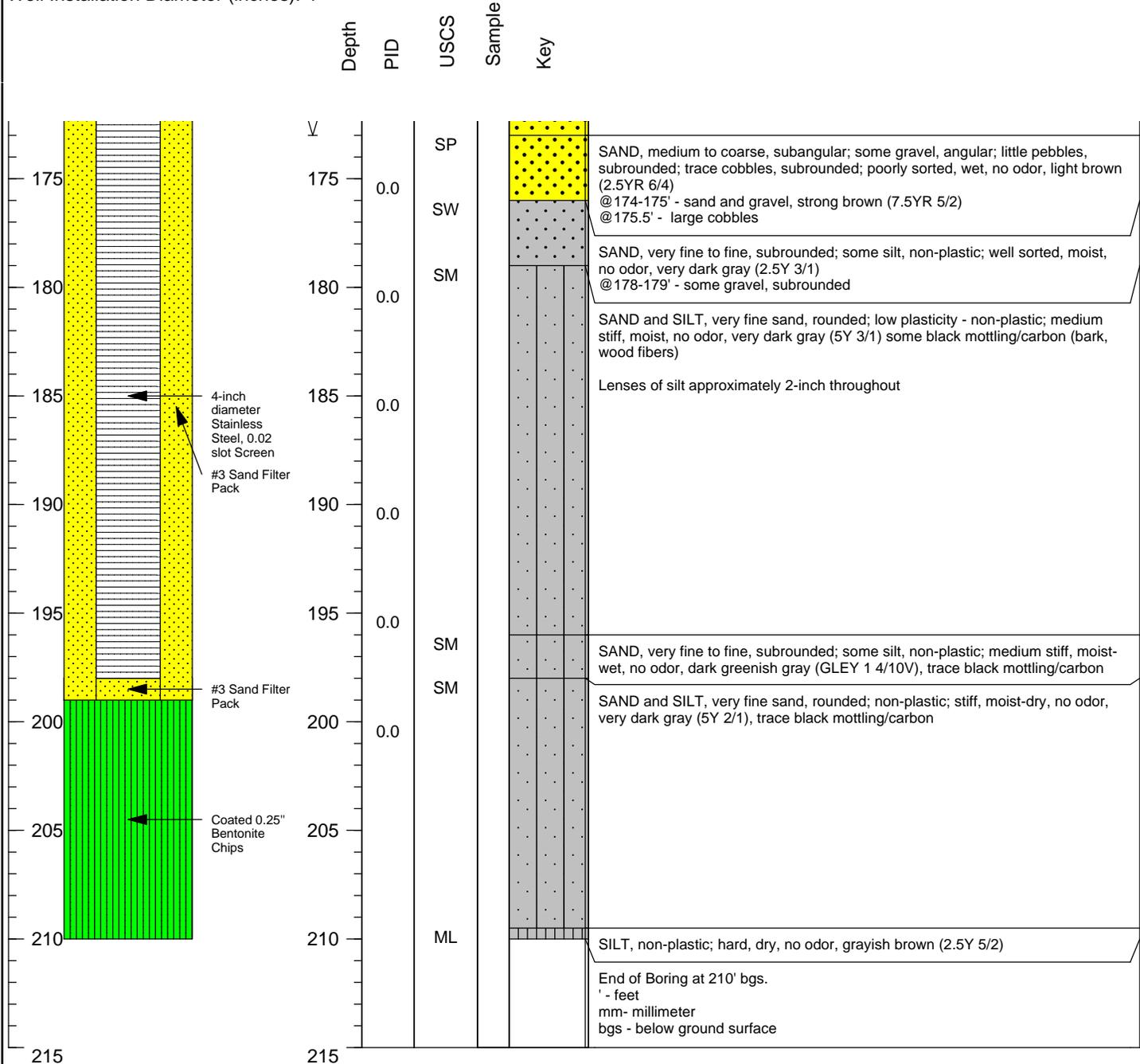


Project No.:	RC00463.010.DG213	Date Started:	11/6/13
Logged by:	M. Morrow	Date Completed:	11/13/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-512	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4



LOG OF BORING KV-9

Silicon Valley Group (SVG)

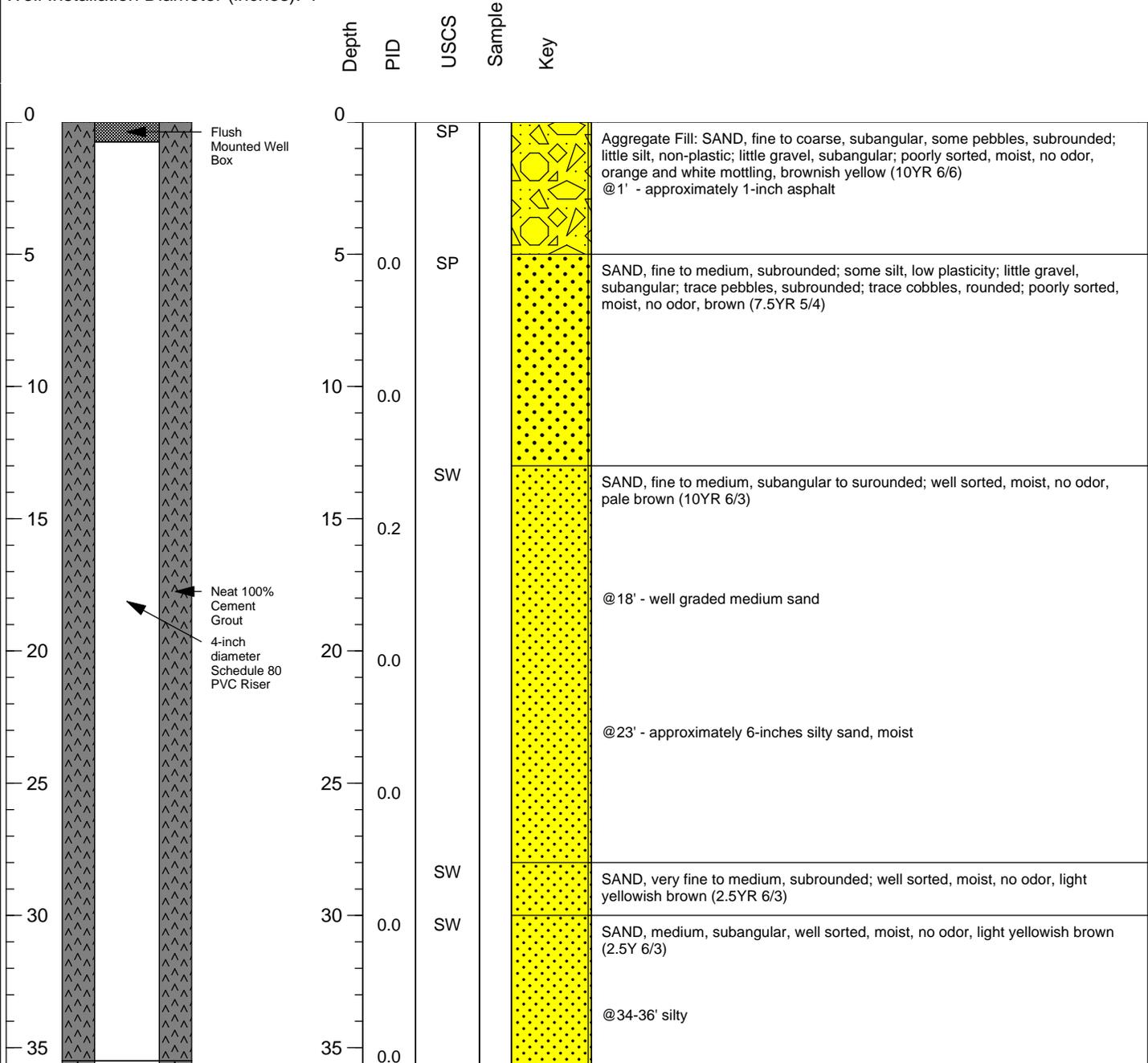
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0112.DG213	Date Started:	11/14/13
Logged by:	M. Morrow	Date Completed:	12/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-513	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
 Well Installation Diameter (inches): 4

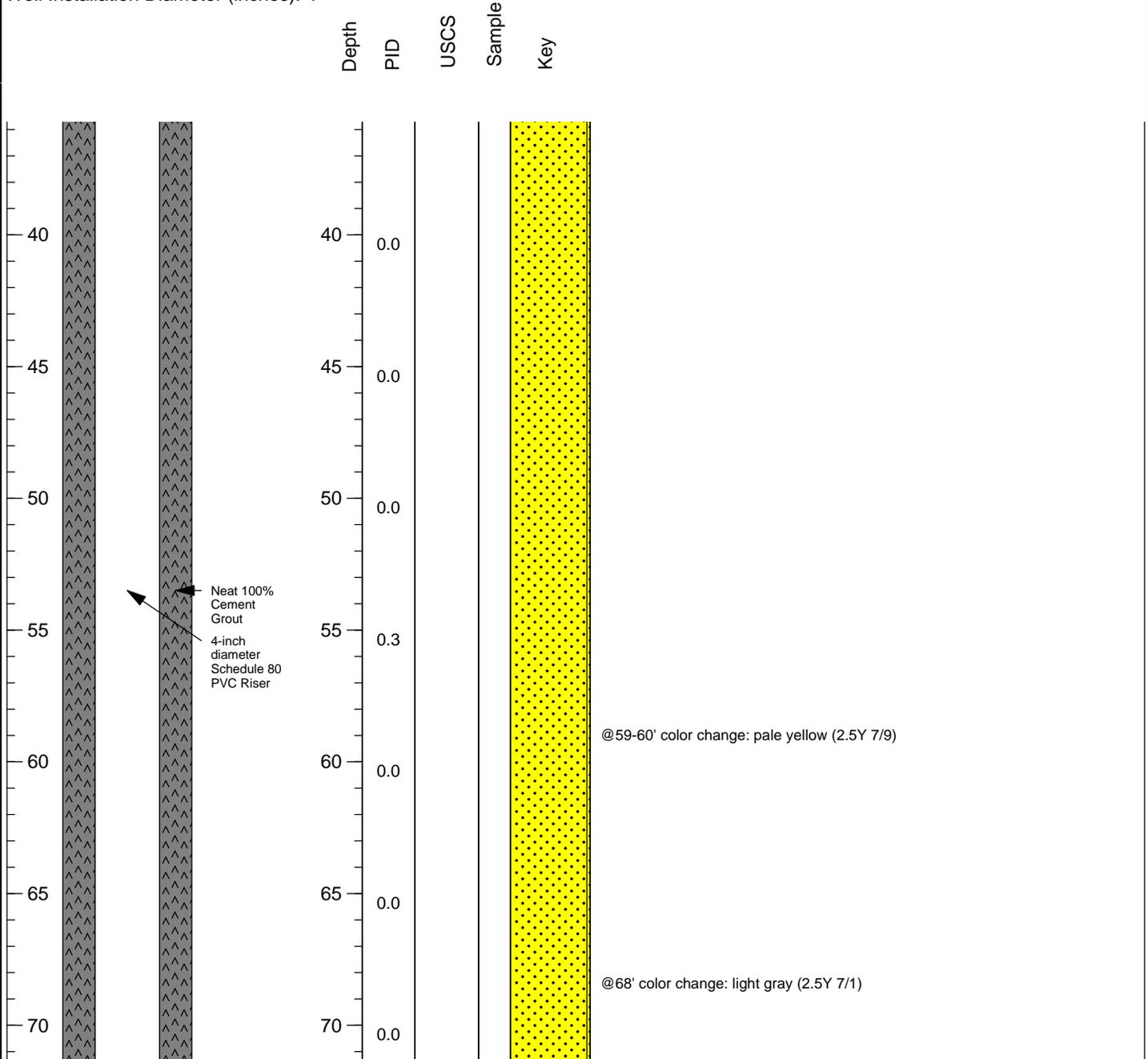


Project No.:	RC000463.0112.DG213	Date Started:	11/14/13
Logged by:	M. Morrow	Date Completed:	12/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-513	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4

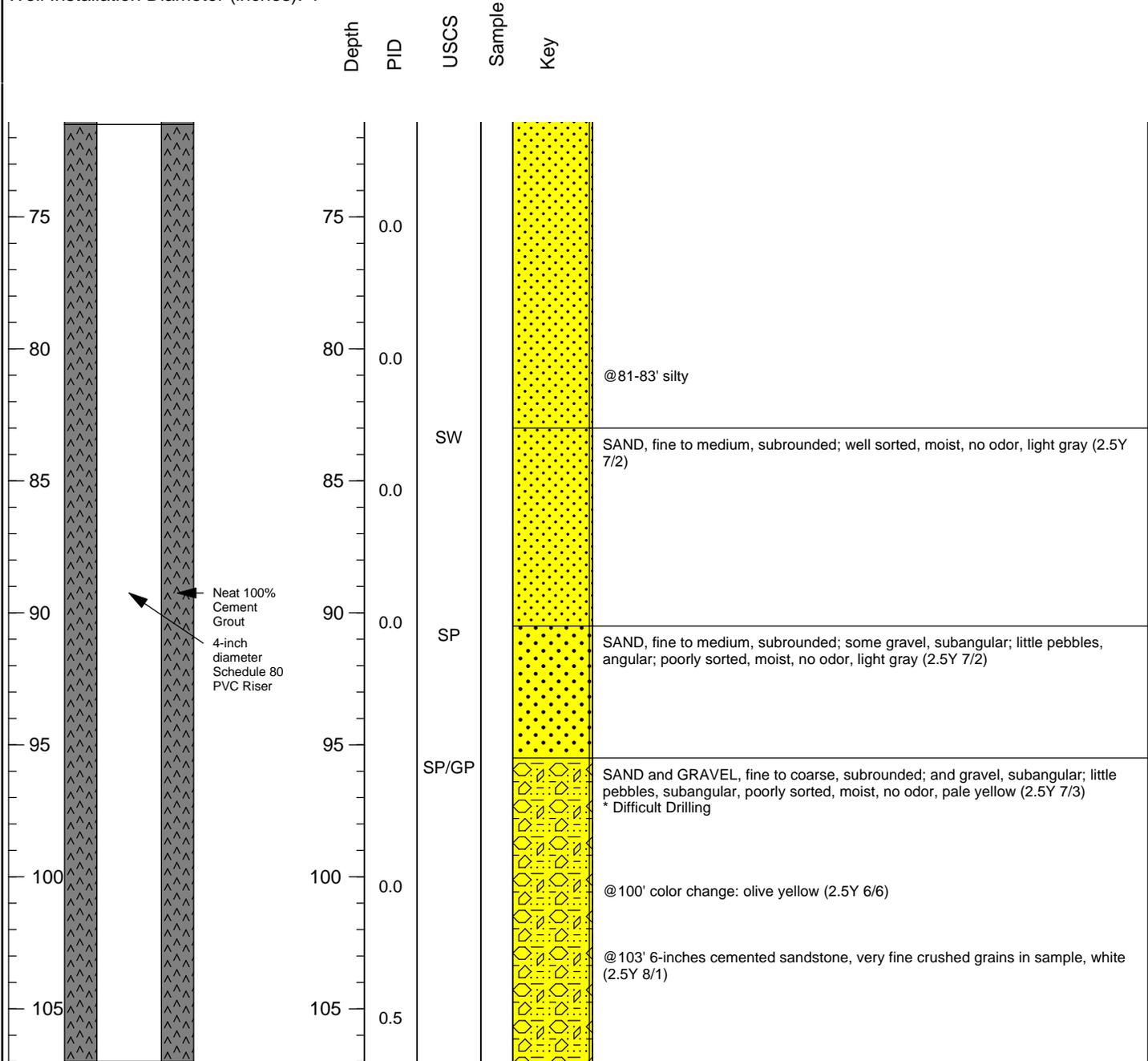


Project No.:	RC000463.0112.DG213	Date Started:	11/14/13
Logged by:	M. Morrow	Date Completed:	12/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-513	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
 Well Installation Diameter (inches): 4

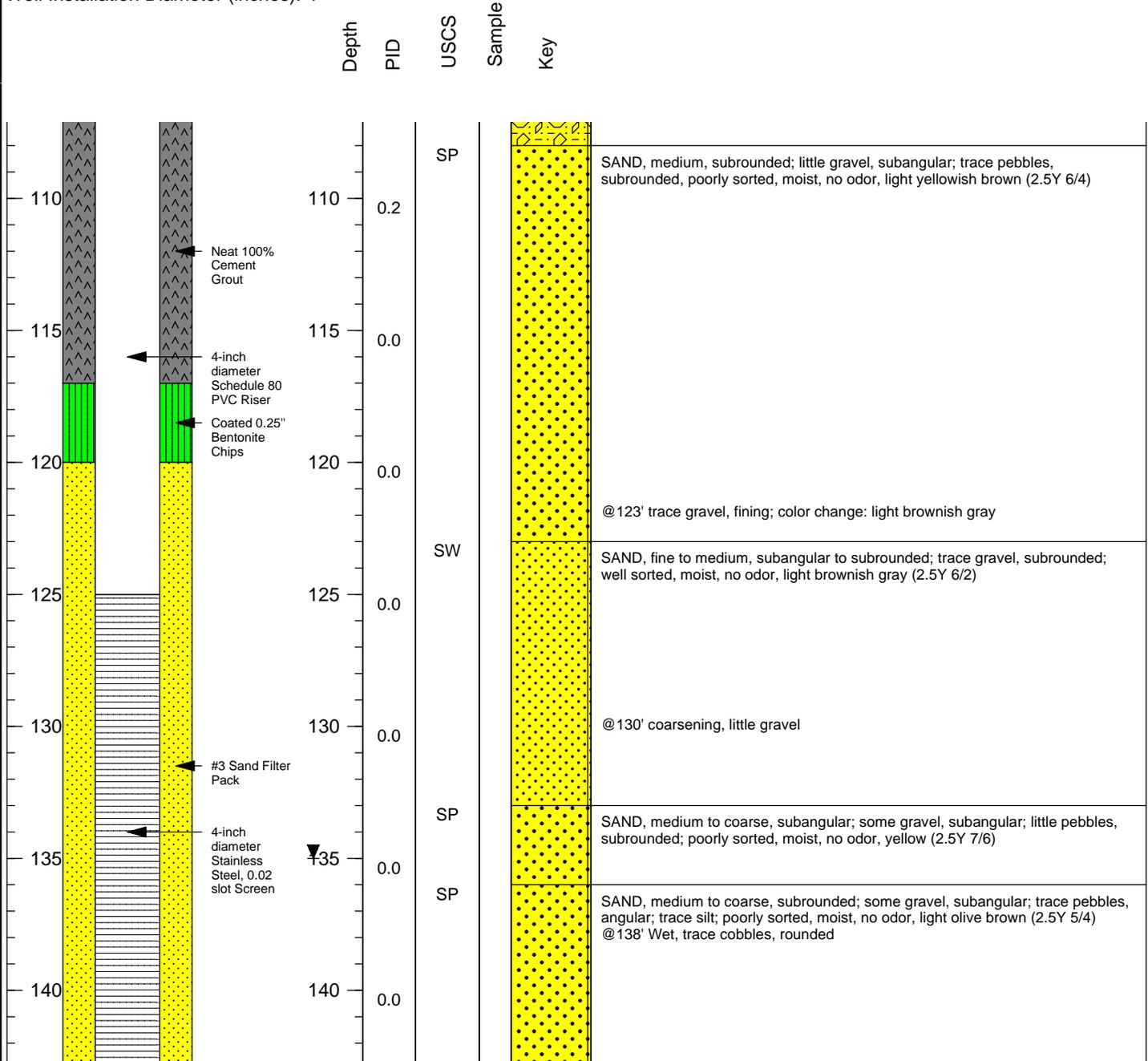


Project No.:	RC000463.0112.DG213	Date Started:	11/14/13
Logged by:	M. Morrow	Date Completed:	12/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-513	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4



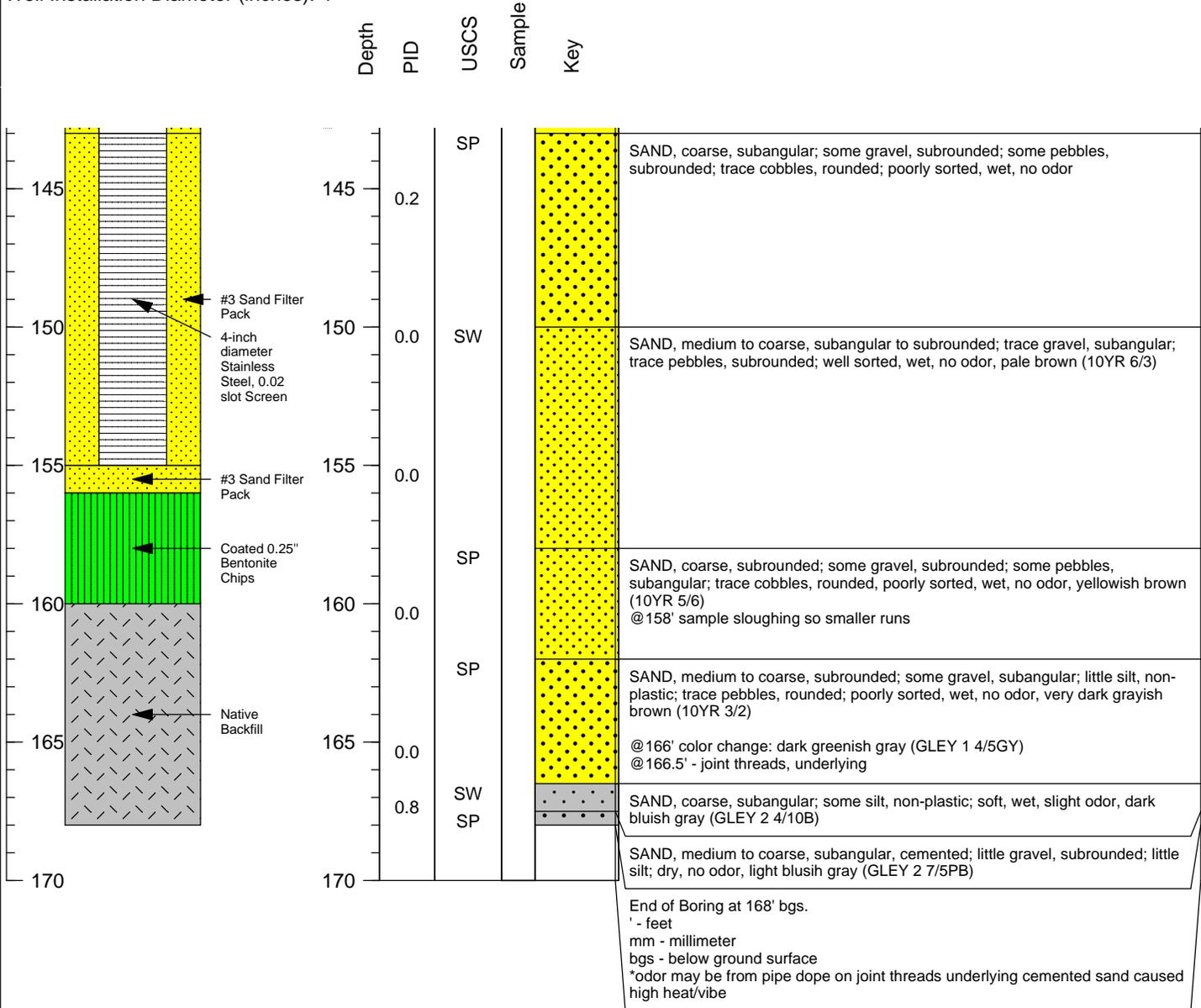
LOG OF BORING KV-9
Silicon Valley Group (SVG)
440 Kings Village Road, Scotts Valley, CA

Project No.:	RC000463.0112.DG213	Date Started:	11/14/13
Logged by:	M. Morrow	Date Completed:	12/4/13
Drilling Co.:	Cascade Drilling, LP.	Drilling Method:	Rotosonic
Drillers:	Coben Rockhill	Sample Method:	6-inch core barrel
Well Permit #:	SM13-513	Driller's License:	938110

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10-inch
Well Installation Diameter (inches): 4





Appendix D

Laboratory Reports and
Chain-of-Custody



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 250030
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
KV-7-65	250030-001
KV-7-70	250030-002
KV-7-75	250030-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Will S Rice
Project Manager
will.rice@ctberk.com

Date: 10/25/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 250030
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 10/18/13
Samples Received: 10/18/13

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 10/18/13. The sample was received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

ID#: **250030**

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Contact & Company Name: **ARCADIS** Telephone: **925-202-7948**
 Address: **Kathy Brandt** Fax:
 City: **EMERYVILLE** State: **ON** Zip: **FILE** E-mail Address:

Preservative	E								
Filtered (✓)									
# of Containers	1								
Container Information	7								

Keys

Preservation Key:	Container Information Key:
A. H ₂ SO ₄	1. 40 ml Vial
B. HCl	2. 1 L Amber
C. HNO ₃	3. 250 ml Plastic
D. NaOH	4. 500 ml Plastic
E. None	5. Encore
F. Other: _____	6. 2 oz. Glass
G. Other: _____	7. 4 oz. Glass
H. Other: _____	8. 8 oz. Glass
	9. Other: _____
	10. Other: _____

Matrix Key:

SO - Soil	SE - Sediment	NL - NAPL/Oil
W - Water	SL - Sludge	SW - Sample Wipe
T - Tissue	A - Air	Other: _____

Project Name/Location (City, State): **Scotts Valley, CA** Project #: **R000463.0000.D9213**
 Sampler's Printed Name: **MARILYN MORROW** Sampler's Signature: *[Signature]*

PARAMETER ANALYSIS & METHOD

Sample ID	Collection		Type (✓)		Matrix
	Date	Time	Comp	Grab	

*B260 **

1
2
3

KV-7-65	10/16	1730	X	SO	X														
KV-7-70	10/16	1732	X	SO	X														
KV-7-75	10/17	1530	X	SO	X														

REMARKS

HOLD
HOLD

Special Instructions/Comments: *** Report B010 list** Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By		Received By		Relinquished By		Laboratory Received By	
Lab Name: C+T	Cooler Custody Seal (✓) <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: M. MORROW Signature: <i>[Signature]</i>	Printed Name: Ian Amberson Signature: <i>[Signature]</i>	Printed Name: Ian Amberson Signature: <i>[Signature]</i>	Printed Name: TINA RAIKAR Signature: <i>[Signature]</i>				
<input checked="" type="checkbox"/> Cooler packed with ice (✓)	Sample Receipt:	Firm: ARCADIS	Firm/Courier: C+T	Firm/Courier: C+T	Firm: C+T				
Specify Turnaround Requirements: Standard 5 day	Condition/Cooler Temp: _____	Date/Time: 10/18/13 1300	Date/Time: 10/18/13 @ 1600	Date/Time: 10/13/13 @ 1845	Date/Time: 10/18/13 @ 1845				

3 of 8

COOLER RECEIPT CHECKLIST



Login # 250030 Date Received 10/18/13 Number of coolers 1
Client ARCADIS Project SVG

Date Opened 10/18/13 By (print) AR (sign) Jima Rauka
Date Logged in [arrow] By (print) [arrow] (sign) [arrow]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Volatile Organics			
Lab #:	250030	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-7-75	Diln Fac:	0.9615
Lab ID:	250030-003	Batch#:	204228
Matrix:	Soil	Sampled:	10/16/13
Units:	ug/Kg	Received:	10/18/13
Basis:	as received	Analyzed:	10/20/13

Analyte	Result	RL
Chloromethane	ND	9.6
Vinyl Chloride	ND	9.6
Bromomethane	ND	9.6
Chloroethane	ND	9.6
Trichlorofluoromethane	ND	4.8
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
trans-1,2-Dichloroethene	ND	4.8
1,1-Dichloroethane	ND	4.8
cis-1,2-Dichloroethene	ND	4.8
Chloroform	ND	4.8
1,1,1-Trichloroethane	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
cis-1,3-Dichloropropene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
Tetrachloroethene	ND	4.8
Dibromochloromethane	ND	4.8
Chlorobenzene	ND	4.8
Bromoform	ND	9.6
1,1,2,2-Tetrachloroethane	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-124
1,2-Dichloroethane-d4	118	80-137
Toluene-d8	112	80-120
Bromofluorobenzene	92	79-127

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250030	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC712685	Batch#:	204228
Matrix:	Soil	Analyzed:	10/20/13
Units:	ug/Kg		

Analyte	Result	RL
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-124
1,2-Dichloroethane-d4	108	80-137
Toluene-d8	102	80-120
Bromofluorobenzene	96	79-127

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250030	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	204228
Units:	ug/Kg	Analyzed:	10/20/13
Diln Fac:	1.000		

Type: BS Lab ID: QC712686

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	21.29	106	67-132
Trichloroethene	20.00	20.66	103	76-127
Chlorobenzene	20.00	22.87	114	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-124
1,2-Dichloroethane-d4	111	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	90	79-127

Type: BSD Lab ID: QC712687

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	21.56	108	67-132	1	27
Trichloroethene	20.00	20.71	104	76-127	0	22
Chlorobenzene	20.00	23.27	116	76-120	2	21

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-124
1,2-Dichloroethane-d4	110	80-137
Toluene-d8	103	80-120
Bromofluorobenzene	88	79-127

RPD= Relative Percent Difference

Batch QC Report

Volatile Organics			
Lab #:	250030	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	204228
MSS Lab ID:	250024-002	Sampled:	10/18/13
Matrix:	Soil	Received:	10/18/13
Units:	ug/Kg	Analyzed:	10/20/13
Basis:	as received		

Type: MS Diln Fac: 0.9843
 Lab ID: QC712699

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.9322	49.21	40.08	81	52-132
Trichloroethene	<0.8285	49.21	38.14	77	46-138
Chlorobenzene	<0.6806	49.21	40.03	81	41-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-124
1,2-Dichloroethane-d4	110	80-137
Toluene-d8	102	80-120
Bromofluorobenzene	87	79-127

Type: MSD Diln Fac: 0.9709
 Lab ID: QC712700

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.54	44.35	91	52-132	11	46
Trichloroethene	48.54	42.81	88	46-138	13	50
Chlorobenzene	48.54	44.04	91	41-120	11	50

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-124
1,2-Dichloroethane-d4	108	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	85	79-127

RPD= Relative Percent Difference



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 250109
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
KV-7-100	250109-001
KV-7-GW-107	250109-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 10/23/2013

Will S Rice
Project Manager
will.rice@ctberk.com

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 250109
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 10/22/13
Samples Received: 10/22/13

This data package contains sample and QC results for one water sample, requested for the above referenced project on 10/22/13. The sample was received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

ID#: 250109

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Send Results to: **ARCADIS**
Kathy Brandt
Telephone: **925-202-7948**
Address: **ON FILE**
City: **Emeryville, CA**
State: _____ Zip: _____
Fax: _____
E-mail Address: _____

Preservative									
Filtered (✓)									
# of Containers									
Container Information									

Keys

Preservation Key:
A. H₂SO₄
B. HCL
C. HNO₃
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

PARAMETER ANALYSIS & METHOD

Project Name/Location (City, State): **Scotts Valley, CA**
Project #: **RC000463.012 DG 213**
Sampler's Printed Name: **M. Morrow**
Sampler's Signature: _____

PARAMETER ANALYSIS & METHOD									
8260 *									

Sample ID	Collection		Type (✓)		Matrix
	Date	Time	Comp	Grab	

1 KV-7-100	10/18	1500		X	SO	X													
2 KV-7-GW-107	10/22	0900		X	W	X													

REMARKS
Hold
RUSH 24hr TAT

Special Instructions/Comments: *** Report 8010 List** Special QA/QC Instructions (✓):

Laboratory Information and Receipt		Relinquished By		Received By		Relinquished By		Laboratory Received By	
Lab Name: C+T	Cooler Custody Seal (✓) <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: M. MORROW Signature: _____	Printed Name: Jan Amberson Signature: _____	Printed Name: Jan Amberson Signature: _____	Printed Name: TINA RAIKAR Signature: _____	Printed Name: M. MORROW Signature: _____	Printed Name: Jan Amberson Signature: _____	Printed Name: Tina Raikan Signature: _____	Printed Name: Tina Raikan Signature: _____
Specify Turnaround Requirements: RUSH 24hr	Sample Receipt:	Firm: ARCADIS	Firm/Courier: C+T	Firm/Courier: C+T	Firm/Courier: C+T	Firm/Courier: C+T	Firm/Courier: C+T	Firm/Courier: C&T	Firm/Courier: C&T
Shipping Tracking #: Courier	Condition/Cooler Temp: _____	Date/Time: 10/22/13 1300	Date/Time: 10/22/13 1416	Date/Time: 10/22/13 1805	Date/Time: 10/22/13 1805	Date/Time: 10/22/13 1805	Date/Time: 10/22/13 1805	Date/Time: 10/22/13 @ 1805	Date/Time: 10/22/13 @ 1805

3 of 9

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 250109 Date Received 10/22/13 Number of coolers 1
Client ARCADIS Project RC000403.0112DG1243

Date Opened 10/22/13 By (print) TR (sign) Tina Ranka
Date Logged in [down arrow] By (print) [down arrow] (sign) [down arrow]

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info _____

2A. Were custody seals present? ... [] YES (circle) on cooler on samples [X] NO
How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? YES NO (N/A)

3. Were custody papers dry and intact when received? (YES) NO

4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO

5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO

6. Indicate the packing in cooler: (if other, describe) _____

- [] Bubble Wrap [] Foam blocks [X] Bags [] None
[] Cloth material [] Cardboard [] Styrofoam [] Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: [X] Wet [] Blue/Gel [] None Temp(°C) 3.2

[] Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

[X] Samples received on ice directly from the field. Cooling process had begun

1/2 sampled today ->

8. Were Method 5035 sampling containers present? (YES) (NO)

If YES, what time were they transferred to freezer? 10:10

9. Did all bottles arrive unbroken/unopened? (YES) NO

10. Are there any missing / extra samples? YES (NO)

11. Are samples in the appropriate containers for indicated tests? (YES) NO

12. Are sample labels present, in good condition and complete? (YES) NO

13. Do the sample labels agree with custody papers? (YES) NO

14. Was sufficient amount of sample sent for tests requested? (YES) NO

15. Are the samples appropriately preserved? YES NO (N/A)

16. Did you check preservatives for all bottles for each sample? YES NO (N/A)

17. Did you document your preservative check? YES NO (N/A)

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)

19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)

20. Are bubbles > 6mm absent in VOA samples? YES NO (N/A)

21. Was the client contacted concerning this sample delivery? YES (NO)

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Blank lines for handwritten comments.

Volatile Organics			
Lab #:	250109	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-7-GW-107	Batch#:	204281
Lab ID:	250109-002	Sampled:	10/22/13
Matrix:	Water	Received:	10/22/13
Units:	ug/L	Analyzed:	10/22/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	0.6	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	55	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	115	72-140
Toluene-d8	109	80-120
Bromofluorobenzene	112	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250109	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC712898	Batch#:	204281
Matrix:	Water	Analyzed:	10/22/13
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.33	97	61-137
Trichloroethene	25.00	25.82	103	77-122
Chlorobenzene	25.00	26.29	105	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	113	72-140
Toluene-d8	105	80-120
Bromofluorobenzene	105	80-120

Batch QC Report

Volatile Organics			
Lab #:	250109	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC712899	Batch#:	204281
Matrix:	Water	Analyzed:	10/22/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	120	72-140
Toluene-d8	107	80-120
Bromofluorobenzene	109	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250109	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	204281
MSS Lab ID:	250033-002	Sampled:	10/17/13
Matrix:	Water	Received:	10/18/13
Units:	ug/L	Analyzed:	10/22/13
Diln Fac:	1.000		

Type: MS Lab ID: QC712900

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1519	25.00	27.43	110	68-130
Trichloroethene	0.1273	25.00	28.93	115	72-123
Chlorobenzene	7.182	25.00	34.80	110	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	72-140
Toluene-d8	104	80-120
Bromofluorobenzene	104	80-120

Type: MSD Lab ID: QC712919

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	28.21	113	68-130	3	26
Trichloroethene	25.00	29.54	118	72-123	2	20
Chlorobenzene	25.00	36.67	118	80-120	5	21

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	72-140
Toluene-d8	104	80-120
Bromofluorobenzene	107	80-120

RPD= Relative Percent Difference

Batch QC Report

Volatile Organics			
Lab #:	250109	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC713038	Batch#:	204281
Matrix:	Water	Analyzed:	10/22/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	112	72-140
Toluene-d8	109	80-120
Bromofluorobenzene	115	80-120

ND= Not Detected

RL= Reporting Limit



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Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 250505
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

Sample ID
KV-6-GW-124

Lab ID
250505-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Will S Rice
Project Manager
will.rice@ctberk.com

Date: 11/05/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 250505
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 11/04/13
Samples Received: 11/04/13

This data package contains sample and QC results for one water sample, requested for the above referenced project on 11/04/13. The sample was received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):

KV-6-GW-124 (lab # 250505-001) had pH greater than 2. No other analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 250505 Date Received 11/04/13 Number of coolers 1
 Client Acadco Project Acadco K1000463

Date Opened 11/04/13 By (print) ML (sign) [Signature]
 Date Logged in 6 By (print) 6 (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? _____ YES NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO

If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

207 1 of 3 VOA rec'd w/bubble

Volatile Organics			
Lab #:	250505	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-6-GW-124	Batch#:	204689
Lab ID:	250505-001	Sampled:	11/04/13
Matrix:	Water	Received:	11/04/13
Units:	ug/L	Analyzed:	11/04/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	0.8	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	2.1	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	58	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	114	72-140
Toluene-d8	96	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250505	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	204689
Units:	ug/L	Analyzed:	11/04/13
Diln Fac:	1.000		

Type: BS Lab ID: QC714602

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	10.47	84	61-137
Trichloroethene	12.50	12.46	100	77-122
Chlorobenzene	12.50	13.33	107	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	72-140
Toluene-d8	96	80-120
Bromofluorobenzene	90	80-120

Type: BSD Lab ID: QC714603

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	10.10	81	61-137	4	24
Trichloroethene	12.50	12.21	98	77-122	2	20
Chlorobenzene	12.50	12.95	104	80-120	3	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	72-140
Toluene-d8	96	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference

Batch QC Report

Volatile Organics			
Lab #:	250505	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC714604	Batch#:	204689
Matrix:	Water	Analyzed:	11/04/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	72-140
Toluene-d8	96	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected

RL= Reporting Limit



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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 250586
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

Sample ID
KV-8-GW-24

Lab ID
250586-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Will S Rice
Project Manager
will.rice@ctberk.com

Date: 11/11/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 250586
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 11/06/13
Samples Received: 11/06/13

This data package contains sample and QC results for one water sample, requested for the above referenced project on 11/06/13. The sample was received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):

Low recoveries were observed for trichloroethene in the MS/MSD for batch 204835; the parent sample was not a project sample, and the BS/BSD were within limits. Responses exceeding the instrument's linear range were observed for trichloroethene in the MS/MSD for batch 204835; affected data was qualified with "b". KV-8-GW-24 (lab # 250586-001) had multiple vials combined due to sediment. No other analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 250586 Date Received 11/6/13 Number of coolers 1
Client ARCADIS Project SCOTTS VALLEY (RC000403.0112.)
Date Opened 11/6/13 By (print) TR (sign) JmaRaiten
Date Logged in By (print) (sign)

- 1. Did cooler come with a shipping slip (airbill, etc) YES NO
2A. Were custody seals present? ... YES (circle) on cooler on samples NO
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap Foam blocks Bags None
Cloth material Cardboard Styrofoam Paper towels

- 7. Temperature documentation: * Notify PM if temperature exceeds 6°C
Type of ice used: Wet Blue/Gel None Temp(°C)
Samples Received on ice & cold without a temperature blank; temp. taken with IR gun
Samples received on ice directly from the field. Cooling process had begun

- 8. Were Method 5035 sampling containers present? YES NO
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are there any missing / extra samples? YES NO
11. Are samples in the appropriate containers for indicated tests? YES NO
12. Are sample labels present, in good condition and complete? YES NO
13. Do the sample labels agree with custody papers? YES NO
14. Was sufficient amount of sample sent for tests requested? YES NO
15. Are the samples appropriately preserved? YES NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO N/A
17. Did you document your preservative check? YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO N/A
21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Volatile Organics			
Lab #:	250586	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-8-GW-24	Batch#:	204835
Lab ID:	250586-001	Sampled:	11/06/13
Matrix:	Water	Received:	11/06/13
Units:	ug/L	Analyzed:	11/07/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	72-140
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250586	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC715217	Batch#:	204835
Matrix:	Water	Analyzed:	11/07/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	72-140
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250586	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	204835
MSS Lab ID:	250431-029	Sampled:	10/26/13
Matrix:	Water	Received:	10/31/13
Units:	ug/L	Analyzed:	11/07/13
Diln Fac:	1.000		

Type: MS Lab ID: QC715261

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	1.146	25.00	26.31	101	68-130
Trichloroethene	94.66	25.00	101.9 >LR b	29 *	72-123
Chlorobenzene	<0.1000	25.00	24.40	98	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	114	72-140
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-120

Type: MSD Lab ID: QC715262

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.25	104	68-130	4	26
Trichloroethene	25.00	103.2 >LR b	34 *	72-123	NC	20
Chlorobenzene	25.00	24.75	99	80-120	1	21

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	72-140
Toluene-d8	102	80-120
Bromofluorobenzene	99	80-120

*= Value outside of QC limits; see narrative
 b= See narrative
 NC= Not Calculated
 >LR= Response exceeds instrument's linear range
 RPD= Relative Percent Difference



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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 250754
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
KV-8-GW-172	250754-001
KV-8-GW-168	250754-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Will S Rice
Project Manager
will.rice@ctberk.com

Date: 11/14/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 250754
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 11/12/13
Samples Received: 11/12/13

This data package contains sample and QC results for two water samples, requested for the above referenced project on 11/12/13. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):

KV-8-GW-172 (lab # 250754-001) was analyzed with more than 1 mL of headspace in the VOA vial. No other analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 250754 Date Received 11/12/13 Number of coolers 1
 Client Arcadis Project RC000463.012

Date Opened 11/12 By (print) ims (sign) [Signature]
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO

Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 1.2

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Volatile Organics			
Lab #:	250754	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-8-GW-172	Batch#:	205024
Lab ID:	250754-001	Sampled:	11/11/13
Matrix:	Water	Received:	11/12/13
Units:	ug/L	Analyzed:	11/13/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	1.7	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	72-140
Toluene-d8	103	80-120
Bromofluorobenzene	108	80-120

ND= Not Detected
 RL= Reporting Limit

Volatile Organics			
Lab #:	250754	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-8-GW-168	Batch#:	205024
Lab ID:	250754-002	Sampled:	11/12/13
Matrix:	Water	Received:	11/12/13
Units:	ug/L	Analyzed:	11/13/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	101	72-140
Toluene-d8	108	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250754	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC715975	Batch#:	205024
Matrix:	Water	Analyzed:	11/13/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	72-140
Toluene-d8	106	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250754	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	205024
Units:	ug/L	Analyzed:	11/13/13
Diln Fac:	1.000		

Type: BS Lab ID: QC715976

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	21.25	20.55	97	61-137
Trichloroethene	21.25	22.25	105	77-122
Chlorobenzene	21.25	25.58	120	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	95	72-140
Toluene-d8	106	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC715977

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	21.25	21.89	103	61-137	6	24
Trichloroethene	21.25	22.23	105	77-122	0	20
Chlorobenzene	21.25	25.25	119	80-120	1	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	91	72-140
Toluene-d8	105	80-120
Bromofluorobenzene	104	80-120

RPD= Relative Percent Difference



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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 250866
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

Sample ID
KV-8-20131115

Lab ID
250866-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Will S Rice
Project Manager
will.rice@ctberk.com

Date: 11/26/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 250866
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 11/15/13
Samples Received: 11/15/13

This data package contains sample and QC results for one water sample, requested for the above referenced project on 11/15/13. The sample was received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

250866

Lab Work Order #

Send Results to:
 Contact & Company Name: Arcadis Kathy Brandt
 Telephone: 925-202-7948
 Address: ON FILE
 City: Emeryville CA
 State: CA Zip:
 E-mail Address: FILE

Preservative	<u>B</u>						
Filtered (✓)	<u>1</u>						
# of Containers	<u>3</u>						
Container Information	<u>1</u>						

- Keys**
- | | |
|-----------------------------------|-----------------------------------|
| Preservation Key: | Container Information Key: |
| A. H ₂ SO ₄ | 1. 40 ml Vial |
| B. HCL | 2. 1 L Amber |
| C. HNO ₃ | 3. 250 ml Plastic |
| D. NaOH | 4. 500 ml Plastic |
| E. None | 5. Encore |
| F. Other: _____ | 6. 2 oz. Glass |
| G. Other: _____ | 7. 4 oz. Glass |
| H. Other: _____ | 8. 8 oz. Glass |
| | 9. Other: _____ |
| | 10. Other: _____ |
- Matrix Key:**
- | | | |
|------------|---------------|------------------|
| SO - Soil | SE - Sediment | NL - NAPL/Oil |
| W - Water | SL - Sludge | SW - Sample Wipe |
| T - Tissue | A - Air | Other: _____ |

Project Name/Location (City, State): Scotts Valley
 Project #: RC000463.0112
 Sampler's Printed Name: M. MORROW
 Sampler's Signature: [Signature]

Sample ID	Collection		Type (✓)		Matrix
	Date	Time	Comp	Grab	
<u>KV-8-20131115</u>	<u>11/15</u>	<u>1330</u>	<u>X</u>	<u>W</u>	<u>X</u>

PARAMETER ANALYSIS & METHOD									
<u>8260*</u>									

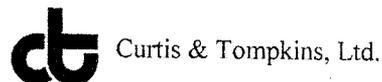
REMARKS

Special Instructions/Comments: * Report 8010 list Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By		Received By		Relinquished By		Laboratory Received By	
Lab Name: <u>C + T</u>	Cooler Custody Seal (✓) <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: <u>M. Morrow</u> Signature: <u>[Signature]</u>	Printed Name: <u>Ian Amberson</u> Signature: <u>[Signature]</u>	Printed Name: <u>Ian Amberson</u> Signature: <u>[Signature]</u>	Printed Name: <u>Miguel Garcia</u> Signature: <u>[Signature]</u>				
<input checked="" type="checkbox"/> Cooler packed with ice (✓)	Sample Receipt:	Firm: <u>ARCADIS</u>	Firm/Counter: <u>C&T</u>	Firm/Counter: <u>C&T</u>	Firm/Counter: <u>C&T</u>	Firm/Counter: <u>C&T</u>	Firm/Counter: <u>C&T</u>	Firm/Counter: <u>C&T</u>	Firm/Counter: <u>C&T</u>
Specify Turnaround Requirements: <u>Standard</u>	Condition/Cooler Temp: _____	Date/Time: <u>11/15/13 1400</u>	Date/Time: <u>11/15/13 1450</u>	Date/Time: <u>11/15/13 1450</u>	Date/Time: <u>11/15/13 1450</u>	Date/Time: <u>11/15/13 1450</u>	Date/Time: <u>11/15/13 1450</u>	Date/Time: <u>11/15/13 1450</u>	Date/Time: <u>11/15/13 1450</u>
Shipping Tracking #: <u>Courier</u>									

3 of 8

COOLER RECEIPT CHECKLIST



Login # 750966 Date Received 11/15/13 Number of coolers 1
 Client ARCADIS Project RL000463

Date Opened 11/15 By (print) cm6 (sign) [Signature]
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? _____ YES NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 1.5

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO

If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Volatile Organics			
Lab #:	250866	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-8-20131115	Batch#:	205324
Lab ID:	250866-001	Sampled:	11/15/13
Matrix:	Water	Received:	11/15/13
Units:	ug/L	Analyzed:	11/21/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	1.1	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	72-140
Toluene-d8	104	80-120
Bromofluorobenzene	114	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250866	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC717154	Batch#:	205324
Matrix:	Water	Analyzed:	11/21/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	72-140
Toluene-d8	106	80-120
Bromofluorobenzene	118	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	250866	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	205324
Units:	ug/L	Analyzed:	11/21/13
Diln Fac:	1.000		

Type: BS Lab ID: QC717155

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	18.75	18.84	100	61-137
Trichloroethene	18.75	19.68	105	77-122
Chlorobenzene	18.75	22.47	120	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	72-140
Toluene-d8	103	80-120
Bromofluorobenzene	110	80-120

Type: BSD Lab ID: QC717156

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	18.75	19.28	103	61-137	2	24
Trichloroethene	18.75	17.42	93	77-122	12	20
Chlorobenzene	18.75	20.70	110	80-120	8	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	72-140
Toluene-d8	107	80-120
Bromofluorobenzene	109	80-120

RPD= Relative Percent Difference

Batch QC Report

Volatile Organics			
Lab #:	250866	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	205324
MSS Lab ID:	250865-008	Sampled:	11/13/13
Matrix:	Water	Received:	11/15/13
Units:	ug/L	Analyzed:	11/21/13
Diln Fac:	1.000		

Type: MS Lab ID: QC717237

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1000	20.00	18.99	95	68-130
Trichloroethene	2.080	20.00	20.31	91	72-123
Chlorobenzene	<0.1136	20.00	21.50	108	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	112	72-140
Toluene-d8	106	80-120
Bromofluorobenzene	112	80-120

Type: MSD Lab ID: QC717238

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	18.47	92	68-130	3	26
Trichloroethene	20.00	20.25	91	72-123	0	20
Chlorobenzene	20.00	21.37	107	80-120	1	21

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	72-140
Toluene-d8	107	80-120
Bromofluorobenzene	111	80-120

RPD= Relative Percent Difference



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 251260
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
KV-6 @ 125	251260-001
KV-6 @ 133	251260-002
KV-7 @ 115	251260-003
KV-7 @ 125	251260-004
KV-7 @ 135	251260-005

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Will S Rice
Project Manager
will.rice@ctberk.com

Date: 12/04/2013

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 251260
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 12/02/13
Samples Received: 12/02/13

This data package contains sample and QC results for five water samples, requested for the above referenced project on 12/02/13. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

CHAIN OF CUSTODY

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2323 Fifth Street
 Berkeley, CA 94710

Phone (510) 486-0900
 Fax (510) 486-0532

C&T LOGIN # 251260

Project No: RC000463.0112.NA213 Sampler: Heather Tauscher
 Project Name: SV6 AV12A Report To: Katie Wynne
 Project P. O. No: _____ Company: ARCADIS
 EDD Format: Report Level II III IV Telephone: _____
 Turnaround Time: RUSH Standard Email: see file

ANALYTICAL REQUEST											
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IST 01080928
826008010 LST

Lab No.	Sample ID.	SAMPLING		MATRIX			# of Containers	CHEMICAL PRESERVATIVE						
		Date Collected	Time Collected	Water	Solid			HCl	H2SO4	HNO3	NaOH	None		
1	KV-6 @ 125	11/27/13	1000	X			3	X						
2	KV-6 @ 133	11/27/13	1009	X			3	X						
3	KV-7 @ 115	11/27/13	1031	X			3	X						
4	KV-7 @ 125	11/27/13	1040	X			3	X						
5	KV-7 @ 135	11/27/13	1047	X			3	X						

Notes: temp blank

SAMPLE RECEIPT

Intact
 Cold
 On Ice
 Ambient

RELINQUISHED BY:

Karen Martiz DATE: 12/2/13 TIME: 13:12
[Signature] DATE: 12/2/13 TIME: 1805
 DATE: _____ TIME: _____

RECEIVED BY:

Jan Amberson DATE: 12/2/13 TIME: 13:12
Jana Roukan DATE: 12/2/13 TIME: 1805
 DATE: _____ TIME: _____

COOLER RECEIPT CHECKLIST



Login # 251200 Date Received 12/2/13 Number of coolers 1
 Client ARCADIS Project RCDDP463.0112.NA213 (SVG AVIZA)
 Date Opened 12/2/13 By (print) IR (sign) Jana Rauton
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A
 3. Were custody papers dry and intact when received? _____ YES NO
 4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO IR
 5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO
 6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C
 Type of ice used: Wet Blue/Gel None Temp(°C) 7.2
 Samples Received on ice & cold without a temperature blank; temp. taken with IR gun
 Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____
 9. Did all bottles arrive unbroken/unopened? _____ YES NO
 10. Are there any missing / extra samples? _____ YES NO
 11. Are samples in the appropriate containers for indicated tests? _____ YES NO
 12. Are sample labels present, in good condition and complete? _____ YES NO
 13. Do the sample labels agree with custody papers? _____ YES NO
 14. Was sufficient amount of sample sent for tests requested? _____ YES NO
 15. Are the samples appropriately preserved? _____ YES NO N/A
 16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A
 17. Did you document your preservative check? _____ YES NO N/A
 18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A
 19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A
 20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A
 21. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Volatile Organics			
Lab #:	251260	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-6 @ 125	Batch#:	205694
Lab ID:	251260-001	Sampled:	11/27/13
Matrix:	Water	Received:	12/02/13
Units:	ug/L	Analyzed:	12/03/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	25	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
 RL= Reporting Limit

Volatile Organics			
Lab #:	251260	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-6 @ 133	Batch#:	205694
Lab ID:	251260-002	Sampled:	11/27/13
Matrix:	Water	Received:	12/02/13
Units:	ug/L	Analyzed:	12/03/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	0.8	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	2.4	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	24	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
 RL= Reporting Limit

Volatile Organics			
Lab #:	251260	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-7 @ 115	Batch#:	205694
Lab ID:	251260-003	Sampled:	11/27/13
Matrix:	Water	Received:	12/02/13
Units:	ug/L	Analyzed:	12/03/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	0.6	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	60	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
 RL= Reporting Limit

Volatile Organics			
Lab #:	251260	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-7 @ 125	Batch#:	205694
Lab ID:	251260-004	Sampled:	11/27/13
Matrix:	Water	Received:	12/02/13
Units:	ug/L	Analyzed:	12/03/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	0.8	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	2.7	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	42	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
 RL= Reporting Limit

Volatile Organics			
Lab #:	251260	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-7 @ 135	Batch#:	205694
Lab ID:	251260-005	Sampled:	11/27/13
Matrix:	Water	Received:	12/02/13
Units:	ug/L	Analyzed:	12/03/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	20	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	251260	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	205694
Units:	ug/L	Analyzed:	12/03/13
Diln Fac:	1.000		

Type: BS Lab ID: QC718602

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	9.362	75	65-134
Trichloroethene	12.50	11.91	95	80-120
Chlorobenzene	12.50	13.39	107	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC718603

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	8.810	70	65-134	6	20
Trichloroethene	12.50	11.51	92	80-120	3	20
Chlorobenzene	12.50	12.92	103	80-120	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Batch QC Report

Volatile Organics			
Lab #:	251260	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC718604	Batch#:	205694
Matrix:	Water	Analyzed:	12/03/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit



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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 251270
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

Sample ID
KV-9-GW-135

Lab ID
251270-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Will S Rice
Project Manager
will.rice@ctberk.com

Date: 12/04/2013

NELAP # 01107CA

CASE NARRATIVE

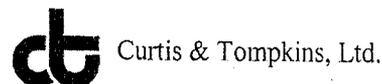
Laboratory number: 251270
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 12/03/13
Samples Received: 12/03/13

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/03/13. The sample was received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):

KV-9-GW-135 (lab # 251270-001) was analyzed with more than 1 mL of headspace in the VOA vial. KV-9-GW-135 (lab # 251270-001) had pH greater than 2. No other analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Login # 251270 Date Received 12/3/13 Number of coolers 1
 Client ARCADIS Project SCOTTS VALLEY (RC000463.0112)

Date Opened 12/3/13 By (print) JK (sign) Jana Rankan
 Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C
 Type of ice used: Wet Blue/Gel None Temp(°C) 4.1

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS (3 of 3 VOAs) for
#29.) Headspace in samp - φφ1

Volatile Organics			
Lab #:	251270	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-9-GW-135	Batch#:	205694
Lab ID:	251270-001	Sampled:	12/02/13
Matrix:	Water	Received:	12/03/13
Units:	ug/L	Analyzed:	12/03/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	10	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	251270	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	205694
Units:	ug/L	Analyzed:	12/03/13
Diln Fac:	1.000		

Type: BS Lab ID: QC718602

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	9.362	75	65-134
Trichloroethene	12.50	11.91	95	80-120
Chlorobenzene	12.50	13.39	107	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC718603

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	8.810	70	65-134	6	20
Trichloroethene	12.50	11.51	92	80-120	3	20
Chlorobenzene	12.50	12.92	103	80-120	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Batch QC Report

Volatile Organics			
Lab #:	251270	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC718604	Batch#:	205694
Matrix:	Water	Analyzed:	12/03/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 251514
ANALYTICAL REPORT

Arcadis
2000 Powell St
Emeryville, CA 94608

Project : RC000463
Location : SVG
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
KV-5-GW-126	251514-001
WASTE-COMP-A	251514-002
WASTE-COMP-B	251514-003
WASTE-COMP-C	251514-004
WASTE-COMP-D	251514-005
WASTE-COMP-12102013	251514-006

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 12/17/2013

Will S Rice
Project Manager
will.rice@ctberk.com

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 251514
Client: Arcadis
Project: RC000463
Location: SVG
Request Date: 12/10/13
Samples Received: 12/10/13

This data package contains sample and QC results for one water sample and one four-point soil composite, requested for the above referenced project on 12/10/13. The samples were received on ice and intact, directly from the field.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Water:

KV-5-GW-126 (lab # 251514-001) had pH greater than 2. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Soil:

No analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):

No analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

Low recovery was observed for beryllium in the MSD for batch 206155; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPD was within limits. No other analytical problems were encountered.

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

251514

Lab Work Order #

Send Results to:	Contact & Company Name: ARCADIS		Telephone: 925-202-7948		Preservative																	
	Address: KATHY BRANDT		Fax:		Filtered (✓)																	
	City: ON FILE		State: ON FILE		E-mail Address:		# of Containers															
							Container Information															
Project Name/Location (City, State): Scotts Valley, CA					Project #: RC000463.012					PARAMETER ANALYSIS & METHOD												
Sampler's Printed Name: M. Morrow					Sampler's Signature:																	
Sample ID		Collection		Type (✓)		Matrix		8260		8270		TPH Scan		CAM 17								
		Date	Time	Comp	Grab																	
1	KV-5-GW-126		12/10	0920	X	W	X															
2	WASTE-COMP-A			1032	X	SO	X	X	X	X												
3	WASTE-COMP-B			1035	X	SO	X	X	X	X												
4	WASTE-COMP-C			1038	X	SO	X	X	X	X												
5	WASTE-COMP-D			1040	X	SO	X	X	X	X												
REMARKS																						
Report 8010 list/24 TAT																						
} Lab to combine to create:																						
WASTE-COMP-12102013																						
Standard TAT																						

- Keys**
- Preservation Key:**
 A. H₂SO₄
 B. HCL
 C. HNO₃
 D. NaOH
 E. None
 F. Other: _____
 G. Other: _____
 H. Other: _____
- Container Information Key:**
 1. 40 ml Vial
 2. 1 L Amber
 3. 250 ml Plastic
 4. 500 ml Plastic
 5. Encore
 6. 2 oz. Glass
 7. 4 oz. Glass
 8. 8 oz. Glass
 9. Other: _____
 10. Other: _____
- Matrix Key:**
 SO - Soil
 W - Water
 T - Tissue
 SE - Sediment
 SL - Sludge
 A - Air
 NL - NAPL/Oil
 SW - Sample Wipe
 Other: _____

Special Instructions/Comments: **24hr TAT for kv-5-gw-126** Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By		Received By		Relinquished By		Laboratory Received By	
Lab Name: C+T	Cooler Custody Seal (✓) <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: M. Morrow	Signature:	Printed Name: Tina Amberson	Signature:	Printed Name: Tina Amberson	Signature:	Printed Name: TINA RAIKAR	Signature:
<input checked="" type="checkbox"/> Cooler packed with ice (✓)	Sample Receipt:	Firm: ARCADIS	Date/Time: 12/10/13 1200	Firm/Couner: C&T	Date/Time: 12/10/13 1525	Firm/Couner: C&T	Date/Time: 12/10/13 1740	Firm: C&T	Date/Time: 12/10/13 1740
Specify Turnaround Requirements: See Above	Condition/Cooler Temp: _____								
Shipping Tracking #: Courier									

3 of 34

COOLER RECEIPT CHECKLIST



Login # 251514 Date Received 12/10/13 Number of coolers 1
Client ARCADIS Project RC000403.0712

Date Opened 12/10/13 By (print) MK (sign) J. Makrakis
Date Logged in J By (print) J (sign) J

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO (N/A)

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)
Bubble Wrap Foam blocks Bags None
Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C
Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO (N/A)

16. Did you check preservatives for all bottles for each sample? YES NO (N/A)

17. Did you document your preservative check? YES NO (N/A)

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)

19. Did you change the hold time in LIMS for preserved terracores? YES NO (N/A)

20. Are bubbles > 6mm absent in VOA samples? YES (NO) (N/A)

21. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS
#20) Received 2 of 3 VOAs for samp #-001 w/ bubbles > 6mm

Total Volatile Hydrocarbons			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8015B
Field ID:	WASTE-COMP-12102013	Batch#:	206196
Matrix:	Soil	Sampled:	12/10/13
Units:	mg/Kg	Received:	12/10/13
Basis:	as received	Analyzed:	12/16/13
Diln Fac:	1.000		

Type: SAMPLE Lab ID: 251514-006

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	67-137

Type: BLANK Lab ID: QC720683

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	67-137

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC720682	Batch#:	206196
Matrix:	Soil	Analyzed:	12/16/13
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9970	100	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	67-137

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8015B
Field ID:	WASTE-COMP-12102013	Diln Fac:	1.000
MSS Lab ID:	251514-006	Batch#:	206196
Matrix:	Soil	Sampled:	12/10/13
Units:	mg/Kg	Received:	12/10/13
Basis:	as received	Analyzed:	12/16/13

Type: MS Lab ID: QC720684

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1717	9.346	8.608	90	42-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	67-137

Type: MSD Lab ID: QC720685

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.091	7.961	86	42-120	5	44

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	67-137

RPD= Relative Percent Difference

Total Extractable Hydrocarbons			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3550B
Project#:	RC000463	Analysis:	EPA 8015B
Field ID:	WASTE-COMP-12102013	Batch#:	206127
Matrix:	Soil	Sampled:	12/10/13
Units:	mg/Kg	Received:	12/10/13
Basis:	as received	Prepared:	12/13/13
Diln Fac:	1.000	Analyzed:	12/15/13

Type: SAMPLE Lab ID: 251514-006

Analyte	Result	RL
Diesel C10-C24	3.1 Y	1.0
Motor Oil C24-C36	17	5.0

Surrogate	%REC	Limits
o-Terphenyl	99	64-136

Type: BLANK Lab ID: QC720401

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	107	64-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

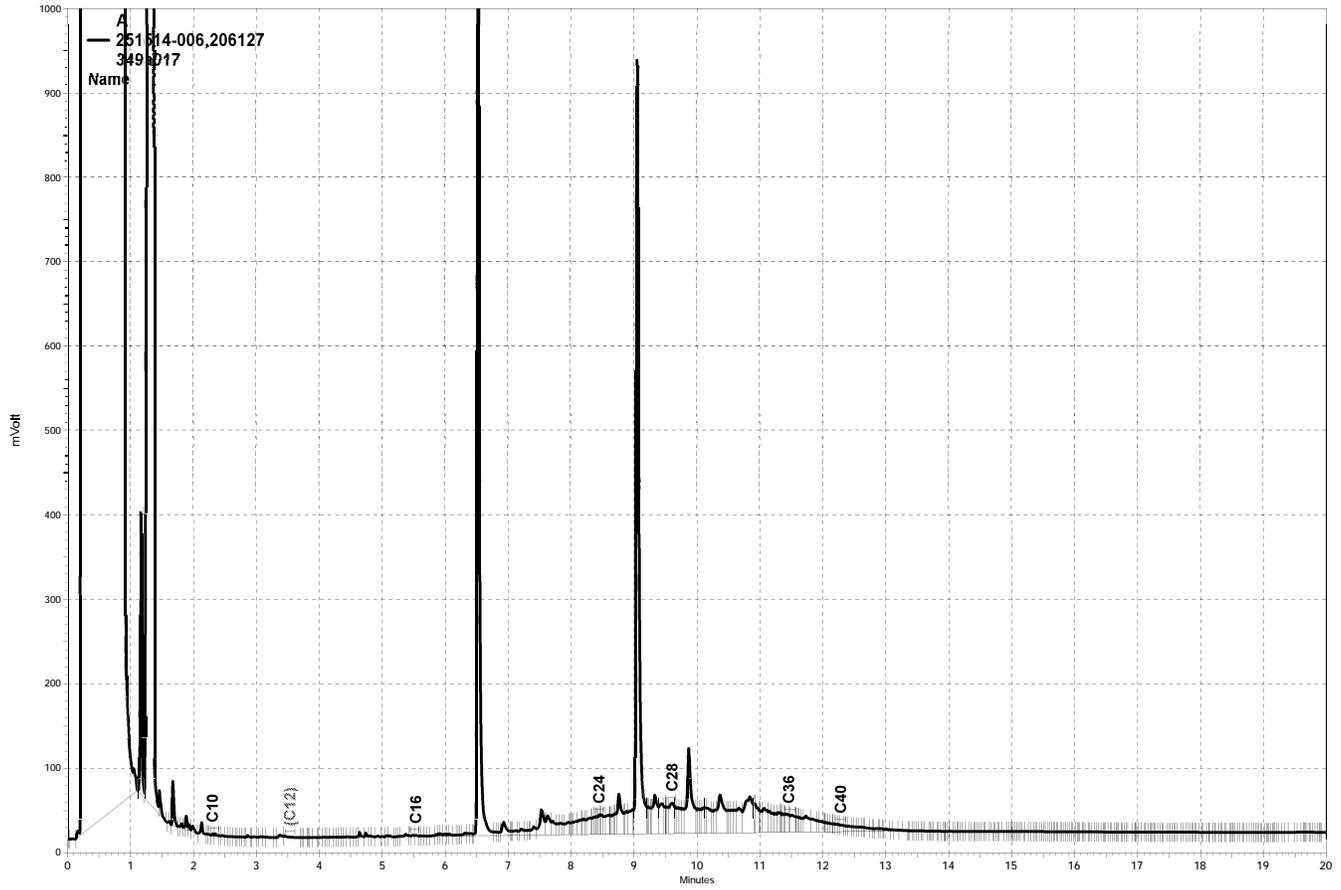
Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3550B
Project#:	RC000463	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC720402	Batch#:	206127
Matrix:	Soil	Prepared:	12/13/13
Units:	mg/Kg	Analyzed:	12/15/13

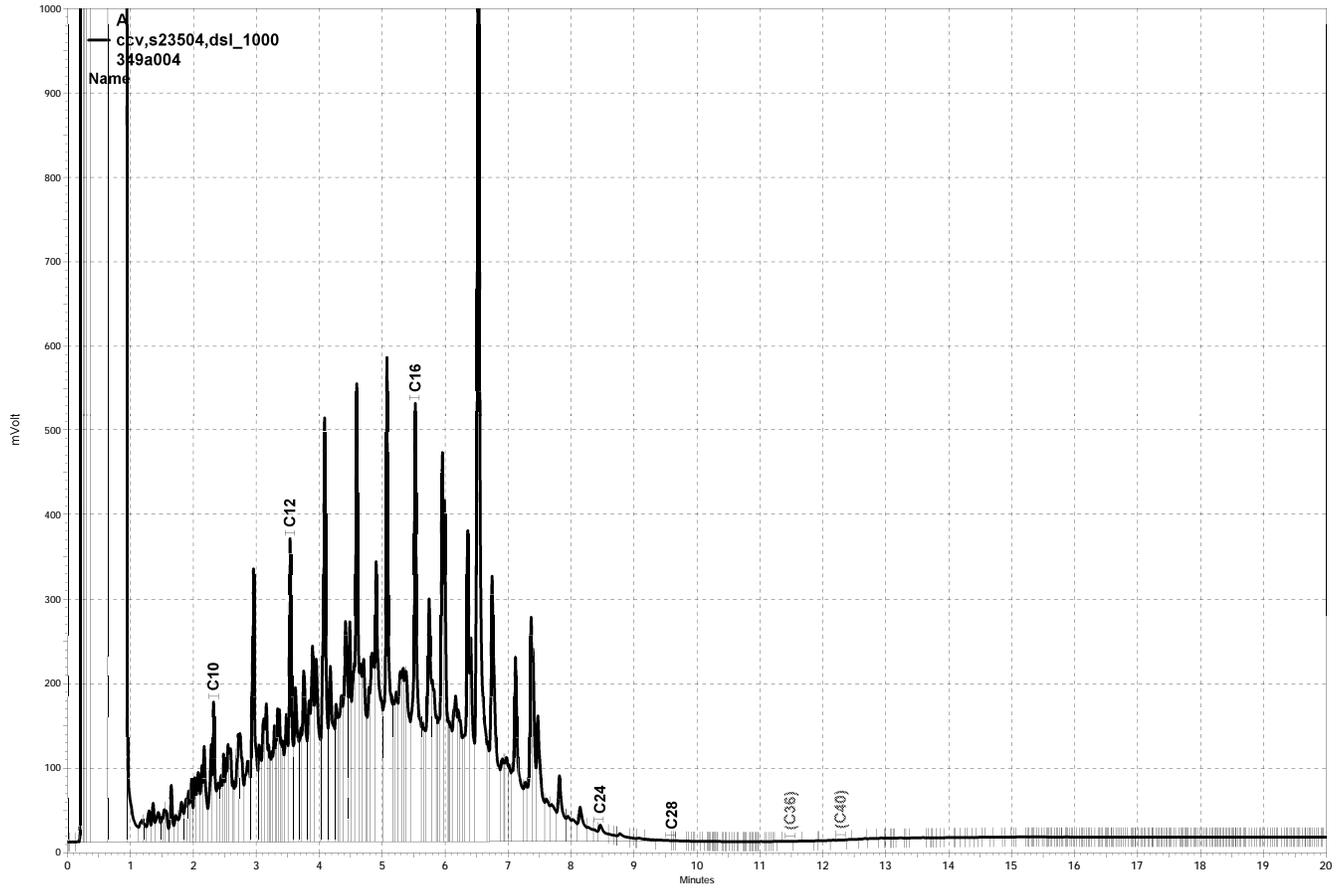
Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.90	40.72	82	61-132

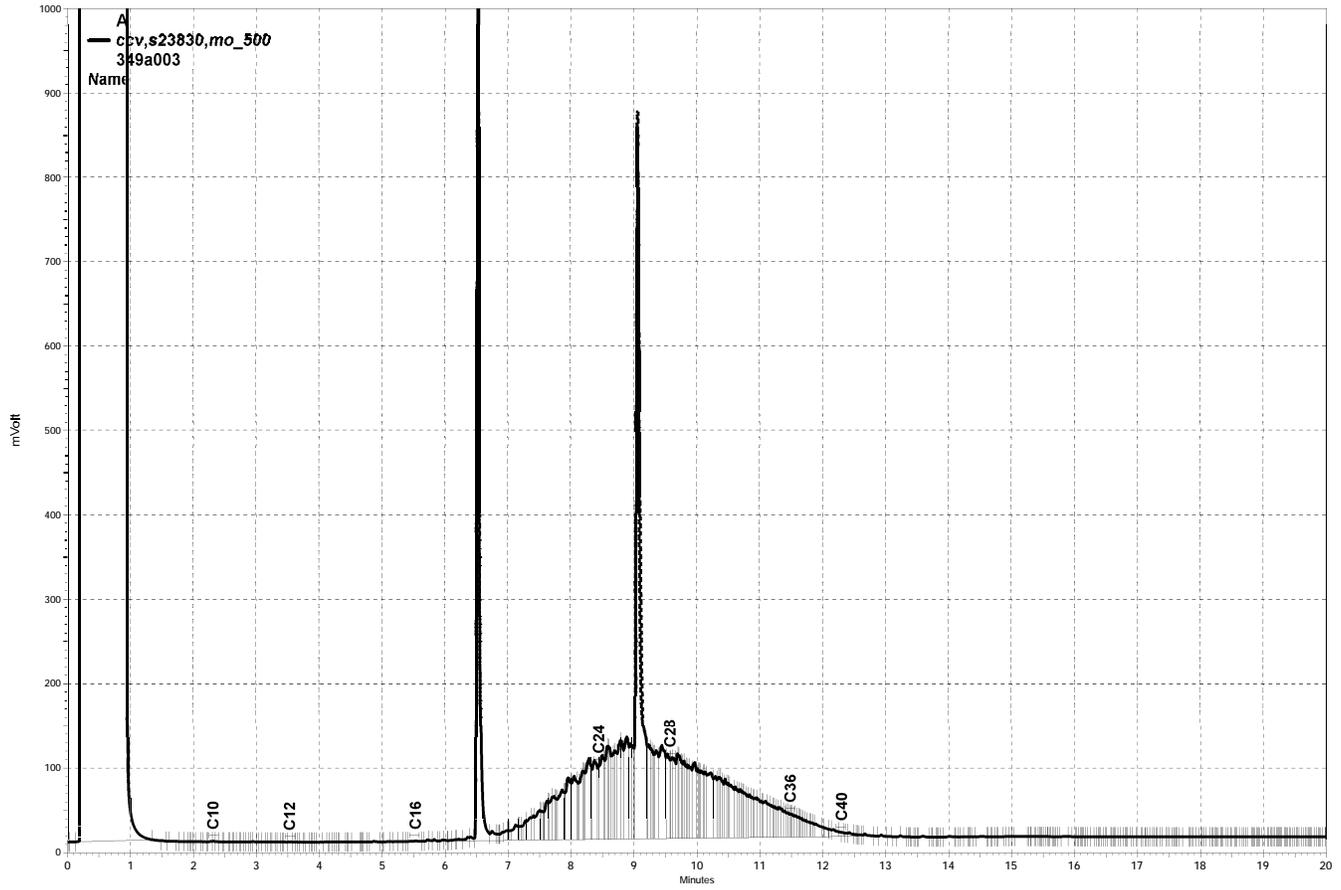
Surrogate	%REC	Limits
o-Terphenyl	96	64-136



— \\Lims\gdrive\ezchrom\Projects\GC26\Data\349a017, A



— \\Lims\gdrive\ezchrom\Projects\GC26\Data\349a004, A



— \\Lims\gdrive\ezchrom\Projects\GC26\Data\349a003, A

Volatile Organics			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	KV-5-GW-126	Batch#:	205896
Lab ID:	251514-001	Sampled:	12/10/13
Matrix:	Water	Received:	12/10/13
Units:	ug/L	Analyzed:	12/11/13
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	122	75-139
Toluene-d8	104	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC719435	Batch#:	205896
Matrix:	Water	Analyzed:	12/10/13
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	16.98	85	65-134
Trichloroethene	20.00	19.97	100	80-120
Chlorobenzene	20.00	21.33	107	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	98	80-120

Batch QC Report

Volatile Organics			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC719436	Batch#:	205896
Matrix:	Water	Analyzed:	12/10/13
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	103	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	205896
MSS Lab ID:	251326-004	Sampled:	12/04/13
Matrix:	Water	Received:	12/04/13
Units:	ug/L	Analyzed:	12/11/13
Diln Fac:	1.000		

Type: MS Lab ID: QC719780

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1117	25.00	21.69	87	69-129
Trichloroethene	0.7058	25.00	25.28	98	70-127
Chlorobenzene	53.48	25.00	74.80	85	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	119	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	99	80-120

Type: MSD Lab ID: QC719781

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	22.15	89	69-129	2	26
Trichloroethene	25.00	25.29	98	70-127	0	21
Chlorobenzene	25.00	74.19	83	80-120	1	22

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	121	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Volatile Organics			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WASTE-COMP-12102013	Diln Fac:	0.9381
Lab ID:	251514-006	Batch#:	206007
Matrix:	Soil	Sampled:	12/10/13
Units:	ug/Kg	Received:	12/10/13
Basis:	as received	Analyzed:	12/11/13

Analyte	Result	RL
Chloromethane	ND	9.4
Vinyl Chloride	ND	9.4
Bromomethane	ND	9.4
Chloroethane	ND	9.4
Trichlorofluoromethane	ND	4.7
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
trans-1,2-Dichloroethene	ND	4.7
1,1-Dichloroethane	ND	4.7
cis-1,2-Dichloroethene	ND	4.7
Chloroform	ND	4.7
1,1,1-Trichloroethane	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
cis-1,3-Dichloropropene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
Tetrachloroethene	ND	4.7
Dibromochloromethane	ND	4.7
Chlorobenzene	ND	4.7
Bromoform	ND	9.4
1,1,2,2-Tetrachloroethane	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	118	76-128
1,2-Dichloroethane-d4	109	80-137
Toluene-d8	93	80-120
Bromofluorobenzene	103	79-128

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC719893	Batch#:	206007
Matrix:	Soil	Analyzed:	12/11/13
Units:	ug/Kg		

Analyte	Result	RL
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	107	76-128
1,2-Dichloroethane-d4	96	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	101	79-128

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Volatile Organics			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Matrix:	Soil	Batch#:	206007
Units:	ug/Kg	Analyzed:	12/11/13
Diln Fac:	1.000		

Type: BS Lab ID: QC719894

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	20.00	20.21	101	68-135
Trichloroethene	20.00	21.40	107	77-129
Chlorobenzene	20.00	22.57	113	78-120

Surrogate	%REC	Limits
Dibromofluoromethane	111	76-128
1,2-Dichloroethane-d4	99	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	101	79-128

Type: BSD Lab ID: QC719895

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	20.00	20.47	102	68-135	1	35
Trichloroethene	20.00	22.16	111	77-129	3	20
Chlorobenzene	20.00	22.69	113	78-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-128
1,2-Dichloroethane-d4	95	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	100	79-128

RPD= Relative Percent Difference

Batch QC Report

Volatile Organics			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 5030B
Project#:	RC000463	Analysis:	EPA 8260B
Field ID:	WASTE-COMP-12102013	Batch#:	206007
MSS Lab ID:	251514-006	Sampled:	12/10/13
Matrix:	Soil	Received:	12/10/13
Units:	ug/Kg	Analyzed:	12/11/13
Basis:	as received		

Type: MS Diln Fac: 0.9634
 Lab ID: QC719983

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.5544	48.17	51.72	107	46-138
Trichloroethene	<0.7730	48.17	49.47	103	41-146
Chlorobenzene	<0.4046	48.17	48.37	100	39-120

Surrogate	%REC	Limits
Dibromofluoromethane	120	76-128
1,2-Dichloroethane-d4	105	80-137
Toluene-d8	92	80-120
Bromofluorobenzene	101	79-128

Type: MSD Diln Fac: 0.9690
 Lab ID: QC719984

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.45	44.47	92	46-138	16	51
Trichloroethene	48.45	43.78	90	41-146	13	55
Chlorobenzene	48.45	43.01	89	39-120	12	54

Surrogate	%REC	Limits
Dibromofluoromethane	116	76-128
1,2-Dichloroethane-d4	108	80-137
Toluene-d8	92	80-120
Bromofluorobenzene	99	79-128

RPD= Relative Percent Difference

Semivolatile Organics by GC/MS			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3550B
Project#:	RC000463	Analysis:	EPA 8270C
Field ID:	WASTE-COMP-12102013	Batch#:	206105
Lab ID:	251514-006	Sampled:	12/10/13
Matrix:	Soil	Received:	12/10/13
Units:	ug/Kg	Prepared:	12/13/13
Basis:	as received	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	67
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	670
Dimethylphthalate	ND	330
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	330

ND= Not Detected
 RL= Reporting Limit

Semivolatile Organics by GC/MS			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3550B
Project#:	RC000463	Analysis:	EPA 8270C
Field ID:	WASTE-COMP-12102013	Batch#:	206105
Lab ID:	251514-006	Sampled:	12/10/13
Matrix:	Soil	Received:	12/10/13
Units:	ug/Kg	Prepared:	12/13/13
Basis:	as received	Analyzed:	12/13/13
Diln Fac:	1.000		

Analyte	Result	RL
Fluoranthene	ND	67
Pyrene	ND	67
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	66	33-120
Phenol-d5	72	39-120
2,4,6-Tribromophenol	55	33-120
Nitrobenzene-d5	77	46-120
2-Fluorobiphenyl	72	51-120
Terphenyl-d14	78	50-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3550B
Project#:	RC000463	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720300	Batch#:	206105
Matrix:	Soil	Prepared:	12/13/13
Units:	ug/Kg	Analyzed:	12/13/13

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	66
Hexachlorocyclopentadiene	ND	660
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	660
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	660
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330
Fluoranthene	ND	66

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3550B
Project#:	RC000463	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720300	Batch#:	206105
Matrix:	Soil	Prepared:	12/13/13
Units:	ug/Kg	Analyzed:	12/13/13

Analyte	Result	RL
Pyrene	ND	66
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

Surrogate	%REC	Limits
2-Fluorophenol	69	33-120
Phenol-d5	75	39-120
2,4,6-Tribromophenol	79	33-120
Nitrobenzene-d5	81	46-120
2-Fluorobiphenyl	77	51-120
Terphenyl-d14	85	50-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3550B
Project#:	RC000463	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC720301	Batch#:	206105
Matrix:	Soil	Prepared:	12/13/13
Units:	ug/Kg	Analyzed:	12/13/13

Analyte	Spiked	Result	%REC	Limits
Phenol	2,654	2,035	77	43-120
2-Chlorophenol	2,654	1,710	64	50-120
1,4-Dichlorobenzene	2,654	1,580	60	52-120
N-Nitroso-di-n-propylamine	2,654	2,166	82	30-121
1,2,4-Trichlorobenzene	2,654	1,775	67	53-120
4-Chloro-3-methylphenol	2,654	2,138	81	58-120
Acenaphthene	995.4	709.5	71	53-120
4-Nitrophenol	2,654	1,894	71	46-120
2,4-Dinitrotoluene	2,654	1,880	71	57-120
Pentachlorophenol	2,654	1,626	61	31-120
Pyrene	995.4	853.2	86	55-120

Surrogate	%REC	Limits
2-Fluorophenol	61	33-120
Phenol-d5	68	39-120
2,4,6-Tribromophenol	81	33-120
Nitrobenzene-d5	73	46-120
2-Fluorobiphenyl	68	51-120
Terphenyl-d14	76	50-120

Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3550B
Project#:	RC000463	Analysis:	EPA 8270C
Field ID:	ZZZZZZZZZZ	Batch#:	206105
MSS Lab ID:	251499-001	Sampled:	12/05/13
Matrix:	Soil	Received:	12/10/13
Units:	ug/Kg	Prepared:	12/13/13
Basis:	as received	Analyzed:	12/13/13
Diln Fac:	1.000		

Type: MS Lab ID: QC720302

Analyte	MSS Result	Spiked	Result	%REC	Limits
Phenol	<15.03	2,697	1,964	73	50-120
2-Chlorophenol	<13.96	2,697	1,686	63	50-120
1,4-Dichlorobenzene	<7.332	2,697	1,575	58	55-120
N-Nitroso-di-n-propylamine	<15.21	2,697	2,069	77	43-120
1,2,4-Trichlorobenzene	<8.491	2,697	1,741	65	58-120
4-Chloro-3-methylphenol	<8.678	2,697	1,986	74	60-120
Acenaphthene	<6.700	1,011	688.7	68	59-120
4-Nitrophenol	<7.094	2,697	1,761	65	45-120
2,4-Dinitrotoluene	<8.345	2,697	1,693	63	59-120
Pentachlorophenol	<102.8	2,697	1,357	50	17-120
Pyrene	<7.325	1,011	828.1	82	53-124

Surrogate	%REC	Limits
2-Fluorophenol	61	33-120
Phenol-d5	65	39-120
2,4,6-Tribromophenol	69	33-120
Nitrobenzene-d5	72	46-120
2-Fluorobiphenyl	65	51-120
Terphenyl-d14	73	50-120

Type: MSD Lab ID: QC720303

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	2,634	2,312	88	50-120	19	35
2-Chlorophenol	2,634	1,897	72	50-120	14	38
1,4-Dichlorobenzene	2,634	1,666	63	55-120	8	39
N-Nitroso-di-n-propylamine	2,634	2,351	89	43-120	15	38
1,2,4-Trichlorobenzene	2,634	1,892	72	58-120	11	34
4-Chloro-3-methylphenol	2,634	2,311	88	60-120	17	32
Acenaphthene	987.8	783.6	79	59-120	15	37
4-Nitrophenol	2,634	2,073	79	45-120	19	40
2,4-Dinitrotoluene	2,634	1,932	73	59-120	15	29
Pentachlorophenol	2,634	1,561	59	17-120	16	51
Pyrene	987.8	952.4	96	53-124	16	49

Surrogate	%REC	Limits
2-Fluorophenol	69	33-120
Phenol-d5	77	39-120
2,4,6-Tribromophenol	82	33-120
Nitrobenzene-d5	82	46-120
2-Fluorobiphenyl	75	51-120
Terphenyl-d14	85	50-120

RPD= Relative Percent Difference

California Title 22 Metals			
Lab #:	251514	Project#:	RC000463
Client:	Arcadis	Location:	SVG
Field ID:	WASTE-COMP-12102013	Diln Fac:	1.000
Lab ID:	251514-006	Sampled:	12/10/13
Matrix:	Soil	Received:	12/10/13
Units:	mg/Kg	Prepared:	12/16/13
Basis:	as received	Analyzed:	12/16/13

Analyte	Result	RL	Batch#	Prep	Analysis
Antimony	ND	0.47	206155 EPA 3050B	EPA 3050B	EPA 6010B
Arsenic	0.94	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Barium	16	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Beryllium	0.12	0.093	206155 EPA 3050B	EPA 3050B	EPA 6010B
Cadmium	ND	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Chromium	6.5	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Cobalt	1.3	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Copper	1.9	0.24	206155 EPA 3050B	EPA 3050B	EPA 6010B
Lead	1.3	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Mercury	ND	0.018	206183 METHOD	METHOD	EPA 7471A
Molybdenum	0.88	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Nickel	3.0	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Selenium	ND	0.47	206155 EPA 3050B	EPA 3050B	EPA 6010B
Silver	ND	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Thallium	ND	0.47	206155 EPA 3050B	EPA 3050B	EPA 6010B
Vanadium	6.2	0.23	206155 EPA 3050B	EPA 3050B	EPA 6010B
Zinc	7.5	0.93	206155 EPA 3050B	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3050B
Project#:	RC000463	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC720523	Batch#:	206155
Matrix:	Soil	Prepared:	12/16/13
Units:	mg/Kg	Analyzed:	12/16/13

Analyte	Result	RL
Antimony	ND	0.50
Arsenic	ND	0.25
Barium	ND	0.25
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.25
Cobalt	ND	0.25
Copper	ND	0.26
Lead	ND	0.25
Molybdenum	ND	0.25
Nickel	ND	0.25
Selenium	ND	0.50
Silver	ND	0.25
Thallium	ND	0.50
Vanadium	ND	0.25
Zinc	ND	1.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3050B
Project#:	RC000463	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	206155
Units:	mg/Kg	Prepared:	12/16/13
Diln Fac:	1.000	Analyzed:	12/16/13

Type: BS Lab ID: QC720524

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	99.57	100	80-120
Arsenic	50.00	50.03	100	80-120
Barium	100.0	101.0	101	80-120
Beryllium	2.500	2.431	97	80-120
Cadmium	10.00	10.24	102	80-120
Chromium	100.0	99.29	99	80-120
Cobalt	25.00	24.80	99	80-120
Copper	12.50	12.41	99	80-120
Lead	100.0	98.85	99	80-120
Molybdenum	20.00	20.28	101	80-120
Nickel	25.00	25.38	102	80-120
Selenium	50.00	50.12	100	80-120
Silver	10.00	9.392	94	80-120
Thallium	50.00	49.17	98	80-120
Vanadium	25.00	24.65	99	80-120
Zinc	25.00	25.29	101	80-120

Type: BSD Lab ID: QC720525

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	99.35	99	80-120	0	20
Arsenic	50.00	50.31	101	80-120	1	20
Barium	100.0	100.8	101	80-120	0	20
Beryllium	2.500	2.447	98	80-120	1	20
Cadmium	10.00	10.34	103	80-120	1	20
Chromium	100.0	99.61	100	80-120	0	20
Cobalt	25.00	25.04	100	80-120	1	20
Copper	12.50	12.67	101	80-120	2	20
Lead	100.0	99.90	100	80-120	1	20
Molybdenum	20.00	20.14	101	80-120	1	20
Nickel	25.00	25.62	102	80-120	1	20
Selenium	50.00	50.42	101	80-120	1	20
Silver	10.00	9.498	95	80-120	1	20
Thallium	50.00	49.30	99	80-120	0	20
Vanadium	25.00	24.83	99	80-120	1	20
Zinc	25.00	25.62	102	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	EPA 3050B
Project#:	RC000463	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	206155
MSS Lab ID:	251638-005	Sampled:	12/13/13
Matrix:	Soil	Received:	12/13/13
Units:	mg/Kg	Prepared:	12/16/13
Basis:	as received	Analyzed:	12/16/13
Diln Fac:	1.000		

Type: MS Lab ID: QC720526

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	0.8775	94.34	43.69	45	9-120
Arsenic	1.410	47.17	42.91	88	72-120
Barium	174.4	94.34	238.4	68	50-133
Beryllium	0.3848	2.358	2.316	82	80-120
Cadmium	0.5817	9.434	8.492	84	72-120
Chromium	49.46	94.34	128.1	83	61-120
Cobalt	12.13	23.58	29.97	76	60-120
Copper	36.63	11.79	45.81	78	47-149
Lead	5.910	94.34	80.57	79	52-122
Molybdenum	0.6005	18.87	15.78	80	68-120
Nickel	42.87	23.58	58.48	66	46-135
Selenium	<0.1380	47.17	41.02	87	70-120
Silver	<0.07052	9.434	7.179	76	67-120
Thallium	<0.1538	47.17	34.61	73	64-120
Vanadium	62.47	23.58	81.75	82	54-137
Zinc	58.48	23.58	76.32	76	39-141

Type: MSD Lab ID: QC720527

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	90.91	42.16	45	9-120	0	26
Arsenic	45.45	40.18	85	72-120	3	30
Barium	90.91	235.4	67	50-133	0	43
Beryllium	2.273	2.156	78 *	80-120	4	20
Cadmium	9.091	7.941	81	72-120	3	22
Chromium	90.91	117.7	75	61-120	6	31
Cobalt	22.73	28.39	72	60-120	3	39
Copper	11.36	44.61	70	47-149	2	32
Lead	90.91	76.22	77	52-122	2	49
Molybdenum	18.18	15.11	80	68-120	1	23
Nickel	22.73	58.33	68	46-135	1	37
Selenium	45.45	39.03	86	70-120	1	26
Silver	9.091	6.757	74	67-120	2	25
Thallium	45.45	32.03	70	64-120	4	20
Vanadium	22.73	74.91	55	54-137	8	31
Zinc	22.73	72.83	63	39-141	4	37

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	METHOD
Project#:	RC000463	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	206183
Lab ID:	QC720625	Prepared:	12/16/13
Matrix:	Soil	Analyzed:	12/16/13
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	METHOD
Project#:	RC000463	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	206183
Matrix:	Soil	Prepared:	12/16/13
Units:	mg/Kg	Analyzed:	12/16/13
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC720626	0.2083	0.2010	96	80-120		
BSD	QC720627	0.2083	0.2032	98	80-120	1	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	251514	Location:	SVG
Client:	Arcadis	Prep:	METHOD
Project#:	RC000463	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	206183
MSS Lab ID:	251499-001	Sampled:	12/05/13
Matrix:	Soil	Received:	12/10/13
Units:	mg/Kg	Prepared:	12/16/13
Basis:	as received	Analyzed:	12/16/13

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC720628	0.01331	0.2273	0.2663	111	69-136		
MSD	QC720629		0.2083	0.2444	111	69-136	0	35

RPD= Relative Percent Difference



Appendix E

Well Development Logs

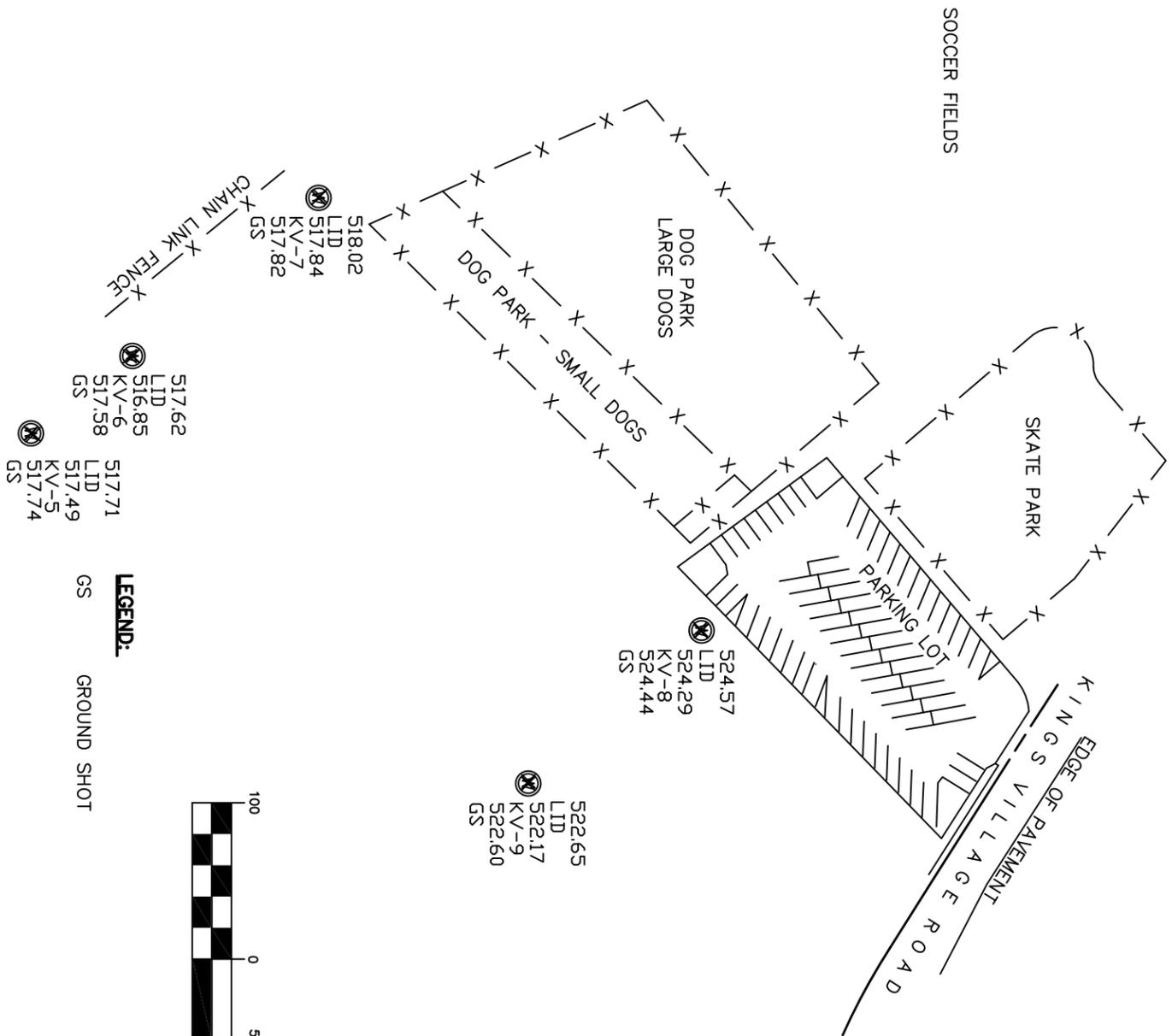


Appendix F

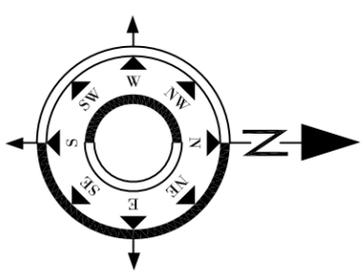
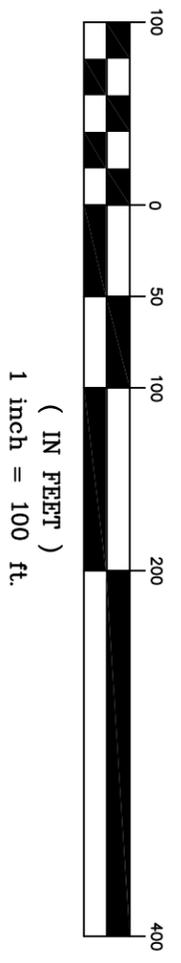
Survey Data

ENVIRONMENTAL WELL SURVEY
 FOR
ARCADIS U.S., INC.
 455 KINGS VILLAGE ROAD
 SCOTTS VALLEY, SANTA CRUZ CO., CALIFORNIA

471.33
 LID
 470.89
 EX-1



LEGEND:
 GS GROUND SHOT



ELEVATIONS ARE BASED ON NAVD88.

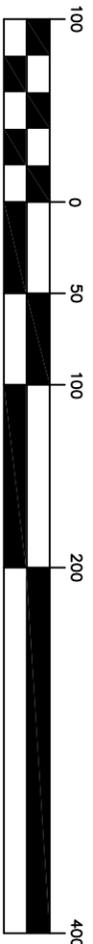
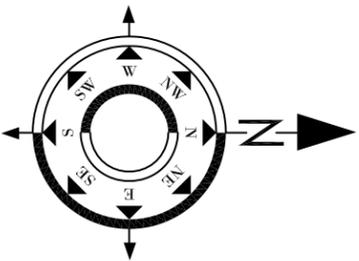
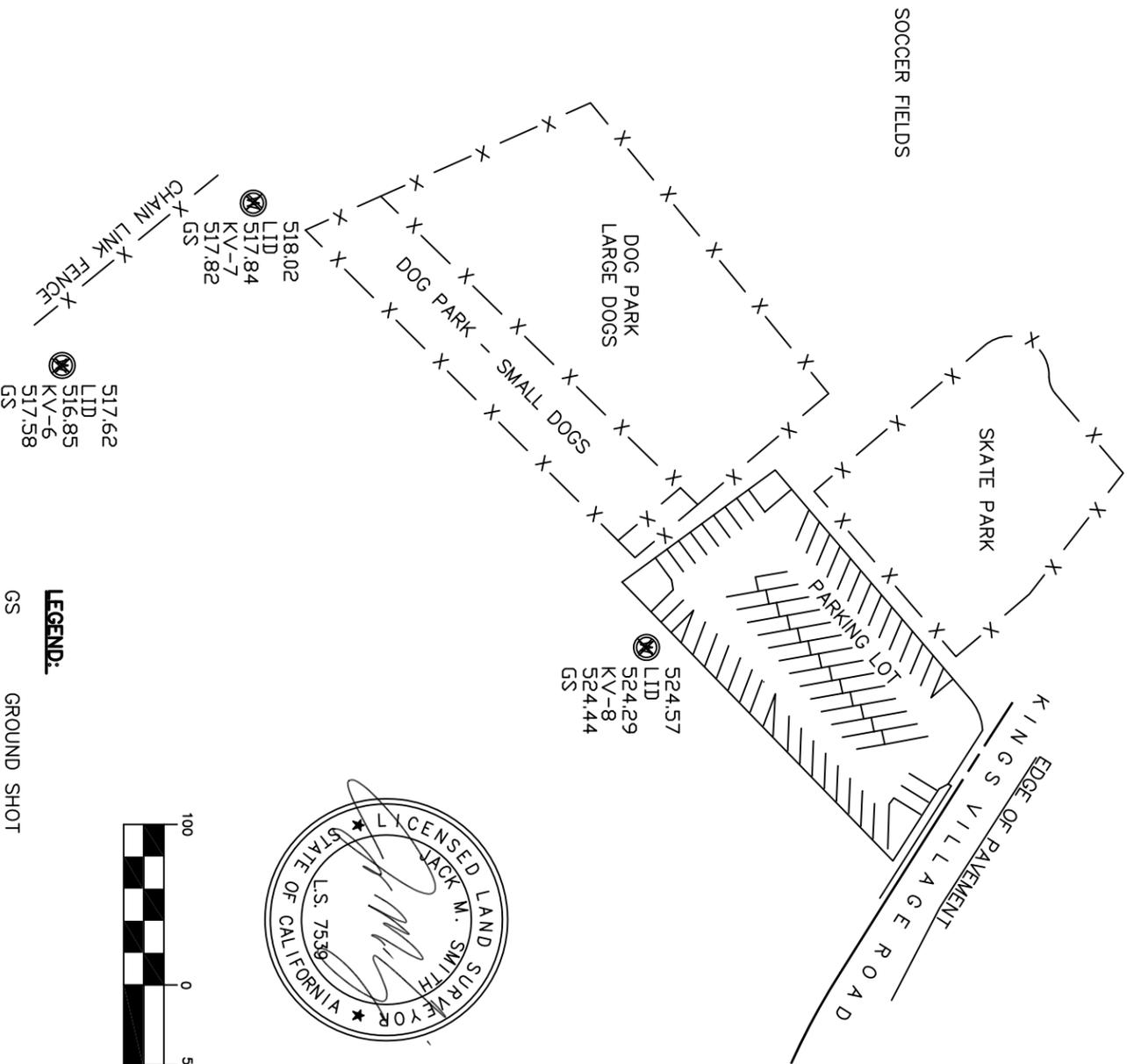


MUIR CONSULTING, INC.
 139 CHURCH AVENUE
 OAKDALE, CA 95361
 (209) 845-8630 FAX (209) 845-8639
 LAND SURVEYING - GPS - PLANNING
 www.muirconsulting.com

ENVIRONMENTAL WELL SURVEY		
FOR		
ARCADIS U.S., INC.		
SCOTTS VALLEY SANTA CRUZ		CALIFORNIA
JOB NO. 4124-01	DATE 12/16/13	SCALE 1"=100'
DRAWN BY JMS	CHECKED	1 OF 1

ENVIRONMENTAL WELL SURVEY
 FOR
ARCADIS U.S., INC.
 455 KINGS VILLAGE ROAD
 SCOTTS VALLEY, SANTA CRUZ CO., CALIFORNIA

471.33
 LID
 470.89
 EX-1



(IN FEET)
 1 inch = 100 ft.

LEGEND:
 GS GROUND SHOT

ELEVATIONS ARE BASED ON NAVD88.



MUIR CONSULTING, INC.

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 OAKDALE, CA 95361
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LAND SURVEYING - GPS - PLANNING
 www.muirconsulting.com

ENVIRONMENTAL WELL SURVEY
 FOR

ARCADIS U.S., INC.

SCOTTS VALLEY SANTA CRUZ CALIFORNIA

JOB NO. 4124-01	DATE 11/15/13	SCALE 1"=100'
DRAWN BY JMS	CHECKED	1 OF 1



Appendix G

Waste Manifests



CB 00355

SHIPPING ORDER and FREIGHT BILL

Date 1/9/2014
TRUCK NO. 110 TRAILER NO. _____
SUB HAULER

BTI ENVIRONMENTAL, INC.
402 HARTZ AVE. BLDG. C, DANVILLE CA 94526
(925) 229-2900

PRIMER CARRIER B.T.I.	SUB NO.	CONSIGNEE ARCADIS
SHIPPER ARCADIS		DESTINATION NEWBY ISLAND LANDFILL
POINT OF ORIGIN 440 KINGS VILLAGE RD		CITY MILPITAS, CA 95036
CITY SCOTTS VALLEY, CA 95066		P.O. NO.

SERVICE PERFORMED: **PU BIN # SB204 AND TAKE TO NEWBY ISLAND, MILPITAS AND EMPTY AND BRING BACK TO YARD**

EXPLAIN DELAYS LOADING:

BTI OFFICE USE ONLY

	TOTAL HOURS OR TONS	
	RATE PER HOUR OR TON \$	
	SUB TOTAL \$	
	DISPOSAL TONS \$	
	DISPOSAL RATE \$	
	SUB TOTAL \$	
	LINERS \$	

MANIFEST NUMBERS:	SCALE TAG#	TONS

NOTES: **HAD TO DRAIN WATER OUT OF BIN BEFORE LOADING**

TOTAL CHARGES \$

START 8:00 AM	STOP 5:00 PM	DEDUCT TIME 0	NET 9.0	APPROVED (BILLING)
DRIVER John Walsh	RECEIVED BY [Signature]			APPROVED (PAYROLL)



NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

1463872

If waste is asbestos waste, complete Sections I, II, III and IV
If waste is **NOT** asbestos waste, complete Sections I, II and III

I. GENERATOR (Generator completes Ia-r)

Bradley Parks

a. Generator's US EPA ID Number <i>N/A</i>		b. Manifest Document Number		c. Page 1 of	
d. Generator's Name and Location: <i>Arcadis 440 Kings Village Rd. Scotts Valley, CA 95066 510-596-9675</i>			e. Generator's Mailing Address: <i>Arcadis 101 Creekside Ridge Court, Ste. 200 Roseville, CA 95678 510-596-9675</i>		
f. Phone: <i>510-596-9675</i>			g. Phone: <i>510-596-9675</i>		
If owner of the generating facility differs from the generator, provide:					
h. Owner's Name:			i. Owner's Phone No.:		
j. Waste Profile # <i>51271322032</i>		k. Exp. Date <i>12/17/2014</i>	l. Waste Shipping Name and Description <i>Soil</i>		o. Unit Wt/Vol <i>cy</i>

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

p. Generator Authorized Agent Name (Print) <i>Robert F. Dericco</i>		q. Signature <i>[Signature]</i>		r. Date <i>1-8-14</i>	
--	--	------------------------------------	--	--------------------------	--

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address: <i>B.T.I. 402 HARTZ AV. DANVILLE, CA 94526</i>		
b. Phone:		
c. Driver Name (Print) <i>John Walsh</i>		d. Signature <i>[Signature]</i>
		e. Date <i>1-8-14</i>

III. DESTINATION (Generator complete IIIa-c and Destination Site completes III d-g)

a. Disposal Facility and Site Address: <i>Newby Island Landfill 1601 Dixon Landing Rd Milpitas, CA 95035 408-262-1401</i>		c. US EPA Number	d. Discrepancy Indication Space:
I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.			
e. Name of Authorized Agent (Print) <i>[Signature]</i>		f. Signature <i>[Signature]</i>	g. Date <i>1/10/14</i>

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

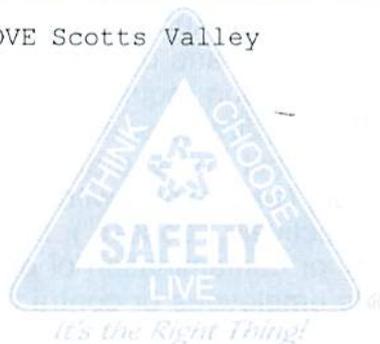
a. Operator's Name and Address:		c. Responsible Agency Name and Address:	
b. Phone:		d. Phone:	
e. Special Handling Instructions and Additional Information:			
f. <input type="checkbox"/> Friable <input type="checkbox"/> Non-Friable <input type="checkbox"/> Both % Friable % Non-Friable			
OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.			
g. Operator's Name and Title (Print)		h. Signature	i. Date
*Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both			

SITE	NEWBY LANDFILL		
	Milpitas, CA	95035	408-262-1401
CUSTOMER	006666 BRADLEY TANKS, INC. 402 HARTZ AVE, BLDG C DANVILLE, CA 94526 51271322032		

SITE	TICKET #	CELL
Y1	981391	
WEIGHMASTER		
IN - Jose L. OUT - Humberto P.		
DATE/TIME IN		DATE/TIME OUT
01-10-2014 10:50 am		01-10-2014 11:50 am
VEHICLE		CONTAINER
BT110		
REFERENCE	INVOICE	
SCOTTS VALLEY		
BILL OF LADING		
1463872		

SCALE IN	GROSS WEIGHT	54,800	NET TONS	13.52	
SCALE OUT	TARE WEIGHT	27,760	NET WEIGHT	27,040	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
20.00	YD	TRACKING QTY				
13.52	TN	SW-CONT SOIL-ALT DAILY COVE Scotts Valley				



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 & Agriculture.

The undersigned individual signing this document on behalf of Customer acknowledges that he or she has read and understands the terms and conditions on the reverse side and that he or she has the authority to sign this document on behalf of the customer.

NET AMOUNT
TENDERED
CHANGE
CHECK#

SIGNATURE _____



CB 00353

**SHIPPING ORDER
and FREIGHT BILL**

BTI ENVIRONMENTAL, INC.
402 HARTZ AVE. BLDG. C, DANVILLE CA 94526
(925) 229-2900

Date 1, 3 2014
TRUCK NO. 110 TRAILER NO. 110A
SUB HAULER

PRIMER CARRIER BTI SUB NO. CONSIGNEE ARCADIS
SHIPPER ARCADIS DESTINATION NEWBY ISLAND
POINT OF ORIGIN 488 KINGS VILLAGE RD CITY MILPITAS, CA
CITY SCOTT VALLEY, CA P.O. NO.

SERVICE PERFORMED: PICK UP AND SB208 BINS

BTI OFFICE USE ONLY

AND TRANSPORT TO NEWBY ISLAND MILPITAS TOTAL HOURS OR TONS
EXPLAIN DELAYS LOADING: RATE PER HOUR OR TON \$

SUB TOTAL \$

UNLOADING: DISPOSAL TONS \$

MANIFEST NUMBERS:	SCALE TAG#	TONS	DISPOSAL RATE \$
-------------------	------------	------	------------------

<u>1463873</u>	<u>479350</u>	<u>48.400</u> <u>29.48</u>	SUB TOTAL \$
----------------	---------------	-------------------------------	--------------

LINERS \$

NOTES: **TOTAL CHARGES \$**

START <u>6:00</u>	STOP <u>4:00</u>	DEDUCT TIME <u>0</u>	NET <u>10.0</u>	APPROVED (BILLING)
-------------------	------------------	----------------------	-----------------	--------------------

DRIVER <u>John Walsh</u>	RECEIVED BY <u>[Signature]</u>	APPROVED (PAYROLL)
--------------------------	--------------------------------	--------------------

PLEASE MAIL ALL DRIVER PAPERWORK TO OUR BILLING DEPARTMENT AT 3272 GREY HAWK CT. CARLSBAD, CA 92010



NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

BT1101

1463873

If waste is asbestos waste, complete Sections I, II, III and IV
If waste is NOT asbestos waste, complete Sections I, II and III

I. GENERATOR (Generator completes Ia-r)

a. Generator's US EPA ID Number NA		b. Manifest Document Number		c. Page 1 of	
d. Generator's Name and Location: Arcadis 440 Kings Village Rd. Scotts Valley, CA 95068 510-596-9675			e. Generator's Mailing Address: Arcadis 101 Creekside Ridge Court, Ste. 200 Roseville, CA 95678 510-596-9675		
f. Phone:			g. Phone:		
If owner of the generating facility differs from the generator, provide:					
h. Owner's Name:			i. Owner's Phone No.:		
j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description		m. Containers No. Type	n. Total Quantity
51271322032	12/17/2014	Soil			CY
B.					
C.					

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

p. Generator Authorized Agent Name (Print) Robert Dericco		q. Signature <i>[Signature]</i>	r. Date 1-3-14
--	--	------------------------------------	-------------------

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address: BITI 402 HARTZAU Danville, CA 94526		
b. Phone:		
c. Driver Name (Print) John Walsh	d. Signature <i>[Signature]</i>	e. Date 1-3-14

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address: Newby Island Landfill 1601 Dixon Landing Rd Milpitas, CA 95035	b.	c. US EPA Number 408-262-1401	d. Discrepancy Indication Space: 979350
--	----	----------------------------------	--

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print) <i>[Signature]</i>	f. Signature <i>[Signature]</i>	g. Date 1/3/14
---	------------------------------------	-------------------

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

a. Operator's Name and Address:		c. Responsible Agency Name and Address:	
b. Phone:		d. Phone:	
e. Special Handling Instructions and Additional Information:			

f. Friable Non-Friable Both % Friable % Non-Friable

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

g. Operator's Name and Title (Print)	h. Signature	i. Date
--------------------------------------	--------------	---------

*Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

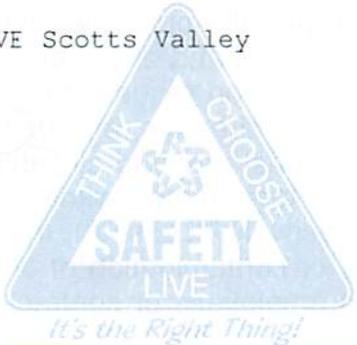
SITE NEWBY LANDFILL
Milpitas, CA 95035 408-262-1401

CUSTOMER
006666
BRADLEY TANKS, INC.
402 HARTZ AVE, BLDG C
DANVILLE, CA 94526
51271322032

SITE	TICKET #	CELL
Y1	979350	
WEIGHMASTER		
Jose L.		
DATE/TIME IN		DATE/TIME OUT
01-03-2014 12:08 pm		01-3-2014 2:11 pm
VEHICLE		CONTAINER
BT1101		
REFERENCE		
INVOICE		
BILL OF LADING		
1463873		

SCALE IN	GROSS WEIGHT	98,300	NET TONS	29.48	
SCALE OUT	TARE WEIGHT	39,340	NET WEIGHT	58,960	INBOUND

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	TAX	TOTAL
40.00	YD	TRACKING QTY				
29.48	TN	SW-CONT SOIL-ALT DAILY COVE Scotts Valley				



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 & Agriculture.

The undersigned individual signing this document on behalf of Customer acknowledges that he or she has read and understands the terms and conditions on the reverse side and that he or she has the authority to sign this document on behalf of the customer.

NET AMOUNT
TENDERED
CHANGE
CHECK#



Appendix H

Data Validation

Site: Watkins-Johnson Superfund Site
440 Kings Village Road
Analyzing Lab: Curtis & Tompkins, Ltd.
Reviewer: Dennis Dyke
Date: February 10, 2013
Data Validation Report #: 21204

Sample Delivery Groups (SDGs): 250030, 250109, 250505,
250521, 250586, 250754, 250866, 251260, 251270, and
251514

24 Water Samples
Volatile Organic Compounds (VOCs) by EPA Method 8260B

QA/QC Data Review Summary

I. Introduction

The following water samples were collected and submitted to Curtis & Tompkins, Ltd. Analytical Laboratories in Berkeley, California (C&T) for analysis of the analytes listed in the header using United States Environmental Protection Agency (USEPA) analytical methods.

<u>Sample ID</u>	<u>Lab ID</u>	<u>Sample Date</u>
KV-7-75	250030-003	10/17/2013
KV-7-GW-107	250109-002	10/22/2013
KV-6-GW-124	250505-001	11/4/2013
KV-1_110413_0845	250521-001	11/4/2013
KV-2_110413_0952	250521-002	11/4/2013
#9MW_110413_1050	250521-003	11/4/2013
KV-3_110413_1220	250521-004	11/4/2013
KV-4_110413_1255	250521-005	11/4/2013
EX-1_110413_1400	250521-006	11/4/2013
WJ-37A_110413_1430	250521-007	11/4/2013
WJ-43_110413_1515	250521-008	11/4/2013
WJ-11_110413_1545	250521-009	11/4/2013
WJ-SUP_110413_1610	250521-010	11/4/2013
KV-8-GW-24	250586-001	11/6/2013
KV-8-GW-172	250754-001	11/11/2013
KV-8-GW-168	250754-002	11/12/2013
KV-8-20131115	250866-001	11/15/2013
KV-6 @ 125	251260-001	11/27/2013
KV-6 @ 133	251260-002	11/27/2013
KV-7 @ 115	251260-003	11/27/2013
KV-7 @ 125	251260-004	11/27/2013
KV-7 @ 135	251260-005	11/27/2013
KV-9-GW-135	251270-001	12/2/2013
KV-5-GW-126	251514-001	12/10/2013

This document was prepared in accordance with USEPA documents *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (1999) and the *Quality Assurance Project Plan (QAPP) for Remedial Design/Remedial Action, Watkins-Johnson Company, Scotts Valley, California*, April 12, 1993.

II. Validity

A. Results are valid for the project purposes, subject to the comments in Section III.

III. Comments

- A. The EPA-recommended holding time was met for all sample analyses. The laboratory noted that the analyses of sample locations KV-8-GW-172 and KV-9-GW-135 were performed using containers with bubbles (headspace) larger than 1 milliliter. Therefore, the results for KV-8-GW-172 and KV-9-GW-135 were qualified as estimated.
- B. No dilutions were required; the reporting limits are adequate for assessments.
- C. All surrogate recoveries were within the QC acceptance limits.
- D. All laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses met the QC acceptance criteria; the MS/MSD analysis was not performed on a sample location from within these SDGs.
- E. Target analytes were not detected in any of the associated laboratory method blanks or trip blank.
- F. Field duplicate samples were not collected as part of this dataset.
- G. The laboratory noted that a continuing calibration verification standard analyzed in SDG 250521 exhibited a response that was less than the lower control limit for the compound 1,1-dichloroethene. No reported sample results for 1,1-dichloroethene are associated with this calibration standard; therefore, no qualification is required.
- H. Integration sheets, chromatograms, and reference scans are produced to positively identify compounds reported above quantitation limits for samples designated as laboratory quality control samples. These data were not reviewed, but are retained by the laboratories.
- I. Other than those discussed above, the quality control criteria were met and all data are considered usable as qualified. No sample results were qualified as unusable. Values qualified as estimated ("J" or "UJ") are considered usable with qualification to indicate quantitative uncertainty with the results. Based upon the data review, all other results are considered valid and usable without qualification. For this batch of samples analyses, the completeness goal is met.

Summary of Validation Qualifiers

Sample ID	Analyte	Result	Units	Qualifier	Reason(s)
KV-8-GW-172	Tetrachloroethene	1.7	µg/L	J	Headspace in vial
	All non-detects	U	µg/L	UJ	Headspace in vial
KV-9-GW-135	Tetrachloroethene	10	µg/L	J	Headspace in vial
	All non-detects	U	µg/L	UJ	Headspace in vial