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TO: **COUNTY OF SANTA CLARA DEPARTMENT OF ENVIRONMENTAL HEALTH**
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AND: **CITY OF MORGAN HILL – BUILDING DIVISION**
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SUBJECT: **NOTIFICATION OF INTENT TO DEVELOP PREVIOUSLY CLOSED LUST SITE**
INCLUDES: RESULTS OF RECENT CONFIRMATION SOIL AND SOIL VAPOR SAMPLING

SITE: **BELLE NOCI MULTI-FAMILY AFFORDABLE HOUSING**
16873 Monterey Road, Morgan Hill, CA 95037 (the "Site")
(Previously Closed LUFT Site: Villa Ciolino - State GeoTracker I.D.: T0608566519)

This *Notification Letter* serves as a formal notification of the property owner's intent to develop the previously closed Leaking Underground Storage Tank (LUST) site located at 16873 Monterey Road, Morgan Hill, California (see Location Map – Figure 1) per the requirements outlined in the *County of Santa Clara Department of Environmental Health (SCDEH)* case closure letter[1] dated November 23, 2011. The current property owner, EAH Housing (a nonprofit housing corporation), plans to construct multi-family affordable housing on the lot. The proposed Site development plans will involve relatively shallow utility trench excavations and some grading that could potentially disturb residual, low-concentration soil impacts.

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[1] *Fuel Leak Site Case Closure Villa Ciolino, 16873 Monterey Road, Morgan Hill, CA; Case No. 14-768, SCVWDID No. 09S3E28F05f*, SCDEH dated November 23, 2011. Excerpt: "Residual contamination in soil and groundwater remains at the site that could pose an unacceptable risk under certain site development activities such as site grading, excavation, or installation of water wells. The County and the appropriate planning and building department shall be notified prior to any changes in land use, grading activities, excavation, and installation of water wells."

Based on our review of previously completed Site assessment and remediation work coupled with recently completed soil and soil vapor sampling, which confirms insignificant exposure risk to construction workers or future residential occupants, no mitigation actions are proposed for this land use transition and residential development. However, because some relatively low-level soil impacts (and potentially groundwater impacts dependent upon seasonal groundwater fluctuation) may be encountered during site grading and/or utility trenching we recommend that a Soil Management Plan be prepared and implemented during the construction phase of this project so that contingency measures for handling and managing potential impacts can be safely employed.

This *Notification Letter* includes:

1. A Site description, land-use history and a summary of previously completed environmental assessment work;
2. A brief overview of the proposed development plans;
3. A discussion of residual soil and groundwater impacts following significant remedial excavation efforts and groundwater characterization/monitoring;
4. The results of recently completed soil and soil vapor confirmation sampling; and
5. Conclusions and Recommendations

1.0 SITE DESCRIPTION

1.1 SITE SETTING AND LAND-USE HISTORY

The Site is currently a fenced-off, undeveloped property that is situated at the corner of Ciolino Avenue and Monterey Road, a mixed commercial and residential area of Morgan Hill, California (see Figure 1 – Location Map). The subject Site spans a single parcel (APN 767-09-029), and was most recently listed as 16873 Monterey Road. According to previously completed *Phase I Environmental Site Assessments*

(Phase I ESAs), the property was operated as a fueling station during the 1950s or 1960s[2], and subsequently contained two (2) commercial restaurant buildings.

1.2 PREVIOUS ENVIRONMENTAL INVESTIGATIONS AND REMEDIAL ACTIONS

A Phase I ESA was completed for the property on February 16, 1999, by ACC Environmental Consultants (ACC). This Phase I ESA did not identify any *Recognized Environmental Conditions* for the Site, however ACC did note vent piping associated with a concrete pad at the Site. ACC recommended that a magnetic survey of the subsurface be completed in order to assess whether Underground Storage Tanks (USTs) were potentially situated beneath the slab. At the time of ACCs investigation, the Site contained a larger restaurant building, and a smaller restaurant/office building.

The Site remained untouched until 2006, when Randazzo Enterprises (a haz-certified demolition contractor) was retained to demolish the two commercial structures. During demolition activities, Randazzo encountered two (2) USTs and fill piping. Upon discovery of the UST system, the property owner at the time (South County Housing) retained Environmental Investigation Services, Inc. (EIS) to complete an updated Phase I ESA as well as a subsurface magnetic survey of the entire property. EIS contracted with Cruz Brothers Locators to complete the metallic survey. The survey generated evidence of an additional two (2) to three (3) USTs positioned in the northeast corner of the property (i.e., corner of Ciolino Avenue and Monterey Road). Based on this information, the Santa Clara County Fire Department (SCCFD) issued an Underground Storage Tank Closure Permit on August 1, 2006.

2006 - UST REMOVAL AND INITIAL EXCAVATION

On August 7, 2006, Macoy Resources Corporation (MRC) was subcontracted under EIS to complete the permitted UST system removal and closure. MRC encountered a total of five (5) USTs, each of which had been previously closed in place and filled with a cement slurry mix. The USTs included:

- One (1) 2,000-gal UST
- Two (2) 575-gal USTs
- One (1) 550-gal UST

[2] An interview with staff at the Santa Clara County Fire Department provided an anecdotal recollection by a staff member who recalled a gas station present at the Site during this time period. Source: *Phase I Environmental Site Assessment*, by EIS, dated May 25, 2006.

» One (1) 250-gal UST

Following their removal, EIS collected a total of ten (10) soil samples (labeled PS-1 through PS-10), which were collected at depths of 1.5 to 2 feet beneath each of the base of the USTs and also in the location determined to be the former pump island. Field observations coupled with UST removal confirmation soil samples having elevated concentrations of petroleum hydrocarbons and associated volatile organic compounds (VOCs) confirmed that a release of fuel hydrocarbons had occurred. Following the initial impacted soil over-excavation effort, an additional eight (8) confirmation soil samples (PS-11 through PS-18) were collected and confirmed that some elevated residual soil impacts remained. The excavated soils were stockpiled at the Site and remained there until additional excavation and off-hauling activities were completed in November 2006. The findings of the UST removal, initial excavation work and soil sample analytical results were presented by EIS in their *Underground Storage Tank Closure and Limited Overexcavation Report*, dated August 30, 2006.

2006 – Additional Over-excavation

In November 2006, additional over-excavation efforts were completed. In the end, a total of 494.07 tons of impacted soils were excavated and off-hauled to the Monterey Regional Waste Management District's Marina Landfill for proper disposal. **This additional excavation effort was successful in removing the vast majority of petroleum hydrocarbon impacted soils to the property line along Monterey Road.** Additional excavation beyond the property line, beneath the sidewalk along Monterey Road was not conducted. As a result, some of the concentrations left-in-place along the property line were slightly elevated above risk-based Tier 1 Environmental Screening Levels (ESLs). The results of the additional overexcavation and confirmation sampling activities were documented in EIS's *Remedial Action Report: Excavation of Impacted Soil*, dated February 7, 2007.

2007-2011 – Soil and Groundwater Delineation Investigations & Groundwater Monitoring

In 2007, additional soil and groundwater samples were collected on and off-site in order to delineate the extent of soil and groundwater contamination northward from the former UST area. Groundwater monitoring wells MW-1 through MW-3 were installed, developed and subsequently sampled in March 2007. MW-1 and MW-2 were non-detectable for all petroleum hydrocarbons and VOC constituents analyzed, however MW-3 (which was located directly downgradient of the former UST release source area) yielded elevated concentrations of TPH-gas and benzene. From March 12, 2007 through May 16, 2011, a total of thirteen (13) groundwater monitoring events were conducted. **The groundwater**

monitoring trends demonstrated that petroleum hydrocarbon compounds of concern were naturally attenuating and decreasing in concentration.

From November 2010 through May 2011, an additional six (6) borings (SB7 through SB12, and B11 and B12) were advanced to depths ranging from 33 to 40 ft bgs, in order to collect soil and groundwater samples for laboratory analysis. Two of the borings (B11 and B12) were advanced hydraulically downgradient of the Site (i.e. northeasterly) within the median of Monterey Road. In both borings, groundwater did not enter the borehole after waiting for one hour. **This indicated that shallow groundwater occurs as a discontinuous, perched water bearing lens and that groundwater impacts do not extend to any significant distance from the Site.**

2011 – REGULATORY CASE CLOSURE

With the vast majority of soil impacts removed from the Site during several phases of remedial excavation, and full delineation of shallow perched-zone groundwater impacts coupled with evidence of natural attenuation of residual contaminants in the perched groundwater bearing zone, SCDEH issued case closure on November 23, 2011, concluding that *"the residual soil and groundwater contamination at the site does not pose a continuing, significant threat to groundwater resources, human health, or the environment. Regional Water Quality Control Board objectives have not been compromised."* The three on-site groundwater monitoring wells were subsequently properly destroyed as a condition of case closure.

Select Tables and Figures from the above described Site investigation work and cleanup efforts are presented in Appendix A for reference.

2.0 PROPOSED DEVELOPMENT PLANS

Preliminary development plans and a Project Description were provided to Weber, Hayes and Associates by EAH. The proposed development is currently named "Belle Noci - Multi-Family Affordable Housing", and consists of a single, three-story building that will span 5,580 sq-ft of the 13,400 sq-ft parcel. The first story of the building will consist of a sixteen (16) stall open-air parking garage, whereas the second and third stories will contain eight (8) two-bedroom units that will span 7,640 sq-ft across both floors. The preliminary Site grading plans are shown on Figures 2-6 as the base map layer, and copies of the development plans prepared by MH Engineering Co and Chris Lamen and Associates are included in

Appendix B. The Belle Noci project is part of the larger Morgan Hill Family – Scattered Site, which upon completion will consist of 41 apartment units across several discontiguous locations.

3.0 RESIDUAL SOIL IMPACTS

We have superimposed the final, post-remediation soil sample locations over the current preliminary Site development plans (see Figure 3). This relatively low-level residual soil contamination that was left in-place at the Site is limited to the previous tank removal locations and limits of associated remedial excavation footprints (north-east portion of Site) at depths of approximately 6 feet below existing grade and deeper (see Figure 3). The vast majority of contaminated soil appears to have been removed from the Site. **The limited, low-level residual soil contamination is deep enough that it will not present any direct contact exposure issues for future residential occupants based on depth of impact and final site grade. Further, it is our understanding based on conversations with the project civil engineers, MH Engineers, that the Site will also be elevated a few feet above existing grade with clean imported fill. Based on this data we do not perceive any risk related to these residual soil impacts with respect to Site development or future residential occupancy.**

4.0 RESIDUAL GROUNDWATER IMPACTS

Three groundwater monitoring wells were installed at the site in 2007 and sampled/monitored until 2011 when the investigation was closed and the wells were properly destroyed (see Figure 2). Shallow perched water is shown to be limited to the northern corner of the property with fluctuating depths as shallow as 3 to 5 feet below the ground surface. Concentrations of benzene detected in well MW-3 (56 µg/L) during the final round of monitoring in 2011 indicate the <u>potential</u> for benzene off-gassing to indoor air at concentrations that may exceed residential threshold limits. Further, there is a <u>potential</u> (depending on season) that the shallow perched water bearing zone may be encountered at the north-east corner of the Site during development activities (i.e., utility trenching) which could require construction dewatering and proper disposal.

5.0 CONFIRMATION SAMPLING FOR RESIDENTIAL LAND-USE – JUNE 2015

After reviewing the preliminary development plans provided by EAH, we superimposed previous soil sample locations that exhibited slightly elevated concentrations of petroleum hydrocarbons that were left in-place (i.e. not removed during remedial excavation efforts). These previous sample locations are depicted on Figure 3. **The majority of the left-in-place soil contamination is situated at depths of approximately 6 feet below existing grade and deeper, and therefore does not present any direct contact exposure issues for future residential occupants and is unlikely to be encountered during Site trenching and grading activities.**

Preliminary utility trenching plans have been provided to us by the project civil engineer (MH Engineering – see Figure 5 and Appendix B). Utility trenching will include: 1) sanitary sewer laterals, 2) water, gas and electrical service, and 3) a series of rain tanks (set at a depths of 8 feet bgs near the southeast property line) and an associated storm drain lateral. Some areas of the Site where utility trenching work is planned may encounter residual soil contamination that has been left-in-place. Utility trenching will also occur in portions of the Site where no previous soil sampling had been conducted. Therefore, we proposed to install a number of shallow (i.e., 8-foot deep) soil cores at those likely trench/subsurface utility locations for visual inspection and lab analysis to confirm whether residual soil contamination is present, and if so at what concentration. **This information will provide additional supporting documentation for residential land-use transition, trench worker health and safety and soil management during Site development.**

In addition, soil vapor samples had not been collected at the Site prior to obtaining regulatory case closure in 2011. As discussed above, a concentration of benzene detected in well MW-3 during the final round of groundwater monitoring in 2011 indicates the <u>potential</u> for benzene off-gassing to indoor air at concentrations that may exceed residential threshold limits. While it is very unlikely that soil vapor intrusion to indoor air would be an issue considering the residential units will be situated above an open-air parking area, we recommended collecting a few soil vapor samples for project documentation, and to satisfy potential future buyer/lender concerns.

Field notes, photodocumentaion, and Geologic Logs are included in Appendix C for reference.

5.1 SOIL SAMPLING

On June 24, 2015, Weber, Hayes and Associates field staff mobilized to the Site in order to advance seven soil borings (DP-1 through DP-7) throughout the areas proposed for utility trenching (see Figure 5 for boring locations). Soil sampling fieldwork followed our standard *Field Methodology for Hydraulic Driven Probes*, which is presented in Appendix C. Soil cores were advanced via a hydraulic driven, direct-push GeoProbe® drill rig operated by Environmental Control Associates (ECA) of Aptos, California, a licensed C-57 drilling operator. The soil cores from each boring were carefully examined and logged by an experienced field geologist, specifically noting any potential soil impacts (i.e., chemical odor and/or discoloration). Geologic logs for each boring are presented in Appendix C.

Each boring was continuously cored to a depth of 8 feet bgs. A soil sample collected from a depth of 2.5 feet bgs from each boring location was submitted for laboratory analysis. This depth was selected for analysis in order to obtain data on soil that will likely be encountered during shallow utility trenching. In addition, a sample collected from a depth of 6.5 feet bgs at boring location DP-1 was also analyzed in order to provide data on soil that will likely be encountered during rain tank excavation (a proposed excavation depth of 8 feet bgs). The collected soil samples were submitted under chain-of-custody to a State-certified laboratory (BC Laboratories, CA ELAP #1186). The soil samples were analyzed for the following potential contaminants of concern:

- Total Petroleum Hydrocarbons as gasoline (TPH-gas) by LUFT Method
- Fuel Volatile Organic Compound (VOC) constituents (benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether, and naphthalene) by EPA Method 8260B

The laboratory report and chain-of-custody documentation are presented in Appendix D.

5.2 SOIL VAPOR SAMPLING

On June 24, 2015, WHA field staff advanced two (2) shallow borings to 5.5 feet bgs for the installation of two (2) temporary soil vapor probes (SV-1 and SV-2). Fieldwork for soil vapor sampling followed our standard *Field Methodology for Active Soil Gas Sampling*, which is presented in Appendix C. The soil vapor samples were positioned at “worst case” locations near the limits of the previous remedial excavations and within the approximate footprint of proposed structure. The soil vapor samples were submitted to a State-certified Laboratory and analyzed for:

- Full suite of Volatile Organic Compounds (VOCs) by EPA Method TO-15

The laboratory report and chain o-of-custody documentation are presented in Appendix D.

5.3 ANALYTICAL RESULTS

All of the collected soil and soil vapor samples revealed either non-detectable or very low-level concentrations of contaminants of concern. Specifically:

» Soil Analytical Results (Table 1, Figure 6): All soils samples were non-detectable for the petroleum hydrocarbon constituents analyzed, with the exception of a single, trace concentration of TPH-gas in sample DP-4-d2.5 of 0.055 mg/Kg. This detection is well below the conservative residential ESL for TPH-gas of 100 mg/Kg.

The results of soil coring and sampling revealed no additional areas of residual soil impacts at the Site.

» Soil Vapor Analytical Results (Table 2, Figure 6): Samples SV-1 and SV-2 both yielded relatively low-level detections petroleum hydrocarbons and VOC constituents, none of which exceed conservative residential ELSs. Specifically:

- *TPH-gas*: Detections ranged from 1,600 to 4,900 micrograms per cubic meter (µg/m^3), well below the Tier 1 residential ESL of 50,000 µg/m^3.
- *Benzene*: Detections ranged from 5.8 to 10 micrograms per cubic meter (µg/m^3), well below the Tier 1 residential ESL of 42 µg/m^3.
- *Toluene*: Detections ranged from 9.1 to 14 micrograms per cubic meter (µg/m^3), well below the Tier 1 residential ESL of 160,000 µg/m^3.
- *Ethylbenzene*: Detections ranged from 5.2 to 19 micrograms per cubic meter (µg/m^3), well below the Tier 1 residential ESL of 490 µg/m^3.
- *Xylenes*: Detections ranged from 33 to 110 micrograms per cubic meter (µg/m^3), well below the Tier 1 residential ESL of 52,000 µg/m^3.
- *MtBE/Naphthalene*: These VOCs were not detected below their sufficiently low laboratory *Method Detection Limits (MDLs)*.
- *Other VOCs*: Trace to low-level detections of dichlorofluoromethane (Freon-21, a refrigerant), methyl ethyl ketone (MEK, a common solvent), trichlorofluoromethane (Freon-11), propylene (petroleum constituent), acetone (solvent), n-heptane (solvent),

and tetrachloroethylene (PCE, a chlorinated solvent). Detections for these VOCs were all well below their respective residential ESLs.

The results of soil vapor sampling confirm no risk for soil vapor intrusion with respect to residual, low-level soil or groundwater impacts at the Site.

6.0 CONCLUSIONS

The vast majority of contaminated soil appears to have been removed from the Site. **The limited, low-level residual soil contamination is deep enough that it will not present any direct contact exposure issues for future residential occupants based on depth of impact and final site grade. Further, it is our understanding based on conversations with the project civil engineers, MH Engineers, that the Site will also be elevated a few feet above existing grade with clean imported fill. Based on this data we do not perceive any risk related to these residual soil impacts with respect to Site development or future residential occupancy.**

Concentrations of benzene detected in well MW-3 (56 µg/L) during the final round of groundwater monitoring in 2011 indicated the potential for benzene off-gassing to indoor air at concentrations that may exceed residential threshold limits. Further, there is a potential (depending on season) that the shallow perched water bearing zone may be encountered at the north-east corner of the Site during development activities (i.e., utility trenching) which could require construction dewatering and proper disposal.

Additional confirmation soil and soil vapor sampling conducted at the Site in June 2015 revealed:

- No additional areas of residual soil impacts at the Site.
- No risk for soil vapor intrusion with respect to residual, low-level soil or groundwater impacts at the Site.

7.0 RECOMMENDATIONS

Based on our review of previously completed Site assessment and remediation work coupled with recently completed soil and soil vapor sampling, which confirms insignificant exposure risk to construction workers or future residential occupants, no mitigation actions are proposed for this land

use transition and residential development. However, because some relatively low-level soil impacts (and potentially groundwater impacts dependent upon seasonal groundwater fluctuation) may be encountered during site grading and/or utility trenching we recommend that a *Soil Management Plan* be prepared and implemented during the construction phase of this project so that contingency measures for handling and managing potential impacts can be safely employed.

8.0 LIMITATIONS

Our service consists of professional opinions and recommendations made in accordance with generally accepted geologic principles and practices. This warranty is in lieu of all others, either expressed or implied. The analysis and conclusions in this report are based on sampling and testing, some of which have been conducted by others, all of which are necessarily limited. Additional data from future work may lead to modifications of the options expressed herein.

If you have any questions or comments regarding this *Notification Letter*, please contact us at our offices.

Sincerely yours,

WEBER, HAYES AND ASSOCIATES

A California Corporation

By: _____
Jacob Aman
Staff Scientist

And: _____
Jered Chaney, PG
Project Geologist

PROFESSIONAL GEOLOGIST
JERED M. CHANEY
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STATE OF CALIFORNIA

FIGURES

Figure 1	Location Map
Figure 2	Final Groundwater Analytical Results
Figure 3	Final Post-Remediation Soil Analytical Results
Figure 4	Residual Impacts for Soil Management
Figure 5	Proposed Sample Locations
Figure 6	Confirmation Sample Locations and Analytical Results

TABLES

Table 1	Soil Sample Analytical Results
Table 2	Soil Vapor Sample Analytical Results

APPENDICES

Appendix A	Previous Analytical Results – Tables and Figures
Appendix B	Preliminary Belle Noci Multi-Family Housing Project Development Plans
Appendix C	Confirmation Sampling Field Documentation and Methodologies » Field Notes » Photodocumentation » Geologic Logs (DP-1 through DP-7, SV-1, SV-2) » *Field Methodology for Hydraulic Driven Probe Sampling* » *Field Methodology for Active Soil Gas Sampling*
Appendix D	Laboratory Analytical Reports » Soil – WO #1515624 » Soil Vapor – WO #1515647

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9.0 REFERENCES

SELECTED PREVIOUS SITE ENVIRONMENTAL REPORTS

Phase I Environmental Site Assessment, ACC, dated February 16, 1999.

Phase I Environmental Site Assessment, Environmental Investigation Services (EIS), dated May 25, 2006.

Underground Storage Tank Closure and Limited Overexcavation Report, EIS, dated August 31, 2006.

Remedial Action Report: Excavation of Impacted Soil, EIS, dated February 7, 2007.

Follow-up Site Characterization Related to Former Underground Storage Tank Removal and Remedial Action, EIS, dated April 12, 2007.

Soil Boring Investigation Report, Closure Solutions, Inc., dated June 3, 2011.

Second Quarter 2011 Groundwater Monitoring Report, Closure Solutions, Inc., dated June 10, 2011.

Geotechnical Investigation: Morgan Hill Family Apartments: Ciolino Avenue and Monterey Road, Morgan Hill, California, Geo-Logic Associates dba Pacific Geotechnical Consulting, dated April 17, 2015.

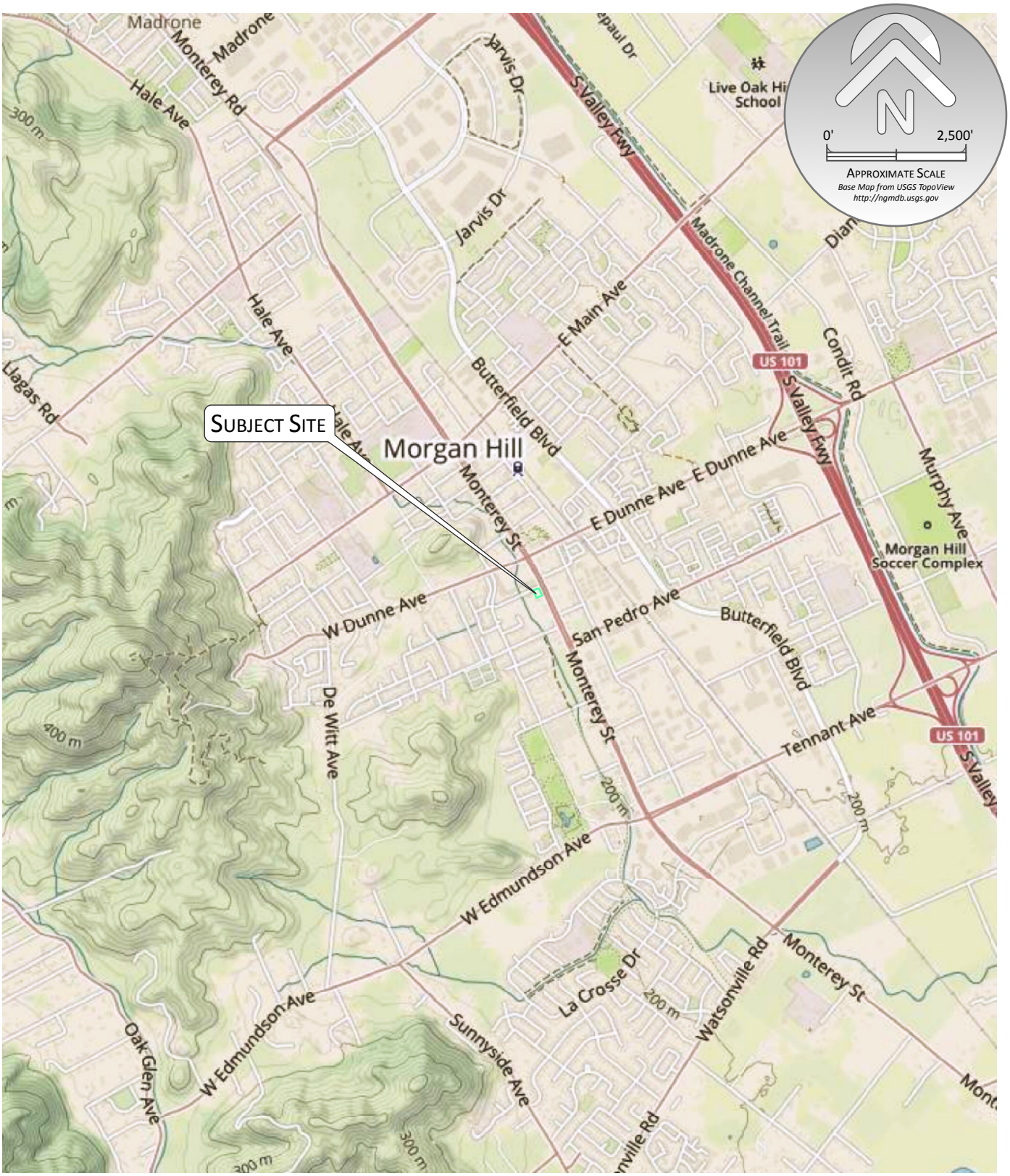
REGULATORY REPORTS AND LETTER DIRECTIVES

Underground Storage Tank Unauthorized Release (Leak) / Contamination Site Report, Santa Clara Fire Department, dated March 3, 2011.

Fuel Leak Site Case Closure Villa Ciolino, 16873 Monterey Road, Morgan Hill, CA; Case No. 14-768, SCVWDID No. 09S3E28F05f, Santa Clara County Department of Environmental Health (SCDEH), dated November 23, 2011.

FIGURES

FIGURE 1 *LOCATION MAP*
FIGURE 2 *FINAL GROUNDWATER ANALYTICAL RESULTS*
FIGURE 3 *FINAL POST-REMEDIATION SOIL ANALYTICAL RESULTS*
FIGURE 4 *RESIDUAL IMPACTS FOR SOIL MANAGEMENT*
FIGURE 5 *PROPOSED SAMPLE LOCATIONS*
FIGURE 6 *CONFIRMATION SAMPLE LOCATIONS AND ANALYTICAL RESULTS*



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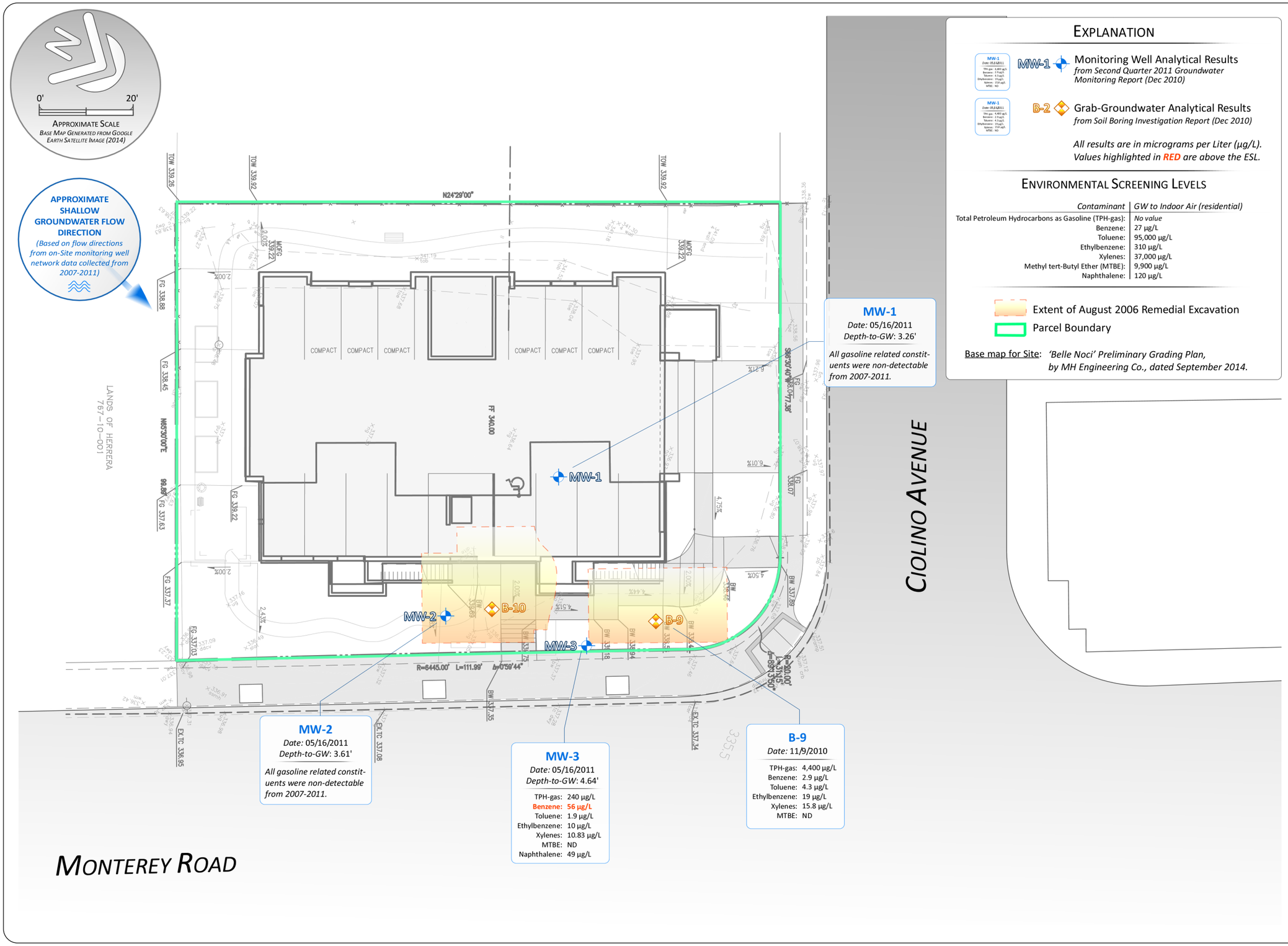
Location Map

Site: Belle Noci Multi-Family Affordable Housing Apartments
Address: 16873 Monterey Road, Morgan Hill, CA

Date: June 2015

Revisions/Notes: 06/09/2015 - JA

Figure 1
Project 2X519



Explanation

MW-1 — Monitoring Well Analytical Results *from Second Quarter 2011 Groundwater Monitoring Report (Dec 2010)*

B-2 — Grab-Groundwater Analytical Results *from Soil Boring Investigation Report (Dec 2010)*

All results are in micrograms per Liter (µg/L).
*Values highlighted in **RED** are above the ESL.*

Environmental Screening Levels

Contaminant	GW to Indoor Air (residential)
Total Petroleum Hydrocarbons as Gasoline (TPH-gas):	*No value*
Benzene:	27 µg/L
Toluene:	95,000 µg/L
Ethylbenzene:	310 µg/L
Xylenes:	37,000 µg/L
Methyl tert-Butyl Ether (MTBE):	9,900 µg/L
Naphthalene:	120 µg/L

Extent of August 2006 Remedial Excavation

Parcel Boundary

Base map for Site: *'Belle Noci' Preliminary Grading Plan, by MH Engineering Co., dated September 2014.*

FIGURE 2
Project 2X519

DETECTIONS IN GROUNDWATER
FINAL POST-REMEDIATION ANALYTICAL RESULTS

SITE: BELLE NOCI MULTI-FAMILY AFFORDABLE HOUSING APARTMENTS
ADDRESS: 16873 MONTEREY ROAD, MORGAN HILL, CA

REVISIONS/NOTES: 06/09/2015 - JA

DATE: JUNE 2015

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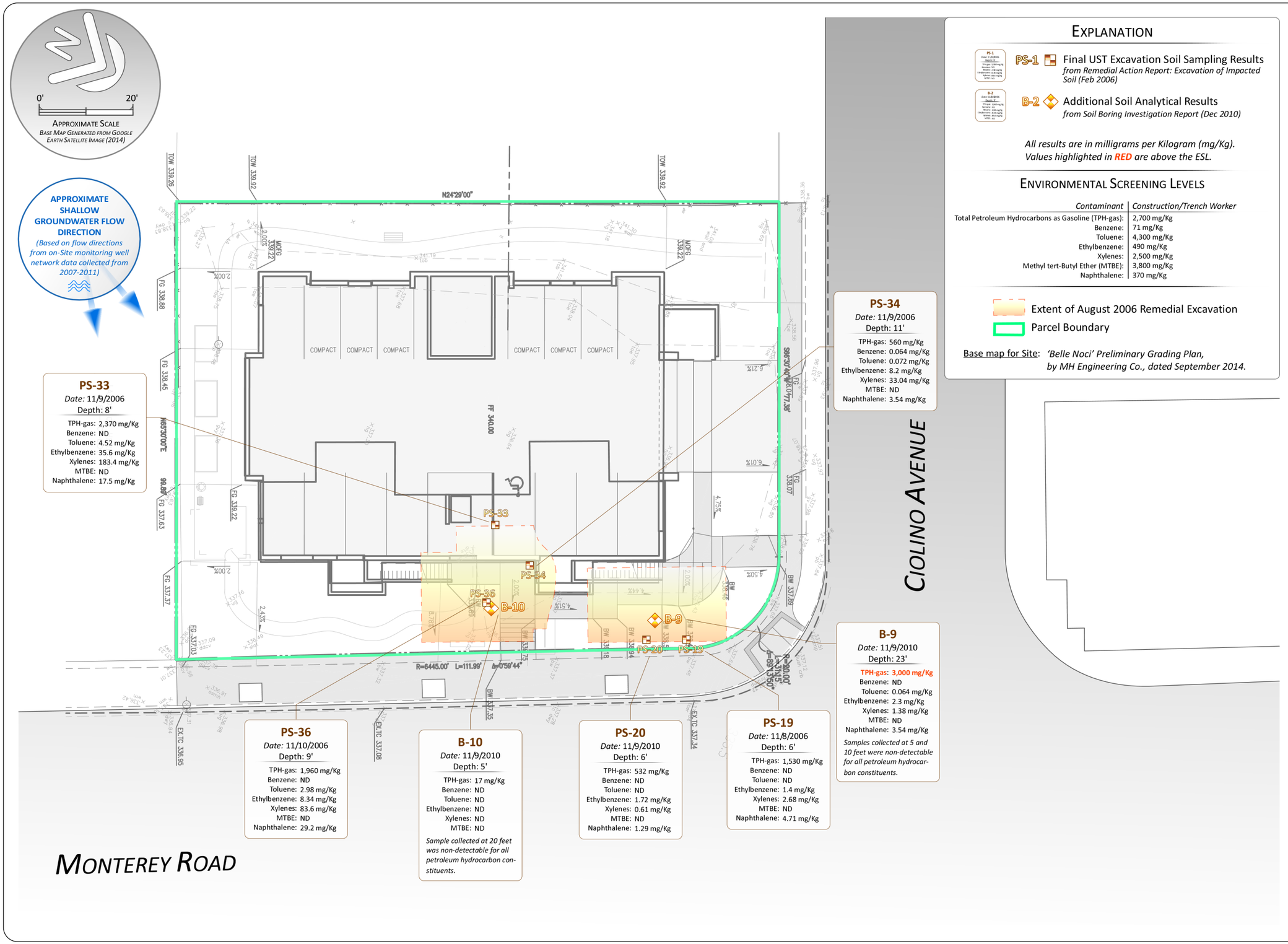

Figure 3
Project 2X519

Detections in Soil
Final Post-Remediation Analytical Results

Site: Belle Noci Multi-Family Affordable Housing Apartments
Address: 16873 Monterey Road, Morgan Hill, CA

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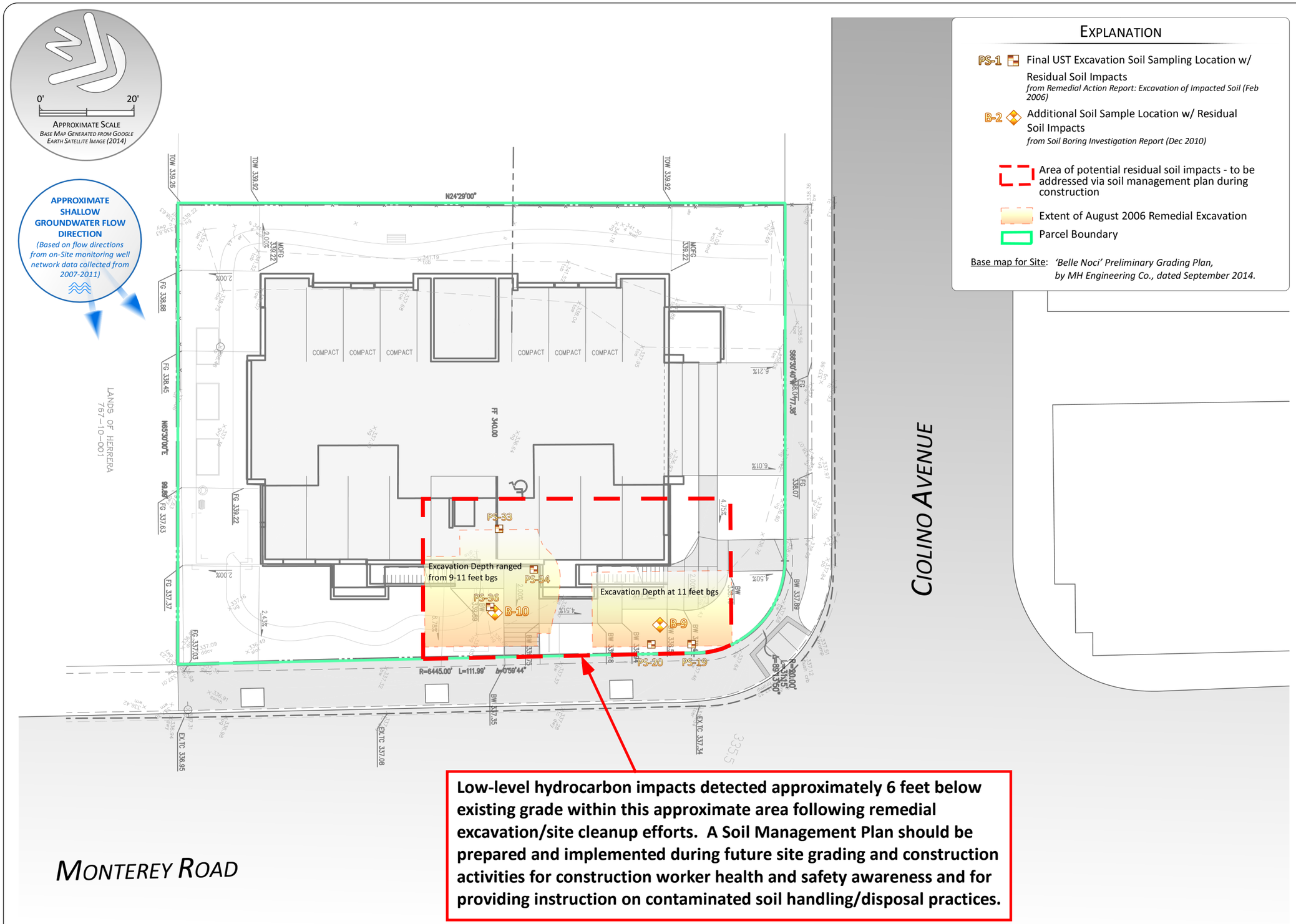

Explanation

PS-1 Final UST Excavation Soil Sampling Location w/ Residual Soil Impacts
from Remedial Action Report: Excavation of Impacted Soil (Feb 2006)

B-2 Additional Soil Sample Location w/ Residual Soil Impacts
from Soil Boring Investigation Report (Dec 2010)

Area of potential residual soil impacts - to be addressed via soil management plan during construction

Extent of August 2006 Remedial Excavation

Parcel Boundary

Base map for Site: *'Belle Noci' Preliminary Grading Plan, by MH Engineering Co., dated September 2014.*

Figure 4
Project 2X519

Area of On-Site Residual Contamination
Final Post-Remediation On-Site Residual Impacts

Site: Belle Noci Multi-Family Affordable Housing Apartments
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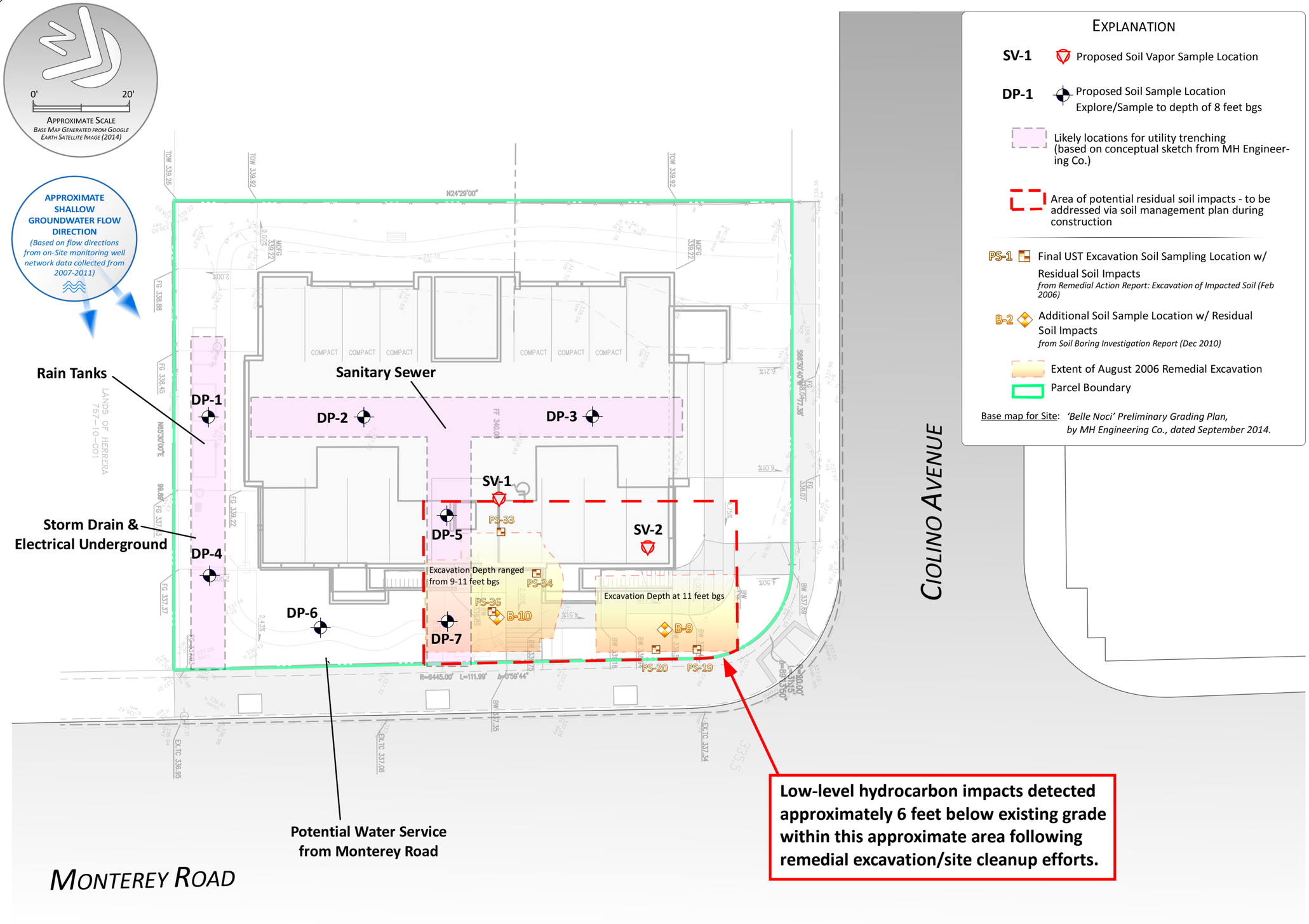

Explanation

SV-1 Proposed Soil Vapor Sample Location

DP-1 Proposed Soil Sample Location
Explore/Sample to depth of 8 feet bgs

Likely locations for utility trenching (based on conceptual sketch from MH Engineering Co.)

Area of potential residual soil impacts - to be addressed via soil management plan during construction

PS-1 Final UST Excavation Soil Sampling Location w/ Residual Soil Impacts
from Remedial Action Report: Excavation of Impacted Soil (Feb 2006)

B-2 Additional Soil Sample Location w/ Residual Soil Impacts
from Soil Boring Investigation Report (Dec 2010)

Extent of August 2006 Remedial Excavation

Parcel Boundary

Base map for Site: *'Belle Noci' Preliminary Grading Plan, by MH Engineering Co., dated September 2014.*

Figure 5
Project 2X519

Proposed Sample Locations
Soil Vapor and Utility Trench Confirmation Sampling

Site: Belle Noci Multi-Family Affordable Housing Apartments
Address: 16873 Monterey Road, Morgan Hill, CA

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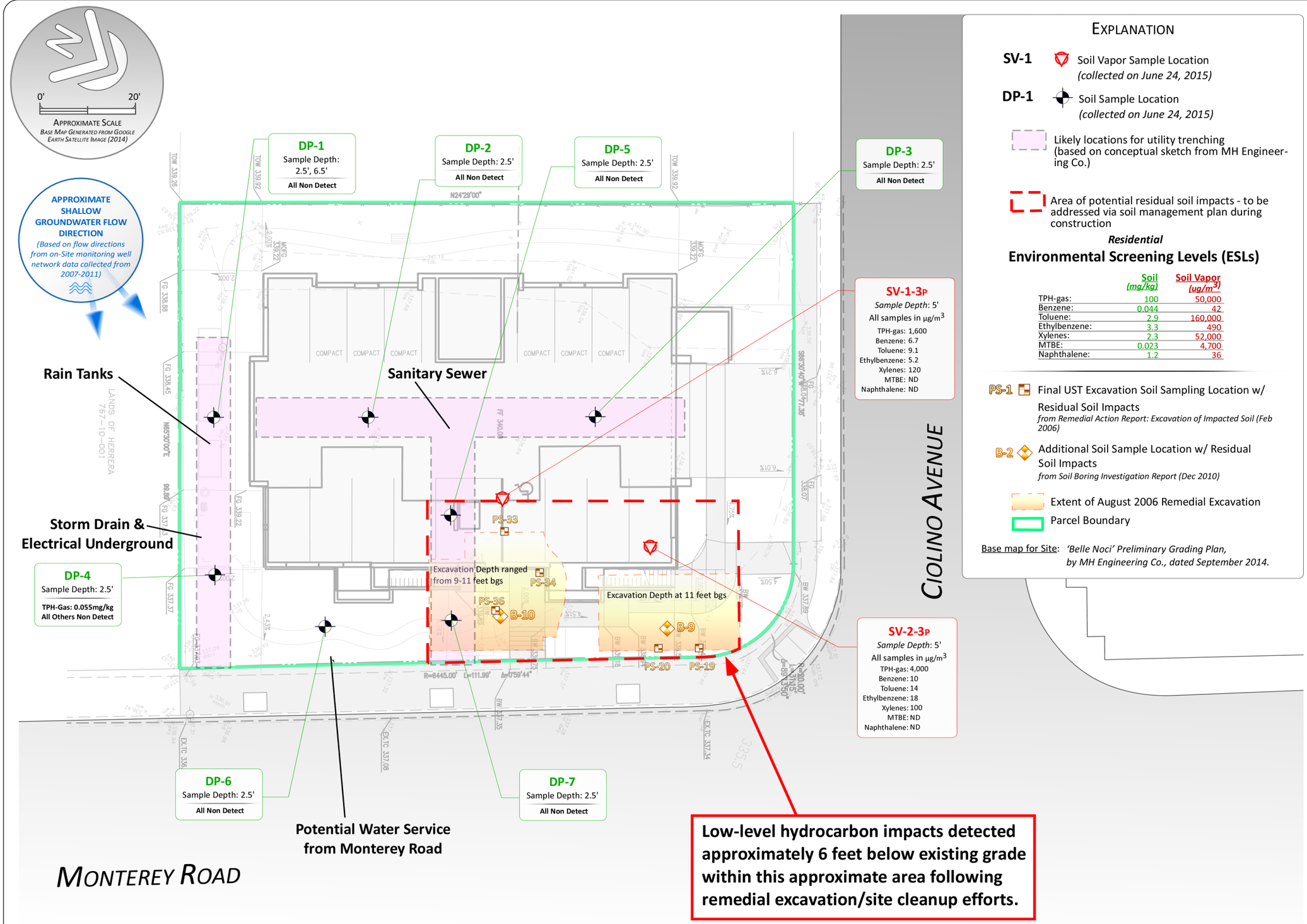

Figure 6
Project 2X519

Confirmation Sample Locations
Soil Vapor and Utility Trench Confirmation Sampling

Site: Belle Noci Multi-Family Affordable Housing Apartments
Address: 16873 Monterey Road, Morgan Hill, CA

Revisions/Notes:

Date: June 2015

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TABLES

TABLE 1 *SOIL ANALYTICAL RESULTS*
TABLE 2 *SOIL VAPOR ANALYTICAL RESULTS*

Table 1: Soil Sample Analytical Results

Belle Noci Affordable Housing Project - 16873 Monterey Road, Morgan Hill

June 24, 2015

All soil sample results are in parts per million (mg/kg).

Soil Sampling Information			*Petroleum Hydrocarbon Laboratory Analytical Data*						
				Volatile Organic Compounds (VOC's by EPA 8260)					*Semi-VOC's by EPA 8260*
Sample Location	*Sample Date*	*Sample Depth (feet, bgs)*	*Gasoline (Luft-GC/MS)*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylene*	*MtBE*	*Naphthalene*
DP-1	6/24/2015	*2.5'*	ND	ND	ND	ND	ND	ND	ND
		6.5'	ND	ND	ND	ND	ND	ND	ND
DP-2	6/24/2015	*2.5'*	ND	ND	ND	ND	ND	ND	ND
DP-3	6/24/2015	*2.5'*	ND	ND	ND	ND	ND	ND	ND
DP-4	6/24/2015	*2.5'*	0.055[J]	ND	ND	ND	ND	ND	ND
DP-5	6/24/2015	*2.5'*	ND	ND	ND	ND	ND	ND	ND
DP-6	6/24/2015	*2.5'*	ND	ND	ND	ND	ND	ND	ND
DP-7	6/24/2015	*2.5'*	ND	ND	ND	ND	ND	ND	ND
Laboratory Practical Quantiation Limit (PQL):			**0.20**	**0.0050**	**0.0050**	**0.0050**	**0.010**	**0.0050**	**0.0050**
Residential / Commercial Environmental Screening Levels (ESLs)[1]			**100 / 500**	**0.044 / 0.044**	**2.9 / 2.9**	**3.3 / 3.3**	**2.3 / 2.3**	**0.023 / 0.023**	**1.2 / 1.2**

NOTES:

1 = **Environmental Screening Levels (ESLs):** from Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater (Interim Final, December 2013). The ESLs are intended to provide quantitative guidance on whether remediation of contamination is warranted.

Residential / Commercial = **ESLs for Residential or Commercial land uses:** ESL screening limit concentration are presented in **GREEN** for Residential land uses and in **RED** for Commercial/Industrial land uses.

bgs = below ground surface

ND = Not detected at or above the laboratory reporting limit.

MtBE = Methyl tert-Butyl Ether

J= Laboratory note indicating a value that is above the Method Detection Limit (MDL) and below the Practical Quantitation Limit (PQL), and is therefore an estimated value.

Table 2: Soil Vapor Sample Analytical Results

Belle Noci Affordable Housing Project - 16873 Monterey Road, Morgan Hill

June 24, 2015

All soil vapor results in micrograms per cubic meter ($\mu g/m^3$)

Sampling Information		Laboratory Analytical Results								Leak Monitoring Check		
			Volatile Organic Compounds (VOCs) by EPA Method TO-15									
Sample Identification	Sample Depth (ft, bgs)	Total Petroleum Hydrocarbons as GASOLINE	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	Naphthalene	Other VOCs	Avg. Shroud Concentration In ppmv (Field)	Leak Media Isopropyl Alcohol in ppmv (Laboratory)	% Leakage (Calculated)
SV-1-3P	5'	1,600	6.7	9.1	5.2[J]	33	ND	ND	*Dichlorodfluoromethane = 2.7[J]* *Methyl isobutyl ketone = 17* *Freon-11 = 8.1* *MEK = 46* *Acetone = 1000* *n-Heptane = 4.3* *Tetrachloroethene = 4.8[J]*	134	0.01505	0.0112%
SV-2-1P ^	5'	4,900	5.8	12	19	110	ND	ND	*Dichlorodfluoromethane = 2.7[J]* *Propylene = 46* *Freon-11 = 8* *MEK = 63* *Acteone = 23000*	62.2	0.07323	0.1177%
SV-2-3P ^	5'	4,000	10	14	18	100	ND	ND	*Dichlorodfluoromethane = 2.8[J]* *Freon-11 = 8.9* *MEK = 56* *Acetone = 30000* *n-Heptane = 3.8*	74.6	<0.00014	<0.00019%
SV-2-10P ^	5'	ND	ND	1.3[J]	ND	ND	ND	ND	*Dichlorodfluoromethane = 4.2[J]* *Freon-11 = 1.8[J]* *Acetone = 2700*	15.8	<0.00014	<0.00089%
Laboratory Practical Quantitation Limit (PQL)		**290**	**2.9**	**2.9**	**7.2**	**14**	**2.9**	**14**	**varies**			
Residential / Commercial ***Environmental Screening Levels (ESLs)*** [1]		***50,000 / 50,000***	***42 / 420***	***160,000 / 1,300,000***	***490 / 4,900***	***52,000 / 220,000***	***4,700 / 47,000***	***36 / 360***	***Dichlorodfluoromethane = NA*** ***Methyl isobutyl ketone = 210,000 / 210,000*** ***Propylene = NA*** ***Freon-11 = NA*** ***MEK = 2,600,000 / 2,600,000*** ***Acetone = 15,000,000 / 15,000,000*** ***n-Heptane = NA*** ***Tetrachloroethene = 210 / 2,100***			

NOTES:

bgs = below ground surface

1 = **Environmental Screening Levels (ESLs) -** (*Interim Final, December 2013*): The ESLs are intended to provide quantitative guidance on whether remediation of contamination is warranted. The ESLs used in this table were obtained from the above referenced document, Table E - Indoor Air and Soil Gas (Vapor Intrusion Concerns).

ND = Not detected at or above the laboratory reporting limit.

J = Laboratory note indicating a value that is below the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL), and is therefore an estimated value.

^ = PQL and MDL raised as a result of sample dilution. See Lab report for full details.

MtBE = Methyl tert-Butyl Ether

MEK = Methyl ethyl Ketone

IPA = Isopropyl alchohol

SV = Soil vapor sample collected from exterior portion of Site.

Leak Check Monitoring Results

Summa Canister IPA as % (Laboratory Results) in ppmv / Average Shroud Concentration as % (Field Measurement) in ppmv = % Leakage

SV-1-3p: [0.01505 / 134] = 0.0112% Leakage

SV-2-1p: [0.07323 / 62.2] = 0.1177% Leakage

SV-2-3p: [0.00014 /74.6] = 0.00019% Leakage

SV-2-10p: [0.00014 / 15.8] = 0.00089% Leakage

APPENDIX A

PREVIOUS ANALYTICAL RESULTS - TABLES AND FIGURES

Table 1: Summary of Soil Analytical Data
Method 8260B -- TPH-g, BTEX, MTBE; Method 8015M -- TPH-d, TPH-o; Method 413.2 -- Oil and Grease; Method 8280 -- PCBs
Excavation in the Vicinity of Five Former USTs
16873 Monterey Road, Morgan Hill, California

Sample	Date	Depth (feet)	TPH-g	TPH-d	TPH-o	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Oil and Grease	PCBs
PS-1	8/14/2006	10	**123**	<10	<50	<0.01	<0.01	0.029	0.012	<0.025	NA	NA
PS-2	8/14/2006	10	**485**	<10	<50	<0.04	<0.04	1.16	2.142	<0.1	NA	NA
PS-3	8/14/2006	9	**8,130**	<10	<50	**1.9**	**111**	**145**	**825**	<2.5	NA	NA
PS-4	8/14/2006	9	**9,330**	<10	<50	<1	<1	**95**	**713**	<2.5	NA	NA
PS-5	8/14/2006	9	**1,180**	<10	<50	<0.04	0.128	**5.0**	**27.2**	<0.1	NA	NA
PS-6	8/14/2006	9	**3,400**	<10	<50	<0.2	<0.2	**17.8**	**101.3**	<0.5	NA	NA
PS-7	8/14/2006	8	**6,640**	<10	<50	**1.12**	0.46	**7.5**	**20.14**	<1	NA	NA
PS-8	8/14/2006	8	**7,890**	<10	<50	**0.44**	0.42	**35.2**	**59.18**	<1	NA	NA
PS-9	8/14/2006	4	**2,430**	<10	<50	<0.2	<0.2	**7.06**	**6.56**	<0.5	NA	NA
PS-10	8/14/2006	8	**1,750**	<10	<50	**0.265**	<0.1	2.00	**5.30**	<0.25	2,160	ND
PS-11	8/14/2006	5-6	4.43	<10	<50	<0.002	<0.002	<0.002	0.142	<0.005	NA	NA
PS-12	8/14/2006	5-6	**1,470**	<10	<50	<0.1	<0.1	**4.61**	**7.50**	<250	NA	NA
PS-13	8/14/2006	5-6	<0.5	<10	<50	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-14	8/14/2006	11	**194**	<10	<50	<0.02	<0.02	0.116	0.256	<0.05	142	ND
PS-15	8/14/2006	5-6	**388**	<10	<50	<0.04	<0.04	2.06	**4.160**	<0.1	NA	NA
PS-16	8/14/2006	5-6	<0.5	<10	<50	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-17	8/14/2006	5-6	**1,050**	<10	<50	<0.1	<0.1	2.35	**5.425**	<0.25	NA	NA
PS-18	8/14/2006	10	**2,370**	<10	<50	<0.4	<0.4	**15.1**	**26**	<1	NA	NA
PS-19	11/8/2006	6	**1,530**	NA	NA	<0.1	<0.1	1.40	**2.68**	<0.25	NA	NA
PS-20	11/8/2006	6	**532**	NA	NA	<0.04	0.046	1.72	0.608	<0.1	NA	NA
PS-21	11/8/2006	6	10.3	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-22	11/8/2006	6	**127**	NA	NA	<0.010	<0.010	0.064	0.038	<0.025	NA	NA
PS-23	11/8/2006	6	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-24	11/9/2006	11	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-25	11/9/2006	11	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-26	11/9/2006	11	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-27	11/9/2006	8	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-28	11/9/2006	8	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-29	11/9/2006	8	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-30	11/10/2006	7.5	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-31	11/10/2006	7.5	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-32	11/9/2006	6	<0.5	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA

Table 1: Summary of Soil Analytical Data
Method 8260B -- TPH-g, BTEX, MTBE; Method 8015M -- TPH-d, TPH-o; Method 413.2 -- Oil and Grease; Method 8280 -- PCBs
Excavation in the Vicinity of Five Former USTs
16873 Monterey Road, Morgan Hill, California

Sample	Date	Depth (feet)	TPH-g	TPH-d	TPH-o	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Oil and Grease	PCBs
PS-33	11/9/2006	8	**2,370**	NA	NA	<0.2	**4.52**	**35.9**	**183.4**	<0.5	NA	NA
PS-34	11/9/2006	11	**560**	NA	NA	**0.064**	0.072	**8.20**	**33.04**	<0.1	NA	NA
PS-35	11/9/2006	11	1.65	NA	NA	<0.002	<0.002	<0.002	<0.006	<0.005	NA	NA
PS-36	11/10/2006	9	**1,960**	NA	NA	<0.2	**2.98**	**8.34**	**83.6**	<0.5	NA	NA
RWQCB ESL			100	100	500	0.044	2.9	3.3	2.3	0.023	--	0.22
USEPA PRG			--	--	--	0.64	520	400	270	32	--	0.22

Notes:

Data are Reported in milligrams per kilogram (mg/kg)
UST = Underground Storage Tank
MTBE = Methyl tert-Butyl Ether
TPH-g = Total Petroleum Hydrocarbons as Gasoline
TPH-d = Total Petroleum Hydrocarbons as Diesel
TPH-o = Total Petroleum Hydrocarbons as Oil
PCBs = Polychlorinated Biphenyls
NA = Not Analyzed
ND = Not Detected
-- = Not Established
* California-Modified PRG

RWQCB ESL = Regional Water Quality Control Board's Environmental Screening Level for shallow soils (≤3m bgs) and residential land use where groundwater is a current or potential source of drinking water.

USEPA PRG = United States Environmental Protection Agency's Preliminary Remediation Goal for residential soil.

Table 2: Summary of Soil Analytical Data
Method 8260B -- VOCs, Fuel Oxygenates; Method 8270 -- SVOCs
Excavation in the Vicinity of Five Former USTs
16873 Monterey Road, Morgan Hill, California

Sample	Date	Depth (feet)	n-Butylbenzene	sec-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2-Methylnaphthalene	Other VOCs	Fuel Oxygenates	Other SVOCs
PS-1	8/14/2006	10	256	111	100	<50	116	288	<50	<50	NA	ND	ND	NA
PS-2	8/14/2006	10	<200	772	788	710	**4,200**	2,220	6,100	974	NA	ND	ND	NA
PS-3	8/14/2006	9	<5,000	10,800	16,800	<5,000	**56,000**	63,500	**364,000**	**105,000**	NA	ND	ND	NA
PS-4	8/14/2006	9	<5,000	15,000	18,100	6,500	**69,500**	62,500	**399,000**	**114,000**	NA	ND	ND	NA
PS-5	8/14/2006	9	<200	1,000	1,600	766	**5,000**	4,800	23,000	6,400	NA	ND	ND	NA
PS-6	8/14/2006	9	<1,000	1,890	4,650	2,420	**11,100**	8,320	**52,500**	17,100	NA	ND	ND	NA
PS-7	8/14/2006	8	<2,000	4,000	5,140	7,800	**18,700**	6,000	51,200	5,280	NA	ND	ND	NA
PS-8	8/14/2006	8	<2,000	5,420	11,200	10,400	**28,600**	18,000	**93,200**	**22,000**	NA	ND	ND	NA
PS-9	8/14/2006	4	<1,000	1,740	3,230	2,700	**6,060**	5,210	6,130	5,000	NA	ND	ND	NA
PS-10	8/14/2006	8	<500	955	1,730	1,460	**3,030**	2,500	15,600	2,280	**1,280**	ND	ND	ND
PS-11	8/14/2006	5-6	<10.00	<10.00	<10.00	<10.00	65	<10.00	170	48	NA	ND	ND	NA
PS-12	8/14/2006	5-6	<500	1,250	1,760	2,080	**6,840**	2,700	8,700	3,300	NA	ND	ND	NA
PS-13	8/14/2006	5-6	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-14	8/14/2006	11	<100	140	101	108	269	132	353	127	<330.0	ND	ND	ND
PS-15	8/14/2006	5-6	<200	200	472	236	**784**	1,010	4,400	1,420	NA	ND	ND	NA
PS-16	8/14/2006	5-6	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-17	8/14/2006	5-6	<500	940	1,310	690	**3,430**	4,500	30,800	4,930	NA	ND	ND	NA
PS-18	8/14/2006	10	<2,000	<2,000	3,420	<2,000	**6,140**	6,680	46,200	3,240	NA	ND	ND	NA
PS-19	11/8/2006	6	2,380	860	965	1,700	**4,710**	1,500	11,400	3,870	NA	ND	ND	NA
PS-20	11/8/2006	6	642	266	608	396	**1,290**	1,060	780	1,120	NA	ND	ND	NA
PS-21	11/8/2006	6	<10.00	12	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-22	11/8/2006	6	483	176	140	<50	199	485	<50	66	NA	ND	ND	NA
PS-23	11/8/2006	6	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-24	11/9/2006	11	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-25	11/9/2006	11	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-26	11/9/2006	11	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-27	11/9/2006	8	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-28	11/9/2006	8	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-29	11/9/2006	8	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA

Table 2: Summary of Soil Analytical Data
Method 8260B -- VOCs, Fuel Oxygenates; Method 8270 -- SVOCs
Excavation in the Vicinity of Five Former USTs
16873 Monterey Road, Morgan Hill, California

Sample	Date	Depth (feet)	n-Butylbenzene	sec-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2-Methylnaphthalene	Other VOCs	Fuel Oxygenates	Other SVOCs
PS-30	11/10/2006	7.5	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-31	11/10/2006	7.5	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-32	11/9/2006	6	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-33	11/9/2006	8	11,000	3,470	4,830	1,720	**17,500**	19,100	**97,700**	**24,800**	NA	ND	ND	NA
PS-34	11/9/2006	11	3,590	938	1,250	554	**3,540**	4,790	25,800	6,790	NA	ND	ND	NA
PS-35	11/9/2006	11	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	<10.00	NA	ND	ND	NA
PS-36	11/10/2006	9	14,800	3,640	2,970	2,040	**29,200**	10,900	**85,800**	**22,700**	NA	ND	ND	NA
RWQCB ESL			--	--	--	--	460	--	--	--	250	--	--	--
USEPA PRG			240,000	220,000	570,000	--	1,700(*)	240,000	52,000	21,000	--	--	--	--

Notes:

Data are reported in micrograms per kilogram (μg/kg)

VOCs = Volatile Organic Compounds

SVOCs - Semi-Volatile Organic Compounds

UST = Underground Storage Tank

NA = Not Analyzed

ND = Not Detected

-- = Not Established

(*) = California-modified PRG

RWQCB ESL = Regional Water Quality Control Board Environmental Screening Level for shallow soils (≤3m bgs) and residential land use where groundwater is a current or potential source of drinking water.

USEPA PRG = United States Environmental Protection Agency's Preliminary Remediation Goal for residential soil.

Table 3: Summary of Soil Analytical Data
Method 6010B -- Lead, Cadmium, Chromium, Nickel, and Zinc
Excavation in the Vicinity of Five Former USTs
16873 Monterey Road, Morgan Hill, California

Sample	Date	Depth (feet)	Lead	Cadmium	Chromium	Nickel	Zinc
PS-1	8/14/2006	10	5.32	NA	NA	NA	NA
PS-2	8/14/2006	10	6.83	NA	NA	NA	NA
PS-3	8/14/2006	9	35.2	NA	NA	NA	NA
PS-4	8/14/2006	9	28.0	NA	NA	NA	NA
PS-5	8/14/2006	9	10.4	NA	NA	NA	NA
PS-6	8/14/2006	9	8.40	NA	NA	NA	NA
PS-7	8/14/2006	8	9.00	NA	NA	NA	NA
PS-8	8/14/2006	8	6.92	NA	NA	NA	NA
PS-9	8/14/2006	4	8.00	NA	NA	NA	NA
PS-10	8/14/2006	8	28.0	<0.50	44.0	80.0	53.0
PS-11	8/14/2006	5-6	6.50	NA	NA	NA	NA
PS-12	8/14/2006	5-6	6.00	NA	NA	NA	NA
PS-13	8/14/2006	5-6	7.11	NA	NA	NA	NA
PS-14	8/14/2006	11	7.20	<0.50	55.0	62.0	42.0
PS-15	8/14/2006	5-6	9.50	NA	NA	NA	NA
PS-16	8/14/2006	5-6	10.0	NA	NA	NA	NA
PS-17	8/14/2006	5-6	12.4	NA	NA	NA	NA
PS-18	8/14/2006	10	9.20	NA	NA	NA	NA
RWQCB ESL			150	1.7	58	150	600
USEPA PRG			150*	37	210	1,600	23,000

Notes:

Data are Reported in milligrams per kilogram (mg/kg)
UST = Underground Storage Tank
Pb = Lead
Cd = Cadmium
Cr = Chromium
Ni = Nickel
Zn = Zinc
NA = Not Analyzed
* California-Modified PRG
RWQCB ESL = Regional Water Quality Control Board's Environmental Screening Level for shallow soils ($\leq$3m bgs) and residential land use where groundwater is a current or potential source of drinking water.
USEPA PRG = United States Environmental Protection Agency's Preliminary Remediation Goal for residential soil.

Table 1 -- Summary of Soil Analytical Data
Method 8260B for VOCs, TPH-g, and Fuel Oxygenates; Method 8015M for TPH-d and TPH-o
16873 Monterey Road,
Morgan Hill, California

Boring	Depth (feet)	Date	TPH-g	TPH-d	TPH-o	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	n-Butylbenzene	sec-Butylbenzene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Other Oxygenates
B-1	7.5-8.0	1/24/2007	<0.5	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
B-1	11.5-12	1/24/2007	<0.5	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
B-2	7.5-8.0	1/24/2007	<0.5	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
B-2	11.5-12	1/24/2007	<0.5	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
B-2	14.5-15	1/24/2007	<0.5	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
MW-1	9.0-9.5	1/23/2007	<0.5	<10	<50	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
MW-1	14.5-15	1/23/2007	<0.5	<10	<50	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
MW-2	10-10.5	1/23/2007	<0.5	<10	<50	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
MW-2	14.5-15	1/23/2007	<0.5	<10	<50	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
MW-3	5.0-5.5	2/15/2007	<0.5	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
MW-3	10-10.5	2/15/2007	<0.5	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
MW-3	12-12.5	2/15/2007	**790**	NA	NA	<0.10	**0.064**	0.048	**7.10**	**9.14**	8.08	2.60	3.54	0.758	**10.2**	12.8	32.2	8.50	ND	ND
B-3	15.5-16.0	7/26/2007	<0.5	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND	ND
B-4	15.5-16.0	7/26/2007	22.3	NA	NA	<0.005	0.004	<0.002	<0.002	<0.006	0.080	0.085	0.047	<0.010	0.014	0.096	<0.010	<0.010	ND	ND
B-4	19.5-20.0	7/26/2007	20.9	NA	NA	<0.005	<0.002	<0.002	<0.002	<0.006	0.140	0.055	<0.010	<0.010	0.021	0.038	<0.010	<0.010	ND	ND
RWQCB ESL			100	100	1,000	0.023	0.044	2.9	3.3	2.3	--	--	--	--	1.5	--	--	--	--	--
USEPA PRG			--	--	--	32	0.64	520	400	270	240	220	570	--	56	240	52	21	--	--

Notes:

Data are reported in milligrams per kilogram (mg/kg)
MTBE = Methyl tert-butyl ether
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
RWQCB ESL = Regional Water Quality Control Board's Environmental Screening Level for Commercial/Industrial Land Use. Groundwater is a Current or Potential Source of Drinking water.

Numbers in bold exceed respective ESL or PRG for that constituent.

TPH-d = Total Petroleum Hydrocarbons as diesel
TPH-g = Total Petroleum Hydrocarbons as gasoline
TPH-o = Total Petroleum Hydrocarbons as oil
NA = Not Analyzed
ND = Not detected (see analytical reports for constituent list and detection limits)
USEPA PRG = United States Environmental Protection Agency's Preliminary Remediation Goal for residential soil.

Table 2: Summary of Grab Groundwater Analytical Data
Method 8260B for VOCs, TPH-g, and Fuel Oxygenates
16873 Monterey Road,
Morgan Hill, California

Boring	Date	TPH-g	Acetone	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	2-Butanone (MEK, Methyl ethyl ketone)	sec-Butylbenzene	1,2-Dichloroethane	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Other Oxygenates
B-3	7/26/2007	<50	<5.00	<1.000	<1.000	<1.000	<3.000	<2.000	<5.00	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	ND	ND
B-4	7/26/2007	**2,390**	43.5	**6.2**	6.7	**36.3**	14.8	<2.000	11.7	15.6	<1.000	47.8	2.2	**26.1**	101	28.3	39.2	ND	ND
B-5	7/26/2007	**325**	10.3	**1.1**	<1.000	<1.000	<3.000	<2.000	<5.00	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	ND	ND
B-6	7/26/2007	<50	5.6	<1.000	<1.000	<1.000	<3.000	<2.000	<5.00	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	ND	ND
CDHS MCL		--	--	1	150	300	1,750	5[(b)]	--	--	0.5	--	--	--	--	--	--	--	--
RWQCB Screening Levels		100	1,500	1	40	30	20	5.6	4,200	--	0.5	--	--	17	--	--	--	--	--

Notes:
Data are reported in micrograms per liter (µg/L)
TPH-g = Total Petroleum Hydrocarbons as Gasoline
MTBE = Methyl tert-Butyl Ethylene
VOCs = Volatile Organic Compounds
ND = Not detected (see analytical reports for constituent list and detection limits)
CDHS MCL = California Department of Health Services' Maximum Contaminant Level for Drinking Water
(b) = Secondary MCL based on qualitative factors (e.g. taste, color, odor). The primary (public health-based) MCL for MTBE is 13 µg/L.
RWQCB Screening Level = Regional Water Quality Control Board's Environmental Screening Levels, determined based on ceiling levels (taste and odor), human health protection, aquatic habitat protection, and the potential for vapor intrusion.

Table 1
Groundwater Elevation and Analytical Data

Villa Ciolino Property
16873 Monterey Road
Morgan Hill, California

Well ID	Date of Sampling/ Monitoring	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	TPHg/GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Lab
MW-1	3/12/2007	336.16	4.52	331.64	<50	<1.0	<1.0	<1.0	<3.0	<2.0	
	6/20/2007		8.26	327.90	<50	<1.0	<1.0	<1.0	<3.0	<2.0	
	6/27/2007		8.57	327.59	NS	NS	NS	NS	NS	NS	
	7/5/2007		8.97	327.19	NS	NS	NS	NS	NS	NS	
	7/16/2007		8.51	327.65	NS	NS	NS	NS	NS	NS	
	9/18/2007		12.24	323.92	<50	<1.0	<1.0	<1.0	<3.0	<2.0	
	12/10/2007		11.16	325.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	
	3/26/2008		4.16	332.00	<50	<0.50	<0.50	<0.50	<1.0	<5.0	
	5/13/2008		6.58	329.58	<50	<0.50	<0.50	<0.50	<1.0	<0.5	
	7/27/2010		4.45	331.71	<50	0.57	<0.50	<0.50	<1.0	<1.0	SunStar
	10/22/2010		5.64	330.52	<50	<0.50	<0.50	<0.50	<1.5	<1.0	SunStar
	3/16/2011		2.72	333.44	<50	<0.50	<0.50	<0.50	<1.5	<1.0	SunStar
	5/16/2011		**3.26**	**332.90**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.5**	**<1.0**	**SunStar**
MW-2	3/12/2007	336.34	4.88	331.46	<50	<1.0	<1.0	<1.0	<3.0	<2.0	
	6/20/2007		5.62	330.72	<50	<1.0	<1.0	<1.0	<3.0	<2.0	
	6/27/2007		8.92	327.42	NS	NS	NS	NS	NS	NS	
	7/5/2007		9.38	326.96	NS	NS	NS	NS	NS	NS	
	7/16/2007		9.89	326.45	NS	NS	NS	NS	NS	NS	
	9/18/2007		12.58	323.76	<50	<1.0	<1.0	<1.0	<3.0	<2.0	
	12/10/2007		11.49	324.85	<50	<0.50	<0.50	<0.50	<0.50	<0.50	
	3/26/2008		4.53	332.18	<50	<0.50	<0.50	<0.50	<1.0	<5.0	
	5/13/2008		6.96	329.76	<50	<0.50	<0.50	<0.50	<1.0	<0.5	
	7/27/2010		4.81	331.53	<50	<0.50	<0.50	<0.50	<1.0	<1.0	SunStar
	10/22/2010		6.04	330.30	<50	<0.50	<0.50	<0.50	<1.5	<1.0	SunStar
	3/16/2011		3.06	333.28	<50	<0.50	<0.50	<0.50	<1.5	<1.0	SunStar
	5/16/2011		**3.61**	**332.73**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.5**	**<1.0**	**SunStar**
MW-3	3/12/2007	337.05	5.66	331.39	7,020	67	<5.0	27	81	<10	
	6/20/2007		6.52	330.53	6,330	126	<10	132	153	<20	
	6/27/2007		9.83	327.22	NS	NS	NS	NS	NS	NS	
	7/5/2007		10.35	326.70	NS	NS	NS	NS	NS	NS	
	7/16/2007		10.91	326.14	NS	NS	NS	NS	NS	NS	
	9/18/2007		13.69	323.36	2,570	13.9	<1.0	1.5	3.4	<1.0	
	12/10/2007		12.57	324.48	4,400	48	<5.0	12	<5.0	<5.0	
	3/26/2008		5.55	331.50	1,900	62	<5.0	23	17	<50	
	3/26/2008 DUP				2,300	65	<5.0	24	19	<50	
	5/13/2008		7.97	329.08	2,900	81	<5.0	27	21	<5.0	
	5/13/2008 DUP				3,200	70	<5.0	22	18	<5.0	
	7/27/2010		4.86	332.19	<50	67	2.1	13	13	<1.0	SunStar
	10/22/2010		7.13	329.92	4,700	47	1.8	11	12	<1.0	SunStar
	3/16/2011		4.04	333.01	2,100	55	1.9	14	13	<1.0	SunStar
	5/16/2011		**4.64**	**332.41**	**240**	**56**	**1.9**	**10**	**10.83**	**<1.0**	**SunStar**

Table 1
Groundwater Elevation and Analytical Data

Villa Ciolino Property
16873 Monterey Road
Morgan Hill, California

Well ID	Date of Sampling/ Monitoring	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Lab

ABBREVIATIONS:

TPhg	=	Total Petroleum Hydrocarbons as gasoline
B	=	Benzene
T	=	Toluene
E	=	Ethylbenzene
X	=	Xylenes
MTBE	=	Methyl Tertiary Butyl Ether
ug/L	=	Micrograms per liter (parts per billion [ppb])
SunStar	=	SunStar Laboratories, Inc., Lake Forest, CA
Bold	=	Detection
NA	=	Not Analyzed / Not Available
ND	=	Not detected at or above unknown laboratory reporting limit
ND<	=	Not detected at or above specified laboratory reporting limit
NM	=	Not monitored
NS	=	Not Sampled
IA	=	Inaccessable
FP	=	Free Product
D	=	No Data

LIMITATIONS:

Background information, including but not limited to previous field measurements, analytical results, Site plans, and other data have been obtained from previous consultants, and/or third parties, in the preparation of this report. Closure Solutions has relied on this information as furnished. Closure Solutions is not responsible for, nor has it confirmed the accuracy of data collected or generated by others.

Table 2
Fuel Oxygenate Analytical Data

Villa Ciolino Property
16873 Monterey Road
Morgan Hill, California

Well Number	Date Sampled	1,2-DCA (µg/L)	Napthalene (µg/L)	n-Butylbenzene (µg/L)	sec-Butylbenzene (µg/L)	Isopropylbenzene (µg/L)	p-Isopropyltoluene (µg/L)	n-propylbenzene (µg/L)	1,2,4-trimethylbenzene (µg/L)	1,3,5-trimethylbenzene (µg/L)	Other VOCs	Other Oxygenates
MW-1	3/12/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND
	6/20/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND
	6/27/2007	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/5/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/18/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND
	12/10/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	ND
	3/26/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	ND	ND
	5/13/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	ND	ND
	7/27/2010	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
	10/22/2010	<0.50	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/16/2011	<0.50	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/16/2011	**<0.50**	**<1.0**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
MW-2	3/12/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND
	6/20/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND
	6/27/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/5/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/18/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND
	12/10/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	ND	ND
	3/26/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	ND	ND
	5/13/2008	<0.50	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	ND	ND
	7/27/2010	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
	10/22/2010	<0.50	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/16/2011	**<0.5**	**<1.0**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Table 2
Fuel Oxygenate Analytical Data

Villa Ciolino Property
16873 Monterey Road
Morgan Hill, California

Well Number	Date Sampled	1,2-DCA (µg/L)	Napthalene (µg/L)	n-Butylbenzene (µg/L)	sec-Butylbenzene (µg/L)	Isopropylbenzene (µg/L)	p-Isopropyltoluene (µg/L)	n-propylbenzene (µg/L)	1,2,4-trimethylbenzene (µg/L)	1,3,5-trimethylbenzene (µg/L)	Other VOCs	Other Oxygenates
MW-3	3/12/2007	7.0	6.0	22	11	15	8.0	18	<1.0	44	ND	ND
	6/20/2007	10	231	54	42	91	<10	253	142	43	ND	ND
	6/27/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/5/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/18/2007	<1.0	10.2	16.7	18.5	20	<1.0	58.3	<1.0	2.0	ND	ND
	12/10/2007	<5.0	47	44	42	58	<5.0	190	6.1	<5.0	ND	ND
	3/26/2008	<5.0	44	73	42	96	<1.0	260	<5.0	<5.0	ND	ND
	3/26/2008 DUI	<5.0	50	74	41	99	<1.0	280	<5.0	<5.0	ND	ND
	5/13/2008	<5.0	76	92	52	140	<10	360	<5.0	<5.0	ND	ND
	5/13/2008 DUI	<5.0	63	78	44	120	<10	300	<5.0	<5.0	ND	ND
	7/27/2010	1.6	<1.0	45	41	99	<1.0	<1.0	1.9	1.5	NA	NA
	10/22/2010	<0.50	59	46	48	99	1.6	340	2.9	NA	NA	NA
	3/16/2011	1.9	54	38	45	94	<1.0	300	2.3	2.3	NA	NA
	5/16/2011	**<0.50**	**49**	**38**	**41**	**92**	**<1.0**	**<1.0**	**2.2**	**1.4**	**NA**	**NA**

Table 2
Fuel Oxygenate Analytical Data

Villa Ciolino Property
16873 Monterey Road
Morgan Hill, California

Well Number	Date Sampled	1,2-DCA (µg/L)	Napthalene (µg/L)	n-Butylbenzene (µg/L)	sec-Butylbenzene (µg/L)	Isopropylbenzene (µg/L)	p-Isopropyltoluene (µg/L)	n-propylbenzene (µg/L)	1,2,4-trimethylbenzene (µg/L)	1,3,5-trimethylbenzene (µg/L)	Other VOCs	Other Oxygenates

ABBREVIATIONS:

1,2-DCA	=	1,2-Dichloroethane
VOCs	=	Volatile Organic Compounds
ug/L	=	Micrograms per liter (parts per billion [ppb])
SunStar	=	SunStar Laboratories, Inc., Lake Forest, CA
---	=	Not analyzed/measured/applicable
Bold	=	Detection
NA	=	Not Accessible / Not Available
ND	=	Not detected at or above unknown laboratory reporting limit
ND<	=	Not detected at or above specified laboratory reporting limit
NS	=	Not Sampled
IA	=	Inaccessable
FP	=	Free Product

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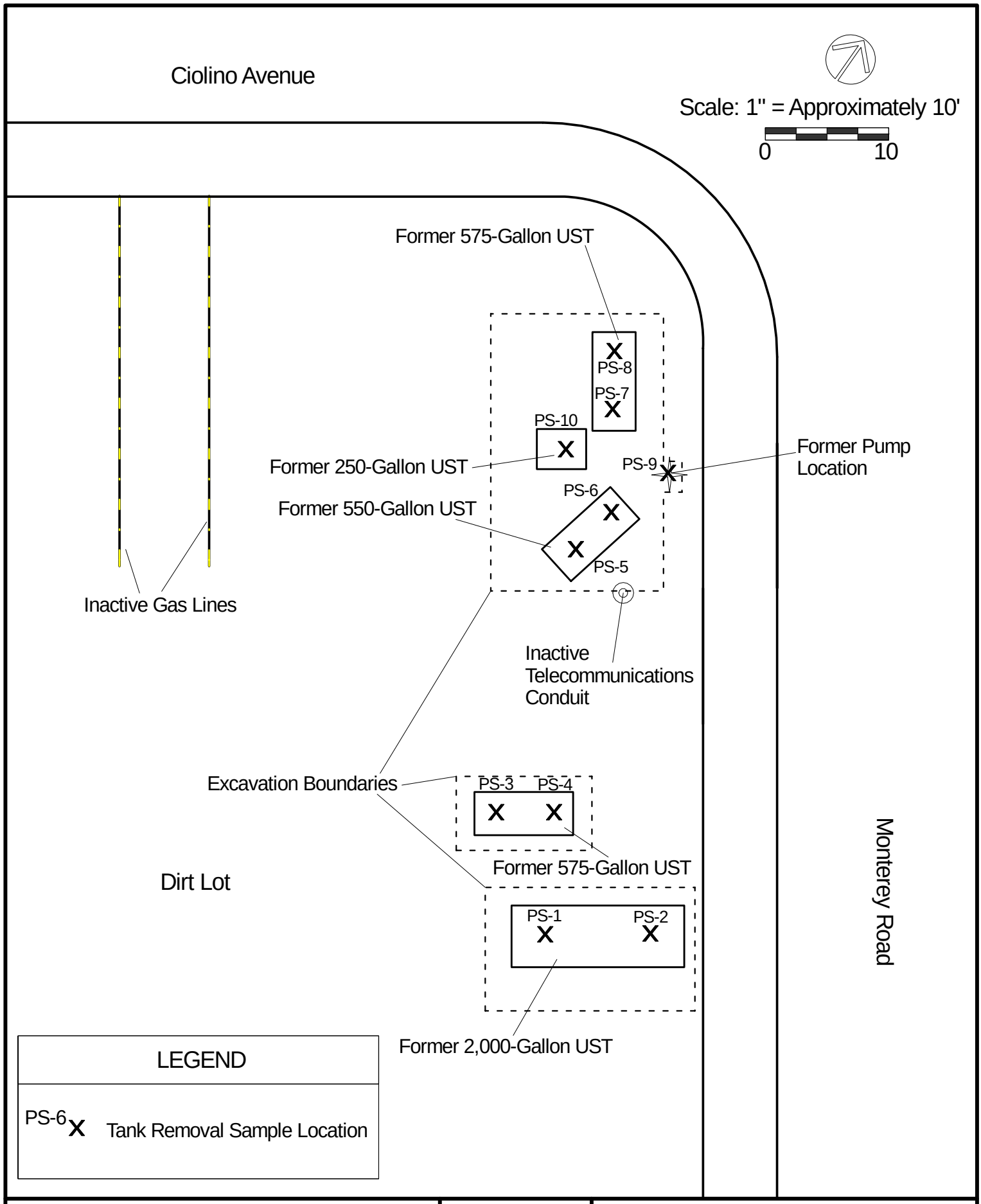

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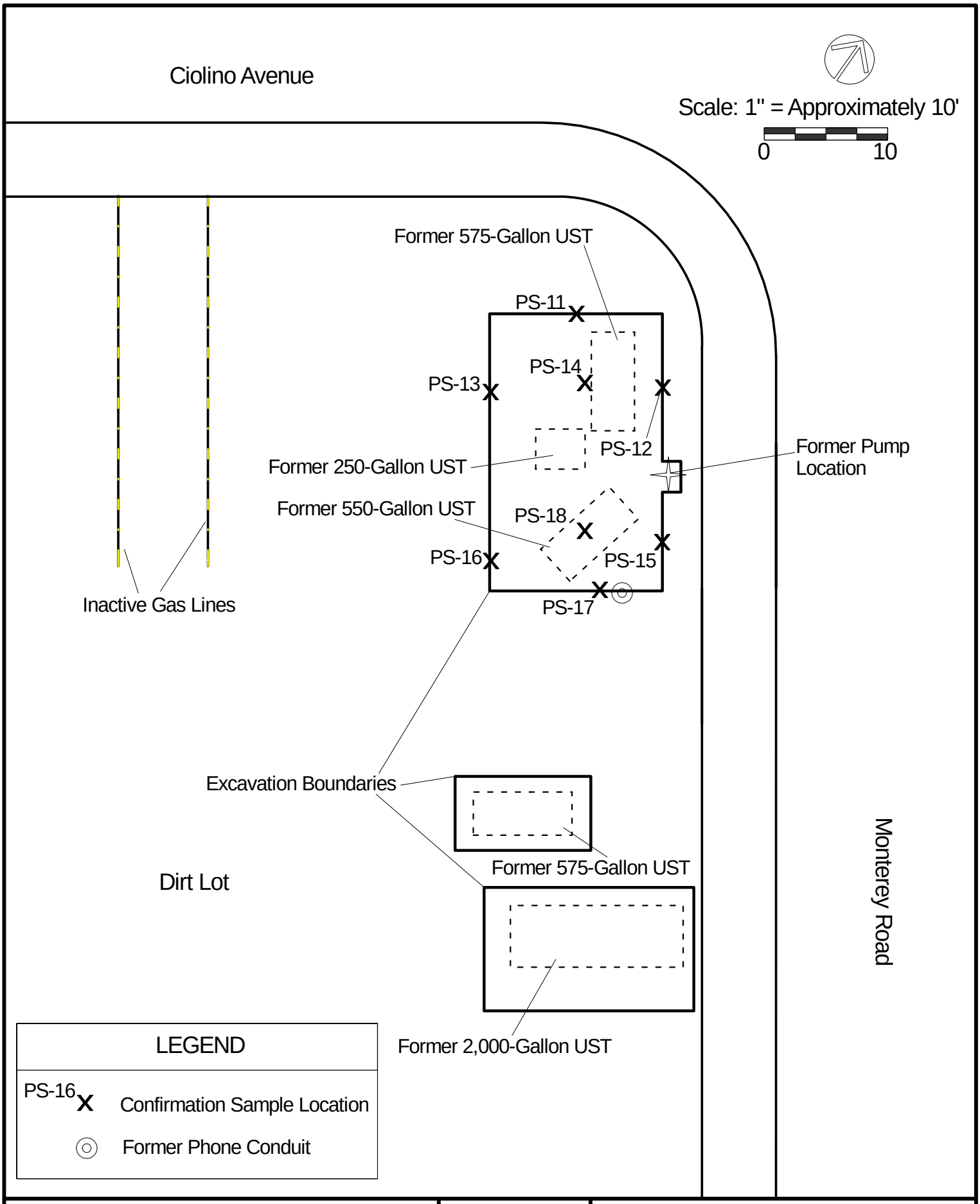
Project # 644-4

August 16, 2006

Figure 2

Sample Location Map
16873 Monterey Road
Morgan Hill, California



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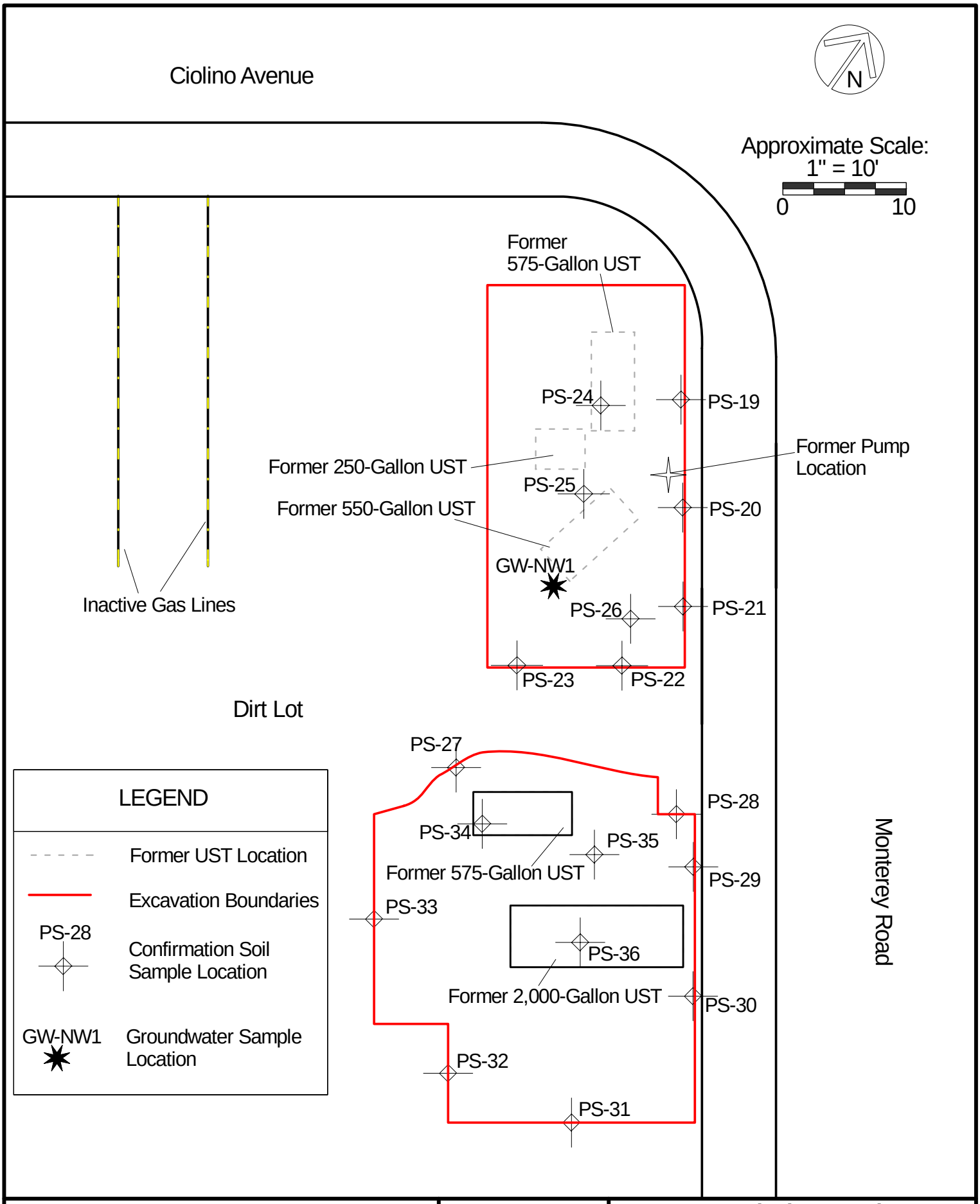
August 16, 2006

Figure 3

Initial Overexcavation Map
16873 Monterey Road
Morgan Hill, California



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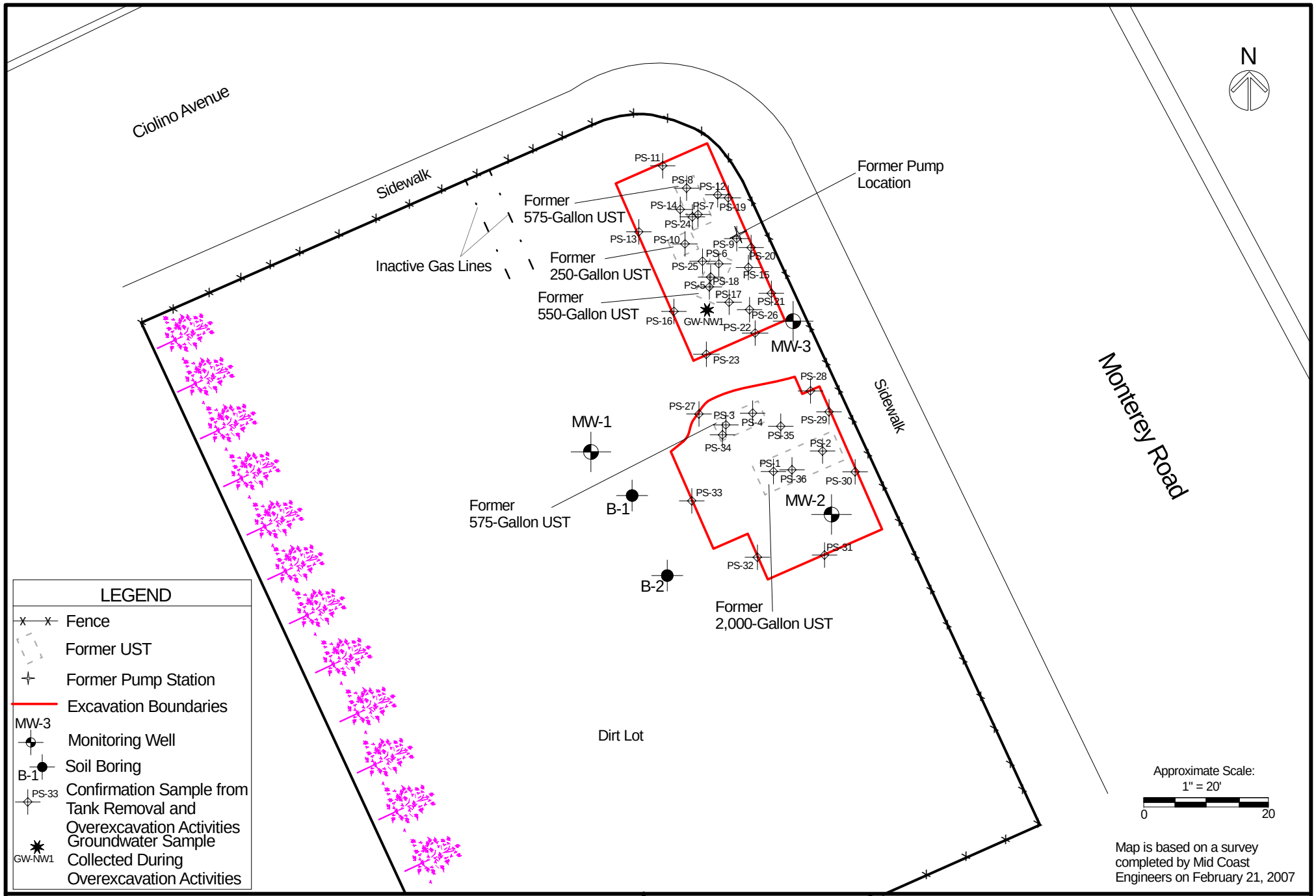
Project # 644-4

February 1, 2006

Figure 4

Final Excavation Boundary Map
16873 Monterey Road
Morgan Hill, California



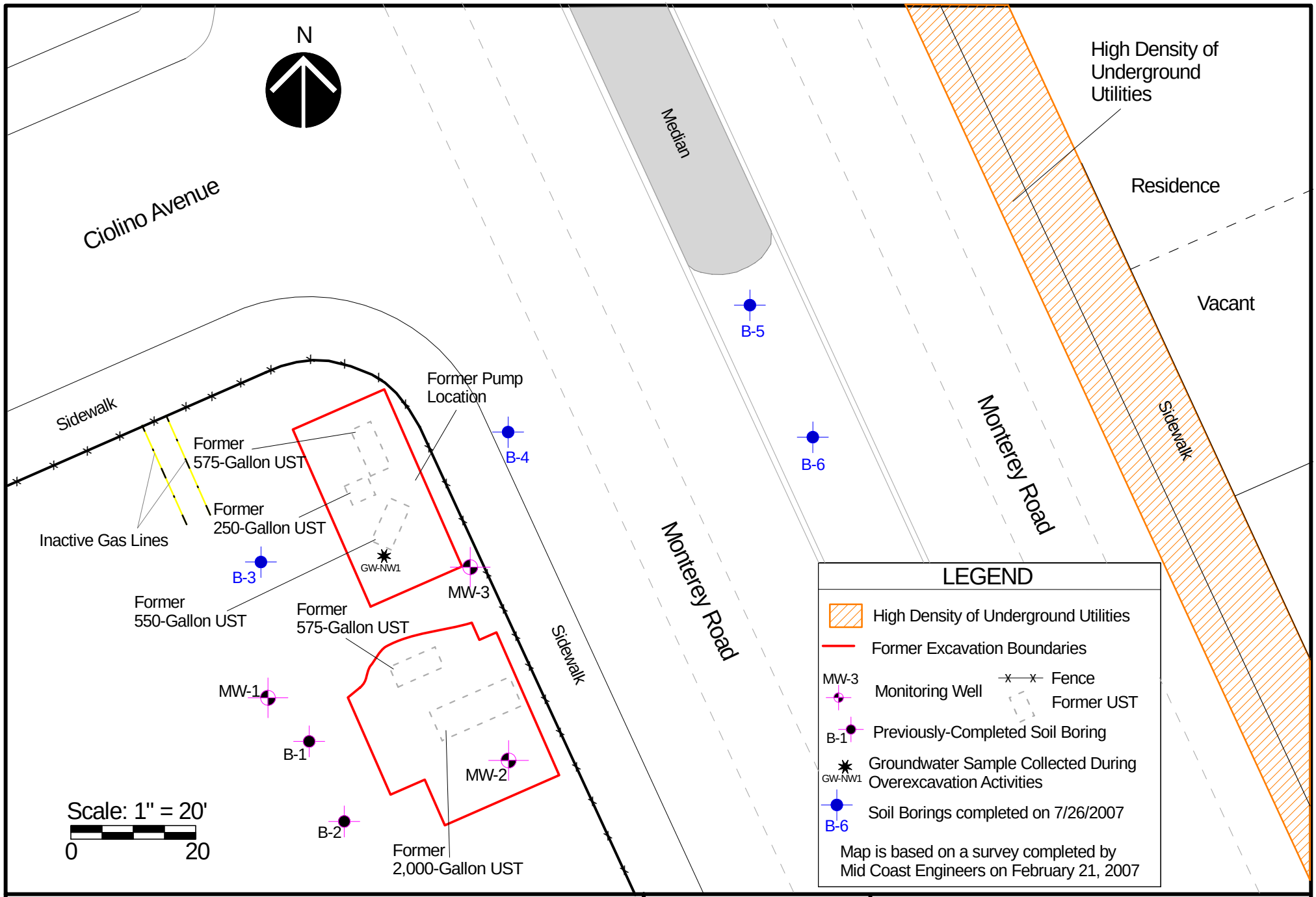
ENVIRONMENTAL INVESTIGATION SERVICES, INC.
170 Knowles Drive Suite 212 Los Gatos, CA 95032
(408) 871-1470/(408) 871-2052 Fax: (408) 871-2995

Project # 644-3

April 3, 2007

Figure 2

Site Map
16873 Monterey Road
Morgan Hill, California



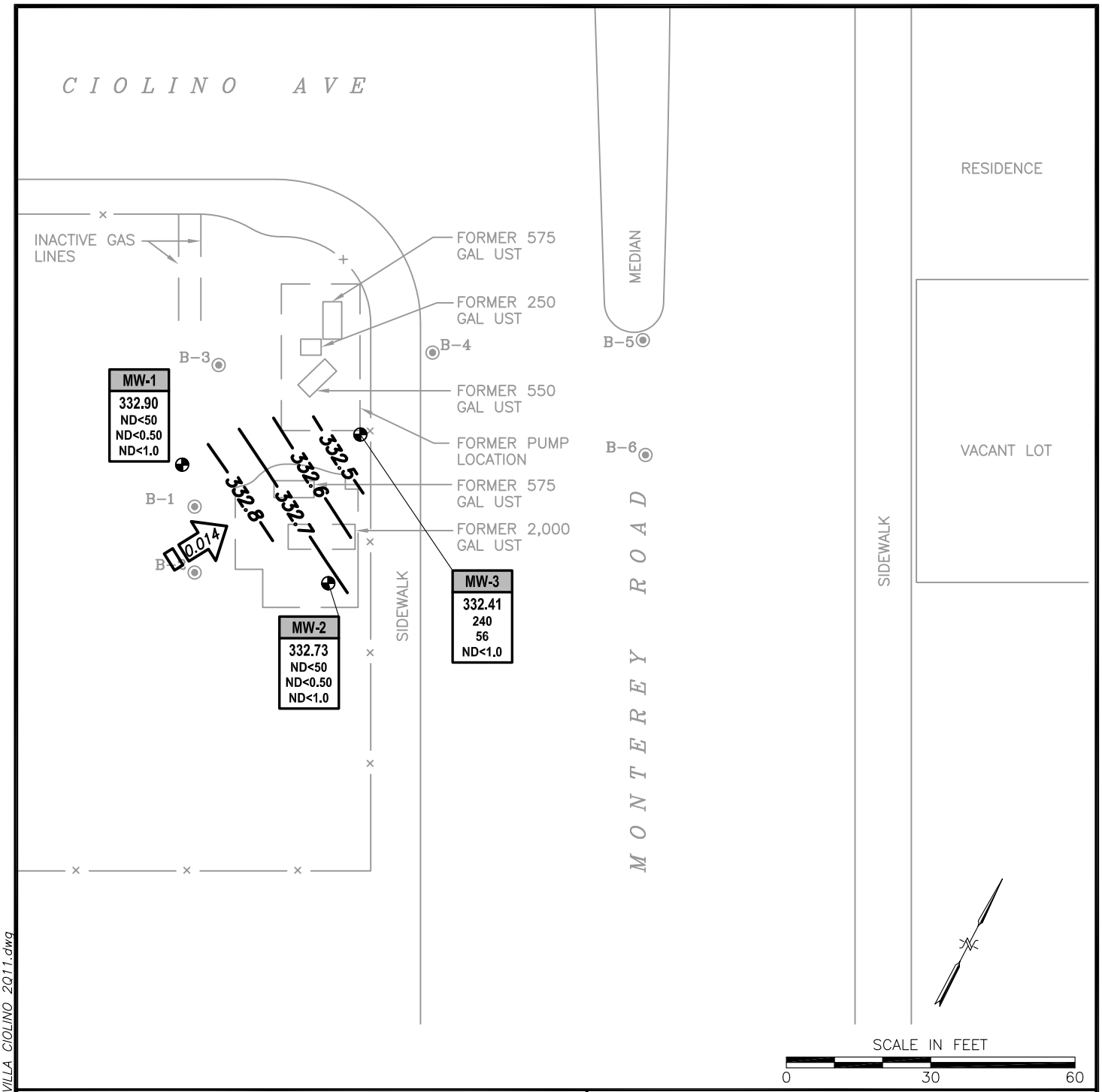
ENVIRONMENTAL INVESTIGATION SERVICES, INC.
170 Knowles Drive Suite 212 Los Gatos, CA 95032
(408) 871-1470 Fax: (408) 871-1520

Project # 644 A-3

August 23, 2007

Figure 2

Soil Boring Location Map
16873 Monterey Road
Morgan Hill, California



LEGEND:

- GROUNDWATER MONITORING WELL LOCATION
- SOIL BORING LOCATION
- WELL DESIGNATION
- GROUNDWATER ELEVATION (FT ABOVE MSL)
- TPHg, BENZENE, and MTBE CONCENTRATIONS (µg/L)
- 332.5 GROUNDWATER ELEVATION CONTOURS (FEET ABOVE MEAN SEA LEVEL– NAVD 88)
- 0.014 GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)

NOTES:

1. *MAP PREPARED FROM MATERIALS FROM MID COAST ENGINEERS, ENVIRONMENTAL INVESTIGATION SERVICES, INC. AND GOOGLE EARTH*

FIGURE 2

SECOND QUARTER 2011
GROUNDWATER MONITORING
& SAMPLING RESULTS

GROUNDWATER CONTOUR MAP
MAY 16, 2011

16873 MONTEREY ROAD
MORGAN HILL, CALIFORNIA

CLOSURE SOLUTIONS, INC.
2300 Clayton Road • Suite 1435
Concord • California • 94520
Phone: (800) 988-7880

20110607.15455279 D:\Client Drawings\Closure\villa ciolino\VILLA CIOLINO 2Q11.dwg

APPENDIX B

PRELIMINARY SITE DEVELOPMENT PLANS FOR
"BELLE NOCI" MULTI-FAMILY AFFORDABLE HOUSING PROJECT

BELLE NOCI

MULTI-FAMILY AFFORDABLE RENTAL APARTMENTS

SITE TABULATION

TOTAL SITE AREA - GROSS	13,400 S.F 0.30 ACRE
BUILDING SITE COVERAGE GARAGE	5,580 S.F. 42 %
BUILDING TOTAL AREA	13,180 S.F.
ROAD COVERAGE INCL. ALL PARKING	400 S.F. 2 %
LANDSCAPE AREA (NET)	7,420 S.F 55 %

UNIT TABULATION

UNIT A 940 S.F. TWO BEDROOM/ ONE BATH FLAT	2 UNITS
UNIT B 960 S.F. TWO BEDROOM/ ONE BATH FLAT	2 UNITS
UNIT C 960 S.F. TWO BEDROOM/ ONE BATH FLAT	4 UNITS
TOTAL	8 UNITS
UNIT TOTAL S.F.	7,640 S.F.

PARKING TABULATION

OPEN GARAGE SPACES (INCL. ONE HC)	16 SPACES
TOTAL SPACES PROVIDED	16 SPACES

2.0 PARKING SPACES / UNIT

CHRIS LAMEN + ASSOCIATES
ARCHITECTURE AND PLANNING
875 FOURTH STREET
SAN RAFAEL CA 94901
CLA@CHRISLAMENASSOCIATES.COM

EAH
A NONPROFIT HOUSING CORPORATION
2169 EAST FRANCISCO BLVD
SAN RAFAEL, CA 94901

BELLE NOCI
MONTEREY ROAD AT CIOLINO AVENUE, MORGAN HILL, CA
MULTI-FAMILY AFFORDABLE RENTAL APARTMENTS
APN 767-09-029
FOR EAH HOUSING INC. SAN RAFAEL, CA

SITE PLAN

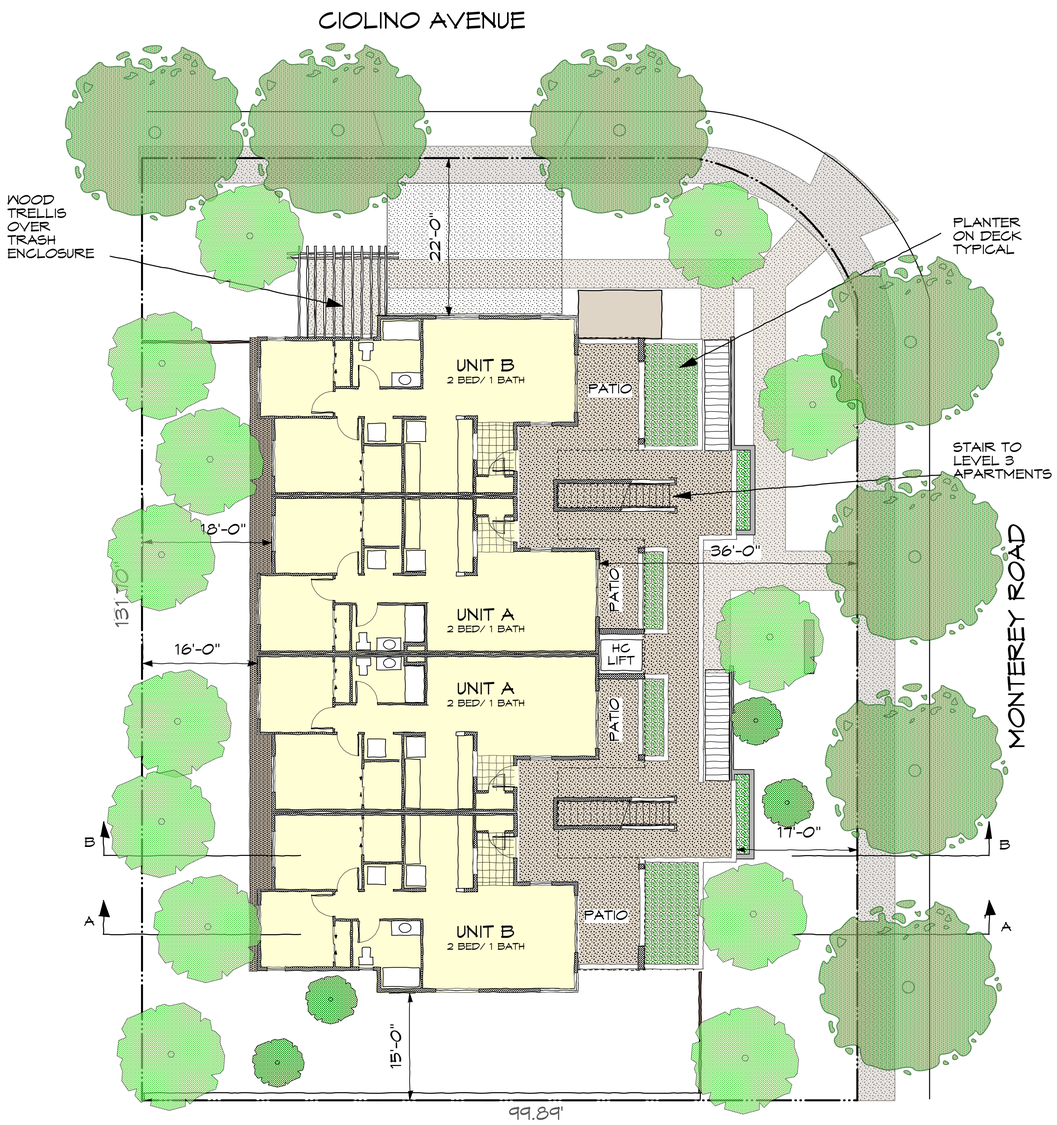
RDCS SUBMITTAL
OCTOBER 1, 2014

Scale 1" = 10'-0" (1 : 10)

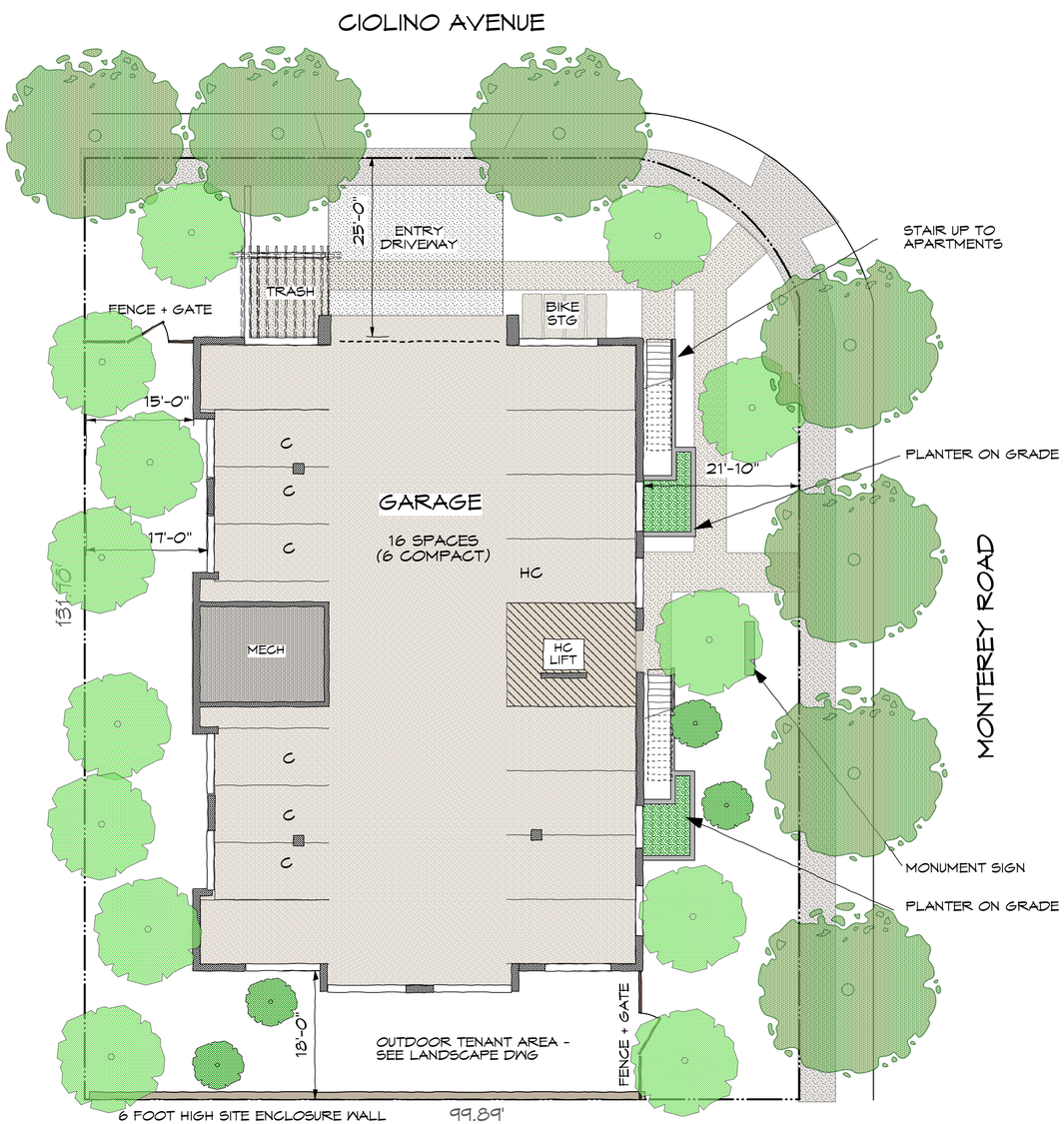
Job 21440

Sheet 1

CHRIS LAMEN + ASSOCIATES © 2014



LEVEL TWO (ABOVE GARAGE)



GARAGE LEVEL (ON-GRADE)

0 5 10 20 30

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EAH
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2169 EAST FRANCISCO BLVD
SAN RAFAEL, CA 94901

BELLE NOCI

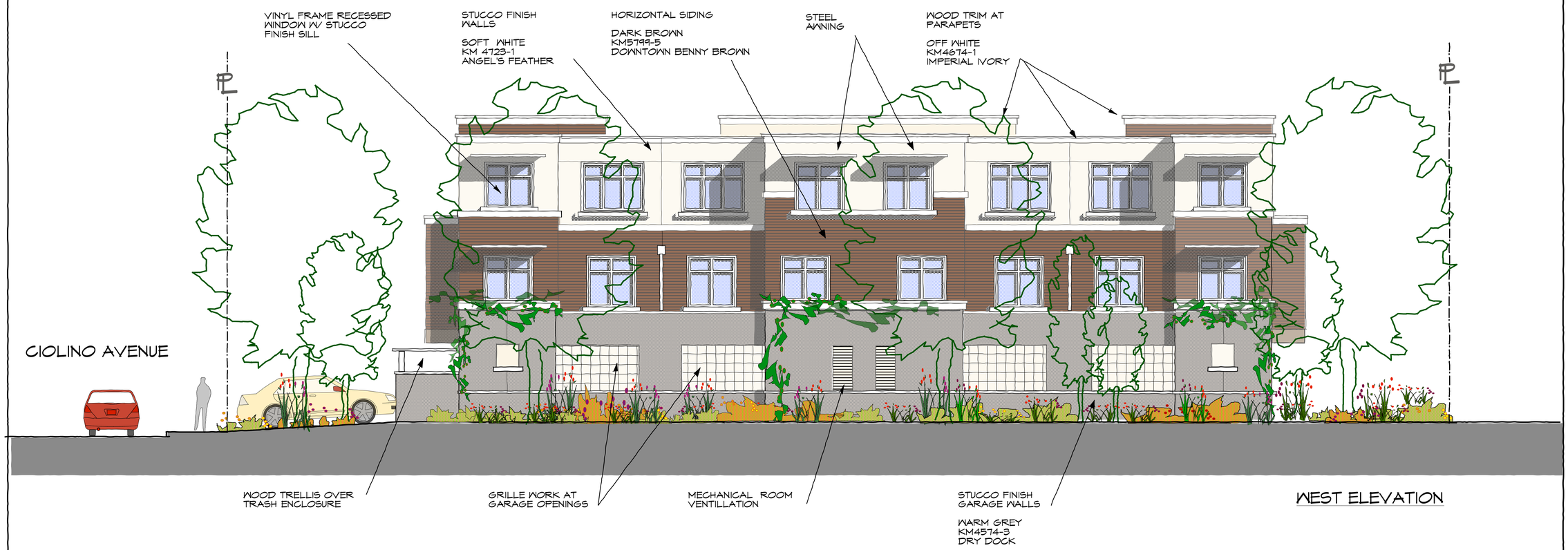
MONTEREY ROAD AT CIOLINO AVENUE, MORGAN HILL, CA
MULTI-FAMILY AFFORDABLE RENTAL APARTMENTS
APN 767-09-029
FOR EAH HOUSING INC. SAN RAFAEL, CA

SITE DEVELOPMENT PLAN
GARAGE LEVEL
+
LEVEL 2

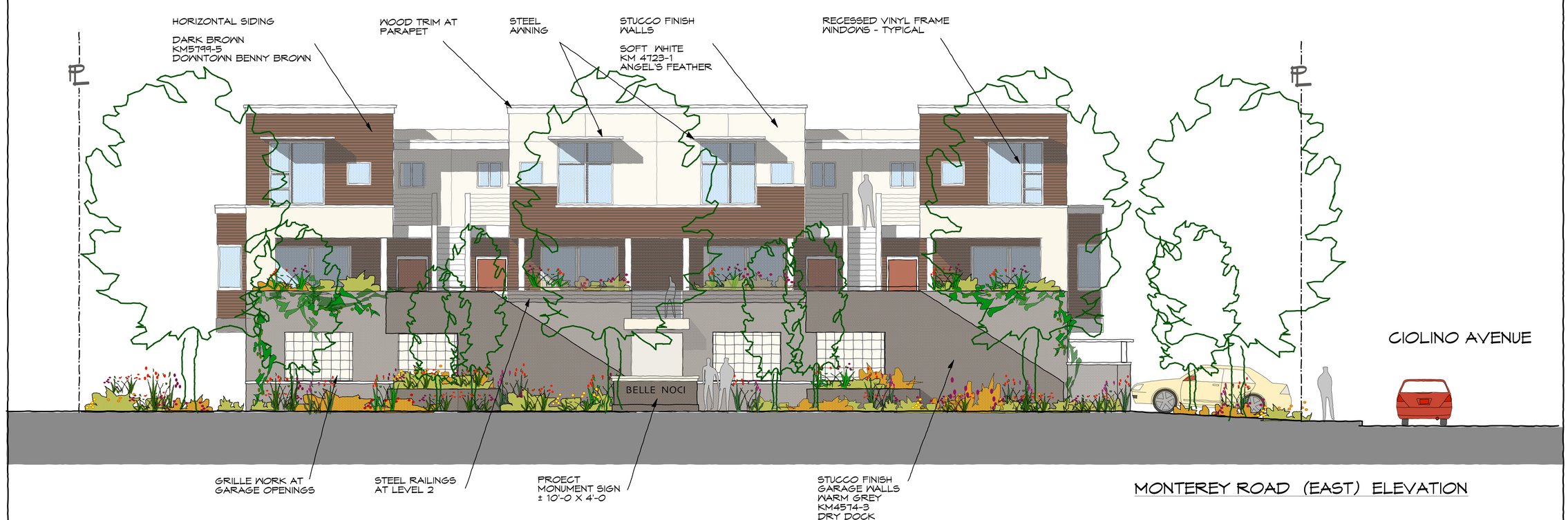
RDCS SUBMITTAL
OCTOBER 1, 2014

Scale 1" = 10'-0" (1 : 10)
Job 21440
Sheet 2A

CHRIS LAMEN + ASSOCIATES © 2014



WEST ELEVATION



MONTEREY ROAD (EAST) ELEVATION

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ARCHITECTURE AND PLANNING
875 FOURTH STREET
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EAH
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2169 EAST FRANCISCO BLVD
SAN RAFAEL, CA 94901

BELLE NOCI

MONTEREY ROAD AT CIOLINO AVENUE, MORGAN HILL, CA
MULTI-FAMILY AFFORDABLE RENTAL APARTMENTS
APN 767-09-029
FOR EAH HOUSING INC. SAN RAFAEL, CA

BUILDING ELEVATIONS

RDCS SUBMITTAL
OCTOBER 1, 2014

Scale 3/16" = 1'-0"

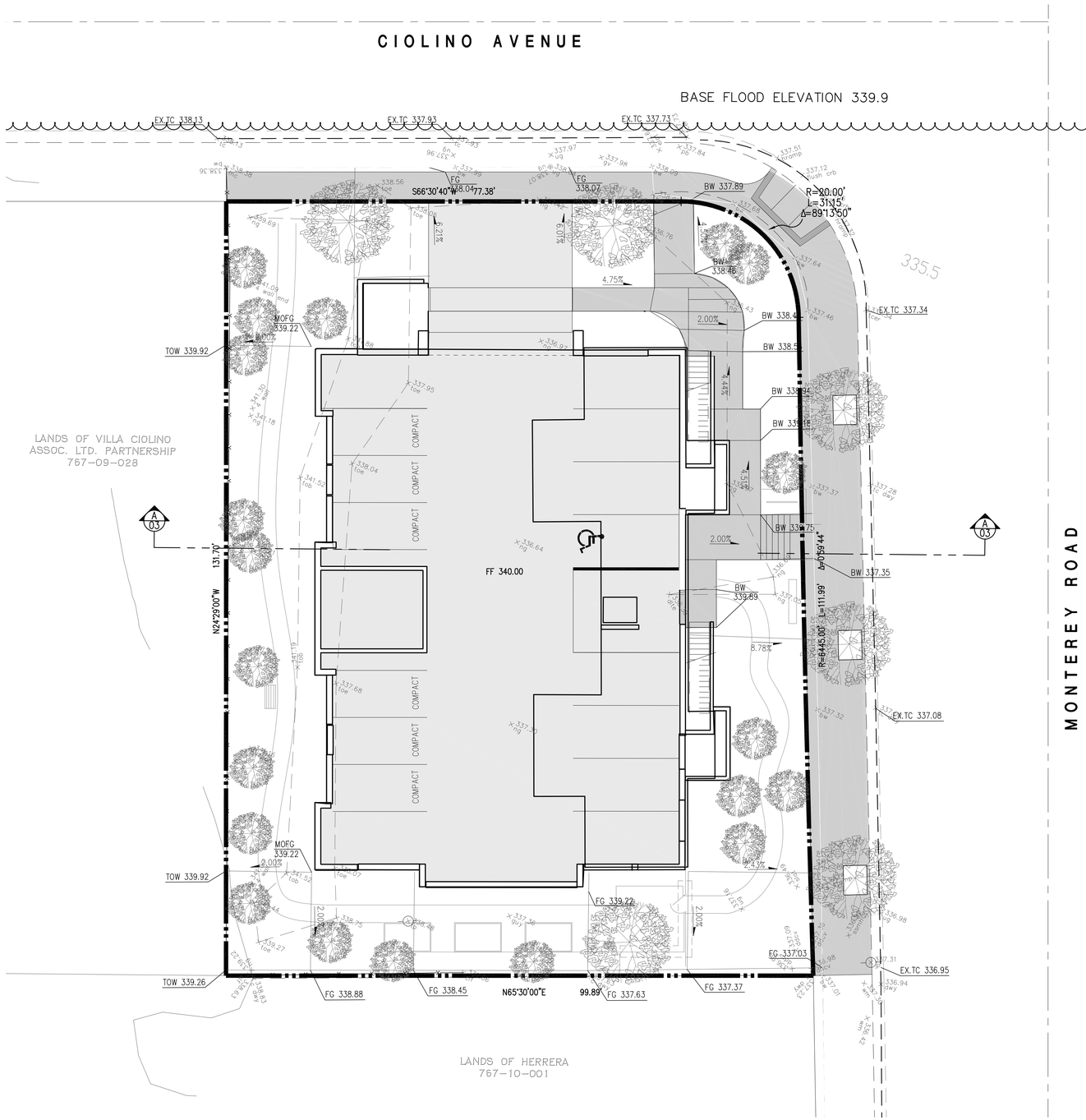
Job 21440

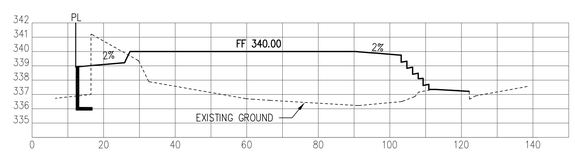
Sheet 3A

CHRIS LAMEN + ASSOCIATES © 2014

'Belle Noci'

preliminary grading plan





SECTION A–A
SCALE: H. 1"=20', V. 1"=5'

GRADING QUANTITIES

SITE EARTHWORK SUMMARY			
ITEM DESCRIPTION	CUT (C.Y.)	FILL (C.Y.)	NET (C.Y.)
ROUGH GRADING	102	825	723 (F)
IMPORT	723 C.Y.		

LEGEND

- DROP INLET/JUNCTION BOX
- CURB INLET
- MIN. 1% SWALE
- BW — BACK OF WALK ELEVATION
- FG — FINISH GRADE ELEVATION
- HPFL — HICH POINT FLOW LINE
- BFE — BASE FLOOD ELEVATION
- TC — TOP OF CURB ELEVATION
- TOW — TOP OF WALL ELEVATION

engineer:
MH ENGINEERING
16075 VINEYARD BLVD.
MORGAN HILL, CA 95037
(408) 779-7381

applicant:
EAH HOUSING INC.
2169 E. FRANCISCO BLVD. SUITE B
SAN RAFAEL, CA 94901
(415) 258-1800

planner
CHRIS LAMEN & ASSOCIATES
875 FOURTH STREET, SUITE A
SAN RAFAEL, CA 94901
(415) 456-2348

BELLE NOCI

MULTI-FAMILY AFFORDABLE RENTAL APARTMENTS
MONTEREY ROAD AT CIOLINO AVENUE
MORGAN HILL, CA 95037
APN 767-09-029
FOR EAH HOUSING INC. SAN RAFAEL, CA

10' 0 5' 10' 20' 40'

SCALE : 1" = 10'

MH engineering Co.
16075 Vineyard Boulevard Morgan Hill, CA 95037

DATE: 9/14 DRAWN: MM CHECKED: WJM

214011MC

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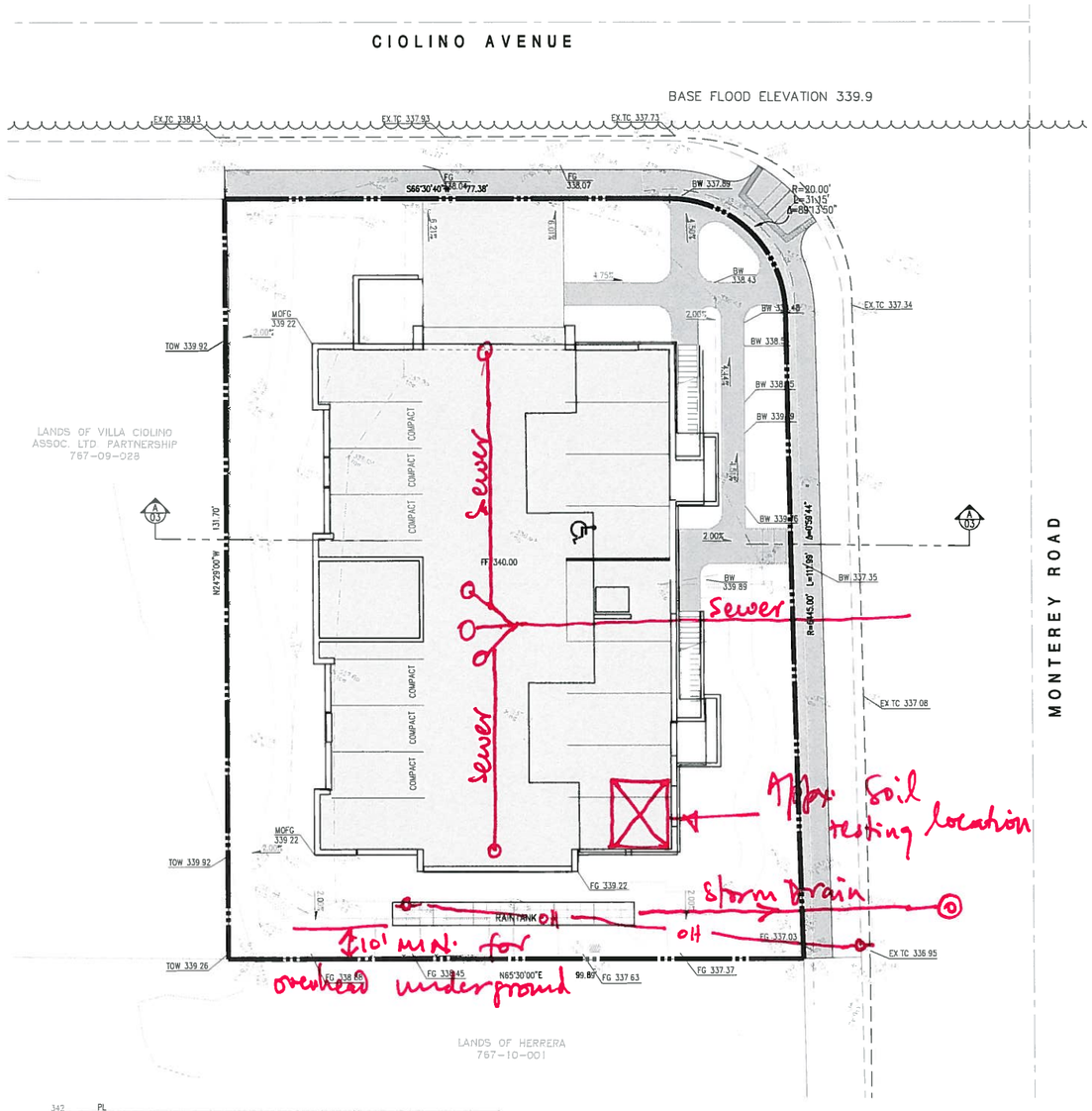
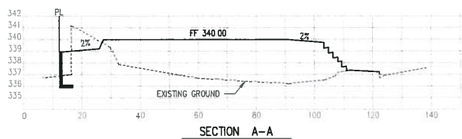
Xref's: 214011-3D, 214011-hatch, 214011plo, 214011TP-H4

'Belle Noci'

preliminary grading plan





SECTION A-A
SCALE: H 1"=20', V 1"=5'

GRADING QUANTITIES

SITE EARTHWORK SUMMARY			
ITEM DESCRIPTION	CUT (C.Y.)	FILL (C.Y.)	NET (C.Y.)
ROUGH GRADING	102	825	723 (F)
IMPORT	723 C.Y.		

214011-BELLE NOCI

PERVIOUS AND IMPERVIOUS SURFACES COMPARISON						
	EXISTING CONDITION (SQ FT)	PERCENTAGE (%)	PROPOSED CONDITION (SQ FT)	PERCENTAGE (%)	DIFFERENCE (SQ FT)	PERCENTAGE (%)
SITE (ACRES)	SITE (SQ. FT)		SITE (SQ. FT)			
.2958	12,886	100	12,886	100	0	0
BUILDING FOOTPRINT (S)	0	0	6,024	46.7	6,024	46.7
STREET PAVING	0	0	0	0	0	0
SIDEWALK, PATIOS, DRIVEWAYS, ETC.	0	0	1,284	10.0	1,284	10
LANDSCAPING	12,886	100	5,578	43.3	-7,308	-56.7
TOTAL	12,886	100	12,886	100	0	0
IMPERVIOUS SURFACES	0	0	7,308	56.7	7,308	56.7
PERVIOUS SURFACES	12,886	100	5,578	43.3	-7,308	-56.7
TOTAL	12,886	100	12,886	100	0	0

Required Retention volume (7,308*1.6)/12=974.4CF

Proposed Retention and Detention Volume
(Raintank) W x L x H = 1,004 Cu.ft.

LEGEND

- DROP INLET/JUNCTION BOX
- CURB INLET
- MIN. 1% SWALE
- BW BACK OF WALK ELEVATION
- FG FINISH GRADE ELEVATION
- HPFL HIGH POINT FLOW LINE
- BFE BASE FLOOD ELEVATION
- TC TOP OF CURB ELEVATION
- TOW TOP OF WALL ELEVATION

engineer:
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planner
CHRIS LAMEN & ASSOCIATES
875 FOURTH STREET, SUITE A
SAN RAFAEL, CA 94901
(415) 456-2348

BELLE NOCI

MULTI-FAMILY AFFORDABLE RENTAL APARTMENTS
MONTEREY ROAD AT CIOLINO AVENUE
MORGAN HILL, CA 95037
APN 767-09-029
FOR EAH HOUSING INC. SAN RAFAEL, CA

10' 0 5' 10' 20' 40'
SCALE : 1" = 10'

MH engineering Co.
16075 Vineyard Boulevard Morgan Hill, CA 95037

DATE: 6/15 DRAWN: MM CHECKED: WJM

sheet 2 of 02

214011.EAH

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Xref's: 214011pb, 214011-3D, 214011TP-H4, 214011-fatch

APPENDIX C

FIELD DOCUMENTATION AND METHODOLOGIES

- ***Field Notes (June 24, 2015)***
- ***Photodocumentation***
- ***Geologic Logs (Borings DP-1 through DP-7, SV-1, SV-2)***
- ***Field Methodology for Hydraulic Driven Probe Sampling***
- ***Field Methodology for Active Soil Gas Sampling***

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
PH: (831) 722-3580 FAX: (831) 722-1159
www.weber-hayes.com

INDICATE ATTACHMENTS THAT APPLY
- X Site Map
- ___ Data Sheets
- ___ Geologic Logs
- ___ Photo Sheets
- ___ COC's
- ___ Chargeable Materials

Client: **EAH Housing**	Date: **June 24, 2015**
Site Location: **16873 Monterey Road, Morgan Hill, CA**	Study #: **2X519.B**
Field Tasks: ☑ Drilling ☑ Sampling ☐ Other (see below): **Confirmation Soil & Soil Vapor Sampling**	Weather Conditions: Clear Skies, Warming
Personnel / Company On-Site: **Jered Chaney (Weber, Hayes and Associates: WHA)**	

TIME:

0745 => Arrive onsite; Prep for drilling.

0800 => ECA (Driller - Geoprobe 6600 - Jeff Edmond) onsite; Prep for drilling

- Scope - Seven cores to 8' bgs at Future utility trench locations (DP-1 through DP-7)
- Collect samples from 2-2.5' for lab analysis
- Log/inspect soils to 8' for potential residual hydrocarbon impacts.

→ Install, Sample two soil vapor probes (SV-1 + SV-2)
- Josh Hannaback of WHA will be onsite to sample these locations.

0835 => Stage rig @ SV-2. Core to 5.5' and construct vapor probe. Probe tip @ 5' bgs surrounded by 1' sand.
→ Use teflon tubing
→ See geologic log and construction diagram for details

0850 => SV-2 probe installation complete.

0900 => Install SV-1 (same as above).

0910 => SV-1 installation complete.
→ Stage rig at DP-3 → Core to 8' bgs.

0930 => Sampling at DP-3 complete → No evidence of contamination.
↳ Stage rig at DP-4 → Core to 8'

0955 => Sampling at DP-4 complete → No evidence of contamination
↳ Stage rig at DP-1 → Core to 8'

1010 => Josh Hannaback (WHA) onsite → Will conduct Soil vapor sampling @ SV-1 + -2 (See JH's field notes for details)

1015 => Sampling at DP-1 complete → No evidence of contamination
↳ Stage rig at DP-2 → Core to 8'.

1030 => Coring at DP-2 complete → No evidence of contamination.
→ Stage rig at DP-5 → Core to 8'

Jared Chaney 6/24/15
Signature of Field Personnel & Date

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
PH: (831) 722-3580 FAX: (831) 722-1159
www.weber-hayes.com

INDICATE ATTACHMENTS THAT APPLY
- ___ Site Map
- ___ Data Sheets
- ___ Geologic Logs
- ___ Photo Sheets
- ___ COC's
- ___ Chargeable Materials

Client: **EAH Housing**	Date: **June 24, 2015**
Site Location: **16873 Monterey Road, Morgan Hill, CA**	Study #: **2X519.B**
Field Tasks: ☑ Drilling ☑ Sampling ☐ Other (see below): **Confirmation Soil & Soil Vapor Sampling**	Weather Conditions: Sunny, Warm.
Personnel / Company On-Site: **Jered Chaney (Weber, Hayes and Associates: WHA)**	

TIME:

1045 ⇒ Cored DP-5 to 8' bgs → No evidence of contamination
↳ Stage rig at DP-7 ⇒ Core to 8'

1100 ⇒ Sampled/cored DP-7 to 8' → No evidence of contamination
→ Was expecting to encounter UST pit back fill; however, appears native → may be just off the excavation pit.

1115 ⇒ Stage rig at DP-6 → core to 8'

1130 ⇒ DP-6 cored/sampled to 8' → No evidence of contamination

→ Grout seal all DP boreholes w/neat cement.

→ Lithology to 8' bgs very uniform accross site

→ No evidence of contamination observed in any of the boreholes — to 8' bgs.

↳ Will laboratory analyze soil collected from 2-2.5' bgs to confirm field observation → will aid in evaluation of future trench worker health and safety.

→ Also will laboratory analyze soil collected from 6-6.5' bgs at DP-1 as rain tanks are planned for this area to extend to 8' bgs

1140 ⇒ Demob.
- All samples in ice chilled cooler. Will transport to BC Labs courier today

Demob.

JC 6/24/15

Signature of Field Personnel & Date 6/24/15

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 Fax(831) 722-1159
www.weber-hayes.com

INDICATE ATTACHMENTS THAT APPLY
1 Site Map
7 Data Sheets
___ Geologic Logs
___ Photo Sheets
1 COC's
___ Chargeable Materials

Client: CIOLINO	Date: 6/24/15
Site Location: 16873 MONTEREY RD., MORGAN HILL, CA	Study #: 2X519.B
Field Tasks: [X] Drilling [X] Sampling [X] Other (see below): **Installing Shallow Soil Vapor Probes & Sampling (including Purge Tests)**	Weather Conditions: CLEAR/WARM w/ SLIGHT BREEZE
Personnel / Company On-Site: **Josh Hannaleck(Weber, Hayes & Associates: WHA); Jeff Edmund (ECA)**	**Jered Chaney (WHA);**

TIME:

1000 ON-SITE → JC (WHA) + JE (ECA) IN PROCESS OF DRILLING PROGRAM
↳ SV-2 → INSTALLED @ 0850 } 5.5' BGS BORING
SV-1 → " " 0910 } 5' SAMPLE DEPTH (STD. CONSTRUCTION)

SET UP @ SV-2 FOR PURGE TEST / SAMPLING (SEE DATA SHEET ATTACHED)
↳ SHUT-IN TEST → OK → PURGE + SAMPLE SEQUENTIALLY (1), (3), (10) DEAD SPACE V_s
SV-2-1P 1P = 572 mL / 2.9" Hg Δ
1157-44 SAMPLE (1400 mL) (SEE DATA SHEET)

SV-2-3P (3P = 1715 mL / 8.6" Hg Δ) (ACTUAL = 572 + 1400 = 1972 mL)
1152-1200 SAMPLE (1400 mL) (SEE DATA SHEET)

SV-2-10P (10P = 5718 mL / 28.6" Hg Δ) (ACTUAL SO FAR = 1972 + 1400 = 3372 mL)
↳ 5718 − 3372 = 2346 mL / 200 mL/min = 11.73" Hg Δ NEEDED
↳ PURGE ADDITIONAL: 2346 mL / 11.73" Hg Δ
1217-25 SAMPLE (1400 mL) (SEE DATA SHEET)

1230 MOB TO + SET UP ON SV-1
↳ SHUT-IN TEST → OK → PURGE + SAMPLE SEQUENTIALLY (1), (3), (10) DEAD SPACE V_s
SV-1-1P
1310-18 SAMPLE (1400 mL) (SEE DATA SHEET)

SV-1-3P (3P = 1715 mL / 8.6" Hg Δ) (ACTUAL = 572 + 1400 = 1972 mL)
1324-32 SAMPLE (1400 mL) (SEE DATA SHEET)

SV-1-10P (10P = 5718 mL / 28.6" Hg Δ) (ACTUAL SO FAR = 1972 + 1400 = 3372 mL)
↳ 5718 − 3372 = 2346 mL / 200 mL/min = 11.73" Hg Δ NEEDED
↳ PURGE ADDITIONAL: 2346 mL / 11.7" Hg Δ
1344-52 SAMPLE (1400 mL) (SEE DATA SHEET)

BREAKDOWN + LOAD UP
→ REMOVE / ABANDONE SV-1 + SV-2 PROBES + COVER w/ SOIL

1425 SECURE SITE + LEAVE → SV SAMPLES WILL BE SHIPPED VIA ONTRAC

6/24/15
Signature of Field Personel & Date

PURGE TEST FIELD DATA SHEET for ACTIVE SOIL VAPOR SAMPLING

Sample Location Information

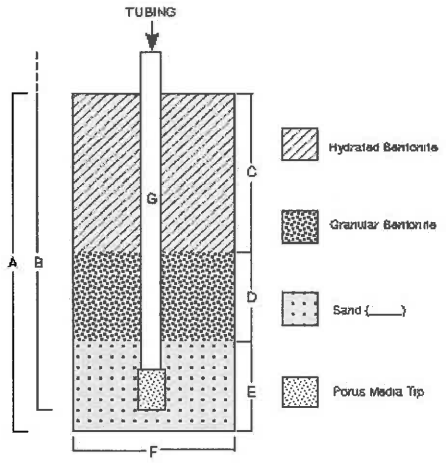
Project Name/No.: *Ciolino / 2X519.B* **Date:** *June 24, 2015*

Purge Point I.D.: SV-2 **Canister No:** 5527 **Manifold No:** 1009:1126

Samplers Name: *Josh Hannaleck* **Recorded by:** JH

Purge Test Vapor Probe Construction Details

Probe Tip Set Depth / Sample Depth: 5'



A: 5.5'

B: 8'

C: 3.5'

D: 1'

E: 1'

F: 2.25"

G: 3/16"

Volumetric Conversions:

1/8-inch (id) tubing = 2.4 mL/ft

3/16-inch (id) tubing = 5.4 mL/ft

Sand (#3 or #2/12) AND Granular Bentonite Annulus:

1-1/8-inch boring = 66 mL/ft

2.25-inch boring = 264 mL/ft

2.75-inch boring = 395 mL/ft

Annular Dead Space Volume: 264 x 2 = 528 mL

Tubing Dead Space Volume: 5.4 x 8 = 43.2 mL

Tubing material: Teflon

Total Dead Space Volume (Tubing + Annular): 571.2 mL

Purge Test Equipment & Set Up Information

Lab: *BC Labs* **Transportation:** *Courier*

Canister Volume: 6-L **Manifold Shut-In check duration:** 1 minute **Manifold Leaking:** Yes No

Canister Sample Rate (max): 200 mL/min **PID Calibration:** TVOC

Purge Test Information

Begin Purge Test:

System Dead Space Volumes	Total Dead Space Volumes (mL)	Canister Vacuum Change ("Hg)	Canister Vacuum Change Remaining ("Hg)	Vapor Probe Vacuum Max ("Hg)	Canister Vacuum Start - End ("Hg)		
1	572	2.9	--	<1	-30 - -27.1		
3	1715	8.6	5.7	<1	NA (PURGE DONE AFTER IP SAMPLE)	(NO ADD. PURGE NEEDED)	
10	5718	28.6	20.0	<1	-27.1 - -15.4		

NOTES: Canister Vacuum Change based on calculation:

Canister Vacuum Change = [Total Dead Space Vol. (mL)] / [Sample Flow Rate (mL/min = mL/'Hg)] -> (i.e., 6-L or 6,000-mL canister at 30"Hg vacuum sampled at 200 mL/min (max) will take 30 min to sample, therefore, minutes = "Hg)

Comments: INSTALLED IN BARE EARTH w/ MODERATE/HEAVY WEEDS.

SITE SPECIFIC PURGE ∀ WILL BE DETERMINE BY LAB RESULTS

System Purge Test Results

Required **Site Specific System Volumes** to Purged based on "Purge Test" vapor probe = ____ System ("dead space") Volumes

Total Site Specific Purge Volume = Total Dead Space Volume **x** # of System Volumes = _____ = _____ "Hg Δ

ACTIVE SOIL VAPOR SAMPLING FIELD DATA SHEET

Sample Location Information

Project Name/No.: Cjolino / 2X519.B **Date:** 6/24/15

Sample I.D.: SV-2-1P **Canister No:** 1140 **Manifold No:** 1009 : 1116

Samplers Name: *Josh Hannaleck* **Recorded by:** ~~[illegible]~~

Sample Analysis Information

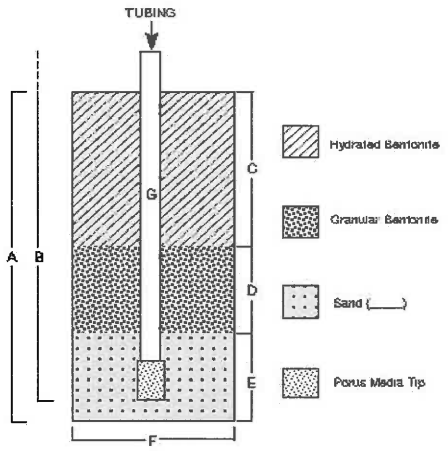
~~**Requested Analyses (circle all that apply):**~~ **Sample Collection Media:** *1.4-L Summa Canister*

VOCs by EPA Method TO-15 or TO-14; M-BTEX & TBA by EPA Method TO-15; Naphthalene by EPA Method TO-15

TPH-gas by EPA Method TO-15 GRO CO_2 & O_2 by ASTM D-1946 IPA by TO-15

Lab: *BC Labs* **Transportation:** *Courier*

Temperary Vapor Probe Construction Details



Probe Tip Set Depth / Sample Depth: 5'

A: 5.5'
B: 8'
C: 3.5'
D: 1'
E: 1'
F: 2.25"
G: 3/16"

Volumetric Conversions:

1/8-inch (id) tubing = 2.4 mL/ft

3/16-inch (id) tubing = 5.4 mL/ft

Sand (#3 or #2/12) AND Granular Bentonite Annulus:

8-inch boring = 3,341 mL/ft

2.25-inch boring = 264 mL/ft

2.75-inch boring = 395 mL/ft

Annular Dead Space Volume: 264 x 2 = 528 mL

Tubing Dead Space Volume: 5.4 x 8 = 43.2 mL

Total Dead Space Volume (Tubing + Annular): 571.2 mL

System Purge Information

Required **Site Specific System Volume** to Purged ~~based on / OR~~ for "Purge Test" vapor probe sample = 1 System ("dead space") Volumes

Total Site Specific Purge Volume = Total Dead Space Volume **x** # of System Volumes = 572 mL = 2.9 "Hg Δ

Sampling and Leak Check Information

Summa Canister:

Canister Volume: 1.4-L Manifold Shut-In check duration: 1 minute Manifold Leaking: Yes No

Leak Check Tracer Compound: IPA (leak tracer compound applied to shroud encapsulating entire system)

Begin Sample Collection:

Canister Sample Rate: 200 mL/min

PID Calibration: ~~[illegible]~~

Time	Elapsed Time	Shroud leak tracer concentration (ppm)	Vapor Probe Vacuum ("Hg)	Canister Vacuum ("Hg)
1137	0	16.8 - 91.8	<1	-29
1139	2	12.2 - 133	↓	-19
1141	4	28.2 - 87.4		-11
1143	6	44.1 - 82.1		-4
1145	8	18.9 - 107		0
		Average:	62.2 ppm	

initial canister vacuum: -29 "Hg

final canister vacuum: 0 "Hg

Post-Sample PID Reading: ~~[illegible]~~

Comments: INSTALLED IN BARE EARTH w/ MOD - HEAVY WEEDS.

ACTIVE SOIL VAPOR SAMPLING FIELD DATA SHEET

Sample Location Information

Project Name/No.: GOLINO / 2X519.B **Date:** 6/24/15

Sample I.D.: SV-2-3P **Canister No:** 2862 **Manifold No:** 1009:1116

Samplers Name: *Josh Hannaleck* **Recorded by:** JH

Sample Analysis Information

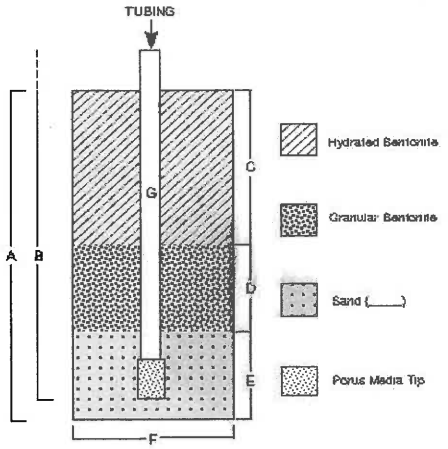
~~**Requested Analyses (circle all that apply):**~~ **Sample Collection Media:** *1.4-L Summa Canister*

VOCs by EPA Method TO-15 or TO-14; M-BTEX & TBA by EPA Method TO-15; Naphthalene by EPA Method TO-15

TPH-gas by EPA Method TO-15 GRO; CO_2 & O_2 by ASTM D-1946; IPA by TO-15

Lab: *BC Labs* **Transportation:** *Courier*

Temperary Vapor Probe Construction Details



Probe Tip Set Depth / Sample Depth: 5'

A: 5.5'

B: 8'

C: 3.5'

D: 1'

E: 1'

F: 2.25"

G: 3/16"

Volumetric Conversions:

1/8-inch (id) tubing = 2.4 mL/ft

3/16-inch (id) tubing = 5.4 mL/ft

Sand (#3 or #2/12) AND Granular Bentonite Annulus:

8-inch boring = 3,341 mL/ft

2.25-inch boring = 264 mL/ft

2.75-inch boring = 395 mL/ft

Annular Dead Space Volume: 264 x 2 = 528 mL

Tubing Dead Space Volume: 5.4 x 8 = 43.2 mL

Total Dead Space Volume (Tubing + Annular): 571.2 mL

System Purge Information

Required **Site Specific System Volume** to Purged ~~based on~~ ~~OR~~ for "Purge Test" vapor probe sample = 3 System ("dead space") Volumes

Total Site Specific Purge Volume = Total Dead Space Volume **x** # of System Volumes = 1715 mL = 8.6 "Hg Δ

Sampling and Leak Check Information

Summa Canister:

Canister Volume: 1.4-L Manifold Shut-In check duration: 1 minute Manifold Leaking: Yes No

Leak Check Tracer Compound: IPA (leak tracer compound applied to shroud encapsulating entire system)

Begin Sample Collection:

Canister Sample Rate: 200 mL/min

PID Calibration:

Time	Elapsed Time	Shroud leak tracer concentration (ppm)	Vapor Probe Vacuum ("Hg)	Canister Vacuum ("Hg)
1152	0	23.9 - 142	<1	-29.5
1154	2	16.2 - 175		-20
1156	4	12.5 - 137		-11.5
1158	6	22.1 - 98.2		-5
1200	8	44.1	0	0
		Average: 74.6 ppm		

initial canister vacuum: -29.5 Hg

final canister vacuum: 0 "Hg

Post-Sample PID Reading:

Comments: INSTALLED IN BARE EARTH W/ MODERATE/HEAVY WEEDS

ACTIVE SOIL VAPOR SAMPLING FIELD DATA SHEET

Sample Location Information

Project Name/No.: CIOLINO / 2X519.B **Date:** 6/24/15

Sample I.D.: SV-2-10P **Canister No:** 1531 **Manifold No:** 1009.1116

Samplers Name: *Josh Hannaleck* **Recorded by:**

Sample Analysis Information

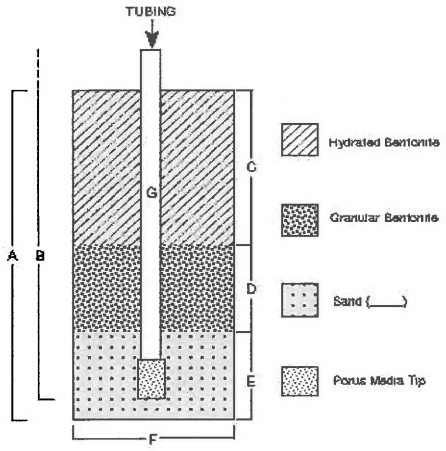
~~Requested Analyses (circle all that apply):~~ **Sample Collection Media:** *1.4-L Summa Canister*

VOCs by EPA Method TO-15 or TO-14; M-BTEX & TBA by EPA Method TO-15; Naphthalene by EPA Method TO-15

TPH-gas by EPA Method TO-15 GRO CO_2 & O_2 by ASTM D-1946 IPA by TO-15

Lab: *BC Labs* **Transportation:** *Courier*

Temperary Vapor Probe Construction Details



Probe Tip Set Depth / Sample Depth: 5'

A: 5.5'

B: 8'

C: 3.5'

D: 1'

E: 1'

F: 2.25"

G: 3/16"

Volumetric Conversions:

1/8-inch (id) tubing = 2.4 mL/ft

3/16-inch (id) tubing = 5.4 mL/ft

Sand (#3 or #2/12) AND Granular Bentonite Annulus:

8-inch boring = 3,341 mL/ft

2.25-inch boring = 264 mL/ft

2.75-inch boring = 395 mL/ft

Annular Dead Space Volume: 264 x 2 = 528 mL

Tubing Dead Space Volume: 5.4 x 8 = 43.2 mL

Total Dead Space Volume (Tubing + Annular): 571.2 mL

System Purge Information

Required **Site Specific System Volume** to Purged ~~based on PID~~ for "Purge Test" vapor probe sample = 10 System ("dead space") Volumes

Total Site Specific Purge Volume = Total Dead Space Volume **x** # of System Volumes = 5718 mL = 28.6 "Hg Δ

Sampling and Leak Check Information

Summa Canister:

Canister Volume: 1.4-L Manifold Shut-In check duration: 1 minute Manifold Leaking: Yes No

Leak Check Tracer Compound: IPA (leak tracer compound applied to shroud encapsulating entire system)

Begin Sample Collection:

Canister Sample Rate: 200 mL/min

PID Calibration: TVOC

Time	Elapsed Time	Shroud leak tracer concentration (ppm)	Vapor Probe Vacuum ("Hg)	Canister Vacuum ("Hg)
1217	0	2.4 - 29.2	<1	-29
1219	2	8.7 - 69		-20
1221	4	1.9 - 17.6		-11
1223	6	0.6 - 9.7		-5
1225	8	3.1	0	0
		Average: 15.8 ppm		

initial canister vacuum: -29 "Hg

final canister vacuum: 0 "Hg

Post-Sample PID Reading: 0 ppm

Comments: INSTALLED IN BARE EARTH w/ MODERATE / HEAVY WEEDS

ACTIVE SOIL VAPOR SAMPLING FIELD DATA SHEET

Sample Location Information

Project Name/No.: CIOLINO / 2X519.B **Date:** 6/24/15

Sample I.D.: SV-1-1P **Canister No:** 1485 **Manifold No:** 1075:1150

Samplers Name: *Josh Hannaleck* **Recorded by:** JH

Sample Analysis Information

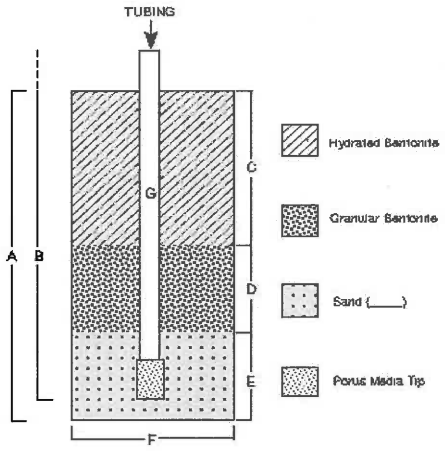
~~**Requested Analyses (circle all that apply):**~~ **Sample Collection Media:** *1.4-L Summa Canister*

VOCs by EPA Method TO-15 or TO-14; M-BTEX & TBA by EPA Method TO-15; Naphthalene by EPA Method TO-15

TPH-gas by EPA Method TO-15 GRO CO_2 & O_2 by ASTM D-1946 IPA by TO-15

Lab: *BC Labs* **Transportation:** *Courier*

Temperary Vapor Probe Construction Details



Probe Tip Set Depth / Sample Depth: 5'

A: 5.5'

B: 8'

C: 3.5'

D: 1'

E: 1'

F: 2.25"

G: 3/16"

Volumetric Conversions:

1/8-inch (id) tubing = 2.4 mL/ft

3/16-inch (id) tubing = 5.4 mL/ft

Sand (#3 or #2/12) AND Granular Bentonite Annulus:

8-inch boring = 3,341 mL/ft

2.25-inch boring = 264 mL/ft

2.75-inch boring = 395 mL/ft

Annular Dead Space Volume: 264 x 2 = 528 mL

Tubing Dead Space Volume: 5.4 x 8 = 43.2 mL

Total Dead Space Volume (Tubing + Annular): 571.2 mL

System Purge Information

Required **Site Specific System Volume** to Purged ~~based on / OR~~ for "Purge Test" vapor probe sample = 1 System ("dead space") Volumes

Total Site Specific Purge Volume = Total Dead Space Volume **x** # of System Volumes = 572 mL = 2.9 "Hg Δ

Sampling and Leak Check Information

Summa Canister:

Canister Volume: 1.4-L Manifold Shut-In check duration: 1 minute Manifold Leaking: Yes / No

Leak Check Tracer Compound: IPA (leak tracer compound applied to shroud encapsulating entire system)

Begin Sample Collection:

Canister Sample Rate: 200 mL/min

PID Calibration:

Time	Elapsed Time	Shroud leak tracer concentration (ppm)	Vapor Probe Vacuum ("Hg)	Canister Vacuum ("Hg)
1310	0	13.2 - 245	<1	-29
1312	2	33.3 - 486		-20
1314	4	47.1 - 280		-11
1316	6	35.2 - 198		-5
1318	8	111		0
		Average:		

initial canister vacuum: -29 "Hg

final canister vacuum: 0 "Hg

Post-Sample PID Reading:

Comments: INSTALLED IN BARE EARTH w/ MODERATE/HEAVY WEEDS

ACTIVE SOIL VAPOR SAMPLING FIELD DATA SHEET

Sample Location Information

Project Name/No.: CIOLINO / 2X519.B
Date: 6/24/15
Sample I.D.: SV-1-3P
Canister No: 2454
Manifold No: 1075:1150
Samplers Name: *Josh Hannaleck*
Recorded by: JH

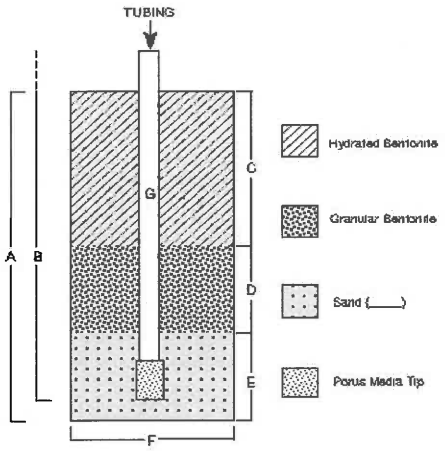
Sample Analysis Information

~~Requested Analyses (circle all that apply):~~
Sample Collection Media: *1.4-L Summa Canister*

VOCs by EPA Method TO-15 or TO-14; M-BTEX & TBA by EPA Method TO-15; Naphthalene by EPA Method TO-15
TPH-gas by EPA Method TO-15 GRO CO_2 & O_2 by ASTM D-1946 IPA by TO-15

Lab: *BC Labs*
Transportation: *Courier*

Temporary Vapor Probe Construction Details



Probe Tip Set Depth / Sample Depth: 5'

A: 5.5'
B: 8'
C: 3.5'
D: 1'
E: 1'
F: 2.25"
G: 3/16"

Volumetric Conversions:

1/8-inch (id) tubing = 2.4 mL/ft

3/16-inch (id) tubing = 5.4 mL/ft

Sand (#3 or #2/12) AND Granular Bentonite Annulus:

8-inch boring = 3,341 mL/ft

2.25-inch boring = 264 mL/ft

2.75-inch boring = 395 mL/ft

Annular Dead Space Volume: 264 x 2 = 528 mL

Tubing Dead Space Volume: 5.4 x 8 = 43.2 mL

Total Dead Space Volume (Tubing + Annular): 571.2 mL

System Purge Information

Required **Site Specific System Volume** to Purged ~~based on / OR~~ for "Purge Test" vapor probe sample = 3 System ("dead space") Volumes

Total Site Specific Purge Volume = Total Dead Space Volume **x** # of System Volumes = 1715 mL = 8.6 "Hg Δ

Sampling and Leak Check Information

Summa Canister:

Canister Volume: 1.4-L
Manifold Shut-In check duration: 1 minute
Manifold Leaking: Yes / No

Leak Check Tracer Compound: IPA
(leak tracer compound applied to shroud encapsulating entire system)

Begin Sample Collection:

Canister Sample Rate: 200 mL/min

PID Calibration:

Time	Elapsed Time	Shroud leak tracer concentration (ppm)	Vapor Probe Vacuum ("Hg)	Canister Vacuum ("Hg)
1324	0	17.1 - 586	<1	-30
1326	2	12.8 - 256	<1	-20
1328	4	15.8 - 201	<1	-11
1330	6	5.1 - 92.9	<1	-5
1332	8	16.6	<1	0

initial canister vacuum: -30 "Hg

final canister vacuum: 0 "Hg

Post-Sample PID Reading:

Average: 134 ppm

Comments: INSTALLED IN BARE EARTH w/ MODERATE/HEAVY WEEDS

ACTIVE SOIL VAPOR SAMPLING FIELD DATA SHEET

Sample Location Information

Project Name/No.: Ciolino / 2X519.B **Date:** 6/24/15

Sample I.D.: SV-1-10P **Canister No:** 2890 **Manifold No:** 1075 : 1150

Samplers Name: *Josh Hannaleck* **Recorded by:** ~~[illegible]~~

Sample Analysis Information

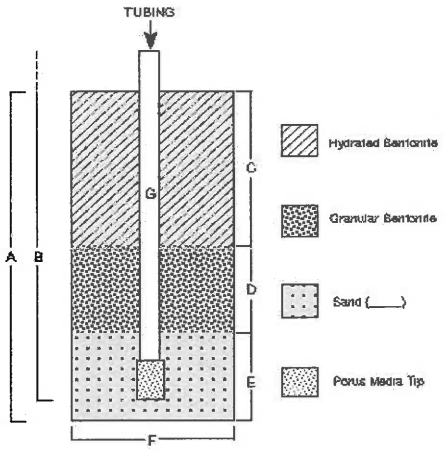
~~**Requested Analyses (circle all that apply):**~~ **Sample Collection Media:** *1.4-L Summa Canister*

VOCs by EPA Method TO-15 or TO-14; M-BTEX & TBA by EPA Method TO-15; Naphthalene by EPA Method TO-15

TPH-gas by EPA Method TO-15 GRO CO_2 & O_2 by ASTM D-1946 IPA by TO-15

Lab: *BC Labs* **Transportation:** *Courier*

Temporary Vapor Probe Construction Details



Probe Tip Set Depth / Sample Depth: 5'

A: 5.5'

B: 8'

C: 3.5'

D: 1'

E: 1'

F: 2.25"

G: 3/16"

Volumetric Conversions:

1/8-inch (id) tubing = 2.4 mL/ft

3/16-inch (id) tubing = 5.4 mL/ft

Sand (#3 or #2/12) AND Granular Bentonite Annulus:

8-inch boring = 3,341 mL/ft

2.25-inch boring = 264 mL/ft

2.75-inch boring = 395 mL/ft

Annular Dead Space Volume: 264 x 2 = 528 mL

Tubing Dead Space Volume: 5.4 x 8 = 43.2 mL

Total Dead Space Volume (Tubing + Annular): 571.2 mL

System Purge Information

Required **Site Specific System Volume** to Purged ~~based off~~ OR for "Purge Test" vapor probe sample = 10 System ("dead space") Volumes

Total Site Specific Purge Volume = Total Dead Space Volume **x** # of System Volumes = 5718 mL = 28.6 "Hg Δ

Sampling and Leak Check Information

Summa Canister:

Canister Volume: 1.4-L Manifold Shut-In check duration: 1 minute Manifold Leaking: Yes / No

Leak Check Tracer Compound: IPA (leak tracer compound applied to shroud encapsulating entire system)

Begin Sample Collection:

Canister Sample Rate: 200 mL/min

PID Calibration: TVOC

Time	Elapsed Time	Shroud leak tracer concentration (ppm)	Vapor Probe Vacuum ("Hg)	Canister Vacuum ("Hg)
1344	0	2.4 - 137	2	-30
1346	2	6.8 - 132		-21
1348	4	14.4 - 163		-13
1350	6	9.1 - 57.5		-5
1352	8	16.8		0
		Average: 59.3 ppm		

initial canister vacuum: -30 "Hg

final canister vacuum: 0 "Hg

Post-Sample PID Reading: 0.0 ppm

Comments: INSTALLED IN BARE EARTH w/ MODERATE / HEAVY WEEDS

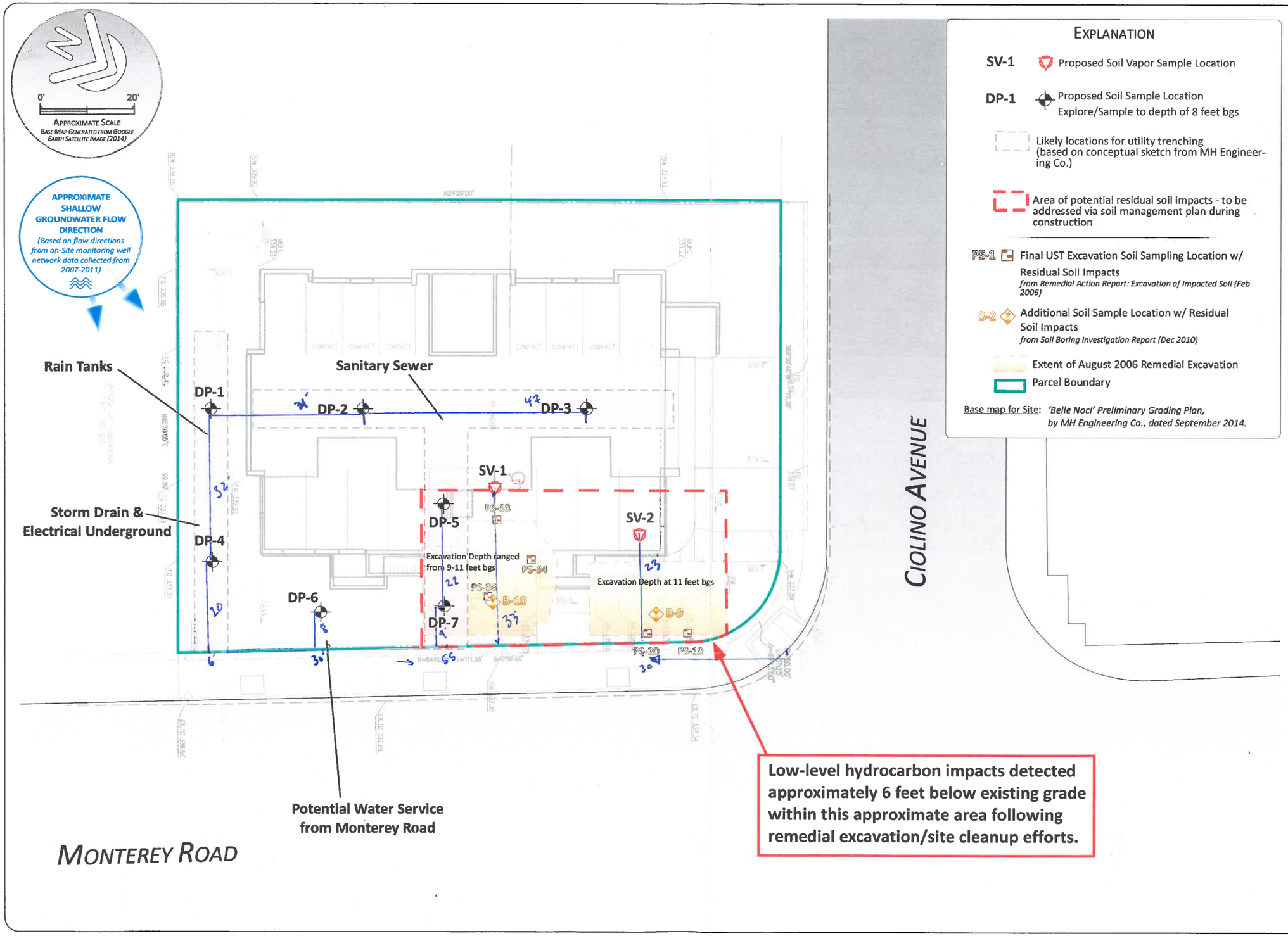


FIGURE 5

Project 2X519

PROPOSED SAMPLE LOCATIONS
SOIL VAPOR AND UTILITY TRENCH CONFIRMATION SAMPLING

SITE: BELLE NOCI MULTI-FAMILY AFFORDABLE HOUSING APARTMENTS
ADDRESS: 16873 MONTEREY ROAD, MORGAN HILL, CA

DATE: JUNE 2015

REVISIONS/NOTES: 06/09/2015 - JA

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

Confirmation Soil and Soil Vapor Sampling - June 24, 2015
16873 Monterey Road, Morgan Hill

Confirmation Soil and Soil Vapor Sampling - June 24, 2015
16873 Monterey Road, Morgan Hill

Confirmation Soil and Soil Vapor Sampling - June 24, 2015
16873 Monterey Road, Morgan Hill

GEOLOGIC LOG

Hydraulic Driven Geo-Probe Boring

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING # **DP-1**

Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND w/ Gravel**, yellowish brown (10YR 5/4), dry, appears medium dense, 65-75% fine to medium sand, trace coarse sand, 15-25% silt fines, 10-15 fine to medium angular gravel, no odor, no discoloration.
1							
2		◣	DP-1-d2-2.5 @ 0 ppm				- Gradational contact.
3						SC	**Sandy CLAY**, dark yellowish brown (10YR 23/4), damp to moist, medium stiff, some plasticity, up to 15-25 fine sand, no odor, no discoloration. - Gradational contact.
4			0 ppm				
5						SM	**Sandy SILT**, yellowish brown (10YR 5/4), moist, soft to medium stiff, some plasticity, 25-35% fine to medium sand (dominantly fine), no odor, no discoloration.
6		◣	DP-1-d6-6.5 @ 0 ppm				
7							
8			0 ppm				
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

- Terminate boring at 8 feet bgs.
- Seal borehole with neat cement grout to ground surface.

GEOLOGIC LOG

Hydraulic Driven Geo-Probe Boring

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING # **DP-2**

Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND w/ Gravel**, yellowish brown (10YR 5/4), dry, appears medium dense, 65-75% fine to medium sand, trace coarse sand, 15-25% silt fines, 10-15 fine to medium angular gravel, no odor, no discoloration.
1							
2		◢	DP-2-d2-2.5 @ 0 ppm				
3							- Gradational contact.
4			0 ppm			SC	**Sandy CLAY**, yellowish brown (10YR 5/6), damp to moist, medium stiff, some plasticity, up to 15-25 fine sand, no odor, no discoloration.
5							- Gradational contact.
6			0 ppm			SM	**Sandy SILT**, yellowish brown (10YR 5/4), moist, soft to medium stiff, some plasticity, 25-35% fine to medium sand (dominantly fine), apparent clay binder, no odor, no discoloration.
7							
8			0 ppm				
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

- Terminate boring at 8 feet bgs.
- Seal borehole with neat cement grout to ground surface.

GEOLOGIC LOG

Hydraulic Driven Geo-Probe Boring

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING # **DP-3**

Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND**, yellowish brown (10YR 5/4), dry, appears medium dense, 75-85% fine to medium sand, trace coarse sand, 15-25% silt fines, trace fine to medium angular gravel, no odor, no discoloration.
1							
2			DP-3-d2-2.5 @ 0 ppm				- Color changes to dark yellowish brown (10YR 3/4)
3							- Gravel content increases above contact. - Gradational contact.
4			0 ppm			SC	**Sandy CLAY**, yellowish brown (10YR 5/4), dry, hard, no plasticity, up to 15-25 fine sand, no odor, no discoloration. - Gradational contact.
5							
6			0 ppm			ML	**SILT w/ SAND**, yellowish brown (10YR 5/4), dry, very stiff to hard, no plasticity, up to 5-10% fine sand, no odor, no discoloration.
7							- Apparent clay binder - slightly plastic.
8			0 ppm				
9							- Terminate boring at 8 feet bgs. - Seal borehole with neat cement grout to ground surface.
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

GEOLOGIC LOG

Hydraulic Driven Geo-Probe Boring

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING # **DP-4**

Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND w/ Gravel**, yellowish brown (10YR 5/4), dry, appears medium dense, 65-75% fine to medium sand, trace coarse sand, 15-25% silt fines, 10-15 fine to medium angular gravel, no odor, no discoloration. - Gradational contact.
2		◢	DP-4-d2-2.5 @ 0 ppm			SC	**Sandy CLAY**, very dark brown (10YR 2/2), damp to moist, medium stiff, some plasticity, up to 15-25 fine sand, no odor, no discoloration.
4			0 ppm				- Color changes to dark yellowish brown (10YR 4/6).
6			0 ppm				- Gradational contact.
7						SM	**Sandy SILT**, yellowish brown (10YR 5/4), moist, soft to medium stiff, some plasticity, 25-35% fine to medium sand (dominantly fine), no odor, no discoloration.
8			0 ppm				

- Terminate boring at 8 feet bgs.
- Seal borehole with neat cement grout to ground surface.

9 10 11 12 13 14 15 16 17 18 19 20

AJOB\2X519\FIGURES\LOGS\DP-4.CNV

GEOLOGIC LOG

Hydraulic Driven Geo-Probe Boring

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING # **DP-5**

Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND**, yellowish brown (10YR 5/4), dry, appears medium dense, 75-85% fine to medium sand, trace coarse sand, 15-25% silt fines, trace fine to medium angular gravel, no odor, no discoloration. - Gradational contact.
2			DP-5-d2-2.5 @ 0 ppm			SC	**Sandy CLAY**, very dark brown (10YR 2/2), dry, medium stiff, some plasticity, up to 15-25 fine sand, no odor, no discoloration.
4			0 ppm				- Color changes to yellowish brown (10YR 5/6). - Formation becoming moist.
6			0 ppm				- Gradational contact.
7			0 ppm			SM	**Sandy SILT**, yellowish brown (10YR 5/4), moist to very moist, soft to medium stiff, some plasticity, 25-35% fine to medium sand (dominantly fine), apparent clay binder, no odor, no discoloration.
8							- Terminate boring at 8 feet bgs. - Seal borehole with neat cement grout to ground surface.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

GEOLOGIC LOG

Hydraulic Driven Geo-Probe Boring

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING # **DP-6**

Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND**, yellowish brown (10YR 5/4), dry, appears medium dense, 75-85% fine to medium sand, trace coarse, 15-25% silt fines, trace fine to medium angular gravel, no odor, no discoloration. - Gradational contact.
1							
2			DP-6-d2-2.5 @ 0 ppm			SC	**Sandy CLAY**, very dark brown (10YR 2/2), very moist, soft, some plasticity, up to 15-25 fine sand, no odor, no discoloration.
3							
4			0 ppm				- Color changes to yellowish brown (10YR 5/6). - Formation becoming damp to moist.
5							
6			0 ppm				- Gradational contact.
7						SM	**Sandy SILT**, yellowish brown (10YR 5/4), moist, soft to medium stiff, some plasticity, 25-35% fine to medium sand (dominantly fine), apparent clay binder, no odor, no discoloration.
8			0 ppm				
9							- Terminate boring at 8 feet bgs. - Seal borehole with neat cement grout to ground surface.
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

GEOLOGIC LOG

Hydraulic Driven Geo-Probe Boring

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING # **DP-7**

Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND**, yellowish brown (10YR 5/4), dry, appears medium dense, 75-85% fine to medium sand, trace coarse sand, 15-25% silt fines, trace fine to medium angular gravel, no odor, no discoloration. - Gradational contact.
2			DP-7-d2-2.5 @ 0 ppm			SC	**Sandy CLAY**, very dark brown (10YR 2/2), very moist, soft, some plasticity, up to 15-25 fine sand, no odor, no discoloration.
4			0 ppm				- Color changes to yellowish brown (10YR 5/6). - Formation becoming damp to moist.
6			0 ppm				- Gradational contact.
7			0 ppm			SM	**Sandy SILT**, yellowish brown (10YR 5/4), moist, soft to medium stiff, some plasticity, 25-35% fine to medium sand (dominantly fine), apparent clay binder, no odor, no discoloration.

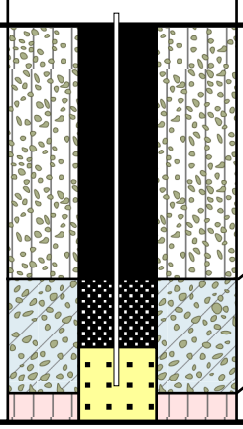
- Terminate boring at 8 feet bgs.
- Seal borehole with neat cement grout to ground surface.

GEOLOGIC LOG

Hydraulic Driven
Geo-Probe Boring
Semi-Permanent Soil Vapor Probe

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING #
SV-1
Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern & Probe Construction	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND**, yellowish brown (10YR 5/4), dry, appears medium dense, 75-85% fine to medium sand, trace coarse sand, 15-25% silt fines, trace fine to medium angular gravel, no odor, no discoloration.
1							
2							- Gradational contact.
3			0 ppm			SC	**Sandy CLAY**, yellowish brown (10YR 5/4), dry, hard, no plasticity, up to 15-25 fine sand, no odor, no discoloration.
4							- Gradational contact.
5			0 ppm			ML	**SILT w/ SAND**, yellowish brown (10YR 5/4), dry, very stiff to hard, no plasticity, up to 5-10% fine sand, no odor, no discoloration.
6							- Terminate boring at 5.5 feet bgs. - Construct soil vapor probe as depicted in diagram.
7							
8							
9							
10							
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12							
13							
14							
15							
16							
17							
18							
19							
20							

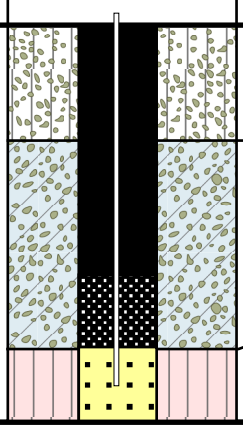
GEOLOGIC LOG

Hydraulic Driven
Geo-Probe Boring
Semi-Permanent Soil Vapor Probe

JOB NO.: 2X519.B DATE: June 24, 2015
CLIENT: EAH Housing
LOCATION: 16876 Monterey Road, Morgan Hill, CA
LOGGED BY: J. Chaney, PG #8452
DRILLER: ECA (Jeff Edmond)
DRILL METHOD: Hydraulic Driven MacroCore Probes

BORING #
SV-2
Sheet 1 of 1

Depth (feet)	Sample Interval	Sample Analyzed	Sample Identification & Field PID Data Calibrated for TVOC (ppm)	Groundwater Depth	Lithologic Pattern & Probe Construction	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						SM	**Silty SAND**, yellowish brown (10YR 5/4), dry, appears medium dense, 75-85% fine to medium sand, trace coarse sand, 15-25% silt fines, trace fine to medium angular gravel, no odor, no discoloration. - Gradational contact.
2						SC	**Sandy CLAY**, yellowish brown (10YR 5/4), dry, hard, no plasticity, up to 15-25 fine sand, no odor, no discoloration. - Gradational contact.
3			0 ppm				
4						ML	**SILT w/ SAND**, yellowish brown (10YR 5/4), dry, very stiff to hard, no plasticity, up to 5-10% fine sand, no odor, no discoloration.
5			0 ppm				

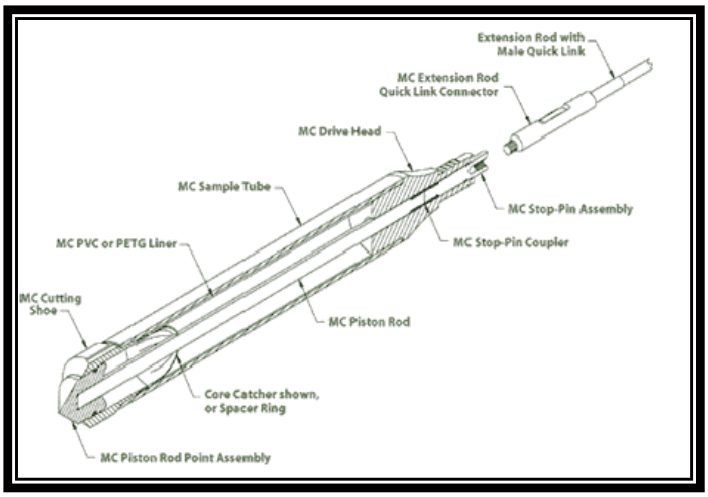


- Terminate boring at 5.5 feet bgs.
- Construct soil vapor probe as depicted in diagram.

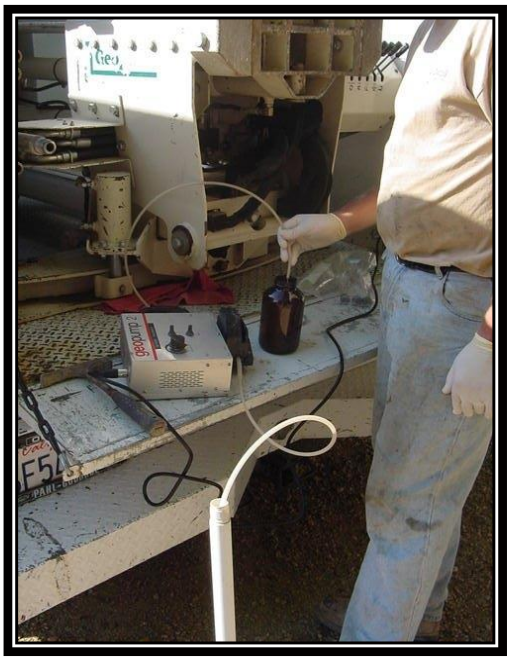
Standard Field Methodology for Hydraulic Driven Probes

Using Macro-Core®, Large Bore® or Dual Tube® Hydraulic Driven Probes

Direct push exploratory borings are "drilled" Geo-Probe rig, which hydraulically drives and vibrates steel probes into the soil. No drill cuttings are produced. This sampling technology has the ability for either continuous or discrete sampling using a 4-foot long nickel-plated sampling probes fitted with clear acetate liners. During coring operations, the sampler remains open as it is driven into undisturbed soil over its entire 4-foot sampling interval. After drilling, all exploratory boreholes are grouted according to county regulations.



The soil cores are logged by an experienced geologist using the Unified Soil Classification System (USCS), noting in particular, the lithology of the soils, moisture content, and any unusual odor or discoloration. Relatively undisturbed soil samples are obtained for both lithologic logging and laboratory analysis. A portion of individual soil cores are stored in a sealed plastic bags for field screening of hydrocarbons and/or volatile organic compounds by an Organic Vapor Analyzer (Photoionization Detector, PID). Vapor readings in parts per million (ppm) are recorded on the boring logs. The PID is also used during drilling for monitoring the work area for site safety.



All drilling equipment is steam cleaned prior to arriving on-site to prevent possible transfer of contamination from another site. The sampling probe and all other soil sampling equipment are thoroughly cleaned between each sampling event by washing in a Liqui-Nox or Alconox solution followed by a double rinsing with distilled water to prevent the transfer of contamination.

<u>Samples Targeted for Laboratory Analysis</u>: Soil samples targeted for laboratory analysis are immediately protected at both ends with Teflon tape, sealed with non-reactive caps, taped,

labeled, and immediately stored in an insulated container cooled with blue ice. A portion of the soil is placed in a ZipLock Bag and the soil gas is measured using the PID. Groundwater samples are collected after temporary casing is placed in the hole and at least one borehole volume are purged. Relatively representative groundwater samples are collected with individual disposable acrylic bailers, peristaltic pump and dedicated tubing, or ball and check valve with dedicated tubing and dispensed directly into containers specifically prepared for the analyses. Once collected, groundwater samples are immediately placed in ice chests cooled with blue ice. Soil and groundwater samples are then transported to a State-certified laboratory under appropriate chain-of-custody documents.

Field Methodology for Active Soil Gas Sampling

The active soil gas / soil vapor (we use the terms interchangeably) sampling field methodology is conducted in general accordance with the procedures outlined in the CalEPA's/DTSC/LARWQCB/SFRWQCB *Advisory – Active Soil Gas Investigations* (April 2012), and the DTSC/CalEPA's final *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)* (October 2011). We use the terms soil gas and soil vapor interchangeably. The field methodology for soil vapor sampling entails:

- Constructing Soil Vapor Sample Points and Purge Test Points (if necessary);
- Purge volume testing at the Purge Test Point(s);
- Setting up the sampling and leak testing equipment; and
- Soil Vapor Sampling

Constructing & Decommissioning Soil Vapor Sample and Purge Test Probes

Soil vapor sample probes can be either semi-permanent or temporary. A semi-permanent sample probe is constructed with a secure surface completion consisting of bolt-down flush-mounted well vault so it can be reused. Purge test probes are constructed in the same manner as temporary soil vapor sample points. A field geologist or engineer logs the soils encountered using the Unified Soil Classification System (USCS), unless the site is already well characterized geologically.

Shallow soil vapor probe installation via GeoProbe drill rig

Shallow Soil Vapor Probe: The soil vapor/gas probe is installed to the target sampling depth via a Geo-Probe drill rig, which hydraulically drives and vibrates steel probes into the soil. The soil is cored out using a 4-foot long nickel-plated sampling barrel fitted with a clear acetate liner. During coring operations, the sample barrel remains open as it is driven into undisturbed soil over its entire 4-foot sampling interval. Alternatively, the soil gas probe borehole can be created via a hollow stem auger or hand auger. Shallow soil gas / soil vapor sample depths will be no less than 5 feet deep (if possible) in order to avoid breakthrough of ambient air from the surface. Shallow and deeper soil gas probes are constructed in a similar manner. Once the probe hole is cored to the desired sample depth, a length of 3/16–inch inner diameter Teflon or Nylaflow tubing having a porous media tip (i.e. ceramic filter stone) attached at the down-hole end of the tubing is inserted through a 1-inch diameter tremi-pipe that runs the entire length of

the borehole. This sample tubing is placed approximately 6-inches above the base of the borehole. A minimum of a one-foot sand pack is emplaced at the base of the borehole (the grain size of the sand pack is larger than the grain size of the adjacent formation), followed by at least one foot of dry granular bentonite. The probe tip is emplaced midway within the sand pack. The tremi-pipe is used to insert the sand pack and granular bentonite to ensure that no bridging occurs. The remainder of the borehole is sealed to the ground surface with hydrated bentonite gel that is pre-mixed at the ground surface; this ensures a sound surface seal and/or seal between multi-depth nested probe sample intervals.

Decommissioning Shallow Soil Vapor Probes: Following sample collection the vapor probe is properly decommissioned by one of the following regulatory approved techniques:

- The sample tubing is completely removed from the ground surface (if possible) allowing the bentonite gel slurry to flow into the small vertical void thereby sealing the borehole. Subsequently, approximately 6 inches of bentonite slurry is removed below the ground surface and the surface is patched to match the existing grade.
- The sample tubing is properly destroyed by injecting neat cement grout into the tubing via a syringe. The volume of grout injected into the tubing is monitored to ensure that the entire tubing is completely sealed. Subsequently, the tubing is cut off approximately 6 inches below the ground surface and the surface is patched to match the existing grade.
- The vapor probe is properly destroyed by over-drilling the sample tubing and annular seal material. Once the material has been removed, the subsequent borehole is filled with neat cement grout to within about 6-inches of the ground surface and the surface is patched to match the existing grade.

Sub-Slab Soil Vapor Probe: The emplacement of the sub-slab soil vapor sampling probe is conducted by coring a 1 to 1-1/4-inch diameter hole via an electric hand rotary hammer drill through the slab foundation. The sub-slab borehole is advanced approximately 3 to 4-inches below the base of the slab and into the sub-slab material. Once the probe hole is cored to the desired sample depth a length of 3/16–inch inner diameter Teflon or Nylaflow or inert, cleaned metal tubing with a porous media tip (i.e. ceramic filter stone) attached at the down-hole end of the tubing is inserted into the borehole. The probe tip is emplaced 1-2 inches above the base of the bore hole. A minimum of two to four inches of sand pack is emplaced at the base of the borehole followed by at least one to two inches of dry granular bentonite to above the base of the slab. The probe tip is emplaced midway within the sand pack. The remainder of the borehole is sealed to the ground surface with hydrated granular bentonite to ensure a sound surface seal. Following sample collection the sample tubing is removed and the subsequent void is sealed with hydrated bentonite and the surface is patched with concrete.

Purge Testing

Prior to soil gas sample collection, a purge volume or "dead space volume" test will be performed in order to purge ambient or stagnant air from the sampling system to ensure that collected samples are representative. The purge test location is selected as near as possible to the confirmed or anticipated contaminant source, and may be conducted in a separate borehole independent of all other sample locations. However, the purge test location may also be used as one of the sites sample locations once purge testing indicates the appropriate data to use (see details below). Multiple purge test locations may be installed depending on the variability of subsurface materials and contaminates encountered at the site.

The purge volume test consists of removing approximately one, three and ten system volumes (i.e. tubing and annular space) of soil gas, while capturing the purge effluent. One system volume is calculated by summing the inner diameter (id) tubing volume (i.e., id area times the length of tubing) and the annular pore space volume (i.e., area of the borehole times the length of sand pack and granular bentonite surrounding the ceramic filter stone tip times an estimated sand-pack pore space volume of 33.8%). The step test purge rate will be conducted at the same rate soil gas is sampled (approximately 200 mL/min flow). We note that Cal-EPA guidance recommends purging or sampling at rates between 100 to 200 mL/min for soil vapor probes at all depths, including sub-slab vapor probes, to limit air stripping and to prevent ambient air form diluting the sample. After each specific pre-determined purge volume (i.e., one, three, and ten) is removed a soil vapor/gas sample is collected for laboratory analyses for the site specific target compounds. Sampling and analysis methods for purge testing follows the same methods as standard soil vapor/gas sample collection. The appropriate purge volume will be selected based on the maximum organic vapor concentration determined by the laboratory analyses of the samples collected after each purge volume interval per the procedures outlined in the CalEPA's Advisory. A default of three purge volumes will be extracted prior to sampling if VOCs are not detected during any of the purge step tests, or if the vapor probe is installed to a depth of less than 5 feet below the ground surface.

Sample Collection

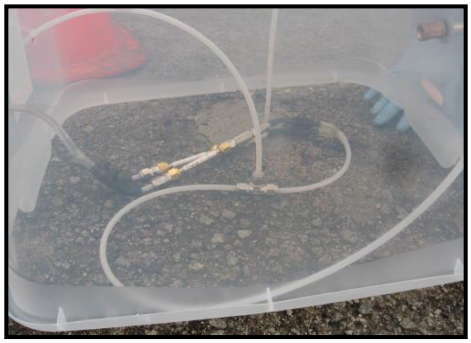
Before purging the appropriate "dead space volume" from the soil vapor/gas probe, the probe seal is allowed to cure and the subsurface is allowed to equilibrate for the appropriate amount of time per the procedures outlined in the CalEPA's Advisory. We note that an equilibration time of two (2) hours is required for soil vapor/gas probes installed via a direct push drill rig and forty-eight (48) hours for soil vapor/gas probes installed via a hollow stem auger drill rig, hand-auger, or an electric hand rotary hammer drill. Once the appropriate "dead space volume" has been purged the sample tubing will be attached to a laboratory prepared soil vapor manifold

and one or six liter Summa canister or sorbent sampling media depending on required laboratory analysis. We note that the choice between using a 1L or 6L canister is typically dependent on the purpose of the site investigation. However, for soil vapor/gas samples collected at a depth less than 5 feet, including sub-slab vapor probes, a 1L canister should be used to avoid excessive air removal and to prevent ambient air from entering the sub-surface and sample. When sampling for ambient indoor air, a 6L canister is nearly always required because of the extremely low detection limits required to meet Indoor Air ESLs. For soil vapor collection, a 1L canister may be all that is necessary if the site is known to contain high concentrations of contaminants of interest that make achieving low detection limits a secondary concern. In those cases, only a small volume of the 1L collected is necessary for analysis of both the TO-15 and the TO-3 compounds. However, if a site does not have historical data indicating that it is significantly contaminated, or if multiple analytical runs become necessary to achieve reporting limit/CHHSL/ESL goals, it becomes critical to have a larger initial volume of collected sample. A 6L volume allows the laboratory to provide the lowest possible detection for the compounds of interest for full list TO-15 while providing enough volume for the additional analysis of individual compounds that may require dilution to bring them within the instrument calibration range. The 6L volume will provide enough residual sample to analyze for additional contaminants (e.g., EPA Method TO-3) and/or fixed Gases (ASTM D1946) including Helium, which may be used as a tracer or leak check compound in the investigation. A consultation with the selected testing laboratory will be conducted for each investigation to ensure that appropriate sample volumes are obtained.

The following sample collection procedures are followed for each sample collection media:

- The Summa canisters will be supplied by the analytical laboratory with a vacuum of approximately 30 inches of mercury and outfitted with a 200 mL/min flow control valve. The tubing will be connected to the soil vapor manifold and Summa canister using airtight stainless-steel or brass fittings. The flow control valve will then be opened slowly to draw the vapor sample from the target depth.
- Laboratory sorbent media and canister with a vacuum of approximately 30 inches of mercury and outfitted with a 50 mL/min flow control valve

Sample collection with Summa canisters



Sample collection with sorbent tube

or sampling pump (10 to 200 mL/min) will be supplied by the analytical laboratory. The tubing will be connected to the sorbent media sample tube, upstream of the vacuum canister/sample pump/syringe using airtight stainless-steel or brass fittings. The sample vacuum canister/ pump/syringe will then be activated to draw approximately 1 to 3L of sample volume for TO-17 analysis from the target depth at a flow rate of 50 mL/min or less per sorbent media sample tube manufacturer and/or laboratory guidelines.

Schematic diagrams of sample configurations for the different sampling media (i.e., Summa canister and sorbent media) and probe construction (i.e., shallow soil and sub-slab) are included as attachments 1, 2, and 3 of this field methodology.

Leak Detection Monitoring

Leak detection monitoring will be conducted during soil gas sampling by applying a tracer compound (i.e., isopropyl alcohol [isopropanol, IPA] or helium) to the sample system connections and bentonite seal. Specifically, a shroud will be used to encapsulate the entire system (i.e., the sample canister and surface bentonite seal) so as to trap the applied tracer compound. The leak detection monitoring configuration is graphically depicted on attachments 1, 2, and 3 of this field methodology. The concentration of the leak check compound within the shroud will be monitored periodically throughout the sample collection period with a PID calibrated to the specific tracer gas compound and these values will be recorded into the field notes. The tracer compound (i.e., IPA or helium) is maintained within the shroud at a concentration of approximately two (2) orders of magnitude higher than the detection limit of the field meter used throughout the duration of sample collection. The testing laboratory will screen for this compound in all analyzed air samples when IPA is used. If helium is used the laboratory can screen for this compound if collected in Summa canisters, or the sample effluent after passing through the sorbent media will be field screened for the presence of the helium.

Monitoring leak check compound within shroud during sample collection

Prior to purging and sample collection, a “shut-in test” is performed to check the above-ground sample system connections downstream from the top of the soil vapor/gas probe, including the laboratory provided sample manifold (“sample train”). The “shut-in test” is completed in the field by closing off all valves to the laboratory provided soil vapor manifold and the soil vapor/gas probe tubing, and subsequently opening the valve to the connected “purge” Summa canister to increase the vacuum in the sample train to a minimum of 100 inches of water, at

which point the purge canister is closed. Then the vacuum gauge on the sample train is observed for at least one (1) minute to confirm it remains stable.

Low Flow Sampling Conditions

A low flow sampling condition is characterized as a condition where the sample probe cannot sustain a flow rate of 100 mL/min for more than three minutes while maintaining an applied vacuum of less than 100 inches of water (or 7.4 inches of mercury). The vacuum applied to the sample probe will be measured and monitored via a vacuum gauge installed between the sample probe and the sample collection flow regulator. If the vacuum measured within the sample probe exceeds 100 inches of water during dead space volume purging, then one of the following sample collection procedures will be employed:

- If the lithology observed during sample probe installation indicates potential for low permeability / low flow conditions a representative soil sample at the soil vapor sample depth will be collected and put on ice for possible laboratory analysis.
- If extreme low flow conditions are observed during purging, specifically excessive time will be required to purge and collect a sample, we will contact the regulating agency to confirm collecting a purge volume approximating one dead space volume (i.e., volume of the sample tube plus the volume of the sand pack pore space and granular bentonite pore space surrounding the probe tip) will be evacuated prior to sample collection. Sample collection will proceed until the sample probe vacuum equals 100 inches of water. The sample system will then be closed off to allow the probe to relax and equilibrate. Over time the vacuum will eventually dissipate, the rate of which can be monitored via an in-line vacuum gauge installed as described above. Once the vacuum in the sample probe has dissipated, sampling will resume as described above. This process will be repeated until an adequate sample volume has been obtained for the required laboratory analysis.
- If during low flow sampling as stated above, the sample system when closed off to allow the probe to relax and equilibrate the probe vacuum does not reduce by 13.5 inches of water (1 inch of mercury) in 3 minutes, soil vapor sampling will cease and the previously collected soil sample will be submitted to the laboratory for potential analysis for site specific constituents.

Sample Storage and Transport

Once collected, the soil gas samples are then transported to a State-certified laboratory under appropriate chain-of-custody documentation. Sorbent media are wrapped in foil and placed in individual zip-lock type bags and immediately placed in a chilled cooler (chilled to 4 degrees Celsius) for storage and transport to the testing laboratory. Summa canisters are placed in

laboratory provided cardboard boxes and stored at ambient temperature for transport to the testing laboratory.

APPENDIX D

LABORATORY ANALYTICAL REPORTS

- ***Soil Analytical Report – WO #1515624***
- ***Soil Vapor Analytical Report* – WO #1515647**

Date of Report: 07/07/2015

Josh Hannaleck

Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Client Project:	Ciolino / 2X519.B
BCL Project:	Air Samples
BCL Work Order:	1515647
Invoice ID:	B207062, B207515

Enclosed are the results of analyses for samples received by the laboratory on 6/26/2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Misty Orton
Client Service Rep

Authorized Signature

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WHA
Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 Fax: (831) 722-1159
www.weber-hayes.com

CHAIN -OF-CUSTODY RECORD

RUSH

PAGE 1 OF 1

PROJECT NAME AND JOB #: Ciolino / 2X519.B

LABORATORY: BC Labs

SEND CERTIFIED RESULTS TO: Weber, Hayes & Associates - Attn: Josh Hannaleck

TURNAROUND TIME: Standard Five-Day | 24hr Rush | 48hr Rush | 72hr Rush

ELECTRONIC DELIVERABLE FORMAT: [ ] YES [X] NO

GLOBAL I.D.:

Sampler: Josh Hannaleck

Date: 6/24/15

15-15647

GeoTracker Field Point Name (FPN)	Sample ID	Date Sampled	Matrix	SAMPLE CONTAINERS: 6 Liter Summa	1.4 Liter Summa	Tube Sorbent Tube	Liner Acetate or Brass	REQUESTED ANALYSIS: Total Petroleum Hydrocarbons: Extractable as Diesel & Motor Oil with Silica Gel Cleanup	Gasoline by TO-15 GRO	Gasoline by TO-17 GRO	Volatile Organics: Full List VOCs EPA Method# TO-15	Full List VOCs EPA Method# TO-15	IPA (LCC) EPA Method# TO-15	Additional Analysis: Helium (LCC) ASTM D-1946	Oxygen ASTM D-1946	HOLD
-1	SV-2-1P	6/24/15	Air		1				X			X	X			
-2	SV-2-3P				1				X			X	X			
-3	SV-2-10P				1				X			X	X			
-4	SV-1-1P				1				X			X	X			X
-5	SV-1-3P				1				X			X	X			X
-6	SV-1-10P				1				X			X	X			X

CHK BY: MM
DISTRIBUTION: JH, Arr
SUB-OUT

	RELEASED BY:	Date & Time	RECEIVED BY:	Date & Time	SAMPLE CONDITION: (circle 1)		
1.		6/25/15 0800	ONTRAC	6/25/15	Ambient	Refrigerated	Frozen
2.	ONTRAC		JD	6-26-15 7:53	Ambient	Refrigerated	Frozen
3.					Ambient	Refrigerated	Frozen
4.					Ambient	Refrigerated	Frozen
5.					Ambient	Refrigerated	Frozen

NOTES:

[X] *Please use MDL (Minimum Detection Limit) for any diluted samples.*

Lowest Required MDL: Benzene - 36.2 ug/m³

ADDITIONAL COMMENTS

* Please email Results to: lab@weber-hayes.com & joshua@weber-hayes.com
* HOLD NOTED SAMPLES UNTIL ANALYZED SAMPLES ARE REVIEWED BY WHA FOR DIRECTION.
* Please use Isopropal Alcohol (IPA) as Leak Check Compound
* Please Report all Results in ug/m³.

\\WHAFILESERVER01\d\A-User-Files\Josh\1-Mocs\Field\COCs - Summa

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Chain of Custody and Cooler Receipt Form for 1515647 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 15-15647

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ Ontrac ☒ Hand Delivery ☐ BC Lab Field Service ☐ Other ☐ (Specify)_____	Ice Chest ☐ None ☐ Box ☒ Other ☐ (Specify)_____	YES ☐ NO ☐

Refrigerant: Ice ☐ Blue Ice ☐ None ☒ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: ____ Container: 1 Thermometer ID: ____

Temperature: (A) Canister °C, (C) Room Temp °C

Date/Time 6/26/15 7:53

Analyst Init JD

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz Amber EPA 548										
QT EPA 549										
QT EPA 8015M										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
Tedlar Bag										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister	A	A	A	A	A	A				

Comments:_____

Rev. No. 19 05/06/2015

Sample Numbering Completed By: MA Date/Time: 6/26/15 @ 1030 (S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 19)

A = Actual / C = Corrected

Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1515647-01	**COC Number:**	---	**Receive Date:**	06/26/2015 07:53
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SV-2-1P	**Lab Matrix:**	Air
	Sampled By:	Josh Hannaleck	**Sample Type:**	Vapor or Air
1515647-02	**COC Number:**	---	**Receive Date:**	06/26/2015 07:53
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SV-2-3P	**Lab Matrix:**	Air
	Sampled By:	Josh Hannaleck	**Sample Type:**	Vapor or Air
1515647-03	**COC Number:**	---	**Receive Date:**	06/26/2015 07:53
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SV-2-10P	**Lab Matrix:**	Air
	Sampled By:	Josh Hannaleck	**Sample Type:**	Vapor or Air
1515647-04	**COC Number:**	---	**Receive Date:**	06/26/2015 07:53
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SV-1-1P	**Lab Matrix:**	Air
	Sampled By:	Josh Hannaleck	**Sample Type:**	Vapor or Air
1515647-05	**COC Number:**	---	**Receive Date:**	06/26/2015 07:53
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SV-1-3P	**Lab Matrix:**	Air
	Sampled By:	Josh Hannaleck	**Sample Type:**	Vapor or Air
1515647-06	**COC Number:**	---	**Receive Date:**	06/26/2015 07:53
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SV-1-10P	**Lab Matrix:**	Air
	Sampled By:	Josh Hannaleck	**Sample Type:**	Vapor or Air

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-01 | **Client Sample Name:** SV-2-1P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	**23000**	**ug/m3**	**3600**	**230**	**EPA-TO-15**	ND	**A01**	1
Acetonitrile	ND	ug/m3	14	7.2	EPA-TO-15	ND	A01	2
Acrolein	ND	ug/m3	14	7.2	EPA-TO-15	ND	A01	2
Acrylonitrile	ND	ug/m3	2.9	0.41	EPA-TO-15	ND	A01	2
Allyl chloride	ND	ug/m3	2.9	0.23	EPA-TO-15	ND	A01	2
t-Amyl Methyl ether	ND	ug/m3	7.2	0.89	EPA-TO-15	ND	A01	2
Benzene	**5.8**	**ug/m3**	**2.9**	**0.31**	**EPA-TO-15**	ND	**A01**	2
Benzyl chloride	ND	ug/m3	14	0.39	EPA-TO-15	ND	A01	2
Bromodichloromethane	ND	ug/m3	7.2	0.69	EPA-TO-15	ND	A01	2
Bromoform	ND	ug/m3	14	0.76	EPA-TO-15	ND	A01	2
Bromomethane	ND	ug/m3	2.9	0.50	EPA-TO-15	ND	A01	2
1,3-Butadiene	ND	ug/m3	2.9	0.26	EPA-TO-15	ND	A01	2
t-Butyl alcohol	ND	ug/m3	7.2	0.87	EPA-TO-15	ND	A01	2
Carbon disulfide	ND	ug/m3	2.9	0.31	EPA-TO-15	ND	A01	2
Carbon tetrachloride	ND	ug/m3	7.2	0.53	EPA-TO-15	ND	A01	2
Chlorobenzene	ND	ug/m3	7.2	0.34	EPA-TO-15	ND	A01	2
Chloroethane	ND	ug/m3	2.9	0.29	EPA-TO-15	ND	A01	2
Chloroform	ND	ug/m3	7.2	0.37	EPA-TO-15	ND	A01	2
Chloromethane	ND	ug/m3	2.9	0.16	EPA-TO-15	ND	A01	2
Chloroprene	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
Cyclohexane	ND	ug/m3	2.9	0.40	EPA-TO-15	ND	A01	2
Dibromochloromethane	ND	ug/m3	7.2	0.63	EPA-TO-15	ND	A01	2
1,2-Dibromo-3-chloropropane	ND	ug/m3	7.2	2.1	EPA-TO-15	ND	A01	2
1,2-Dibromoethane	ND	ug/m3	7.2	0.77	EPA-TO-15	ND	A01	2
Dibromomethane	ND	ug/m3	7.2	0.51	EPA-TO-15	ND	A01	2
1,2-Dichlorobenzene	ND	ug/m3	7.2	0.50	EPA-TO-15	ND	A01	2
1,3-Dichlorobenzene	ND	ug/m3	7.2	0.80	EPA-TO-15	ND	A01	2
1,4-Dichlorobenzene	ND	ug/m3	7.2	0.59	EPA-TO-15	ND	A01	2
trans-1,4-Dichloro-2-butene	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
Dichlorodifluoromethane	**2.7**	**ug/m3**	**7.2**	**0.47**	**EPA-TO-15**	ND	**J,A01**	2
1,1-Dichloroethane	ND	ug/m3	7.2	0.37	EPA-TO-15	ND	A01	2
1,2-Dichloroethane	ND	ug/m3	7.2	0.30	EPA-TO-15	ND	A01	2
1,1-Dichloroethene	ND	ug/m3	7.2	0.37	EPA-TO-15	ND	A01	2

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-01 | **Client Sample Name:** SV-2-1P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,2-Dichloroethene	ND	ug/m3	2.9	0.30	EPA-TO-15	ND	A01	2
trans-1,2-Dichloroethene	ND	ug/m3	2.9	0.33	EPA-TO-15	ND	A01	2
1,2-Dichloropropane	ND	ug/m3	7.2	0.46	EPA-TO-15	ND	A01	2
1,3-Dichloropropane	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
2,2-Dichloropropane	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
1,1-Dichloropropene	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
cis-1,3-Dichloropropene	ND	ug/m3	7.2	0.41	EPA-TO-15	ND	A01	2
trans-1,3-Dichloropropene	ND	ug/m3	7.2	0.41	EPA-TO-15	ND	A01	2
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3	7.2	0.51	EPA-TO-15	ND	A01	2
1,1-Difluoroethane	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Diisopropyl ether	ND	ug/m3	7.2	0.60	EPA-TO-15	ND	A01	2
1,4-Dioxane	ND	ug/m3	2.9	0.37	EPA-TO-15	ND	A01	2
Ethanol	ND	ug/m3	2.9	0.84	EPA-TO-15	ND	A01	2
Ethyl acetate	ND	ug/m3	2.9	0.51	EPA-TO-15	ND	A01	2
Ethylbenzene	**19**	**ug/m3**	**7.2**	**0.33**	**EPA-TO-15**	ND	**A01**	2
Ethyl methacrylate	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
1-Ethyl-4-methylbenzene	ND	ug/m3	7.2	0.64	EPA-TO-15	ND	A01	2
Ethyl t-butyl ether	ND	ug/m3	7.2	0.83	EPA-TO-15	ND	A01	2
n-Heptane	ND	ug/m3	2.9	0.34	EPA-TO-15	ND	A01	2
Hexachlorobutadiene	ND	ug/m3	14	0.92	EPA-TO-15	ND	A01	2
Hexachloroethane	ND	ug/m3	2.9	0.47	EPA-TO-15	ND	A01	2
Hexane	ND	ug/m3	7.2	0.34	EPA-TO-15	ND	A01	2
2-Hexanone	ND	ug/m3	7.2	0.66	EPA-TO-15	ND	A01	2
Isobutanol	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Isooctane	ND	ug/m3	7.2	0.37	EPA-TO-15	ND	A01	2
Isopropyl alcohol	**180**	**ug/m3**	**57**	**6.9**	**EPA-TO-15**	ND	**A01**	3
Methacrylonitrile	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Methylene chloride	ND	ug/m3	14	0.26	EPA-TO-15	ND	A01	2
Methyl ethyl ketone	**63**	**ug/m3**	**2.9**	**0.56**	**EPA-TO-15**	ND	**A01**	2
Methyl iodide	ND	ug/m3	14	0.84	EPA-TO-15	ND	A01	2
Methyl isobutyl ketone	ND	ug/m3	7.2	0.84	EPA-TO-15	ND	A01	2
Methyl methacrylate	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Methyl t-butyl ether	ND	ug/m3	2.9	0.60	EPA-TO-15	ND	A01	2

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-01 | **Client Sample Name:** SV-2-1P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Naphthalene	ND	ug/m3	14	1.0	EPA-TO-15	ND	A01	2
Propionitrile	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Propylene	**46**	**ug/m3**	**2.9**	**0.26**	**EPA-TO-15**	ND	**A01**	2
Styrene	ND	ug/m3	7.2	0.33	EPA-TO-15	ND	A01	2
1,1,1,2-Tetrachloroethane	ND	ug/m3	7.2	0.80	EPA-TO-15	ND	A01	2
1,1,2,2-Tetrachloroethane	ND	ug/m3	7.2	0.84	EPA-TO-15	ND	A01	2
Tetrachloroethene	ND	ug/m3	7.2	0.63	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3	2.9	0.70	EPA-TO-15	ND	A01	2
Toluene	**12**	**ug/m3**	**2.9**	**0.29**	**EPA-TO-15**	ND	**A01**	2
1,2,4-Trichlorobenzene	ND	ug/m3	14	0.63	EPA-TO-15	ND	A01	2
1,1,1-Trichloroethane	ND	ug/m3	7.2	0.51	EPA-TO-15	ND	A01	2
1,1,2-Trichloroethane	ND	ug/m3	7.2	0.46	EPA-TO-15	ND	A01	2
Trichloroethene	ND	ug/m3	7.2	0.40	EPA-TO-15	ND	A01	2
Trichlorofluoromethane	**8.0**	**ug/m3**	**7.2**	**0.44**	**EPA-TO-15**	ND	**A01**	2
1,2,3-Trichloropropane	ND	ug/m3	7.2	1.4	EPA-TO-15	ND	A01	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3	7.2	0.57	EPA-TO-15	ND	A01	2
1,2,4-Trimethylbenzene	ND	ug/m3	7.2	0.37	EPA-TO-15	ND	A01	2
1,3,5-Trimethylbenzene	ND	ug/m3	7.2	0.82	EPA-TO-15	ND	A01	2
Vinyl acetate	ND	ug/m3	2.9	0.31	EPA-TO-15	ND	A01	2
Vinyl bromide	ND	ug/m3	7.2	0.64	EPA-TO-15	ND	A01	2
Vinyl chloride	ND	ug/m3	2.9	0.20	EPA-TO-15	ND	A01	2
p- & m-Xylenes	**83**	**ug/m3**	**7.2**	**0.70**	**EPA-TO-15**	ND	**A01**	2
o-Xylene	**31**	**ug/m3**	**7.2**	**0.44**	**EPA-TO-15**	ND	**A01**	2
Total Xylenes	**110**	**ug/m3**	**14**	**1.1**	**EPA-TO-15**	ND	**A01**	2
TPH - Gasoline	**4900**	**ug/m3**	**290**	**56**	**EPA-TO-15**	ND	**A01**	2
4-Bromofluorobenzene (Surrogate)	101	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	86.7	%	70 - 130 (LCL - UCL)		EPA-TO-15			2
4-Bromofluorobenzene (Surrogate)	102	%	70 - 130 (LCL - UCL)		EPA-TO-15			3
4-Bromofluorobenzene (Surrogate)	86.7	%	70 - 130 (LCL - UCL)		EPA-TO-15			4

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-01 | **Client Sample Name:** SV-2-1P, 6/24/2015 12:00:00AM, Josh Hannaleck

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	06/26/15	06/29/15 11:01	MJB	MS-A1	715	BYF2424
2	EPA-TO-15	06/26/15	06/26/15 22:11	MJB	MS-A1	1.430	BYF2424
3	EPA-TO-15	06/26/15	06/27/15 11:54	MJB	MS-A1	28.600	BYF2424
4	EPA-TO-15	06/26/15	06/26/15 22:11	MJB	MS-A1	1	BYF2424

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-02 | **Client Sample Name:** SV-2-3P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	**30000**	**ug/m3**	**3600**	**230**	**EPA-TO-15**	ND	**A01**	1
Acetonitrile	ND	ug/m3	14	7.1	EPA-TO-15	ND	A01	2
Acrolein	ND	ug/m3	14	7.1	EPA-TO-15	ND	A01	2
Acrylonitrile	ND	ug/m3	2.8	0.41	EPA-TO-15	ND	A01	2
Allyl chloride	ND	ug/m3	2.8	0.23	EPA-TO-15	ND	A01	2
t-Amyl Methyl ether	ND	ug/m3	7.1	0.88	EPA-TO-15	ND	A01	2
Benzene	**10**	**ug/m3**	**2.8**	**0.31**	**EPA-TO-15**	ND	**A01**	2
Benzyl chloride	ND	ug/m3	14	0.38	EPA-TO-15	ND	A01	2
Bromodichloromethane	ND	ug/m3	7.1	0.68	EPA-TO-15	ND	A01	2
Bromoform	ND	ug/m3	14	0.75	EPA-TO-15	ND	A01	2
Bromomethane	ND	ug/m3	2.8	0.50	EPA-TO-15	ND	A01	2
1,3-Butadiene	ND	ug/m3	2.8	0.26	EPA-TO-15	ND	A01	2
t-Butyl alcohol	ND	ug/m3	7.1	0.87	EPA-TO-15	ND	A01	2
Carbon disulfide	ND	ug/m3	2.8	0.31	EPA-TO-15	ND	A01	2
Carbon tetrachloride	ND	ug/m3	7.1	0.53	EPA-TO-15	ND	A01	2
Chlorobenzene	ND	ug/m3	7.1	0.34	EPA-TO-15	ND	A01	2
Chloroethane	ND	ug/m3	2.8	0.28	EPA-TO-15	ND	A01	2
Chloroform	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2
Chloromethane	ND	ug/m3	2.8	0.16	EPA-TO-15	ND	A01	2
Chloroprene	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
Cyclohexane	ND	ug/m3	2.8	0.40	EPA-TO-15	ND	A01	2
Dibromochloromethane	ND	ug/m3	7.1	0.62	EPA-TO-15	ND	A01	2
1,2-Dibromo-3-chloropropane	ND	ug/m3	7.1	2.1	EPA-TO-15	ND	A01	2
1,2-Dibromoethane	ND	ug/m3	7.1	0.77	EPA-TO-15	ND	A01	2
Dibromomethane	ND	ug/m3	7.1	0.51	EPA-TO-15	ND	A01	2
1,2-Dichlorobenzene	ND	ug/m3	7.1	0.50	EPA-TO-15	ND	A01	2
1,3-Dichlorobenzene	ND	ug/m3	7.1	0.80	EPA-TO-15	ND	A01	2
1,4-Dichlorobenzene	ND	ug/m3	7.1	0.58	EPA-TO-15	ND	A01	2
trans-1,4-Dichloro-2-butene	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
Dichlorodifluoromethane	**2.8**	**ug/m3**	**7.1**	**0.47**	**EPA-TO-15**	ND	**J,A01**	2
1,1-Dichloroethane	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2
1,2-Dichloroethane	ND	ug/m3	7.1	0.30	EPA-TO-15	ND	A01	2
1,1-Dichloroethene	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-02 | **Client Sample Name:** SV-2-3P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,2-Dichloroethene	ND	ug/m3	2.8	0.30	EPA-TO-15	ND	A01	2
trans-1,2-Dichloroethene	ND	ug/m3	2.8	0.33	EPA-TO-15	ND	A01	2
1,2-Dichloropropane	ND	ug/m3	7.1	0.45	EPA-TO-15	ND	A01	2
1,3-Dichloropropane	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
2,2-Dichloropropane	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
1,1-Dichloropropene	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
cis-1,3-Dichloropropene	ND	ug/m3	7.1	0.41	EPA-TO-15	ND	A01	2
trans-1,3-Dichloropropene	ND	ug/m3	7.1	0.41	EPA-TO-15	ND	A01	2
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3	7.1	0.51	EPA-TO-15	ND	A01	2
1,1-Difluoroethane	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Diisopropyl ether	ND	ug/m3	7.1	0.60	EPA-TO-15	ND	A01	2
1,4-Dioxane	ND	ug/m3	2.8	0.37	EPA-TO-15	ND	A01	2
Ethanol	ND	ug/m3	2.8	0.84	EPA-TO-15	ND	A01	2
Ethyl acetate	ND	ug/m3	2.8	0.51	EPA-TO-15	ND	A01	2
Ethylbenzene	**18**	**ug/m3**	**7.1**	**0.33**	**EPA-TO-15**	ND	**A01**	2
Ethyl methacrylate	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
1-Ethyl-4-methylbenzene	ND	ug/m3	7.1	0.64	EPA-TO-15	ND	A01	2
Ethyl t-butyl ether	ND	ug/m3	7.1	0.82	EPA-TO-15	ND	A01	2
n-Heptane	**3.8**	**ug/m3**	**2.8**	**0.34**	**EPA-TO-15**	ND	**A01**	2
Hexachlorobutadiene	ND	ug/m3	14	0.91	EPA-TO-15	ND	A01	2
Hexachloroethane	ND	ug/m3	2.8	0.47	EPA-TO-15	ND	A01	2
Hexane	ND	ug/m3	7.1	0.34	EPA-TO-15	ND	A01	2
2-Hexanone	ND	ug/m3	7.1	0.65	EPA-TO-15	ND	A01	2
Isobutanol	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Isooctane	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2
Isopropyl alcohol	ND	ug/m3	2.8	0.34	EPA-TO-15	ND	A01	2
Methacrylonitrile	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Methylene chloride	ND	ug/m3	14	0.26	EPA-TO-15	ND	A01	2
Methyl ethyl ketone	**56**	**ug/m3**	**2.8**	**0.55**	**EPA-TO-15**	ND	**A01**	2
Methyl iodide	ND	ug/m3	14	0.84	EPA-TO-15	ND	A01	2
Methyl isobutyl ketone	ND	ug/m3	7.1	0.84	EPA-TO-15	ND	A01	2
Methyl methacrylate	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Methyl t-butyl ether	ND	ug/m3	2.8	0.60	EPA-TO-15	ND	A01	2

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-02 | **Client Sample Name:** SV-2-3P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Naphthalene	ND	ug/m3	14	1.0	EPA-TO-15	ND	A01	2
Propionitrile	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Propylene	ND	ug/m3	2.8	0.26	EPA-TO-15	ND	A01	2
Styrene	ND	ug/m3	7.1	0.33	EPA-TO-15	ND	A01	2
1,1,1,2-Tetrachloroethane	ND	ug/m3	7.1	0.80	EPA-TO-15	ND	A01	2
1,1,2,2-Tetrachloroethane	ND	ug/m3	7.1	0.84	EPA-TO-15	ND	A01	2
Tetrachloroethene	ND	ug/m3	7.1	0.62	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3	2.8	0.70	EPA-TO-15	ND	A01	2
Toluene	**14**	**ug/m3**	**2.8**	**0.28**	**EPA-TO-15**	ND	**A01**	2
1,2,4-Trichlorobenzene	ND	ug/m3	14	0.62	EPA-TO-15	ND	A01	2
1,1,1-Trichloroethane	ND	ug/m3	7.1	0.51	EPA-TO-15	ND	A01	2
1,1,2-Trichloroethane	ND	ug/m3	7.1	0.45	EPA-TO-15	ND	A01	2
Trichloroethene	ND	ug/m3	7.1	0.40	EPA-TO-15	ND	A01	2
Trichlorofluoromethane	**8.9**	**ug/m3**	**7.1**	**0.44**	**EPA-TO-15**	ND	**A01**	2
1,2,3-Trichloropropane	ND	ug/m3	7.1	1.4	EPA-TO-15	ND	A01	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3	7.1	0.57	EPA-TO-15	ND	A01	2
1,2,4-Trimethylbenzene	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2
1,3,5-Trimethylbenzene	ND	ug/m3	7.1	0.81	EPA-TO-15	ND	A01	2
Vinyl acetate	ND	ug/m3	2.8	0.31	EPA-TO-15	ND	A01	2
Vinyl bromide	ND	ug/m3	7.1	0.64	EPA-TO-15	ND	A01	2
Vinyl chloride	ND	ug/m3	2.8	0.20	EPA-TO-15	ND	A01	2
p- & m-Xylenes	**74**	**ug/m3**	**7.1**	**0.70**	**EPA-TO-15**	ND	**A01**	2
o-Xylene	**28**	**ug/m3**	**7.1**	**0.44**	**EPA-TO-15**	ND	**A01**	2
Total Xylenes	**100**	**ug/m3**	**14**	**1.1**	**EPA-TO-15**	ND	**A01**	2
TPH - Gasoline	**4000**	**ug/m3**	**280**	**55**	**EPA-TO-15**	ND	**A01**	2
4-Bromofluorobenzene (Surrogate)	114	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	89.5	%	70 - 130 (LCL - UCL)		EPA-TO-15			2
4-Bromofluorobenzene (Surrogate)	89.5	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	06/26/15	06/29/15 11:35	MJB	MS-A1	710	BYF2424
2	EPA-TO-15	06/26/15	06/26/15 22:46	MJB	MS-A1	1.420	BYF2424

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120 Westgate Drive
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Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-03 | **Client Sample Name:** SV-2-10P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	**2700**	**ug/m3**	**140**	**9.3**	**EPA-TO-15**	ND	**A01**	1
Acetonitrile	ND	ug/m3	14	7.2	EPA-TO-15	ND	A01	2
Acrolein	ND	ug/m3	14	7.2	EPA-TO-15	ND	A01	2
Acrylonitrile	ND	ug/m3	2.9	0.42	EPA-TO-15	ND	A01	2
Allyl chloride	ND	ug/m3	2.9	0.23	EPA-TO-15	ND	A01	2
t-Amyl Methyl ether	ND	ug/m3	7.2	0.90	EPA-TO-15	ND	A01	2
Benzene	ND	ug/m3	2.9	0.32	EPA-TO-15	ND	A01	2
Benzyl chloride	ND	ug/m3	14	0.39	EPA-TO-15	ND	A01	2
Bromodichloromethane	ND	ug/m3	7.2	0.70	EPA-TO-15	ND	A01	2
Bromoform	ND	ug/m3	14	0.77	EPA-TO-15	ND	A01	2
Bromomethane	ND	ug/m3	2.9	0.51	EPA-TO-15	ND	A01	2
1,3-Butadiene	ND	ug/m3	2.9	0.26	EPA-TO-15	ND	A01	2
t-Butyl alcohol	ND	ug/m3	7.2	0.88	EPA-TO-15	ND	A01	2
Carbon disulfide	ND	ug/m3	2.9	0.32	EPA-TO-15	ND	A01	2
Carbon tetrachloride	ND	ug/m3	7.2	0.54	EPA-TO-15	ND	A01	2
Chlorobenzene	ND	ug/m3	7.2	0.35	EPA-TO-15	ND	A01	2
Chloroethane	ND	ug/m3	2.9	0.29	EPA-TO-15	ND	A01	2
Chloroform	ND	ug/m3	7.2	0.38	EPA-TO-15	ND	A01	2
Chloromethane	ND	ug/m3	2.9	0.16	EPA-TO-15	ND	A01	2
Chloroprene	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
Cyclohexane	ND	ug/m3	2.9	0.41	EPA-TO-15	ND	A01	2
Dibromochloromethane	ND	ug/m3	7.2	0.64	EPA-TO-15	ND	A01	2
1,2-Dibromo-3-chloropropane	ND	ug/m3	7.2	2.2	EPA-TO-15	ND	A01	2
1,2-Dibromoethane	ND	ug/m3	7.2	0.78	EPA-TO-15	ND	A01	2
Dibromomethane	ND	ug/m3	7.2	0.52	EPA-TO-15	ND	A01	2
1,2-Dichlorobenzene	ND	ug/m3	7.2	0.51	EPA-TO-15	ND	A01	2
1,3-Dichlorobenzene	ND	ug/m3	7.2	0.81	EPA-TO-15	ND	A01	2
1,4-Dichlorobenzene	ND	ug/m3	7.2	0.59	EPA-TO-15	ND	A01	2
trans-1,4-Dichloro-2-butene	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
Dichlorodifluoromethane	**4.2**	**ug/m3**	**7.2**	**0.48**	**EPA-TO-15**	ND	**J,A01**	2
1,1-Dichloroethane	ND	ug/m3	7.2	0.38	EPA-TO-15	ND	A01	2
1,2-Dichloroethane	ND	ug/m3	7.2	0.30	EPA-TO-15	ND	A01	2
1,1-Dichloroethene	ND	ug/m3	7.2	0.38	EPA-TO-15	ND	A01	2

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Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-03 | **Client Sample Name:** SV-2-10P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,2-Dichloroethene	ND	ug/m3	2.9	0.30	EPA-TO-15	ND	A01	2
trans-1,2-Dichloroethene	ND	ug/m3	2.9	0.33	EPA-TO-15	ND	A01	2
1,2-Dichloropropane	ND	ug/m3	7.2	0.46	EPA-TO-15	ND	A01	2
1,3-Dichloropropane	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
2,2-Dichloropropane	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
1,1-Dichloropropene	ND	ug/m3	2.9	1.4	EPA-TO-15	ND	A01	2
cis-1,3-Dichloropropene	ND	ug/m3	7.2	0.42	EPA-TO-15	ND	A01	2
trans-1,3-Dichloropropene	ND	ug/m3	7.2	0.42	EPA-TO-15	ND	A01	2
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3	7.2	0.52	EPA-TO-15	ND	A01	2
1,1-Difluoroethane	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Diisopropyl ether	ND	ug/m3	7.2	0.61	EPA-TO-15	ND	A01	2
1,4-Dioxane	ND	ug/m3	2.9	0.38	EPA-TO-15	ND	A01	2
Ethanol	ND	ug/m3	2.9	0.86	EPA-TO-15	ND	A01	2
Ethyl acetate	ND	ug/m3	2.9	0.52	EPA-TO-15	ND	A01	2
Ethylbenzene	ND	ug/m3	7.2	0.33	EPA-TO-15	ND	A01	2
Ethyl methacrylate	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
1-Ethyl-4-methylbenzene	ND	ug/m3	7.2	0.65	EPA-TO-15	ND	A01	2
Ethyl t-butyl ether	ND	ug/m3	7.2	0.84	EPA-TO-15	ND	A01	2
n-Heptane	ND	ug/m3	2.9	0.35	EPA-TO-15	ND	A01	2
Hexachlorobutadiene	ND	ug/m3	14	0.93	EPA-TO-15	ND	A01	2
Hexachloroethane	ND	ug/m3	2.9	0.48	EPA-TO-15	ND	A01	2
Hexane	ND	ug/m3	7.2	0.35	EPA-TO-15	ND	A01	2
2-Hexanone	ND	ug/m3	7.2	0.67	EPA-TO-15	ND	A01	2
Isobutanol	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Isooctane	ND	ug/m3	7.2	0.38	EPA-TO-15	ND	A01	2
Isopropyl alcohol	ND	ug/m3	2.9	0.35	EPA-TO-15	ND	A01	2
Methacrylonitrile	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Methylene chloride	ND	ug/m3	14	0.26	EPA-TO-15	ND	A01	2
Methyl ethyl ketone	ND	ug/m3	2.9	0.57	EPA-TO-15	ND	A01	2
Methyl iodide	ND	ug/m3	14	0.86	EPA-TO-15	ND	A01	2
Methyl isobutyl ketone	ND	ug/m3	7.2	0.86	EPA-TO-15	ND	A01	2
Methyl methacrylate	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Methyl t-butyl ether	ND	ug/m3	2.9	0.61	EPA-TO-15	ND	A01	2

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120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-03 | **Client Sample Name:** SV-2-10P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Naphthalene	ND	ug/m3	14	1.0	EPA-TO-15	ND	A01	2
Propionitrile	ND	ug/m3	7.2	2.9	EPA-TO-15	ND	A01	2
Propylene	ND	ug/m3	2.9	0.26	EPA-TO-15	ND	A01	2
Styrene	ND	ug/m3	7.2	0.33	EPA-TO-15	ND	A01	2
1,1,1,2-Tetrachloroethane	ND	ug/m3	7.2	0.81	EPA-TO-15	ND	A01	2
1,1,2,2-Tetrachloroethane	ND	ug/m3	7.2	0.86	EPA-TO-15	ND	A01	2
Tetrachloroethene	ND	ug/m3	7.2	0.64	EPA-TO-15	ND	A01	2
Tetrahydrofuran	ND	ug/m3	2.9	0.71	EPA-TO-15	ND	A01	2
Toluene	**1.3**	**ug/m3**	**2.9**	**0.29**	**EPA-TO-15**	ND	**J,A01**	2
1,2,4-Trichlorobenzene	ND	ug/m3	14	0.64	EPA-TO-15	ND	A01	2
1,1,1-Trichloroethane	ND	ug/m3	7.2	0.52	EPA-TO-15	ND	A01	2
1,1,2-Trichloroethane	ND	ug/m3	7.2	0.46	EPA-TO-15	ND	A01	2
Trichloroethene	ND	ug/m3	7.2	0.41	EPA-TO-15	ND	A01	2
Trichlorofluoromethane	**1.8**	**ug/m3**	**7.2**	**0.45**	**EPA-TO-15**	ND	**J,A01**	2
1,2,3-Trichloropropane	ND	ug/m3	7.2	1.4	EPA-TO-15	ND	A01	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3	7.2	0.58	EPA-TO-15	ND	A01	2
1,2,4-Trimethylbenzene	ND	ug/m3	7.2	0.38	EPA-TO-15	ND	A01	2
1,3,5-Trimethylbenzene	ND	ug/m3	7.2	0.83	EPA-TO-15	ND	A01	2
Vinyl acetate	ND	ug/m3	2.9	0.32	EPA-TO-15	ND	A01	2
Vinyl bromide	ND	ug/m3	7.2	0.65	EPA-TO-15	ND	A01	2
Vinyl chloride	ND	ug/m3	2.9	0.20	EPA-TO-15	ND	A01	2
p- & m-Xylenes	ND	ug/m3	7.2	0.71	EPA-TO-15	ND	A01	2
o-Xylene	ND	ug/m3	7.2	0.45	EPA-TO-15	ND	A01	2
Total Xylenes	ND	ug/m3	14	1.2	EPA-TO-15	ND	A01	2
TPH - Gasoline	ND	ug/m3	290	57	EPA-TO-15	ND	A01	2
4-Bromofluorobenzene (Surrogate)	105	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	104	%	70 - 130 (LCL - UCL)		EPA-TO-15			2
4-Bromofluorobenzene (Surrogate)	104	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	06/26/15	06/27/15 13:00	MJB	MS-A1	29	BYF2424
2	EPA-TO-15	06/26/15	06/26/15 23:22	MJB	MS-A1	1.450	BYF2424

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Weber, Hayes & Associates
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Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-05 | **Client Sample Name:** SV-1-3P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acetone	**1000**	**ug/m3**	**140**	**9.1**	**EPA-TO-15**	ND	**A01**	1
Acetonitrile	ND	ug/m3	14	7.1	EPA-TO-15	ND	A01	2
Acrolein	ND	ug/m3	14	7.1	EPA-TO-15	ND	A01	2
Acrylonitrile	ND	ug/m3	2.8	0.41	EPA-TO-15	ND	A01	2
Allyl chloride	ND	ug/m3	2.8	0.23	EPA-TO-15	ND	A01	2
t-Amyl Methyl ether	ND	ug/m3	7.1	0.88	EPA-TO-15	ND	A01	2
Benzene	**6.7**	**ug/m3**	**2.8**	**0.31**	**EPA-TO-15**	ND	**A01**	2
Benzyl chloride	ND	ug/m3	14	0.38	EPA-TO-15	ND	A01	2
Bromodichloromethane	ND	ug/m3	7.1	0.68	EPA-TO-15	ND	A01	2
Bromoform	ND	ug/m3	14	0.75	EPA-TO-15	ND	A01	2
Bromomethane	ND	ug/m3	2.8	0.50	EPA-TO-15	ND	A01	2
1,3-Butadiene	ND	ug/m3	2.8	0.26	EPA-TO-15	ND	A01	2
t-Butyl alcohol	ND	ug/m3	7.1	0.87	EPA-TO-15	ND	A01	2
Carbon disulfide	ND	ug/m3	2.8	0.31	EPA-TO-15	ND	A01	2
Carbon tetrachloride	ND	ug/m3	7.1	0.53	EPA-TO-15	ND	A01	2
Chlorobenzene	ND	ug/m3	7.1	0.34	EPA-TO-15	ND	A01	2
Chloroethane	ND	ug/m3	2.8	0.28	EPA-TO-15	ND	A01	2
Chloroform	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2
Chloromethane	ND	ug/m3	2.8	0.16	EPA-TO-15	ND	A01	2
Chloroprene	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
Cyclohexane	ND	ug/m3	2.8	0.40	EPA-TO-15	ND	A01	2
Dibromochloromethane	ND	ug/m3	7.1	0.62	EPA-TO-15	ND	A01	2
1,2-Dibromo-3-chloropropane	ND	ug/m3	7.1	2.1	EPA-TO-15	ND	A01	2
1,2-Dibromoethane	ND	ug/m3	7.1	0.77	EPA-TO-15	ND	A01	2
Dibromomethane	ND	ug/m3	7.1	0.51	EPA-TO-15	ND	A01	2
1,2-Dichlorobenzene	ND	ug/m3	7.1	0.50	EPA-TO-15	ND	A01	2
1,3-Dichlorobenzene	ND	ug/m3	7.1	0.80	EPA-TO-15	ND	A01	2
1,4-Dichlorobenzene	ND	ug/m3	7.1	0.58	EPA-TO-15	ND	A01	2
trans-1,4-Dichloro-2-butene	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
Dichlorodifluoromethane	**2.7**	**ug/m3**	**7.1**	**0.47**	**EPA-TO-15**	ND	**J,A01**	2
1,1-Dichloroethane	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2
1,2-Dichloroethane	ND	ug/m3	7.1	0.30	EPA-TO-15	ND	A01	2
1,1-Dichloroethene	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2

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120 Westgate Drive
Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-05 | **Client Sample Name:** SV-1-3P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,2-Dichloroethene	ND	ug/m3	2.8	0.30	EPA-TO-15	ND	A01	2
trans-1,2-Dichloroethene	ND	ug/m3	2.8	0.33	EPA-TO-15	ND	A01	2
1,2-Dichloropropane	ND	ug/m3	7.1	0.45	EPA-TO-15	ND	A01	2
1,3-Dichloropropane	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
2,2-Dichloropropane	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
1,1-Dichloropropene	ND	ug/m3	2.8	1.4	EPA-TO-15	ND	A01	2
cis-1,3-Dichloropropene	ND	ug/m3	7.1	0.41	EPA-TO-15	ND	A01	2
trans-1,3-Dichloropropene	ND	ug/m3	7.1	0.41	EPA-TO-15	ND	A01	2
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ug/m3	7.1	0.51	EPA-TO-15	ND	A01	2
1,1-Difluoroethane	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Diisopropyl ether	ND	ug/m3	7.1	0.60	EPA-TO-15	ND	A01	2
1,4-Dioxane	ND	ug/m3	2.8	0.37	EPA-TO-15	ND	A01	2
Ethanol	ND	ug/m3	2.8	0.84	EPA-TO-15	ND	A01	2
Ethyl acetate	ND	ug/m3	2.8	0.51	EPA-TO-15	ND	A01	2
Ethylbenzene	**5.2**	**ug/m3**	**7.1**	**0.33**	**EPA-TO-15**	ND	**J,A01**	2
Ethyl methacrylate	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
1-Ethyl-4-methylbenzene	ND	ug/m3	7.1	0.64	EPA-TO-15	ND	A01	2
Ethyl t-butyl ether	ND	ug/m3	7.1	0.82	EPA-TO-15	ND	A01	2
n-Heptane	**4.3**	**ug/m3**	**2.8**	**0.34**	**EPA-TO-15**	ND	**A01**	2
Hexachlorobutadiene	ND	ug/m3	14	0.91	EPA-TO-15	ND	A01	2
Hexachloroethane	ND	ug/m3	2.8	0.47	EPA-TO-15	ND	A01	2
Hexane	ND	ug/m3	7.1	0.34	EPA-TO-15	ND	A01	2
2-Hexanone	ND	ug/m3	7.1	0.65	EPA-TO-15	ND	A01	2
Isobutanol	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Isooctane	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2
Isopropyl alcohol	**37**	**ug/m3**	**2.8**	**0.34**	**EPA-TO-15**	ND	**A01**	2
Methacrylonitrile	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Methylene chloride	ND	ug/m3	14	0.26	EPA-TO-15	ND	A01	2
Methyl ethyl ketone	**46**	**ug/m3**	**2.8**	**0.55**	**EPA-TO-15**	ND	**A01**	2
Methyl iodide	ND	ug/m3	14	0.84	EPA-TO-15	ND	A01	2
Methyl isobutyl ketone	**17**	**ug/m3**	**7.1**	**0.84**	**EPA-TO-15**	ND	**A01**	2
Methyl methacrylate	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Methyl t-butyl ether	ND	ug/m3	2.8	0.60	EPA-TO-15	ND	A01	2

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Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 1515647-05 | **Client Sample Name:** SV-1-3P, 6/24/2015 12:00:00AM, Josh Hannaleck

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Naphthalene	ND	ug/m3	14	1.0	EPA-TO-15	ND	A01	2
Propionitrile	ND	ug/m3	7.1	2.8	EPA-TO-15	ND	A01	2
Propylene	ND	ug/m3	2.8	0.26	EPA-TO-15	ND	A01	2
Styrene	ND	ug/m3	7.1	0.33	EPA-TO-15	ND	A01	2
1,1,1,2-Tetrachloroethane	ND	ug/m3	7.1	0.80	EPA-TO-15	ND	A01	2
1,1,2,2-Tetrachloroethane	ND	ug/m3	7.1	0.84	EPA-TO-15	ND	A01	2
Tetrachloroethene	**4.8**	**ug/m3**	**7.1**	**0.62**	**EPA-TO-15**	ND	**J,A01**	2
Tetrahydrofuran	ND	ug/m3	2.8	0.70	EPA-TO-15	ND	A01	2
Toluene	**9.1**	**ug/m3**	**2.8**	**0.28**	**EPA-TO-15**	ND	**A01**	2
1,2,4-Trichlorobenzene	ND	ug/m3	14	0.62	EPA-TO-15	ND	A01	2
1,1,1-Trichloroethane	ND	ug/m3	7.1	0.51	EPA-TO-15	ND	A01	2
1,1,2-Trichloroethane	ND	ug/m3	7.1	0.45	EPA-TO-15	ND	A01	2
Trichloroethene	ND	ug/m3	7.1	0.40	EPA-TO-15	ND	A01	2
Trichlorofluoromethane	ND	ug/m3	7.1	0.44	EPA-TO-15	ND	A01	2
1,2,3-Trichloropropane	ND	ug/m3	7.1	1.4	EPA-TO-15	ND	A01	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/m3	7.1	0.57	EPA-TO-15	ND	A01	2
1,2,4-Trimethylbenzene	ND	ug/m3	7.1	0.37	EPA-TO-15	ND	A01	2
1,3,5-Trimethylbenzene	ND	ug/m3	7.1	0.81	EPA-TO-15	ND	A01	2
Vinyl acetate	ND	ug/m3	2.8	0.31	EPA-TO-15	ND	A01	2
Vinyl bromide	ND	ug/m3	7.1	0.64	EPA-TO-15	ND	A01	2
Vinyl chloride	ND	ug/m3	2.8	0.20	EPA-TO-15	ND	A01	2
p- & m-Xylenes	**24**	**ug/m3**	**7.1**	**0.70**	**EPA-TO-15**	ND	**A01**	2
o-Xylene	**9.3**	**ug/m3**	**7.1**	**0.44**	**EPA-TO-15**	ND	**A01**	2
Total Xylenes	**33**	**ug/m3**	**14**	**1.1**	**EPA-TO-15**	ND	**A01**	2
TPH - Gasoline	**1600**	**ug/m3**	**280**	**55**	**EPA-TO-15**	ND	**A01**	2
4-Bromofluorobenzene (Surrogate)	100	%	70 - 130 (LCL - UCL)		EPA-TO-15			1
4-Bromofluorobenzene (Surrogate)	84.9	%	70 - 130 (LCL - UCL)		EPA-TO-15			2
4-Bromofluorobenzene (Surrogate)	84.9	%	70 - 130 (LCL - UCL)		EPA-TO-15			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-TO-15	06/26/15	06/27/15 14:07	MJB	MS-A1	28.400	BYF2424
2	EPA-TO-15	06/26/15	06/27/15 00:35	MJB	MS-A1	1.420	BYF2424

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Watsonville, CA 95076

Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYF2424						
Acetone	BYF2424-BLK1	ND	ug/m3	5.0	0.32	
Acetonitrile	BYF2424-BLK1	ND	ug/m3	10	5.0	
Acrolein	BYF2424-BLK1	ND	ug/m3	10	5.0	
Acrylonitrile	BYF2424-BLK1	ND	ug/m3	2.0	0.29	
Allyl chloride	BYF2424-BLK1	ND	ug/m3	2.0	0.16	
t-Amyl Methyl ether	BYF2424-BLK1	ND	ug/m3	5.0	0.62	
Benzene	BYF2424-BLK1	ND	ug/m3	2.0	0.22	
Benzyl chloride	BYF2424-BLK1	ND	ug/m3	10	0.27	
Bromodichloromethane	BYF2424-BLK1	ND	ug/m3	5.0	0.48	
Bromoform	BYF2424-BLK1	ND	ug/m3	10	0.53	
Bromomethane	BYF2424-BLK1	ND	ug/m3	2.0	0.35	
1,3-Butadiene	BYF2424-BLK1	ND	ug/m3	2.0	0.18	
t-Butyl alcohol	BYF2424-BLK1	ND	ug/m3	5.0	0.61	
Carbon disulfide	BYF2424-BLK1	ND	ug/m3	2.0	0.22	
Carbon tetrachloride	BYF2424-BLK1	ND	ug/m3	5.0	0.37	
Chlorobenzene	BYF2424-BLK1	ND	ug/m3	5.0	0.24	
Chloroethane	BYF2424-BLK1	ND	ug/m3	2.0	0.20	
Chloroform	BYF2424-BLK1	ND	ug/m3	5.0	0.26	
Chloromethane	BYF2424-BLK1	ND	ug/m3	2.0	0.11	
Chloroprene	BYF2424-BLK1	ND	ug/m3	2.0	1.0	
Cyclohexane	BYF2424-BLK1	ND	ug/m3	2.0	0.28	
Dibromochloromethane	BYF2424-BLK1	ND	ug/m3	5.0	0.44	
1,2-Dibromo-3-chloropropane	BYF2424-BLK1	ND	ug/m3	5.0	1.5	
1,2-Dibromoethane	BYF2424-BLK1	ND	ug/m3	5.0	0.54	
Dibromomethane	BYF2424-BLK1	ND	ug/m3	5.0	0.36	
1,2-Dichlorobenzene	BYF2424-BLK1	ND	ug/m3	5.0	0.35	
1,3-Dichlorobenzene	BYF2424-BLK1	ND	ug/m3	5.0	0.56	
1,4-Dichlorobenzene	BYF2424-BLK1	ND	ug/m3	5.0	0.41	
trans-1,4-Dichloro-2-butene	BYF2424-BLK1	ND	ug/m3	2.0	1.0	
Dichlorodifluoromethane	BYF2424-BLK1	ND	ug/m3	5.0	0.33	
1,1-Dichloroethane	BYF2424-BLK1	ND	ug/m3	5.0	0.26	
1,2-Dichloroethane	BYF2424-BLK1	ND	ug/m3	5.0	0.21	
1,1-Dichloroethene	BYF2424-BLK1	ND	ug/m3	5.0	0.26	
cis-1,2-Dichloroethene	BYF2424-BLK1	ND	ug/m3	2.0	0.21	

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Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYF2424						
trans-1,2-Dichloroethene	BYF2424-BLK1	ND	ug/m3	2.0	0.23	
1,2-Dichloropropane	BYF2424-BLK1	ND	ug/m3	5.0	0.32	
1,3-Dichloropropane	BYF2424-BLK1	ND	ug/m3	2.0	1.0	
2,2-Dichloropropane	BYF2424-BLK1	ND	ug/m3	2.0	1.0	
1,1-Dichloropropene	BYF2424-BLK1	ND	ug/m3	2.0	1.0	
cis-1,3-Dichloropropene	BYF2424-BLK1	ND	ug/m3	5.0	0.29	
trans-1,3-Dichloropropene	BYF2424-BLK1	ND	ug/m3	5.0	0.29	
1,2-Dichloro-1,1,2,2-tetrafluoroethane	BYF2424-BLK1	ND	ug/m3	5.0	0.36	
1,1-Difluoroethane	BYF2424-BLK1	ND	ug/m3	5.0	2.0	
Diisopropyl ether	BYF2424-BLK1	ND	ug/m3	5.0	0.42	
1,4-Dioxane	BYF2424-BLK1	ND	ug/m3	2.0	0.26	
Ethanol	BYF2424-BLK1	ND	ug/m3	2.0	0.59	
Ethyl acetate	BYF2424-BLK1	ND	ug/m3	2.0	0.36	
Ethylbenzene	BYF2424-BLK1	ND	ug/m3	5.0	0.23	
Ethyl methacrylate	BYF2424-BLK1	ND	ug/m3	5.0	2.0	
1-Ethyl-4-methylbenzene	BYF2424-BLK1	ND	ug/m3	5.0	0.45	
Ethyl t-butyl ether	BYF2424-BLK1	ND	ug/m3	5.0	0.58	
n-Heptane	BYF2424-BLK1	ND	ug/m3	2.0	0.24	
Hexachlorobutadiene	BYF2424-BLK1	ND	ug/m3	10	0.64	
Hexachloroethane	BYF2424-BLK1	ND	ug/m3	2.0	0.33	
Hexane	BYF2424-BLK1	ND	ug/m3	5.0	0.24	
2-Hexanone	BYF2424-BLK1	ND	ug/m3	5.0	0.46	
Isobutanol	BYF2424-BLK1	ND	ug/m3	5.0	2.0	
Isooctane	BYF2424-BLK1	ND	ug/m3	5.0	0.26	
Isopropyl alcohol	BYF2424-BLK1	ND	ug/m3	2.0	0.24	
Methacrylonitrile	BYF2424-BLK1	ND	ug/m3	5.0	2.0	
Methylene chloride	BYF2424-BLK1	ND	ug/m3	10	0.18	
Methyl ethyl ketone	BYF2424-BLK1	ND	ug/m3	2.0	0.39	
Methyl iodide	BYF2424-BLK1	ND	ug/m3	10	0.59	
Methyl isobutyl ketone	BYF2424-BLK1	ND	ug/m3	5.0	0.59	
Methyl methacrylate	BYF2424-BLK1	ND	ug/m3	5.0	2.0	
Methyl t-butyl ether	BYF2424-BLK1	ND	ug/m3	2.0	0.42	
Naphthalene	BYF2424-BLK1	ND	ug/m3	10	0.72	
Propionitrile	BYF2424-BLK1	ND	ug/m3	5.0	2.0	

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Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYF2424						
Propylene	BYF2424-BLK1	ND	ug/m3	2.0	0.18	
Styrene	BYF2424-BLK1	ND	ug/m3	5.0	0.23	
1,1,1,2-Tetrachloroethane	BYF2424-BLK1	ND	ug/m3	5.0	0.56	
1,1,2,2-Tetrachloroethane	BYF2424-BLK1	ND	ug/m3	5.0	0.59	
Tetrachloroethene	BYF2424-BLK1	ND	ug/m3	5.0	0.44	
Tetrahydrofuran	BYF2424-BLK1	ND	ug/m3	2.0	0.49	
Toluene	BYF2424-BLK1	ND	ug/m3	2.0	0.20	
1,2,4-Trichlorobenzene	BYF2424-BLK1	ND	ug/m3	10	0.44	
1,1,1-Trichloroethane	BYF2424-BLK1	ND	ug/m3	5.0	0.36	
1,1,2-Trichloroethane	BYF2424-BLK1	ND	ug/m3	5.0	0.32	
Trichloroethene	BYF2424-BLK1	ND	ug/m3	5.0	0.28	
Trichlorofluoromethane	BYF2424-BLK1	ND	ug/m3	5.0	0.31	
1,2,3-Trichloropropane	BYF2424-BLK1	ND	ug/m3	5.0	0.97	
1,1,2-Trichloro-1,2,2-trifluoroethane	BYF2424-BLK1	ND	ug/m3	5.0	0.40	
1,2,4-Trimethylbenzene	BYF2424-BLK1	ND	ug/m3	5.0	0.26	
1,3,5-Trimethylbenzene	BYF2424-BLK1	ND	ug/m3	5.0	0.57	
Vinyl acetate	BYF2424-BLK1	ND	ug/m3	2.0	0.22	
Vinyl bromide	BYF2424-BLK1	ND	ug/m3	5.0	0.45	
Vinyl chloride	BYF2424-BLK1	ND	ug/m3	2.0	0.14	
p- & m-Xylenes	BYF2424-BLK1	ND	ug/m3	5.0	0.49	
o-Xylene	BYF2424-BLK1	ND	ug/m3	5.0	0.31	
Total Xylenes	BYF2424-BLK1	ND	ug/m3	10	0.80	
TPH - Gasoline	BYF2424-BLK1	ND	ug/m3	200	39	
4-Bromofluorobenzene (Surrogate)	**BYF2424-BLK1**	**104**	%	**70 - 130 (LCL - UCL)**		

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Reported: 07/07/2015 14:00
Project: Air Samples
Project Number: Ciolino / 2X519.B
Project Manager: Josh Hannaleck

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYF2424										
Benzene	BYF2424-BS1	LCS	19.919	15.974	ug/m3	125		70 - 130		
	BYF2424-BSD1	LCSD	19.319	15.974	ug/m3	121	3.1	70 - 130	30	
Chloroform	BYF2424-BS1	LCS	27.538	24.413	ug/m3	113		70 - 130		
	BYF2424-BSD1	LCSD	26.620	24.413	ug/m3	109	3.4	70 - 130	30	
Ethylbenzene	BYF2424-BS1	LCS	27.755	21.711	ug/m3	128		70 - 130		
	BYF2424-BSD1	LCSD	26.839	21.711	ug/m3	124	3.4	70 - 130	30	
Tetrachloroethene	**BYF2424-BS1**	LCS	**44.270**	**33.913**	**ug/m3**	**131**		**70 - 130**		
	BYF2424-BSD1	LCSD	**41.652**	**33.913**	**ug/m3**	**123**	**6.1**	**70 - 130**	**30**	
Toluene	BYF2424-BS1	LCS	24.291	18.842	ug/m3	129		70 - 130		
	BYF2424-BSD1	LCSD	23.199	18.842	ug/m3	123	4.6	70 - 130	30	
Trichloroethene	BYF2424-BS1	LCS	32.028	26.869	ug/m3	119		70 - 130		
	BYF2424-BSD1	LCSD	31.006	26.869	ug/m3	115	3.2	70 - 130	30	
Trichlorofluoromethane	BYF2424-BS1	LCS	24.299	28.092	ug/m3	86.5		70 - 130		
	BYF2424-BSD1	LCSD	23.069	28.092	ug/m3	82.1	5.2	70 - 130	30	
1,1,2-Trichloro-1,2,2-trifluoroethane	BYF2424-BS1	LCS	44.434	38.318	ug/m3	116		70 - 130		
	BYF2424-BSD1	LCSD	43.844	38.318	ug/m3	114	1.3	70 - 130	30	
p- & m-Xylenes	BYF2424-BS1	LCS	55.319	43.421	ug/m3	127		70 - 130		
	BYF2424-BSD1	LCSD	53.556	43.421	ug/m3	123	3.2	70 - 130	30	
o-Xylene	BYF2424-BS1	LCS	28.219	21.711	ug/m3	130		70 - 130		
	BYF2424-BSD1	LCSD	26.726	21.711	ug/m3	123	5.4	70 - 130	30	
Total Xylenes	BYF2424-BS1	LCS	83.538	65.132	ug/m3	128		70 - 130		
	BYF2424-BSD1	LCSD	80.282	65.132	ug/m3	123	4.0	70 - 130	30	
4-Bromofluorobenzene (Surrogate)	BYF2424-BS1	LCS	79.9	71.6	ug/m3	112		70 - 130		
	BYF2424-BSD1	LCSD	78.1	71.6	ug/m3	109	2.4	70 - 130		

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Weber, Hayes & Associates 120 Westgate Drive Watsonville, CA 95076	**Reported:** 07/07/2015 14:00 Project: Air Samples Project Number: Ciolino / 2X519.B Project Manager: Josh Hannaleck

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
A01	Detection and quantitation limits are raised due to sample dilution.

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Date of Report: 07/01/2015

Jered Chaney

Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Client Project:	Ciolino / 2X519.B
BCL Project:	Misc.
BCL Work Order:	1515624
Invoice ID:	B207195

Enclosed are the results of analyses for samples received by the laboratory on 6/25/2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Misty Orton
Client Service Rep

Authorized Signature

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Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 Fax: (831) 722-1159
www.weber-hayes.com

CHAIN -OF-CUSTODY RECORD

1 OF 1

PROJECT NAME AND JOB #: Ciolino / 2X519.B
SEND CERTIFIED RESULTS TO: Weber, Hayes & Associates - Attention: Jered Chaney
ELECTRONIC DELIVERABLE FORMAT: [X] YES [ ] NO

LABORATORY: BC Labs
TURNAROUND TIME: Standard 48hr Rush
GLOBAL I.D.: --

Sampler: Jered Chaney
Date: 6/24/15

15-15624

	Sample I.D.	Date Sampled	Matrix	SAMPLE CONTAINERS: 40 mL VOAs (preserved)	1 L Amber Jar	500 mL plastic	Liner Acetate or Brass	REQUESTED ANALYSIS – Total Petroleum Hydrocarbons: TPH-diesel & motor oil w/ silica gel cleanup EPA Method# 8015M	TPH-diesel & motor oil EPA Method 8015M	TPH-Gas by EPA Method 8260B	VOCs: BTEX & MTBE by EPA Method 8260B	Naphthalene by EPA Method 8260	TBA by EPA Method 8260B	Additional Analysis: Hex-Chrome by EPA Method 7199	Perchlorate by EPA Method 314.0
-1	DP-1-d2-2.5	6/24/15	Soil				x1			x	x	x			
-2	DP-1-d6-6.5														
-3	DP-2-d2-2.5														
-4	DP-3-d2-2.5														
-5	DP-4-d2-2.5														
-6	DP-5-d2-2.5														
-7	DP-6-d2-2.5														
-8	DP-7-d2-2.5														
-9	SV-1-d5									HOLD	HOLD	HOLD			
-10	SV-2-d5														

CHK BY: MW! DISTRIBUTION: JCC SUB-OUT

	RELEASED BY:	Date & Time	RECEIVED BY:	Date & Time	SAMPLE CONDITION: Ambient	Refrigerated	Frozen
1.)	BCL	6/24/15 1714	PBINS	6/24/15 1714	Ambient	Refrigerated	Frozen
2.)	BCL	6/25/15 1401	Jerry Began	6-25-15 1401	Ambient	Refrigerated	Frozen
3.)	Jerry Began	6-25-15 1850	[illegible]	6/25/15 18:30	Ambient	Refrigerated	Frozen
4.)	[illegible]	6/25/15 2240	[illegible]	6-25-15 2240	Ambient	Refrigerated	Frozen
5.)					Ambient	Refrigerated	Frozen

NOTES:

[X] *Please use MDL (Minimum Detection Limit) for any diluted samples.*

ADDITIONAL COMMENTS

JC\Fieldlog\FORMS.xls - COC

of 1

Weber, Hayes and Associates

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Chain of Custody and Cooler Receipt Form for 1515624 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 15-15624

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☒ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

FREE LIQUID
YES ☐ NO ☐

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.970 2 KIB 6/25/15 Container: Soil Sleeve Thermometer ID: 208 KIB 6/25/15 228 Date/Time 6/25/15

Temperature: (A) 0.8 °C / (C) 1.0 °C Analyst Init KIB 0257

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz Amber EPA 548										
QT EPA 549										
QT EPA 8015M										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE	A	A	A	A	A	A	A	A	A	A
PCB VIAL										
PLASTIC BAG										
Tedlar Bag										
FERROUS IRON										
ENCORE										
SMART KIT										
Summa Canister										

Comments:_____
Sample Numbering Completed By: AM Date/Time: 6/26/15 @ 0725
A = Actual / C = Corrected
Rev. No. 19 05/06/2015
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 19]

Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1515624-01	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DP-1-d2-2.5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil
1515624-02	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DP-1-d6-6.5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil
1515624-03	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DP-2-d2-2.5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil
1515624-04	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DP-3-d2-2.5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil
1515624-05	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DP-4-d2-2.5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil
1515624-06	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DP-5-d2-2.5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil
1515624-07	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DP-6-d2-2.5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil

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Weber, Hayes & Associates 120 Westgate Drive Watsonville, CA 95076	**Reported:** 07/01/2015 15:17 Project: Misc. Project Number: Ciolino / 2X519.B Project Manager: Jered Chaney

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1515624-08	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	DP-7-d2-2.5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil
1515624-09	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SV-1-d5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil
1515624-10	**COC Number:**	---	**Receive Date:**	06/25/2015 22:40
	Project Number:	---	**Sampling Date:**	06/24/2015 00:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	SV-2-d5	**Lab Matrix:**	Solids
	Sampled By:	Jered Chaney	**Sample Type:**	Soil

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1515624-01 | **Client Sample Name:** DP-1-d2-2.5, 6/24/2015 12:00:00AM, Jered Chaney

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	0.20	0.020	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	121	%	70 - 121 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.2	%	74 - 121 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/29/15	06/29/15 16:57	ADC	MS-V2	1	BYF2584

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1515624-02 | **Client Sample Name:** DP-1-d6-6.5, 6/24/2015 12:00:00AM, Jered Chaney

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	0.20	0.020	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	115	%	70 - 121 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	100	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.7	%	74 - 121 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/29/15	06/29/15 17:19	ADC	MS-V2	1	BYF2584

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1515624-03 | **Client Sample Name:** DP-2-d2-2.5, 6/24/2015 12:00:00AM, Jered Chaney

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	0.20	0.020	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	118	%	70 - 121 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	97.3	%	74 - 121 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/29/15	06/29/15 17:41	ADC	MS-V2	1	BYF2584

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1515624-04 | **Client Sample Name:** DP-3-d2-2.5, 6/24/2015 12:00:00AM, Jered Chaney

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	0.20	0.020	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	128	%	70 - 121 (LCL - UCL)		EPA-8260B		S09	1
Toluene-d8 (Surrogate)	99.8	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.6	%	74 - 121 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/29/15	06/29/15 18:04	ADC	MS-V2	1	BYF2584

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1515624-05 | **Client Sample Name:** DP-4-d2-2.5, 6/24/2015 12:00:00AM, Jered Chaney

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	**0.055**	**mg/kg**	**0.20**	**0.020**	**Luft-GC/MS**	ND	**J**	1
1,2-Dichloroethane-d4 (Surrogate)	105	%	70 - 121 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	103	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	99.8	%	74 - 121 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/29/15	06/30/15 14:29	ADC	MS-V2	1	BYF2584

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Weber, Hayes & Associates
120 Westgate Drive
Watsonville, CA 95076

Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1515624-06 | **Client Sample Name:** DP-5-d2-2.5, 6/24/2015 12:00:00AM, Jered Chaney

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	0.20	0.020	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	121	%	70 - 121 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	99.7	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	94.9	%	74 - 121 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/29/15	06/29/15 18:48	ADC	MS-V2	1	BYF2584

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120 Westgate Drive
Watsonville, CA 95076

Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1515624-07 | **Client Sample Name:** DP-6-d2-2.5, 6/24/2015 12:00:00AM, Jered Chaney

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	0.20	0.020	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	119	%	70 - 121 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	103	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.5	%	74 - 121 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/29/15	06/30/15 01:57	ADC	MS-V2	1	BYF2584

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Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1515624-08 | **Client Sample Name:** DP-7-d2-2.5, 6/24/2015 12:00:00AM, Jered Chaney

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Ethylbenzene	ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Toluene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Xylenes	ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1
p- & m-Xylenes	ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1
o-Xylene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	0.20	0.020	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	119	%	70 - 121 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	101	%	81 - 117 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	96.8	%	74 - 121 (LCL - UCL)		EPA-8260B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	06/29/15	06/30/15 02:20	ADC	MS-V2	1	BYF2584

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Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYF2584						
Benzene	BYF2584-BLK1	ND	mg/kg	0.0050	0.0013	
Ethylbenzene	BYF2584-BLK1	ND	mg/kg	0.0050	0.0015	
Methyl t-butyl ether	BYF2584-BLK1	ND	mg/kg	0.0050	0.00050	
Naphthalene	BYF2584-BLK1	ND	mg/kg	0.0050	0.0014	
Toluene	BYF2584-BLK1	ND	mg/kg	0.0050	0.0012	
Total Xylenes	BYF2584-BLK1	ND	mg/kg	0.010	0.0034	
p- & m-Xylenes	BYF2584-BLK1	ND	mg/kg	0.0050	0.0022	
o-Xylene	BYF2584-BLK1	ND	mg/kg	0.0050	0.0012	
Total Purgeable Petroleum Hydrocarbons	BYF2584-BLK1	ND	mg/kg	0.20	0.020	
1,2-Dichloroethane-d4 (Surrogate)	**BYF2584-BLK1**	**120**	%	**70 - 121 (LCL - UCL)**		
Toluene-d8 (Surrogate)	**BYF2584-BLK1**	**100**	%	**81 - 117 (LCL - UCL)**		
4-Bromofluorobenzene (Surrogate)	**BYF2584-BLK1**	**98.5**	%	**74 - 121 (LCL - UCL)**		

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Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: BYF2584										
Benzene	BYF2584-BS1	LCS	0.12989	0.12500	mg/kg	104		70 - 130		
Toluene	BYF2584-BS1	LCS	0.13162	0.12500	mg/kg	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BYF2584-BS1	LCS	0.053670	0.050000	mg/kg	107		70 - 121		
Toluene-d8 (Surrogate)	BYF2584-BS1	LCS	0.050040	0.050000	mg/kg	100		81 - 117		
4-Bromofluorobenzene (Surrogate)	BYF2584-BS1	LCS	0.050010	0.050000	mg/kg	100		74 - 121		

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Reported: 07/01/2015 15:17
Project: Misc.
Project Number: Ciolino / 2X519.B
Project Manager: Jered Chaney

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: BYF2584	Used client sample: N										
Benzene	MS	1513811-62	ND	0.13060	0.12500	mg/kg		104		70 - 130	
	MSD	1513811-62	ND	0.13047	0.12500	mg/kg	0.1	104	20	70 - 130	
Toluene	MS	1513811-62	ND	0.12588	0.12500	mg/kg		101		70 - 130	
	MSD	1513811-62	ND	0.12047	0.12500	mg/kg	4.4	96.4	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1513811-62	ND	0.058080	0.050000	mg/kg		116		70 - 121	
	MSD	1513811-62	ND	0.058240	0.050000	mg/kg	0.3	116		70 - 121	
Toluene-d8 (Surrogate)	MS	1513811-62	ND	0.050070	0.050000	mg/kg		100		81 - 117	
	MSD	1513811-62	ND	0.050110	0.050000	mg/kg	0.1	100		81 - 117	
4-Bromofluorobenzene (Surrogate)	MS	1513811-62	ND	0.049410	0.050000	mg/kg		98.8		74 - 121	
	MSD	1513811-62	ND	0.050340	0.050000	mg/kg	1.9	101		74 - 121	

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Weber, Hayes & Associates 120 Westgate Drive Watsonville, CA 95076	**Reported:** 07/01/2015 15:17 Project: Misc. Project Number: Ciolino / 2X519.B Project Manager: Jered Chaney

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
S09	The surrogate recovery on the sample for this compound was not within the control limits.

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