



AEI

Consultants

Environmental & Engineering Services

April 9, 2018

Ms. Serena Ip
MidPen Housing Corporation
303 Vintage Park Drive, Suite 250
Foster City, California 94404

Re: Water Well Sampling and Well Destruction
Project Number 350428
Cypress Point Development
Carlos and Sierra Streets
Moss Beach, San Mateo County, California 94038

Dear Ms. Ip:

This report presents the results of the **Water Well Sampling and Well Destruction** activities performed by AEI Consultants (AEI) for the Cypress Point development project, located near the intersection of Carlos and Sierra Streets in Moss Beach, San Mateo County, California (the "Site"). The project was conducted in accordance with the conclusions and recommendations presented in AEI's *Additional Subsurface Investigation and Water Well Evaluation Report* dated February 20, 2018. Information regarding the previous investigation results, field activities, analytical results, conclusions, and recommendations is provided in the following sections of this report.

1.0 PREVIOUS INVESTIGATION RESULTS

In November 2015, AEI conducted a *Phase I Environmental Site Assessment (ESA)* at the Site. During the file review, it was found that two (2) domestic water supply wells had been installed at the Site in 1986. Limited regulatory agency records that were obtained from San Mateo County Environmental Health Services (SMCEHS) for the wells are provided in Appendix A.

In December 2015, AEI conducted a *Limited Phase II Subsurface Investigation* with the results presented in a report dated February 15, 2016. During a site reconnaissance for the investigation, one (1) of the wells was found within a vegetated area near the northern property boundary. The wellhead consisted of a rusted, welded steel cover that was secured within a rectangular-shape concrete pad. SMCEHS was contacted to gather more information about the well(s) during the investigation; however, no additional information had been provided by SMCEHS at that time. The other well was not found during the reconnaissance. It was unknown if either well had been properly abandoned in accordance with SMCEHS regulations. No well construction details were available for review other than the limited regulatory agency records gathered during the *Phase I ESA*.

As presented in Appendix A, regulatory agency records show that a San Mateo County Department of Public Health and Welfare permit (Permit No. W-43-86) had been issued to the California School

Employee Association (property owner) for the installation and construction of the well(s) in May 1986. The name of the well owner on the permit was listed as Farallon Vista Associates. In June 1986, a flow test was conducted by H.A.M. Drilling, Inc. (HAM) at one (1) of the wells. Their Well Yield Report Information form for the well showed a total depth of 400 feet. The Well Yield Report also showed the DWR Water Well Drillers Report Number than the permit number shown under the County May 1986 permit. The Well Yield Report showed that the standing water well and static water level (assumed to be measured upon completion of flow testing) were measured at depths of 35 feet and 168 feet deep, respectively. The pump for the flow test was set at a depth of 390 feet. The flow test was conducted over an approximate 3-hour period. Flow (pump) rates during testing ranged between 2 and 5 gallons per minute. At the end of the 3-hour period, the drawdown of the water level was measured at 168 feet. After the flow testing was completed, a recovery test was performed for an approximate 20-minute period. After this period ceased, the water level recovered to the 160-foot depth. In July 1988, water quality testing for bacteriology and chemistry purposes also was performed.

In December 1990, as shown on a Septic and Well Check-Off List, Farallon Vista Associates indicated that the two (2) domestic water supply wells had been installed under one (1) permit, and that both wells would be repaired "so that aquifers were adequately protected." In January 1991, also shown on the same Septic and Well Check-Off List, Farallon Vista Associates indicated that the "upper well" had been "sealed with welded steel" and the "lower well" had been "sealed flush with the well pad with a bolted steel plate." During AEI's December 2015 site reconnaissance, it was believed that the "upper well", rather than the "lower well", had been found.

In October 2017, the "upper well" was inspected by Wilkinson Well and Pump of Half Moon Bay, California (Wilkinson) during AEI's *Additional Subsurface Investigation and Water Well Evaluation*. The area around the wellhead was observed to be covered with tree branches and vegetative debris. It was also observed that the well cover had been removed since the time of AEI's *Limited Phase II Subsurface Investigation*. The well was observed to consist of an outer steel casing that was lined with an inner 5-inch diameter polyvinyl chloride (PVC) casing. Wilkinson attempted to measure the groundwater and total well depths. However, because of an obstruction encountered at the 13.3-foot depth, the groundwater depth and well depth measurements could not be obtained. The vertical extent of the obstruction below the 13.3-foot depth also could not be measured. Wilkinson also observed that a section of broken or cracked well casing was present at the 5-foot depth. Upon inspection, it was assumed that debris had been poured into the well after the cover had been removed.

2.0 FIELD ACTIVITIES

Field activities for the groundwater sampling and well destruction are described in the following sections of this report.

2.1 Health and Safety Plan

A site-specific health and safety plan was prepared, reviewed by onsite personnel, and kept onsite for the duration of the fieldwork.

2.2 Permitting and Utility Clearance

A drilling permit was obtained from the SMCEHS for the well destruction. A copy of the drilling permit is provided in Appendix B.

Prior to well destruction activities, the property boundaries were marked on the ground surface with white paint. Upon marking, Underground Services Alert (USA) North was contacted, who, in turn, notified subscribing utility companies of the planned well destruction work for underground utility locations to be marked along the ground surface around the existing well. A utility clearance was conducted by Ground Penetrating Radar Systems, Inc. (GPRS) of San Jose, California under subcontract to AEI on February 21, 2018. No underground utilities were found to be present around the existing well.

2.3 Well Destruction and Removal of Obstruction

Well destruction commenced on February 21, 2018 upon completion of the utility clearance. Well destruction was performed by a C-57 licensed drilling company, Cascade Drilling, Inc. of West Sacramento, California under subcontract to AEI. Well destruction activities were supervised by an experienced field geologist under the oversight of an AEI State of California-licensed Certified Engineering Geologist.

Prior to well destruction, the wellhead was opened to remove the obstruction from the 13.3-foot depth using a well development rig. A 4-inch diameter drilling rod was lowered into casing to remove and/or push through the obstruction. However, it was discovered that the length of the obstruction was quite extensive and could not be removed. Refusal was encountered at the 47-foot depth. SMCEHS inspected the well destruction procedures and further required that the obstruction be removed. At that time, the depth to groundwater was measured at 45.37 feet below the top of well casing.

Well destruction activities resumed on March 6, 2018. Cascade mobilized a track-mounted, sonic drilling rig to the Site to remove the obstruction and complete the well destruction. Upon removal of the obstruction, the inside of the well casing was further reamed out to the 350-foot depth. Materials associated with obstruction and removed from the well casing included pea gravel, tree debris, miscellaneous trash, and glass bottle fragments. At the 350-foot depth, another obstruction was encountered, which included an older submersible pump, that appeared to be left in place from the time the well was installed. Metal fragments and copper wiring were removed, followed by drilling refusal encountered when attempting to drill through the pump at that depth. Because of the depth of the pump and associated drilling refusal, SMCEHS was contacted for further direction. SMCEHS approved destruction of the well beginning at the 350-foot depth, instead of continuing to drill downward to the 400-foot depth.

2.4 Groundwater Sampling

Groundwater sampling was performed prior to well destruction. Prior to sampling, the well was purged with a portable submersible pump. The pump intake was positioned at an approximate depth of 120 feet below the top of well casing. The depth to groundwater prior to purging was

approximately 54.30 feet below the top of casing. During purging, only 55 gallons could be removed due to the slow purge rate of the pump. The total volume of water removed during was significantly less than the total volume of standing water inside the well casing noted prior to sampling.

Upon purging, a groundwater sample was obtained from inside the sonic drilling rods with a clean, disposable bailer. Upon collection, the clarity of the groundwater water sample was observed to be somewhat turbid and cloudy with a discernible sheen on top of the water surface inside the bailer. The sample was transferred into appropriate, laboratory-supplied, sample containers [i.e., 40-ml glass vials preserved with hydrochloric acid (HCl)]. The 40-ml glass vials were sealed so that no headspace or air bubbles were visible within the containers upon filling.

After collection, the bottles were labeled with the project name, project number, boring number, sample depth, and sampling date/time of sampling. After labelling, the samples were placed into an insulated, chilled ice chest containing crush ice for transport to the analytical laboratory. Chain-of-custody documentation was prepared and accompanied the groundwater sample bottles to the analytical laboratory.

2.5 Completion of Well Destruction

On March 7, 2018, the well was destroyed by the backfilling and placement of neat cement grout inside the well casing using tremie methods. Prior to commencing well destruction, Ms. Allison Fang, the SMCEHS inspector, visited the Site and provided AEI with a State of California Department of Water Resources (DWR) Water Well Drillers Report (No. 149554) for the well. This information had not been shared with AEI, when requested on, at least, two separate occasions, prior to the start of this project and during previous investigations. The DWR Water Well Drillers Report confirmed that the owner of the well was Farallon Vista Association and that the well had been installed during the period from June 11 through 18, 1986. The Report also confirmed the 400-foot depth of the well. The diameter of the boring for the well was 10 inches. The well was screened from the 80- to 400-foot depth with a 1/8-inch slot size, and gravel-packed (filter-packed) with 3/8-inch diameter pea gravel from the 50- to 400-foot depth. A sanitary seal for the well was installed to the 50-foot depth. The depth of first-encountered groundwater was 175 feet. A copy of the DWR Water Well Drillers Report is provided in Appendix C.

During well destruction, approximately 1,100 gallons of neat cement were tremie-grouted into the well casing. Following grouting, the top of the well casing was cut below grade and the concrete pad at the wellhead was removed. The top of the neat cement grout was flush with the surrounding ground surface. Well destruction activities were inspected by Ms. Allison Fang of SMCEHS. A copy of the Well Completion Report documenting the destruction of the water supply well is provided in Appendix D.

3.0 ANALYTICAL RESULTS

The groundwater sample was transported under appropriate chain-of-custody documentation to a State of California-certified laboratory, McCampbell Analytical, Inc. of Pittsburg, California. The sample was analyzed for total petroleum hydrocarbons quantified as gasoline (TPH-g), as diesel

(TPH-d), and as motor oil (TPH-mo) United States Environmental Protection Agency (EPA) Method 8015M and volatile organic compounds (VOCs) by EPA Method 8260B. Chain-of-custody documentation and the laboratory analytical report are provided in Appendix E.

Groundwater analytical results showed the presence of TPHs and VOCs. TPH-g was detected at a concentration of 100 micrograms per liter ($\mu\text{g/L}$), and TPH-d and TPH-mo were detected at concentrations of 20,000 and 60,000 $\mu\text{g/L}$, respectively. The TPH-g concentration was found not to exceed applicable San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) except that it was found to exceed the RWQCB ESL odor nuisance level for drinking water. The TPH-d and TPH-mo concentrations were found to exceed applicable RWQCB ESLs.

VOCs, including acetone, 2-butanone (methyl ethyl ketone), naphthalene, toluene, and 1,2,4-trimethylbenzene, were detected at concentrations between 0.81 and 13 $\mu\text{g/L}$. None of the detected VOCs were found to exceed their applicable RWQCB ESLs except for naphthalene, which was found at a concentration (1.9 $\mu\text{g/L}$) slightly above its RWQCB ESLs for direct exposure human health risk levels, including Maximum Contaminant Level (MCL) Priority and human health risk based only levels.

To further confirm the TPH analytical results, the sample was re-analyzed by EPA Method 8015M with a silica gel cleanup. This analytical approach was utilized to assess whether the TPH results from the initial analyses are representative of petroleum-derived substances originating from the surrounding environment, such as naturally-occurring organic materials, etc. Analytical results showed that the TPH concentrations were the same as those for the initial analyses with the exception of the TPH-mo detected at a slightly lower concentration of 55,000 $\mu\text{g/L}$. The results of the initial analyses and silica gel analyses also showed that the TPH concentrations were within the same order of magnitude.

The TPH analytical results also were compared with the laboratory chromatograms for the surrogate standard used for diesel and motor oil during the laboratory analyses and actual analytical results. Upon review of the chromatograms, it was noted that the signatures (highest peaks or responses) on both chromatograms were virtually the same (each measured the same at 18.4 minutes). In summary, the analytical results do not appear to be representative of petroleum-derived substances originating from the surrounding environment.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the results of these activities performed at the Site, the well was destroyed in accordance with SMCEHS permitting requirements. Confirmation of the well destruction permit closeout by SMCEHS is provided in Appendix F.

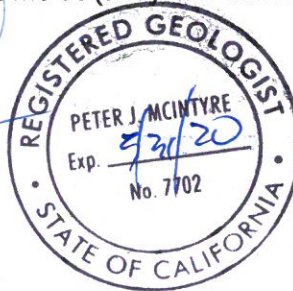
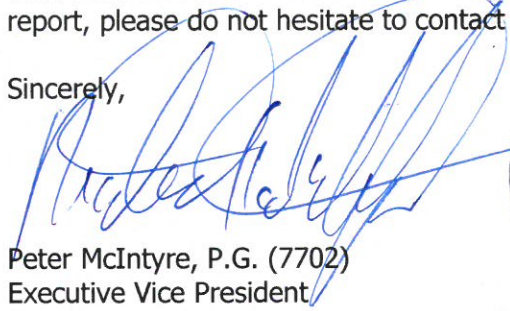
With respect to the groundwater analytical results, it appears that the detected concentrations of TPH-d and TPH-mo are attributed to the older submersible pump that had been left in the well for greater than a 30-year period. Older submersible pumps are known to have seals, bearings, and oil-filled capacitors that contain petroleum-based greases, oil and lubricants, all of which can leak and fail over time.

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Upon recognizing such features in older submersible pumps, the TPH concentrations in this well appear to be associated with an older, leaky submersible pump. Furthermore, during sampling, it was noted that the groundwater sample was somewhat turbid. A representative groundwater sample could not be collected at the time of sampling because the standing water inside the well casing could not be easily removed due to the slow purge rate of the pump.

On the basis of this information, no further investigation or remedial action regarding the well destruction is recommended at this time. If you have any questions or comments regarding this report, please do not hesitate to contact me at (925) 746-6000.

Sincerely,



Peter McIntyre, P.G. (7702)
Executive Vice President

AEI Consultants

2500 Camino Diablo
Walnut Creek, California 94597
Phone: (925) 746-6000
pmcintyre@aeiconsultants.com

- Enclosures:
- Appendix A, SMCEHS Regulatory Agency Records
 - Appendix B, SMCEHS Drilling Permit
 - Appendix C, DWR Water Well Drillers Report
 - Appendix D, DWR Well Completion Report
 - Appendix E, Chain-of-Custody Documentation, Certified Analytical Report, and Laboratory Chromatograms
 - Appendix F, SMCEHS Confirmation of Well Destruction Permit Closeout



APPENDIX A
SMCEHS REGULATORY AGENCY RECORDS



OFFICE OF ENVIRONMENTAL HEALTH
SAN MATEO COUNTY DEPARTMENT OF HEALTH SERVICES
WELL CONSTRUCTION APPLICATION

COUNTY GOVERNMENT CENTER
590 HAMILTON STREET
REDWOOD CITY, CALIF. 94063
(415) 383-4305

DATE

PERMIT ISSUED: _____

PERMIT NO.: _____

FEE: 135.⁰⁰

RECEIPT NO.: 11342

ASSIGNED TO: R.W.

ck# 1042

TO BE COMPLETED BY OWNER AND DRILLER

Property Owner: <i>California School Employee Association</i>	Well Owner (if different): <i>Farallon Vista Associates</i>	Drilling Co.: <i>H.A.M. Drilling</i>
Address: <i>P.O. Box 640</i>	Address of Well Site: <i>Carlos and Lincoln Ave.</i>	Driller's Contractor's License Number: <i>#426664</i>
City, State, Zip: <i>San Jose, CA. 95106</i>	City, State, Zip: <i>Montara, CA.</i>	Address: <i>1538 Willow Pass Road</i>
Telephone No.: <i>(408) 263-8000</i>	Telephone No.: <i>(415) 941-6548</i>	City, State, Zip: <i>Pittsburg, CA. 94565</i>
Assessor's Parcel No. of Well Site: <i>037-02-022-04-02-08/A</i>	Owner's /Consultant's Well No.: _____	Telephone No.: <i>(415) 432-9325</i>

Estimate depth of completed well: Less than 50 feet 50 to 300 feet Over 300 feet

Purpose of Well: Domestic Municipal/Industrial Agricultural * Monitoring Cathodic Protection

* Monitoring wells are those constructed for the purpose of obtaining repetitive water level measurements and/or repetitive water samples for analyses. This includes wells constructed for general exploration and investigation purposes as well as those to be constructed in conformance with the Hazardous Materials Storage Permit Ordinance for site-specific groundwater monitoring of existing underground hazardous materials storage tanks.

THIS SECTION TO BE COMPLETED IF THIS APPLICATION IS FOR A MONITORING WELL

Purpose of Monitoring Well: To comply with City or County Hazardous Materials Ordinance Exploration studies
 Other (specify): _____

Name of Business: _____ Business License No.: _____

If proposed well is to meet compliance with a Hazardous Materials Storage Permit Ordinance has the City or County been contacted? Yes No

If yes, give name of City or County _____

Consultant's Name (company) _____

Address _____

City, State, Zip _____

Area Code _____ Telephone No. _____

Type of monitoring device: Groundwater Vadose
Monitoring well use: Depth Quality
 Depth and Quality
Vadose device installation: Vapor Interface
 Suction Lyallmeter

SIGNATURE OF RESPONSIBLE PROFESSIONAL _____

REGISTRATION NO. CIVIL ENGINEER _____ OR _____ CERTIFICATE NO. ENGINEERING GEOLOGIST _____

TOPOGRAPHIC FEATURES

Is well to be constructed: In a public sidewalk In a public road On public property On private property

Within 50 feet of the top of a creek bank Yes No Within 50 feet of any existing well Yes No

Within 50 feet of a sanitary sewer Yes No Within 150 feet of a cesspool or seepage pit Yes No

Within 100 feet of a pit privy, septic tank, leachfield Yes No

CERTIFICATION BY WELL OWNER/AGENT AND DRILLER/AGENT:

I certify that the information given above is correct to the best of my knowledge. I certify that the well will be constructed in compliance with the conditions of this permit, the San Mateo Co. Ordinance, and, if applicable, the Hazardous Materials Storage Permit Ordinance of the County of San Mateo. It is my responsibility as the well owner to notify the County of any changes in the purpose of this well from that which is indicated on this application form.

WELL OWNER/AGENT DATE

SIGNATURE OF DRILLER/AGENT DATE

- I certify that in the performance of the work for which this permit is being issued I shall not employ any person in any manner so as to become subject to the Workmen's Compensation laws of California.
- I certify that I have a valid Workmen's Compensation Coverage.

WELL CONSTRUCTION APPLICATION

Based on information on the application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start may be withheld until a field check verifies all statements made on application by Permittee and is also subject to the "General" and "Special" Conditions stated below.

WELL LOCATION (Draw Accurately) Recommend using Assessor's Map

1. Sketch well location to scale, show dimension to nearest foot.
2. Show a minimum of two dimensions at right angles. Dimensions shall be from the centerline of the closest named streets, roads or highways.

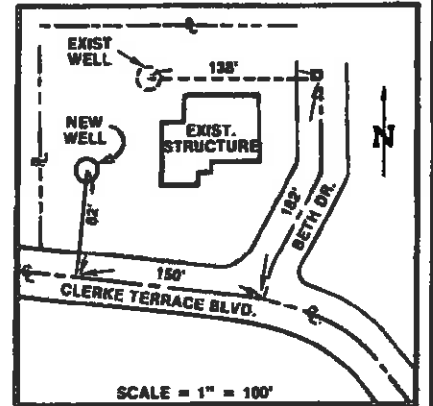
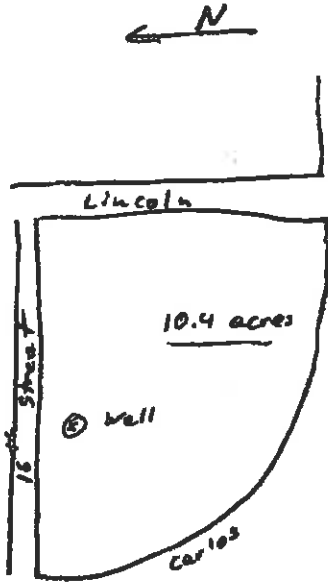


FIGURE 1



Scale: 1" = _____

GENERAL CONDITIONS:

- A. Construction under this Permit is subject to any instructions by Health Department representative relative to the "Standards for the Construction of Wells in San Mateo County".
- B. Permit may be voided before work begins if field check reveals any misrepresentation under "well location" or "Topographic Features" on application.
- C. This Permit is valid only for the purpose specified herein. No change in construction procedure as prescribed on attached Standards and in Special Conditions below will be allowed except upon written permission of the County.
- D. Permittee shall assume entire responsibility for all activities and uses under this Permit and shall indemnify, defend and save the County of San Mateo, its officers, agents and employees free and harmless from any and all expense, cost or liability in connection with or resulting from the exercise of this Permit including, but not limited to property damage, personal injury and wrongful death.
- E. Compliance with "CAL/OSHA" California Labor Code Section 6300 (and following) is required.
- F. Water quality and production from all wells to be used for domestic water supply must be approved by the Office of Environment Health.
- G. Permit will be automatically cancelled if not exercised or if extension is not requested by Permittee within 90 calendar days of above date.
- H. Driller is to complete State DWR Form 188 and mail original to San Mateo County Health Services within 30 days of completion of well construction.
- I. For the construction of water producing wells, a Permittee must be a licensed water well drilling contractor unless the work is to be done by the landowner or employees of the landowner. (See Business & Professions Code § 7026.3, 7028).
- J. For monitoring wells refer to State Water Well Standards 74-81. Dry holes shall be backfilled within one week of drilling. Well destruction shall be done in accordance with State and County Standards.
- K. Each well site requires a separate Well Construction Application, and permit.

SPECIAL CONDITIONS:

APPROVED: 

DATE: 5/16/86

San Mateo County Department of Public Health & Welfare
590 Hamilton Street, Redwood City, California 94063

No. 07-43-06

DOMESTIC WELL PERMIT

Permit to construct or install..... WELL

6

At Carlos and Lincoln Ave. Montara, Ca. 74037

Parcel No. 037-02-022-04-02-08/A

This certifies that approval has been granted to:

California School Employee Association
P.O. Box 640
San Jose, Ca. 95106

Contractor A.A.N. Drilling

A.A.N. Drilling
2338 Willow Pass Road
Pittsburg, Ca. 94565

Date	5/27/88
Fee paid	155.00
Lot No	5/10/88
Block No	
Ordinance No	
Environmental Health	San Mateo County

For the Director
Department of Public Health and Welfare

PERMIT ISSUED BY RICHARD WILSON

Richard Wilson
Public Health Engineer

Permit shall be void if construction is not started within 90 days of date of this permit.

THIS PERMIT IS NON-TRANSFERABLE

H.A.M. Drilling Inc.

2160 Ann Street
Concord, CA 94520
Lic. #426664

(415) 689-4004
(707) 448-4645

WELL YIELD REPORT INFORMATION

(415) 685-1082
(415) 432-9331

OWNERS NAME Farrallon Vista Assn.

PERMIT NUMBER IF KNOWN DRW #149554

DATE OF TEST June 18, 1986

TOTAL DEPTH OF WELL 400 ft.

STANDING WATER LEVEL 35 ft.

STATIC WATER LEVEL 168 ft.

PUMP SET AT 390 ft.

TIME TEST BEGAN 2:30p.m.

TIME	DRAWDOWN	G.P.M.	TIME	DRAWDOWN	G.P.M.
2:30p	35'	5			
3:30	100'	5			
4:00	93'	5			
4:58	160'	3			
5:05	165'	3			
5:30	168'	2			

Recovery time 7:00p.m. 165' 7:17p.m. 160'

I CERTIFY THAT THE ABOVE RESULTS ARE CORRECT FOR THE PUMP TEST AS PERFORMED
ON June 18, 1986.


 H.A.M. DRILLING, INC. REPRESENTATIVE

June 19, 1986
DATE REPORT COMPLETED

"YOU'VE TRIED THE REST, NOW TRY THE BEST"

S.W.

138-3053

SOIL AND WATER LABORATORY
14072 W. PARK AVENUE
BOULDER CREEK, CA 95006

From

Marroll Weddell
20 Marie Ct.
Half Moon Bay, Ca. 94019

TIME

7/15/88

190 8

REPORT NO.

TYPE OF SAMPLE

ANALYSES DESIRED AND REMARKS

Well Farallone Vista #1

Water Quality 7/9/88

Bacteriology	MPN MF	per 100 ml per 100 ml
Chemistry	Iron	ppm .125
	Manganese	ppm .06
	Chloride	ppm 241
	Nitrate	ppm 20
	Total Dissolved Solids	ppm
Conductivity		μ mhos/cm 880

Initial



30 ppm

415-343-5795

JAMES S. MARSH
CONSULTING CIVIL ENGINEER

1-11-89 Gave Marsh name of
Suntrem 056-104-2512
W.D. J. M.

20 WEST THIRD AVE., #302

SAN MATEO, CA 94402

SEPTIC AND WELL CHECK-OFF LIST

Building Site Location: Carlos and Lincoln Ave. Montara, Ca. 94037

Applicant: Ca. School Employee Association

A P Number: 037-~~02~~-022-04-02-08/A

Application Form

Fee

ISSUE WELL PERMIT
DATE _____

Two Plot Plans

ISSUE SEPTIC PERMIT
DATE _____

Water Company Letter

Well Report

ISSUE CCR 15
DATE _____

Chem. Analysis

ISSUE CCR 16 a
DATE _____

Bact. Analysis

Pump Test

Special Conditions

DATE

STATUS

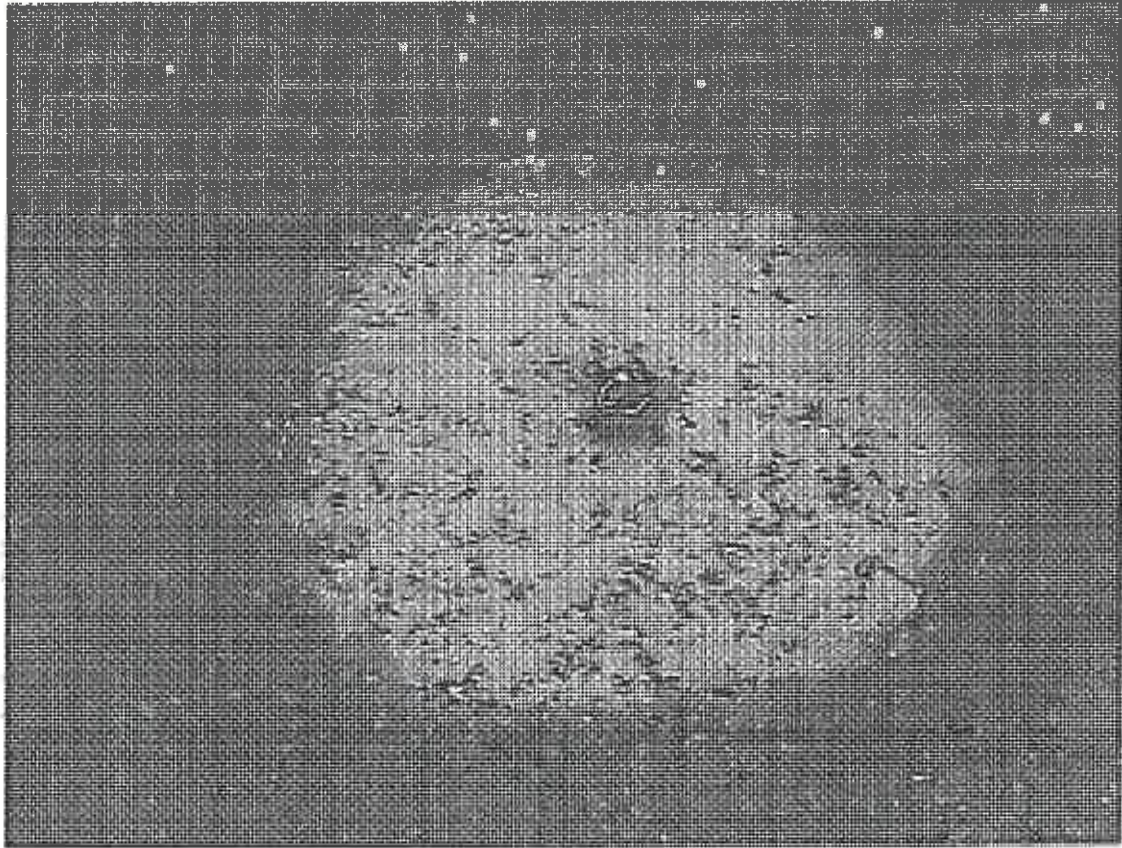
12/19/90

Spoke w/ Jack Foster III of Farrallon Vista Assoc. who drilled both (2) wells on the one permit. His phone # is 349-1244. He stated that both wells would be repaired so that the aquifers were adequately protected.

1-3-91

Upper Well has been sealed by welded steel
Lower well has been sealed flush with pad with bolted steel plate. P.J.P.

Picture taken on 02-28-03 by Greti Wolf



McCracken, Byers & Haesloop LLP

a Multi-Disciplinary Practice

1528 So. El Camino Real, Suite 306

San Mateo, CA 94402

Tel: 650-377-4890

Fax: 650-377-4895

dbyers@landuselaw.com

SAN MATEO COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT

MAR 2 2005

RECEIVED

Michael D. McCracken
David J. Byers
Mark Haesloop, P.C.
James M. Brennan

Of Counsel
Patrick M. K. Richardson
Paralegals
Jill Briggs

March 1, 2005

Mr. Stanley Low
Department of Environmental Health
County of San Mateo
455 Counter Center, Fourth Floor
Redwood City, CA 94063

Re: Well Logs For Farallon Vista Associates

Dear Stan:

As you will recall quite sometime ago, I asked you to locate the well logs for the Farralon Vista Associates' parcel. I represent the California School Employees Association, who is the owner of the land. I believe the APN number is 037-022-040.

Please contact me with this information.

If you any questions, do not hesitate to call.

*Message w/ Dave on 3/7/05
for file review appointment (D)*
W-43-86

Sincerely,

McCRACKEN, BYERS & HAESLOOP LLP

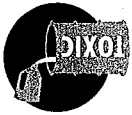


DAVID J. BYERS

APPENDIX B
SMCEHS DRILLING PERMIT

ORDINANCE: CHAPTER 4.68

**ENVIRONMENTAL HEALTH
SAN MATEO COUNTY**



PERMIT 18-0245

Protecting Our Health and Environment
P/E: 4667 WELL ABANDONMENT

FORMER PRODUCTION WELL

FACILITY:
INT OF CARLOS ST & SIERRA ST MOSS BEACH

OWNER:
CALIFORNIA SCHOOL EMPLOYEES ASSOCIATION
INT OF CARLOS ST & SIERRA
MOSS BEACH

SR0023814
APN: 037022070

CONTRACTOR:
CASCADE DRILLING

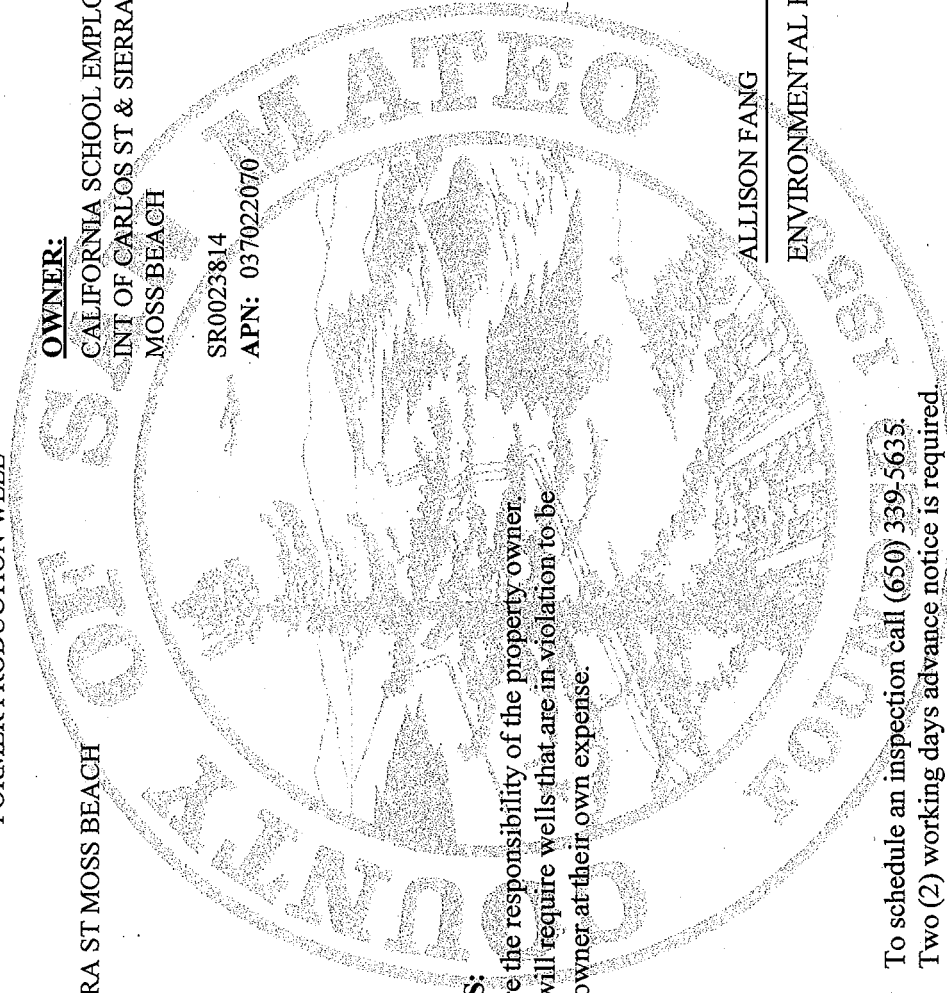
TERMS & CONDITIONS:

1. All setback distances are the responsibility of the property owner.
2. Environmental Health will require wells that are in violation to be destroyed by the property owner at their own expense.

DATE ISSUED: 02/09/2018

EXPIRATION DATE: 2/9/2019

ALLISON FANG
ENVIRONMENTAL HEALTH SPECIALIST



To schedule an inspection call (650) 339-5635.
Two (2) working days advance notice is required.

County Review Draft

THIS PERMIT IS NONTRANSFERABLE AND MUST BE POSTED ON-SITE IN A CONSPICUOUS PLACE

APPENDIX C

DWR WATER WELL DRILLERS REPORT

DUPLICATE
Use of comply with
local requirements

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in
No. 149554

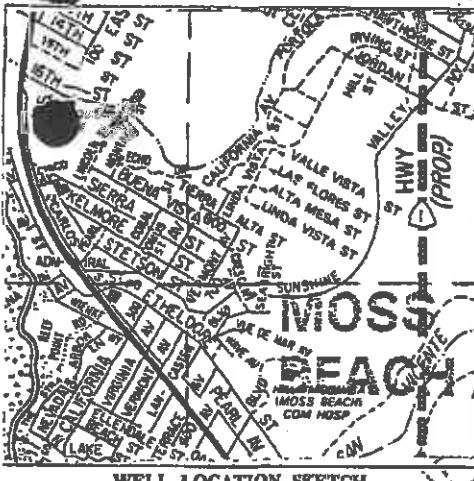
Notice of Intent No. _____
Local Permit No. or Date _____

State Well No. _____
Other Well No. _____

(1) OWNER: Name Ferralon Vista Assn. (mike King)
Address 1015 E. Hilldale Blvd.
City Foster City, CA. Zip 94404

(12) WELL LOG: Total depth 400 ft. Depth of completed well 400 ft.
from ft. to ft. Formation (Describe by color, character, size or material)
0 - 1 Asphalt & Sub base
1 - 55 Brown Decomposed Granite
55 - 70 Gray DG
70 - 73 White DG
73 - 175 Gray DG
175 - 250 Hard Gray DG (water - 175')
250 - 300 Brown/Gray DG
300 - 320 Hard Gray DG
320 - 400 Soft Gray DG

(2) LOCATION OF WELL (See instructions):
County San Mateo Owner's Well Number _____
Well address if different from above 15th & Lincoln Ave.
Township Montara Range _____ Section _____
Distance from cities, roads, railroads, fences, etc. _____



(3) TYPE OF WORK:
New Well Deepening
Reconstruction
Reconditioning
Horizontal Well
Destruction (Describe destruction materials and procedures in Item 12)
(4) PROPOSED USE:
Domestic
Irrigation
Industrial
Test Well
Stock
Municipal
Other

(5) EQUIPMENT:
Rotary Reverse
Cable Air
Other Bucket

(6) GRAVEL PACK:
Yes No Size 3/8" mesh
Diameter of bore 10"
Packed from 50 to 400 ft.

(7) PIPING INSTALLED:

Steel <input type="checkbox"/>	Plastic <input checked="" type="checkbox"/>	Concrete <input type="checkbox"/>	
From ft.	To ft.	Dia. in.	Gage or Wall
0	400	5"	CL160

(8) PERFORATIONS:

From ft.	To ft.	Slot size
80	400	1/8"

(9) WELL SEAL:
When sanitary seal provided? Yes No If yes, to depth 50 ft.
When annular space sealed against pollution? Yes No Interval _____ ft.
Method of sealing _____

Work started 5/11 1985 Completed 5/18 1985

(10) WATER LEVELS:
Depth of first water, if known 175 ft.
Standing level after well completion _____ ft.

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
SIGNED [Signature] (Well Driller)
NAME HAM Drilling, Inc.
(Name, firm, or corporation): (Typed or printed)
Address 1538 Willow Pass Road
City Pittsburg, CA Zip 94565
License No. 426654 Date of this report 5/18/85

(11) WELL TESTS:
Was well test made? Yes No If yes, by whom? _____
Type of test Pump Bailor Air lift
Depth to water at start of test _____ ft. At end of test _____ ft.
Discharge _____ gal/min after _____ hours Water temperature _____
Chemical analysis made? Yes No If yes, by whom? _____
Was electric log made? Yes No If yes, attach copy to this report

CONFIDENTIAL

APPENDIX D
DWR WELL COMPLETION REPORT

State of California
Well Completion Report
 Form DWR 188 Submitted 4/11/2018
 WCR2018-003005

County Review Draft

Owner's Well Number _____ Date Work Began 02/21/2018 Date Work Ended 03/07/2018
 Local Permit Agency San Mateo County Division of Environmental Health
 Secondary Permit Agency _____ Permit Number 18-0245 Permit Date 02/09/2018

Well Owner (must remain confidential pursuant to Water Code 13752)			
Name	<u>CALIFORNIA SCHOOL EMPLOYEES ASSOCIATION, N/A N/A</u>		
Mailing Address	<u>Intersection of Carlos and Sierra Streets</u>		
City	<u>Moss Beach</u>	State	<u>CA</u>
		Zip	<u>94038</u>

Former Use	
Activity	<u>Destroy</u>
Former Use	<u>Water Supply</u>

Well Location						
Address	_____			APN	<u>037022070</u>	
City	_____	Zip	_____	County	<u>San Mateo</u>	
Latitude	_____	N	Longitude	_____	W	_____
	Deg.	Min.	Sec.	Deg.	Min.	Sec.
Dec. Lat.	<u>37.5341489</u>			Dec. Long.	<u>-122.5155625</u>	
Vertical Datum	_____			Horizontal Datum	<u>WGS84</u>	
Location Accuracy	<u>20 Ft</u>			Location Determination Method	<u>USGS Quad</u>	
				Township	<u>05 S</u>	
				Range	<u>06 W</u>	
				Section	<u>04</u>	
				Baseline Meridian	<u>Mount Diablo</u>	
				Ground Surface Elevation	_____	
				Elevation Accuracy	_____	
				Elevation Determination Method	_____	

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

Water Level and Yield of Completed Well	
Depth to first water	_____ (Feet below surface)
Depth to Static	_____
Water Level	_____ (Feet) Date Measured _____
Estimated Yield*	_____ (GPM) Test Type _____
Test Length	_____ (Hours) Total Drawdown _____ (feet)
*May not be representative of a well's long term yield.	

Destruction Details:
Neat Cement Grout using Tremie Methods

Other Observations:

Borehole Specifications	
Depth from Surface Feet to Feet	Borehole Diameter (inches)

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name		CASCADE DRILLING L P	
Person, Firm or Corporation			
P O BOX 1184	WOODINVILLE	WA	98072
Address	City	State	Zip
Signed	<i>electronic signature received</i>	04/11/2018	938110
C-57 Licensed Water Well Contractor	Date Signed	C-57 License Number	

DWR Use Only			
CSG #	State Well Number	Site Code	Local Well Number
		N	
Latitude Deg/Min/Sec		Longitude Deg/Min/Sec	
TRS:			
APN:			

APPENDIX E

**CHAIN-OF-CUSTODY, CERTIFIED ANALYTICAL REPORT, AND
LABORATORY CHROMATOGRAMS**



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1803635

Report Created for: AEI Consultants

2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597

Project Contact: William Hicks

Project P.O.: 154987

Project: 350428; Moss Beach

Project Received: 03/07/2018

Analytical Report reviewed & approved for release on 03/15/2018 by:

Heidi Fruhlinger
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 350428; Moss Beach
WorkOrder: 1803635

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 350428; Moss Beach
WorkOrder: 1803635

Analytical Qualifiers

b1 Aqueous sample that contains greater than ~1 vol. % sediment
b6 Lighter than water immiscible sheen/product is present
d7 Strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
e2 Diesel range compounds are significant; no recognizable pattern
e7 Oil range compounds are significant

Quality Control Qualifiers

F2 LCS/LCSD recovery and/or RPD is out of acceptance criteria.
F3 The surrogate standard recovery and/or RPD is outside of acceptance limits.



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 http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client: AEI Consultants
Date Received: 3/7/18 17:00
Date Prepared: 3/14/18
Project: 350428; Moss Beach

WorkOrder: 1803635
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WS-1	1803635-001B	Water	03/06/2018 17:30	GC16 03141815.D	154682
Analytes	Result	RL	DF	Date Analyzed	
Acetone	10	10	1	03/14/2018 16:41	
tert-Amyl methyl ether (TAME)	ND	0.50	1	03/14/2018 16:41	
Benzene	ND	0.50	1	03/14/2018 16:41	
Bromobenzene	ND	0.50	1	03/14/2018 16:41	
Bromochloromethane	ND	0.50	1	03/14/2018 16:41	
Bromodichloromethane	ND	0.50	1	03/14/2018 16:41	
Bromoform	ND	0.50	1	03/14/2018 16:41	
Bromomethane	ND	0.50	1	03/14/2018 16:41	
2-Butanone (MEK)	13	2.0	1	03/14/2018 16:41	
t-Butyl alcohol (TBA)	ND	2.0	1	03/14/2018 16:41	
n-Butyl benzene	ND	0.50	1	03/14/2018 16:41	
sec-Butyl benzene	ND	0.50	1	03/14/2018 16:41	
tert-Butyl benzene	ND	0.50	1	03/14/2018 16:41	
Carbon Disulfide	ND	0.50	1	03/14/2018 16:41	
Carbon Tetrachloride	ND	0.50	1	03/14/2018 16:41	
Chlorobenzene	ND	0.50	1	03/14/2018 16:41	
Chloroethane	ND	0.50	1	03/14/2018 16:41	
Chloroform	ND	0.50	1	03/14/2018 16:41	
Chloromethane	ND	0.50	1	03/14/2018 16:41	
2-Chlorotoluene	ND	0.50	1	03/14/2018 16:41	
4-Chlorotoluene	ND	0.50	1	03/14/2018 16:41	
Dibromochloromethane	ND	0.50	1	03/14/2018 16:41	
1,2-Dibromo-3-chloropropane	ND	0.20	1	03/14/2018 16:41	
1,2-Dibromoethane (EDB)	ND	0.50	1	03/14/2018 16:41	
Dibromomethane	ND	0.50	1	03/14/2018 16:41	
1,2-Dichlorobenzene	ND	0.50	1	03/14/2018 16:41	
1,3-Dichlorobenzene	ND	0.50	1	03/14/2018 16:41	
1,4-Dichlorobenzene	ND	0.50	1	03/14/2018 16:41	
Dichlorodifluoromethane	ND	0.50	1	03/14/2018 16:41	
1,1-Dichloroethane	ND	0.50	1	03/14/2018 16:41	
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	03/14/2018 16:41	
1,1-Dichloroethene	ND	0.50	1	03/14/2018 16:41	
cis-1,2-Dichloroethene	ND	0.50	1	03/14/2018 16:41	
trans-1,2-Dichloroethene	ND	0.50	1	03/14/2018 16:41	
1,2-Dichloropropane	ND	0.50	1	03/14/2018 16:41	
1,3-Dichloropropane	ND	0.50	1	03/14/2018 16:41	
2,2-Dichloropropane	ND	0.50	1	03/14/2018 16:41	

(Cont.)



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Analytical Report

Client: AEI Consultants
Date Received: 3/7/18 17:00
Date Prepared: 3/14/18
Project: 350428; Moss Beach

WorkOrder: 1803635
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WS-1	1803635-001B	Water	03/06/2018 17:30	GC16 03141815.D	154682
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	03/14/2018 16:41	
cis-1,3-Dichloropropene	ND	0.50	1	03/14/2018 16:41	
trans-1,3-Dichloropropene	ND	0.50	1	03/14/2018 16:41	
Diisopropyl ether (DIPE)	ND	0.50	1	03/14/2018 16:41	
Ethylbenzene	ND	0.50	1	03/14/2018 16:41	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	03/14/2018 16:41	
Freon 113	ND	0.50	1	03/14/2018 16:41	
Hexachlorobutadiene	ND	0.50	1	03/14/2018 16:41	
Hexachloroethane	ND	0.50	1	03/14/2018 16:41	
2-Hexanone	ND	0.50	1	03/14/2018 16:41	
Isopropylbenzene	ND	0.50	1	03/14/2018 16:41	
4-Isopropyl toluene	ND	0.50	1	03/14/2018 16:41	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	03/14/2018 16:41	
Methylene chloride	ND	0.50	1	03/14/2018 16:41	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	03/14/2018 16:41	
Naphthalene	1.9	0.50	1	03/14/2018 16:41	
n-Propyl benzene	ND	0.50	1	03/14/2018 16:41	
Styrene	ND	0.50	1	03/14/2018 16:41	
1,1,1,2-Tetrachloroethane	ND	0.50	1	03/14/2018 16:41	
1,1,2,2-Tetrachloroethane	ND	0.50	1	03/14/2018 16:41	
Tetrachloroethene	ND	0.50	1	03/14/2018 16:41	
Toluene	0.81	0.50	1	03/14/2018 16:41	
1,2,3-Trichlorobenzene	ND	0.50	1	03/14/2018 16:41	
1,2,4-Trichlorobenzene	ND	0.50	1	03/14/2018 16:41	
1,1,1-Trichloroethane	ND	0.50	1	03/14/2018 16:41	
1,1,2-Trichloroethane	ND	0.50	1	03/14/2018 16:41	
Trichloroethene	ND	0.50	1	03/14/2018 16:41	
Trichlorofluoromethane	ND	0.50	1	03/14/2018 16:41	
1,2,3-Trichloropropane	ND	0.50	1	03/14/2018 16:41	
1,2,4-Trimethylbenzene	1.2	0.50	1	03/14/2018 16:41	
1,3,5-Trimethylbenzene	ND	0.50	1	03/14/2018 16:41	
Vinyl Chloride	ND	0.50	1	03/14/2018 16:41	
Xylenes, Total	ND	0.50	1	03/14/2018 16:41	

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Analytical Report

Client: AEI Consultants
Date Received: 3/7/18 17:00
Date Prepared: 3/14/18
Project: 350428; Moss Beach

WorkOrder: 1803635
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WS-1	1803635-001B	Water	03/06/2018 17:30	GC16 03141815.D	154682

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	93	78-134		03/14/2018 16:41
Toluene-d8	95	82-120		03/14/2018 16:41
4-BFB	107	69-131		03/14/2018 16:41

Analyst(s): TK

Analytical Comments: b1



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Analytical Report

Client: AEI Consultants
Date Received: 3/7/18 17:00
Date Prepared: 3/14/18
Project: 350428; Moss Beach

WorkOrder: 1803635
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WS-1	1803635-001A	Water	03/06/2018 17:30	GC3 03141806.D	154603

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	100	50	1	03/14/2018 14:37
MTBE	---	5.0	1	03/14/2018 14:37
Benzene	---	0.50	1	03/14/2018 14:37
Toluene	---	0.50	1	03/14/2018 14:37
Ethylbenzene	---	0.50	1	03/14/2018 14:37
Xylenes	---	0.50	1	03/14/2018 14:37

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	93	90-117	03/14/2018 14:37

Analyst(s): IA

Analytical Comments: d7,b1



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Analytical Report

Client: AEI Consultants
Date Received: 3/7/18 17:00
Date Prepared: 3/12/18
Project: 350428; Moss Beach

WorkOrder: 1803635
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WS-1	1803635-001A	Water	03/06/2018 17:30	GC11B 03131859.D	154526

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	20,000	2500	50	03/14/2018 04:07
TPH-Motor Oil (C18-C36)	60,000	12,000	50	03/14/2018 04:07

Surrogates	REC (%)	Limits	Date Analyzed
C9	97	61-139	03/14/2018 04:07

Analyst(s): JIS

Analytical Comments: e7,e2,b6,b1



Quality Control Report

Client: AEI Consultants
Date Prepared: 3/13/18
Date Analyzed: 3/13/18
Instrument: GC38
Matrix: Water
Project: 350428; Moss Beach

WorkOrder: 1803635
BatchID: 154682
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-154682

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.50	-	-	-
Bromobenzene	ND	0.50	-	-	-
Bromochloromethane	ND	0.50	-	-	-
Bromodichloromethane	ND	0.50	-	-	-
Bromoform	ND	0.50	-	-	-
Bromomethane	ND	0.50	-	-	-
2-Butanone (MEK)	ND	2.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.0	-	-	-
n-Butyl benzene	ND	0.50	-	-	-
sec-Butyl benzene	ND	0.50	-	-	-
tert-Butyl benzene	ND	0.50	-	-	-
Carbon Disulfide	ND	0.50	-	-	-
Carbon Tetrachloride	ND	0.50	-	-	-
Chlorobenzene	ND	0.50	-	-	-
Chloroethane	ND	0.50	-	-	-
Chloroform	ND	0.50	-	-	-
Chloromethane	ND	0.50	-	-	-
2-Chlorotoluene	ND	0.50	-	-	-
4-Chlorotoluene	ND	0.50	-	-	-
Dibromochloromethane	ND	0.50	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.20	-	-	-
1,2-Dibromoethane (EDB)	ND	0.50	-	-	-
Dibromomethane	ND	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.50	-	-	-
Dichlorodifluoromethane	ND	0.50	-	-	-
1,1-Dichloroethane	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.50	-	-	-
1,1-Dichloroethene	ND	0.50	-	-	-
cis-1,2-Dichloroethene	ND	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.50	-	-	-
1,2-Dichloropropane	ND	0.50	-	-	-
1,3-Dichloropropane	ND	0.50	-	-	-
2,2-Dichloropropane	ND	0.50	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.50	-	-	-

(Cont.)

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Quality Control Report

Client:	AEI Consultants	WorkOrder:	1803635
Date Prepared:	3/13/18	BatchID:	154682
Date Analyzed:	3/13/18	Extraction Method:	SW5030B
Instrument:	GC38	Analytical Method:	SW8260B
Matrix:	Water	Unit:	µg/L
Project:	350428; Moss Beach	Sample ID:	MB/LCS/LCSD-154682

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
Freon 113	ND	0.50	-	-	-
Hexachlorobutadiene	ND	0.50	-	-	-
Hexachloroethane	ND	0.50	-	-	-
2-Hexanone	ND	0.50	-	-	-
Isopropylbenzene	ND	0.50	-	-	-
4-Isopropyl toluene	ND	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.50	-	-	-
Methylene chloride	ND	0.50	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.50	-	-	-
Naphthalene	ND	0.50	-	-	-
n-Propyl benzene	ND	0.50	-	-	-
Styrene	ND	0.50	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.50	-	-	-
Tetrachloroethene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.50	-	-	-
Trichloroethene	ND	0.50	-	-	-
Trichlorofluoromethane	ND	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.50	-	-	-
1,2,4-Trimethylbenzene	ND	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.50	-	-	-
Vinyl Chloride	ND	0.50	-	-	-
Xylenes, Total	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	21.5		25	86,F3	91-133
Toluene-d8	25.5		25	102	87-127
4-BFB	2.30		2.5	92	66-140

(Cont.)

CA ELAP 1644 • NELAP 4033ORELAP



Quality Control Report

Client: AEI Consultants
Date Prepared: 3/13/18
Date Analyzed: 3/13/18
Instrument: GC38
Matrix: Water
Project: 350428; Moss Beach

WorkOrder: 1803635
BatchID: 154682
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-154682

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	81.5	81.5	200	41, F2	41, F2	47-122	0	20
tert-Amyl methyl ether (TAME)	8.61	8.72	10	86	87	62-121	1.22	20
Benzene	8.93	8.98	10	89	90	74-121	0.602	20
Bromobenzene	8.35	8.55	10	83	86	63-127	2.42	20
Bromochloromethane	8.73	8.77	10	87	88	70-126	0.448	20
Bromodichloromethane	9.20	9.34	10	92	93	66-127	1.52	20
Bromoform	8.28	8.40	10	83	84	60-119	1.35	20
Bromomethane	9.69	9.80	10	97	98	32-155	1.14	20
2-Butanone (MEK)	34.7	35.3	40	87	88	51-117	1.67	20
t-Butyl alcohol (TBA)	34.2	33.3	40	85	83	41-122	2.52	20
n-Butyl benzene	9.33	9.34	10	93	93	73-137	0	20
sec-Butyl benzene	8.05	8.14	10	80	81	71-137	1.10	20
tert-Butyl benzene	8.37	8.42	10	84	84	61-136	0	20
Carbon Disulfide	9.47	9.33	10	95	93	61-139	1.48	20
Carbon Tetrachloride	9.64	9.65	10	96	97	69-137	0.104	20
Chlorobenzene	8.47	8.52	10	85	85	71-122	0	20
Chloroethane	8.83	8.63	10	88	86	54-132	2.27	20
Chloroform	9.13	9.23	10	91	92	73-122	1.03	20
Chloromethane	9.67	9.29	10	97	93	48-136	3.98	20
2-Chlorotoluene	8.53	8.64	10	85	86	65-134	1.34	20
4-Chlorotoluene	8.54	8.82	10	85	88	65-130	3.20	20
Dibromochloromethane	8.41	8.50	10	84	85	65-121	1.07	20
1,2-Dibromo-3-chloropropane	8.22	8.22	4	205, F2	205, F2	41-132	0	20
1,2-Dibromoethane (EDB)	8.30	8.33	10	83	83	67-125	0	20
Dibromomethane	8.75	8.87	10	88	89	68-121	1.30	20
1,2-Dichlorobenzene	8.44	8.60	10	84	86	69-128	1.92	20
1,3-Dichlorobenzene	8.57	8.59	10	86	86	71-131	0	20
1,4-Dichlorobenzene	8.52	8.64	10	85	86	70-128	1.45	20
Dichlorodifluoromethane	10.4	10.1	10	104	101	21-158	3.13	20
1,1-Dichloroethane	9.41	9.45	10	94	94	73-123	0	20
1,2-Dichloroethane (1,2-DCA)	9.05	9.17	10	90	92	61-127	1.32	20
1,1-Dichloroethene	9.66	9.59	10	97	96	68-130	0.669	20
cis-1,2-Dichloroethene	9.06	9.14	10	91	91	72-123	0	20
trans-1,2-Dichloroethene	9.01	9.01	10	90	90	64-138	0	20
1,2-Dichloropropane	9.04	9.14	10	90	91	71-121	1.19	20
1,3-Dichloropropane	9.10	8.37	10	91	84	69-120	8.30	20
2,2-Dichloropropane	9.77	9.47	10	98	95	64-142	3.18	20
1,1-Dichloropropene	9.27	9.21	10	93	92	70-130	0.616	20
cis-1,3-Dichloropropene	9.05	9.04	10	90	90	58-136	0	20

(Cont.)

CA ELAP 1644 • NELAP 4033ORELAP



Quality Control Report

Client: AEI Consultants
Date Prepared: 3/13/18
Date Analyzed: 3/13/18
Instrument: GC38
Matrix: Water
Project: 350428; Moss Beach

WorkOrder: 1803635
BatchID: 154682
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-154682

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	9.03	9.00	10	90	90	66-119	0	20
Diisopropyl ether (DIPE)	9.07	9.20	10	91	92	66-123	1.42	20
Ethylbenzene	8.93	8.90	10	89	89	71-125	0	20
Ethyl tert-butyl ether (ETBE)	8.80	8.95	10	88	90	67-122	1.68	20
Freon 113	9.41	9.35	10	94	94	68-132	0	20
Hexachlorobutadiene	9.29	9.14	10	93	91	56-155	1.72	20
Hexachloroethane	8.41	8.68	10	84	87	61-129	3.17	20
2-Hexanone	9.07	8.47	10	91	85	51-115	6.89	20
Isopropylbenzene	8.75	8.91	10	87	89	66-134	1.81	20
4-Isopropyl toluene	8.60	8.68	10	86	87	70-136	0.917	20
Methyl-t-butyl ether (MTBE)	8.62	8.64	10	86	86	64-118	0	20
Methylene chloride	8.24	8.23	10	82	82	62-121	0	20
4-Methyl-2-pentanone (MIBK)	8.75	8.72	10	88	87	51-115	0.434	20
Naphthalene	8.28	8.42	10	83	84	55-137	1.75	20
n-Propyl benzene	8.67	8.73	10	87	87	63-140	0	20
Styrene	8.53	8.58	10	85	86	62-133	0.554	20
1,1,1,2-Tetrachloroethane	8.62	8.77	10	86	88	69-128	1.73	20
1,1,2,2-Tetrachloroethane	8.42	8.57	10	84	86	60-118	1.78	20
Tetrachloroethene	9.09	9.08	10	91	91	63-136	0	20
Toluene	8.56	8.57	10	86	86	67-124	0	20
1,2,3-Trichlorobenzene	8.60	8.67	10	86	87	57-145	0.865	20
1,2,4-Trichlorobenzene	9.07	9.10	10	91	91	60-144	0	20
1,1,1-Trichloroethane	9.26	9.29	10	93	93	70-133	0	20
1,1,2-Trichloroethane	8.20	8.30	10	82	83	65-125	1.22	20
Trichloroethene	8.96	8.98	10	90	90	67-133	0	20
Trichlorofluoromethane	9.50	9.24	10	95	92	59-145	2.78	20
1,2,3-Trichloropropane	8.05	8.19	10	80	82	65-115	1.75	20
1,2,4-Trimethylbenzene	8.66	8.75	10	87	88	67-136	1.02	20
1,3,5-Trimethylbenzene	8.65	8.69	10	86	87	68-135	0.529	20
Vinyl Chloride	10.5	9.87	10	105	99	53-146	5.86	20
Xylenes, Total	26.6	26.7	30	89	89	68-128	0	20
Surrogate Recovery								
Dibromofluoromethane	23.7	23.9	25	95	95	91-133	0	20
Toluene-d8	25.2	25.2	25	101	101	87-127	0	20
4-BFB	2.36	2.32	2.5	95	93	66-140	2.03	20



Quality Control Report

Client: AEI Consultants
Date Prepared: 3/13/18
Date Analyzed: 3/13/18
Instrument: GC3
Matrix: Water
Project: 350428; Moss Beach

WorkOrder: 1803635
BatchID: 154603
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-154603
 1803692-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	50	-	-	-
MTBE	ND	5.0	-	-	-
Benzene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Xylenes	ND	0.50	-	-	-

Surrogate Recovery

aaa-TFT	9.64		10	96	89-116
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	69.3	-	60	115	-	78-116	-	-
MTBE	8.92	-	10	89	-	72-122	-	-
Benzene	9.53	-	10	95	-	81-123	-	-
Toluene	9.95	-	10	99	-	83-129	-	-
Ethylbenzene	9.79	-	10	98	-	88-126	-	-
Xylenes	29.6	-	30	99	-	87-131	-	-

Surrogate Recovery

aaa-TFT	9.26	-	10	93	-	89-116	-	-
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	68.3	66.6	60	ND	114	111	63-133	2.48	20
MTBE	9.17	8.92	10	ND	92	89	69-122	2.65	20
Benzene	9.57	9.77	10	ND	96	98	84-125	2.07	20
Toluene	9.98	10.2	10	ND	100	102	87-131	2.02	20
Ethylbenzene	9.83	10.0	10	ND	98	100	92-126	2.12	20
Xylenes	29.7	30.0	30	ND	99	100	88-132	1.06	20

Surrogate Recovery

aaa-TFT	9.38	9.58	10		94	96	90-117	2.08	20
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Quality Control Report

Client: AEI Consultants
Date Prepared: 3/12/18
Date Analyzed: 3/12/18
Instrument: GC11B
Matrix: Water
Project: 350428; Moss Beach

WorkOrder: 1803635
BatchID: 154526
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS/LCSD-154526

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	50	-	-	-
TPH-Motor Oil (C18-C36)	ND	250	-	-	-
Surrogate Recovery					
C9	548		625	88	68-127

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1080	1140	1000	108	113	86-142	5.05	30
Surrogate Recovery								
C9	541	556	625	87	89	68-127	2.76	30



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

WaterTrax WriteOn EDF

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1803635

ClientCode: AEL

Excel EQulS Email HardCopy ThirdParty J-flag
 Detection Summary Dry-Weight

Report to:

William Hicks
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 321-3561 FAX: (925) 283-6121

Email: whix@aeiconsultants.com
cc/3rd Party: tbodkin@aeiconsultants.com;
PO: 154987
Project: 350428; Moss Beach

Bill to:

Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 5 days;

Date Received: 03/07/2018

Date Logged: 03/12/2018

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1803635-001	WS-1	Water	3/6/2018 17:30	<input type="checkbox"/>	B	A	A										

Test Legend:

1	8260B_W	2	G-MBTEX_W	3	TPH(DMO)_W	4	
5		6		7		8	
9		10		11		12	

Prepared by: Keylen Juarez

The following SampID: 001A contains testgroup Multi Range_W.

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



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http://www.mccampbell.com / E-mail: main@mccampbell.com

County Review Draft

WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS

Project: 350428; Moss Beach

Work Order: 1803635

Client Contact: William Hicks

QC Level: LEVEL 2

Contact's Email: whix@aeiconsultants.com

Comments:


Date Logged: 3/12/2018

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1803635-001A	WS-1	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	4	VOA w/ HCL+ 1-aVOA	<input type="checkbox"/>	3/6/2018 17:30	5 days	10%+	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

 McCAMPBELL ANALYTICAL, INC. 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701 Telephone: (877) 252-9262 / Fax: (925) 252-9269 www.mccampbell.com main@mccampbell.com	CHAIN OF CUSTODY RECORD				
	Turn Around Time: 1 Day Rush	2 Day Rush	3 Day Rush	STD <input type="radio"/>	Quote #
	J-Flag / MDL	ESL	Cleanup Approved	Bottle Order #	
	Delivery Format: GeoTracker EDF	PDF	EDD	Write On (DW)	EQUS
Report To: AEI Consultants Bill To: AEI Consultants	Analysis Requested				
Company: AEI Consultants	<div style="display: flex; justify-content: space-between; padding: 2px;"> <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 2px;">VOCs by 8260</div> <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 2px;">TPH=multirange by 8015M</div> <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 2px;">Multi Range</div> <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 2px;">VOCs by 8260</div> <div style="border-left: 1px solid black; border-right: 1px solid black; padding: 2px;">HOLD MW</div> </div>				
Email: whix@aeiconsultants.com					
Alt Email: tbodkin@aeiconsultants.com Tele: 925-746-6050					
Project Name/ #: 350428					
Project Location: Moss Beach PO #154987					
Sampler Signature: <i>[Signature]</i>					
SAMPLE ID Location / Field Point	Sampling Date Time		#Containers	Matrix	Preservative
WS-1	3/6/2018	1730	8	GW	HCL/ICE

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.
 Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
<i>[Signature]</i>	3/6/18	1200	CAP	3/7/18	0900
<i>[Signature]</i>	3/7/18	1200	Keylan Jensen	3/7/18	1700

Comments / Instructions

Samples off
HOLD 3/9/18

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, G=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 3.6 °C Initials KJ



Sample Receipt Checklist

Client Name: AEI Consultants	Date and Time Received: 3/7/2018 17:00
Project: 350428; Moss Beach	Date Logged: 3/12/2018
WorkOrder No: 1803635 Matrix: <u>Water</u>	Received by: Keylen Juarez
Carrier: <u>Patrick Johnson (MAI Courier)</u>	Logged by: Keylen Juarez

Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
COC agrees with Quote?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
(Ice Type: WET ICE)			
Sample/Temp Blank temperature		Temp: 3.6°C	NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
UCMR Samples:			
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

 Comments:



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Analytical Report

WorkOrder: 1803635 A

Report Created for: AEI Consultants

2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597

Project Contact: William Hicks

Project P.O.: 154987

Project: 350428; Moss Beach

Project Received: 03/07/2018

Analytical Report reviewed & approved for release on 03/20/2018 by:

Angela Rydelius
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 350428; Moss Beach
WorkOrder: 1803635 A

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 350428; Moss Beach
WorkOrder: 1803635 A

Analytical Qualifiers

H Samples were analyzed out of holding time
b1 Aqueous sample that contains greater than ~1 vol. % sediment
e2 Diesel range compounds are significant; no recognizable pattern
e7 Oil range compounds are significant



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Analytical Report

Client: AEI Consultants
Date Received: 3/7/18 17:00
Date Prepared: 3/19/18
Project: 350428; Moss Beach

WorkOrder: 1803635
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/ Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WS-1	1803635-001C	Water	03/06/2018 17:30	GC11A 03191820.D	154919

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	20,000	H	1000	20	03/19/2018 15:10
TPH-Motor Oil (C18-C36)	55,000	H	5000	20	03/19/2018 15:10

Surrogates	REC (%)	Qualifiers	Limits	
C9	93	H	61-139	03/19/2018 15:10

Analyst(s): JIS

Analytical Comments: e7,e2,b1



Quality Control Report

Client: AEI Consultants	WorkOrder: 1803635
Date Prepared: 3/19/18	BatchID: 154919
Date Analyzed: 3/19/18	Extraction Method: SW3510C/3630C
Instrument: GC9a	Analytical Method: SW8015B
Matrix: Water	Unit: µg/L
Project: 350428; Moss Beach	Sample ID: MB/LCS/LCSD-154919

QC Report for SW8015B w/ Silica Gel Clean-Up

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	50	-	-	-
TPH-Motor Oil (C18-C36)	ND	250	-	-	-
Surrogate Recovery					
C9	646		625	103	68-127

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1080	1080	1000	108	108	86-142	0	30
Surrogate Recovery								
C9	642	645	625	103	103	68-127	0	30

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1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

WaterTrax WriteOn EDF

CHAIN-OF-CUSTODY RECORD

County Review Draft

Page 1 of 1

WorkOrder: 1803635 **A** ClientCode: AEL

Excel Fax Email HardCopy ThirdParty J-flag
 Detection Summary Dry-Weight

Report to:

William Hicks
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 321-3561 FAX: (925) 283-6121

Email: whix@aeiconsultants.com
cc/3rd Party: tbodkin@aeiconsultants.com;
PO: 154987
Project: 350428; Moss Beach

Bill to:

Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 1 day;

Date Received: 03/07/2018

Date Logged: 03/12/2018

Date Add-On: 03/19/2018

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1803635-001	WS-1	Water	3/6/2018 17:30	<input type="checkbox"/>	C												

Test Legend:

1	TPH(DMO)WSG_W	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Keylen Juarez

Add-On Prepared By: Kena Ponce

Comments: TPH(dmo) W/ SG added 3/19/18 RTAT

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



McC Campbell Analytical, Inc.

"When Quality Counts"

County Review Draft
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS
Client Contact: William Hicks
Contact's Email whix@aeiconsultants.com

Project: 350428; Moss Beach
Comments: TPH(dmo) W/ SG added 3/19/18 RTAT

Work Order: 1803635
QC Level: LEVEL 2
Date Logged: 3/12/2018
Date Add-On: 3/19/2018

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1803635-001C	WS-1	Water	SW8015B (TPH-d,mo w/ S.G. Clean-Up)	1	aVOA Unpres	3/6/2018 17:30	1 day	10%+	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



McCAMPBELL ANALYTICAL, INC.
 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
 Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD							
Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD <input checked="" type="radio"/>	Quote #
J-Flag / MDL	ESL	Cleanup Approved		Bottle Order #			
Delivery Format: GeoTracker EDF		PDF	EDD	Write On (DW)		EQuIS	

Report To: AEI Consultants Bill To: AEI Consultants
 Company: AEI Consultants
 Email: whix@aeiconsultants.com
 Alt Email: tbodkin@aeiconsultants.com Tele: 925-746-6050
 Project Name/ #: 350428
 Project Location: Moss Beach PO #154987
 Sampler Signature: *[Signature]*

Analysis Requested

SAMPLE ID Location / Field Point	Sampling		# Containers	Matrix	Preservative	Analysis Requested																			
	Date	Time				1	2	3	4	5	6	7	8	9	10	11	12								
107. WS-1	3/6/2018	1730	8	GW	HCL/ICE	●	●	X	X	●	●														

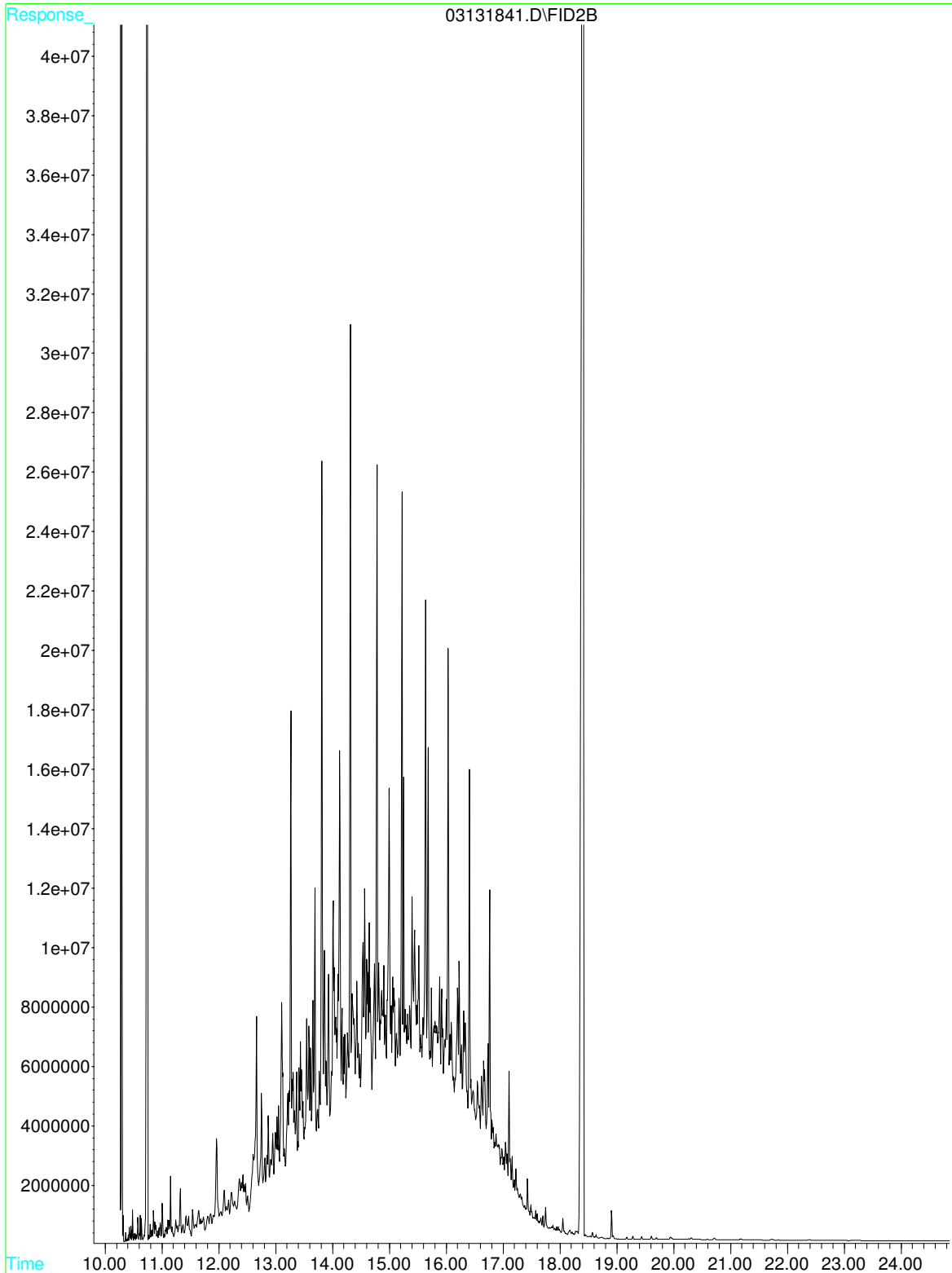
Handwritten notes in table:
 VOCs by 8260
 TPH multirange by 8015M
 MultiRange
 VOCs by 8260
 HOLD WW
 TPH 2000 w/IG 3/19/18

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

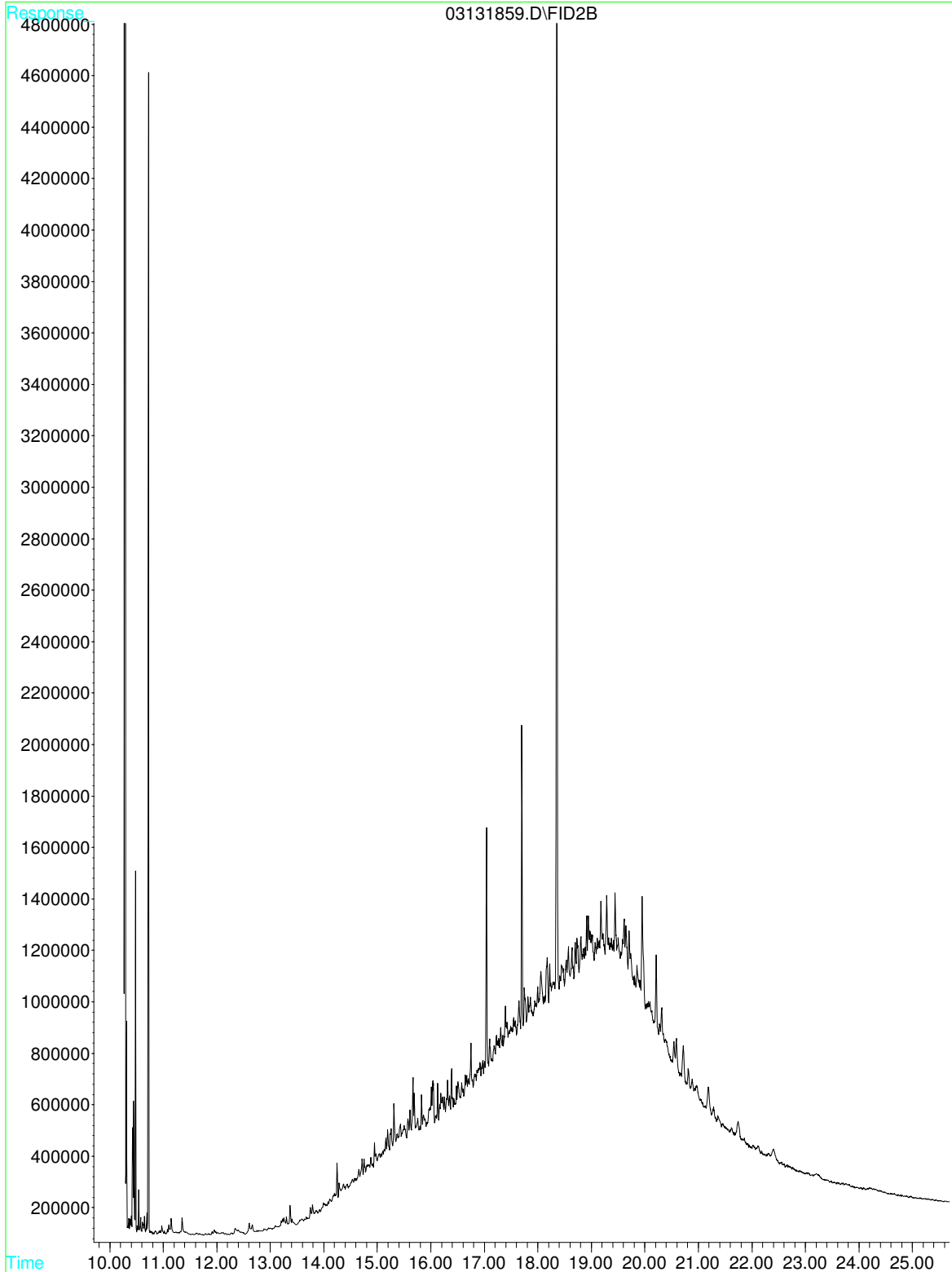
* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.						Comments / Instructions Samples off HOLD 3/9/18	
Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.							
Relinquished By / Company Name		Date	Time	Received By / Company Name			Date
<i>[Signature]</i>		3/6/18	1200	CAP		3/7/18	0900
CAP		3/7/18	1700	<i>[Signature]</i>		3/7/18	1700

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, G=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None
 Temp 3-6 °C Initials KJ

File : D:\HPCHEM\GC11\DATA\03131841.D
Operator : JILLIAN
Acquired : 13 Mar 2018 10:17 pm using AcqMethod GC11A_B4.M
Instrument : GC-11
Sample Name: CCV 2-16
Misc Info :
Vial Number: 71



File : D:\HPCHEM\GC11\DATAB\03131859.D
Operator : JILLIAN
Acquired : 14 Mar 2018 4:07 am using AcqMethod GC11A_B4.M
Instrument : GC-11
Sample Name: 1803635-001A W SHEEN
Misc Info : TPH
Vial Number: 80



APPENDIX F

**SMCEHS CONFIRMATION OF WELL DESTRUCTION PERMIT
CLOSEOUT**

Tim Bodkin

From: Allison Fang <afang@smcgov.org>
Sent: Monday, June 11, 2018 1:29 PM
To: Tim Bodkin
Subject: RE: 350428 Request for Written Confirmation of Permit Closeout for Well Destruction Project, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Hello Tim,

Yes, we have closed out the well destruction permit and we did receive the well completion report.

Allison Fang, REHS
Land Use, Septic, and Wells Program
San Mateo County Environmental Health
2000 Alameda de las Pulgas, Suite 100
San Mateo, CA 94403
Work Cell: 650-339-5635
Fax: 650-627-8244
<http://smchealth.org/landuse>

From: Tim Bodkin [mailto:tbodkin@aeiconsultants.com]
Sent: Monday, June 11, 2018 12:02 PM
To: Allison Fang <afang@smcgov.org>
Cc: Tim Bodkin <tbodkin@aeiconsultants.com>
Subject: RE: 350428 Request for Written Confirmation of Permit Closeout for Well Destruction Project, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Good morning, Allison:

I am contacting you to ensure that the permit for our well destruction project has officially been closed out. I assume that you have received the DWR Well Completion Report by now. If you could email me back confirming the permits has been closed out, that would be great. I will need to incorporate it into our report for the project. Thank you very much and look forward to hearing from you.

Kind regards,

--Tim--

Timothy G. Bodkin, PG, CEG
Senior Geologist - Site Mitigation
AEI Consultants
3880 S. Bascom Avenue, Suite 109
San Jose, CA 95124
p. [408.559.7600](tel:408.559.7600), ext. 2013
c. [650.622.6560](tel:650.622.6560)
f. [408.559.7601](tel:408.559.7601)
www.aeiconsultants.com

Professional Registrations:

PG-CA GEO 4706 / CEG-CA EG 1551 / RG-OR G1294 / CEG-OR E1294 / LG-WA 336 / PG-ID PGL-731 / PG-WY PG-136 / PG-LA 458



From: Tim Bodkin

Sent: Thursday, April 12, 2018 1:34 PM

To: Allison Fang <afang@smcgov.org>

Cc: Tim Bodkin <tbodkin@aeiconsultants.com>

Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Will do and thank you once again for your immediate followup.

Kind regards,

--Tim--

Timothy G. Bodkin, PG, CEG
Senior Geologist - Site Mitigation

AEI Consultants

3880 S. Bascom Avenue, Suite 109

San Jose, CA 95124

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From: Allison Fang <afang@smcgov.org>

Sent: Thursday, April 12, 2018 1:31 PM

To: Tim Bodkin <tbodkin@aeiconsultants.com>

Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Hi Tim,

There is no other written documentation that I can provide, once we receive the well completion report we close out our permit. Feel free to share this e-mail with the client that we are closing out all files on our end.

Allison Fang, REHS

Land Use, Septic, and Wells Program

San Mateo County Environmental Health
2000 Alameda de las Pulgas, Suite 100
San Mateo, CA 94403
Work Cell: 650-339-5635
Fax: 650-627-8244
<http://smchealth.org/landuse>

From: Tim Bodkin [<mailto:tbodkin@aeiconsultants.com>]
Sent: Thursday, April 12, 2018 1:23 PM
To: Allison Fang <afang@smcgov.org>
Cc: Tim Bodkin <tbodkin@aeiconsultants.com>
Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Excellent. Please send me written documentation so that I can share it with our client who has been asking for it. Thanks again for your help.

Kind regards,

--Tim--

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AEI Consultants
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San Jose, CA 95124
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From: Allison Fang <afang@smcgov.org>
Sent: Thursday, April 12, 2018 1:22 PM
To: Tim Bodkin <tbodkin@aeiconsultants.com>
Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Hi Tim,

This looks good. We'll get this permit closed out. Thank you!

From: Tim Bodkin [<mailto:tbodkin@aeiconsultants.com>]
Sent: Thursday, April 12, 2018 12:05 PM

To: Allison Fang <afang@smcgov.org>

Cc: Tim Bodkin <tbodkin@aeiconsultants.com>

Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Hi Allison:

The WCR has been updated. Please let me know if all is OK. Thank you.

Kind regards,

--Tim--

Timothy G. Bodkin, PG, CEG
Senior Geologist - Site Mitigation

AEI Consultants

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From: Allison Fang <afang@smcgov.org>

Sent: Wednesday, April 11, 2018 3:43 PM

To: Tim Bodkin <tbodkin@aeiconsultants.com>

Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Hi Tim,

The well location section doesn't show the city or the zip code, these should also be added.

From: Tim Bodkin [<mailto:tbodkin@aeiconsultants.com>]

Sent: Wednesday, April 11, 2018 12:58 PM

To: Allison Fang <afang@smcgov.org>

Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Hi Allison:

I just got off the phone with DWR. The record should be updated showing the street address. Please let me know if all is OK.

Kind regards,

--Tim--

Timothy G. Bodkin, PG, CEG
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AEI Consultants
3880 S. Bascom Avenue, Suite 109
San Jose, CA 95124
p. [408.559.7600](tel:408.559.7600), ext. 2013
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From: Allison Fang <afang@smcgov.org>
Sent: Wednesday, April 11, 2018 12:36 PM
To: Tim Bodkin <tbodkin@aeiconsultants.com>
Subject: Re: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

I see that under the mailing address but not the well location section. You should be able to edit it.

Sent from my iPhone

On Apr 11, 2018, at 12:25 PM, Tim Bodkin <tbodkin@aeiconsultants.com> wrote:

I originally had input "Carlos and Sierra Streets". I guess the WCR needs to be updated ? It was my first time using DWR's new website.

Kind regards,

--Tim--

Timothy G. Bodkin, PG, CEG
Senior Geologist - Site Mitigation
AEI Consultants
3880 S. Bascom Avenue, Suite 109
San Jose, CA 95124
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<image001.png>

From: Allison Fang <afang@smcgov.org>
Sent: Wednesday, April 11, 2018 12:22 PM
To: Tim Bodkin <tbodkin@aeiconsultants.com>
Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Tim,

I just checked the OSWCR website and I do see the WCR however the address needs to be input – does the system not allow you to put an intersection under the well location?

From: Tim Bodkin [<mailto:tbodkin@aeiconsultants.com>]
Sent: Wednesday, April 11, 2018 12:12 PM
To: Allison Fang <afang@smcgov.org>
Cc: Tim Bodkin <tbodkin@aeiconsultants.com>
Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

I just completed the Well Completion Report online on Cascade's behalf this morning. I will followup with Cascade. Our client is antsy and wants this put to rest. Back to you once I know more. Thanks for your immediate response.

Kind regards,

--Tim--

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<image001.png>

From: Allison Fang <afang@smcgov.org>
Sent: Wednesday, April 11, 2018 12:09 PM
To: Tim Bodkin <tbodkin@aeiconsultants.com>
Subject: RE: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Hi Tim,

We haven't closed out the permit yet because we're waiting on the well completion report from Cascade Drilling, but I've attached my inspection report.

Allison Fang, REHS
Land Use, Septic, and Wells Program
San Mateo County Environmental Health
2000 Alameda de las Pulgas, Suite 100
San Mateo, CA 94403
Work Cell: 650-339-5635
Fax: 650-627-8244
<http://smchealth.org/landuse>

From: Tim Bodkin [<mailto:tbodkin@aeiconsultants.com>]
Sent: Wednesday, April 11, 2018 11:47 AM
To: Allison Fang <afang@smcgov.org>
Cc: Tim Bodkin <tbodkin@aeiconsultants.com>
Subject: 350428 Request for Documentation of Well Destruction Approval, Carlos at Sierra Streets, Moss Beach, CA (AEI PN 350428)

Good morning, Allison:

Our client has requested documentation of your approval of the well destruction completed at our Moss Beach site. Please get back to me when you can. Many thanks.

Kind regards,

--Tim--

Timothy G. Bodkin, PG, CEG
Senior Geologist - Site Mitigation
AEI Consultants
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San Jose, CA 95124
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<image001.png>