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Alameda County Environmental Health



Pilot Scale Vapor Extraction System Status Report for May 2010 160 Holmes Street, Livermore, California

Date: June 15, 2010

Project No.: 160

Prepared For:
Manwel and Samira Shuwayhat
54 Wolfe Canyon Road
Kentfield, California 94904

Allterra Environmental, Inc.

849 Almar Avenue, Suite C, No. 281 Santa Cruz, California 95060

> Phone: (831) 425-2608 Fax: (831) 425-2609 http://www.allterraenv.com



June 15, 2010 *Project No.: 160*

Manwel and Samira Shuwayhat 54 Wolfe Canyon Road Kentfield, California 94904

SUBJECT: Pilot Scale Vapor Extraction System Status Report for May 2010, Fuel Leak Case No. RO0000324, 160 Holmes Street, Livermore, California

Dear Manwel and Samira Shuwayhat:

Allterra Environmental, Inc. (Allterra) has prepared this interim remedial action status report to document work conducted at the property located at 160 Holmes Street in Livermore, California (Site). This report documents field observations and data collected while conducting pilot scale system operation and maintenance during May of 2010.

Site Location and Description

The subject property is located at the northeast intersection of Holmes Street and Second Street, in Livermore, California (Figure 1). A Vallero fuel station currently occupies the Site and the surrounding area is primarily residential with some retail businesses along 1st and 2nd Streets. The approximate surface elevation of the site is 465 feet above mean sea level (MSL) and slopes to the northwest. Pertinent site features, including the locations of the former underground storage tanks (USTs), existing monitoring and extraction wells, and previous soil borings are presented in Figure 2.

Pilot Scale Vapor Extraction System (VES) Description

The VES consisted of a remediation compound area that includes a vapor extraction blower, electrical controls, and vapor abatement equipment, as well as subsurface conveyance piping and wellhead connections to extraction well EW-3. The layout of the VES is presented in Figure 2.

Vapor Extraction Well

Well EW-3 was used as the soil vapor extraction well. Well EW-3 was selected because it has a screen interval from 25 to 30 feet bgs, which spans the targeted contaminant smear zone. A previous pilot test completed using EW-3 indicated it was conducive for vapor extraction.

Remediation Compound

A temporary remediation compound was constructed along the northeastern edge of the property (Figure 2). The compound consisted of vapor extraction and off-gas abatement equipment with associated electrical controls and conveyance piping and two 6,500-gallon tanks to contain groundwater extracted from EW-3.

Groundwater Extraction

Over the last several months, groundwater elevations increased to approximately 23-27 feet below ground surface (bgs), which is the target area for soil vapor extraction. Therefore, to maximize performance of the SVE system, Allterra dewatered EW-3 to expose the fuel-impacted soil between 25 and 30 feet bgs. Extracted groundwater is contained in two 6,500-gallon tanks and discharged under wastewater discharge permit.

Pilot Scale Remediation System Operation and Maintenance (O&M) – May 2010

During May 2010, Allterra operated and maintained vapor and groundwater extraction equipment located at the Site. O&M field activities included collection of vapor and groundwater samples for laboratory analyses, recording system operation data (total flows and flow rates, monitoring well groundwater elevations, qualitative observations, etc.), and collecting data from observation wells. Field logs for O&M activities are included in Appendix A. System data, such as groundwater flow rates and groundwater sample results, are presented in Tables 1 through 4.

VES Operation and Data Collection – May 2010

For May 2010, remediation consisted of operating a VES that removed soil vapors from well EW-3. During May, the VES operated for approximately 31 days at an average extraction rate of approximately 6 standard cubic feet per minute (scfm). On May 6, 20, and 28 Allterra collected vapor samples from the influent vapor streams of the VES. Vapor samples were collected from sample ports in 1-liter tedlar sample bags. VES operating parameters and other general observations were measured routinely through the month. Sample analytical results are presented in Table 1 and VES operation data is presented in Table 3. Operation and Maintenance Field Logs are included in Appendix A.

Groundwater Extraction System Operation and Data Collection - May 2010

During May, the groundwater extraction system (GWES) removed approximately 11,497-gallons of groundwater from well EW-3 at an approximate flow rate of 1.5 gallons per minute (gpm). On May 6, 20, and 28 Allterra collected groundwater stream samples from groundwater entering the storage tanks (GW-IN). GW-IN samples were collected to determine dissolved contaminant masses removed during groundwater extraction. Other general observations and GWES operating parameters were measured routinely through the month. Sample analytical results are presented in Table 2 and GWES operation data is presented in Tables 3 and 4. Operation and Maintenance Field Logs are included in Appendix A.

<u>Laboratory Analyses – VES and GWES samples</u>

Vapor samples from the VES and groundwater samples from the GWES were submitted under chain-of-custody protocol to McCampbell Analytical, Inc. of Pacheco, California, a state of California certified laboratory (ELAP #1644). Vapor and groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015C modified, and for benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tert-butyl ether (MTBE) by EPA Method 8021B. Analytical results from vapor samples are presented in Table 1, and analytical results from groundwater samples are presented in Table 2. The certified analytical reports for the samples, including quality assurance and quality control (QA/QC) data, are included in Appendix B.



Pilot Scale Remediation System Operation and Maintenance Results for May

During May the VES removed approximately 67,116 cubic feet of soil vapor at an approximate flow rate of 9.5 standard cubic feet per minute (scfm). Vapor extraction data is presented in Tables 1, 3, 4, and 5. Sample analytical results from the VES influent (VES-IN) samples collected in May indicated TPHg at concentrations ranging from 36 to 180 micrograms per liter (μ g/L), benzene at less than laboratory detection limits (<0.25) to 1.4 μ g/L, toluene at less than laboratory detection limits (<0.25) to 12 μ g/L, ethyl-benzene at 0.5 to 2.7 μ g/L, xylenes at 5.2 to 24 μ g/L, and MTBE at 3.7 to 160 μ g/L. Analytical data from VES samples are presented in Table 1.

VES Mass Removal

During May, the VES removed approximately 67,116 cubic feet of soil vapor (Table 4). Based on soil vapor removal data and laboratory analytical results, the VES removed approximately 0.73 pounds of TPHg, 0.0025 pounds of benzene, and 0.35 pounds of MTBE during May (Table 5).

GWES Operation Results for May

During May the GWES removed approximately 11,497-gallons of groundwater from extraction well EW-3. Groundwater extraction data including flow rates and volumes is presented in Tables 3, 4, and 6. Analytical results from the system groundwater influent stream samples (GW-IN) collected on May 6, 20, and 28, 2010 are summarized below:

Sample ID	Date	ТРНд	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
Extraction	Well EW-3	(results in μ	g/L)				
GW-IN	5/6/10	27,000	350	1,800	1,100	5,000	200,000
	5/20/10	25,000	360	1,500	930	5,500	200,000
	5/28/10	37,000	400	1,900	1,200	6,200	190,000

Additionally, analytical data from GWES samples are presented in Table 2 and certified analytical reports are attached as Appendix B.

GWES Mass Removal

During April 2010, the GWES removed approximately 11,497-gallons of groundwater (Table 4). Based on the volume of groundwater extracted and laboratory analytical results, the GWES removed approximately 2.85 pounds of TPHg, 0.04 pounds of benzene, and 18.87 pounds of MTBE during May 2010 (Table 6).

Mass Removal – VES and GWES

During May 2010 approximately 3.58 pounds of TPHg, 0.040 pounds of benzene, and 19.22 pounds of MTBE were removed from the Site. Combined cumulative mass removal from VES and GWES is summarized in Table 7.



Conclusions

Based on data collected during May 2010, Allterra concludes the following:

- Water levels in site wells remain at the highest they have been in several years. Therefore, groundwater extraction was used in conjunction with vapor extraction to maximize contaminant removal.
- The VES removed approximately 67,116 cubic feet of soil vapor during May, resulting in the removal of approximately 0.73 pounds of vapor phase TPHg, 0.0025 pounds of vapor phase benzene, and 0.35 pounds of vapor phase MTBE.
- The GWES removed approximately 11,497-gallons of groundwater during May, resulting in the removal of approximately 2.85 pounds of TPHg, 0.04 pounds of benzene, and 18.87 pounds of MTBE.
- At the end of May, cumulative mass removed in both phases since startup is approximately 8.90 pounds of TPHg, 0.068 pounds of benzene, and 34.40 pound of MTBE.
- Vapor and groundwater extraction from EW-3 appears to be effective at extracting contaminant mass from the source area.

Recommendations

Based on the conclusions presented above, Allterra recommends the following:

Continue operation of VES and GWES equipment for the duration of the quarter.

Limitations

Allterra prepared this report for the use of Manwel and Samira Shuwayhat, Alameda County Health Services, and RWQCB in evaluating groundwater quality at selected on-site locations at the time of this study. Statements, conclusions, and recommendations in this report are based solely on the field observations and analytical results related to work performed by Allterra and there is no warranty, expressed or implied. Site conditions and data can change over time; therefore, data presented in this report is only applicable to the timeframe of this study. Allterra's services have been performed in accordance with environmental principles generally accepted at this time and location.

Should you have any questions, please contact Allterra at (831) 425-2608.

Sincerely,

Allterra Environmental, Inc.

Nathaniel Allen Project Scientist

Michael Killoran, P.G. 6670

Senior Geologist

No. 6670

MICHAEL J. KILLORAN

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ALLTERRA

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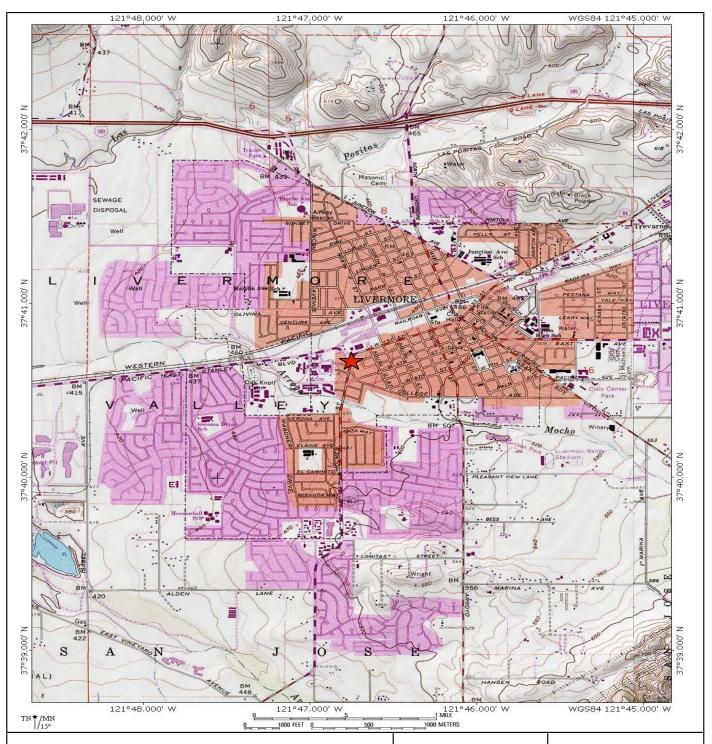
Appendix A, O&M Field Logs

Appendix B, Certified Analytical Reports and Chains of Custody

cc: Mr. Jerry Wickham, Alameda County Department of Health Services



FIGURES 1-2



Site Vicinity Map

Livermore Gas and Minimart 160 Holmes Street Livermore, California Figure 1

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4/8/10

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TABLES 1-7

Table 1 Vapor Extraction Sample Results

160 Holmes Street, Livermore, California

Sample	Sample Date	Total Petroleum Hydrocarbons as (µg/L)	Aı	Aromatic Volatile Organic Compounds (μg/L)					
ID	Date	ТРНд	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE		
Extraction	Well EW-3								
VES-IN	4/5/10	770	2.3	26	5.5	47	310		
	4/6/10	2,100	3.6	72	22	190	420		
	4/7/10	1,500	3.3	57	19	110	400		
	4/15/10	270	2.7	14	1.3	10	270		
	4/30/10	170	<1.0	9.6	1.1	7.2	130		
	5/6/10	180	1.4	8.9	1.0	11.0	160		
	5/20/10	310	0.39	12	2.7	24	86		
	5/28/10	36	< 0.25	1.1	0.5	5.2	3.7		
VES-EFF	4/5/10	39	2.6	1.6	0.46	4.1	< 2.5		
	4/6/10	25	2.9	1.6	0.36	2.7	< 2.5		
	4/7/10	33	1.7	1.2	< 0.25	1.6	< 2.5		
	4/15/10	<25	0.98	0.48	<25	0.76	< 2.5		
	4/29/10	<25	< 0.25	< 0.25	< 0.25	< 0.25	< 2.5		
Extraction	Well EW-1								
VES-IN	4/27/10*	<25	< 0.25	0.31	< 0.25	0.94	4.2		

Notes and Definitions:

VES-IN = vapor extraction system influent sample

VES-EFF = vapor extraction system effluent sample

TPHg = Total Petroleum Hydrocarbons as gasoline

MTBE = Methyl tertiary butyl ether

 μ g/L = Micrograms per liter

TPHg samples analyzed using EPA Method 8015Cm, BTEX and MTBE samples analyzed using



^{* =} Vapor sample collected from well EW-3 while groundwater was extracted from well EW-1

Table 2 Groundwater Extraction Sample Results

160 Holmes Street, Livermore, California

Sample ID	Sample Date	Total Petroleum Hydrocabons as Gasoline	Benzene	Toluene	Ethyl- benzene	Total Xylenes	МТВЕ
Extraction \	Wall FW 3						
GW-IN	4/5/10	78,000	550	1,800	2,100	16,000	310,000
GW-IIV	4/15/10	33,000	470	1,900	1,400	6,300	300,000
	4/20/10	30,000	260	1,300	840	7,400	170,000
	4/29/10	30,000	300	1,500	1.000	5,300	190,000
	5/6/10	27,000	350	1,800	1,100	5,000	200,000
	5/20/10	25,000	360	1,500	930	5,500	200,000
	5/28/10	37,000	400	1,900	1,200	6,200	190,000
Extraction \	 Well EW-1						
GW-IN	4/27/10	1,900	19	69	41	350	3,500

Notes and Definitions:

-- = not analyzed

All results in micrograms per liter

MTBE = Methyl tertiary butyl ether

GW-IN = Sample collected from influent groundwater stream

GW-MID = Sample collected from mid-poiont groundwater stream

GW-EFF = Sample collected from effluent groundwater stream

Samples analyzed for TPHg by EPA Method 8015CM, BTEX/MTBE by EPA Method 8021B.

Table 3
Pilot Scale Remediation System Operational Data

160 Holmes Street, Livermore, California

VES						GV	VES	
Time	AverageVapor Flow Rate (scfm)	Days Operated	Wells In Use	Date Added to VES	Average Flow Rate (gpm)	Total Flow (gallons)	Wells In Use	Date Added to GWTS
April 2010	6	25	EW-3*	4/5/10	2	10,761	EW-3*	4/5/10
May 2010	9.5	31	EW-3	4/5/10	1.5	11,497	EW-3	4/5/10

Notes:

scfm = Standard cubic feet per minute

gpm = gallons per minute

Total flow = gallons processed through system



^{* =} On 4/27/10 groundwater was extracted from EW-1

Table 4
Pilot Scale Remediation System Flow Volumes

160 Holmes Street, Livermore, California

		Vapor	· Data	Groundwa	ter Data		
Date	Quarter/ Month	Quarter's/Month's Flow Volume (cubic feet)	Cumulative Flow Volume (cubic feet)	Quarter's/Month's Flow Volume (gallons)	Cumulative Flow Volume (gallons)		
4/5/10	April	45,936	45,936	7,023		Groundwater extracted from EW-3 on April 5 to April 26 and April 28 to April 30.	
4/3/10	Aprii	45,930	45,930	3,738	10,701	3,738 gallons of groundwater extracted from EW-1 on April 27.	
5/31/10	May	67,116	113,052	11,497	22,258	Soil vapor and groundwater extracted from EW-3	

Notes:

SV = Soil vapor

GW = Groundwater

Table 5
Pilot Scale Remediation System – Vapor Phase Contaminant Mass Removal Data
441 Leigh Avenue, Los Gatos, California

	Av	verage Infl	uent	Culsia Faat	D	Mass Removed (pounds)					
Date	C	Concentrati	ons	Cubic Feet Processed		Quarter	(or Month)	Total	Cumulative Total		
Bute	ТРНд	Benzene	MTBE	Quarter (or Month)	Total	ТРНд	Benzene	MTBE	ТРНд	Benzene	MTBE
April 2010	962	2.4	306	41,544	41,544	2.76	0.0069	0.88	2.76	0.0069	0.88
May 2010	175	0.6	83	67,116	108,660	0.73	0.0025	0.35	3.49	0.0094	1.23

Definitions and Notes:

All concentrations listed in micrograms per liter

All masses listed in pounds (lb)

TPHg = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary butyl ether

If multiple samples were collected the averaged concentration was used to calculate mass removed

Table 6 Pilot Scale Remediation System – Dissolved Phase Contaminant Mass Removal Data 160 Holmes Street, Livermore, California

	Influent Concentration		ation	Gallons P	raaagaad		Mass Removed (pounds)				
Date	(average fr	average from Monthly Samples)		Gallolis F	Tocesseu	Quart	er/ Month T	otal	Cumulative Total		
Date	ТРНд	Benzene	MTBE	Quarterly/ Monthly	Total	ТРНд	Benzene	MTBE	ТРНд	Benzene	MTBE
April 2010	42,750	395	242,500	7,023 (EW-3)	10,761	2.50	0.02	14.19	2.56	0.021	14.30
April 2010	1,900*	19*	3,500*	3,738 (EW-1)	10,761	0.06*	0.0006*	0.11*	2.30	0.021	14.30
May 2010	29,667	370	196,667	11,497	22,258	2.85	0.0400	18.87	5.41	0.061	33.17

<u>Definitions and Notes:</u>

All concnetrations listed in micrograms per liter (µg/L) All masses listed in pounds (lb)



^{* =} Concentrations and masses removed were calculated using extraction and lab data from EW-1 on April 27, 2010

Table 7 Pilot Scale Remediation System - Total Contaminant Mass Removal Data 160 Holmes Street, Livermore, California

			Mass Rei	noved (pound	ls)	
Date	Qua	rter/ Month 7	Гotal	C	umulative Total	1
	TPHg	Benzene	MTBE	TPHg	Benzene	MTBE
April 2010	5.32	0.028	15.18	5.32	0.028	15.18
May 2010	3.58	0.040	19.22	8.90	0.068	34.40

Definitions and Notes:

All concnetrations listed in micrograms per liter (μg/L) All masses listed in pounds (lb)

GWTS = Groundwater extraction and treatment system



APPENDIX A O&M Field Logs

ALLTEREA

VES Operation and Maintenace Field Log 160 Holmes Street, Livermore, California

PERSONNEL: SA	DATE: 5/1/10	
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sam	ple Collection
Hours Operated upon Arrival 854 1. 1	VES-IN	
Battery Status 9000	VES-EFF	
IC-Engine at 40-Inches Water (Yes No		
IC-Engine Water Knockout (% full):	Obs	ervation Wells
	Induced V	acuums (1st/2nd/3rd)
VES Data	MW-1B	
Manometer Readings VES-IN -40.6 In 40	MW-1A	
VES-EFF	EW-1	Je - 1 W
EW-3 -41. Z	EW-2	
Vapor Flow Rate VES-IN 390 F/m	De	pth to Water
		Onsite Wells
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate 1.5 GPM	MW-1B	EW-2
Tank Level (% Full)	MW-2A	EW-3
Totalizer Reading 358 0210	MW-3A	
Influent Groundwater Stream		Offsite Wells
Product Odor (faint/strong)	MW-7A	MW-4A
Turbidity	MW-7B	MW-9A
рН	MW-7C	MW-9B
Color	MW-7A	MW-5A
Sheen	MW-7B	MW-5B
Notes		
Groundwater Sampling	Depa	rture Checklist
EW-3 (influent)	IC Engir	ne off
Tank Sample	IC Engine lo	cked /
	Wells s	ecure /
General OBSERVATIONS and MEASUREMENTS	Equipment s	ecure
Weather Conditions? 5 wwy	GW piping s	
Tank Condition 900d	Tank ladder rem	
Piping condition good	Site cl	/
IC Engine Condition 9008		
Misc. Notes well head broken by car		

VES Operation and Maintenace Field Log

160 Holmes Street, Livermore, California PERSONNEL: DATE: VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL Sample Collection Hours Operated upon Arrival 8546, 4 VES-IN Battery Status 9000 **VES-EFF** IC-Engine at 40-Inches Water Yes No IC-Engine Water Knockout (% full): 0% Observation Wells Induced Vacuums (1st/2nd/3rd) VES Data MW-1B ().6 VES-IN -38.5 Manometer Readings MW-1A 0.6 VES-EFF EW-1 EW-3 - 39,6 00 EW-2 VES-IN 380 f/m Vapor Flow Rate Depth to Water Onsite Wells Groundwater Extraction Observations and Measurements MW-1A EW-1 1.5 6 PM Groundwater Flow Rate MW-1B EW-2 Tank Level (% Full) MW-2A EW-3 3,580400 Totalizer Reading MW-3A Influent Groundwater Stream Offsite Wells Strong Product Odor (faint/strong) MW-7A MW-4A 1000 Turbidity MW-7B MW-9A рН MW-7C MW-9B Color MW-7A MW-5A Sheen MW-7B MW-5B Notes **Groundwater Sampling** Departure Checklist EW-3 (influent) IC Engine off Tank Sample IC Engine locked Wells secure General OBSERVATIONS and MEASUREMENTS Equipment secure Weather Conditions? GW piping secure Tank Condition Tank ladder removed Piping condition Site cleared

IC Engine Condition

Misc. Notes

VES Operation and Maintenace Field Log 160 Holmes Street, Livermore, California

PERSONNEL: DO	ATE: 5-4-10					
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sample Co	llection				
Hours Operated upon Arrival 8551-4	VES-IN /VO2	e				
Battery Status book	VES-EFF Non-	e				
IC-Engine at 40-Inches Water Yes No	Observation	on Wells				
IC-Engine Water Knockout (% full):	Induced Vacuum	s (1st/2nd/3rd)				
VIEC Date	MW-1B					
Manometer Readings VES-IN -40 in the	MW-1A	_ /				
	EW-1					
VES-EFF	EW-2					
EW-3 - 40 m Hall		Water				
Vapor Flow Rate VES-IN 300 Ct/m	Depth to Water Onsite Wells Meter					
Ol Massuraments	MW-1A	EW-1				
Groundwater Extraction Observations and Measurements	MW-1B	EW-2				
Groundwater Flow Rate ~ 1.5 gpm	MW-2A	EW-3				
Tank Level (% Full) ~90%	MW-3A					
Totalizer Reading 3580799	Offsite	Wells				
Influent Groundwater Stream	MW-7A	MW-4A				
Product Odor (faint/strong) Strong/med	MW-7B	MW-9A				
Turbidity 10W	MW-7C	MW-9B				
pH	MW-7A	MW-5A				
Color clear/lingtbrown	MW-7B	MW-5B				
Sheen	WW-7D	11111 325				
Notes	Departure	e Checklist				
Groundwater Sampling	IC Engine off					
EW-3 (influent) Wone	IC Engine locked					
Tank Sample None	Wells secure	/				
	Equipment secure	/				
General OBSERVATIONS and MEASUREMENTS		1				
Weather Conditions? Sunny	GW piping secure	/				
Tank Condition	Tank ladder removed	/				
Piping condition Good &	Site cleared	1				
IC Engine Condition (900)						
Misc. Notes No Depth to water meter						

VES Operation and Maintenace Field Log 160 Holmes Street, Livermore, California

PERSONNEL:	DATE: 5-5-10
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVA	L Sample Collection
Hours Operated upon Arrival 9559-3	VES-IN
Battery Status Good	VES-EFF
IC-Engine at 40-Inches Water Ves No	
IC-Engine Water Knockout (% full):	Observation Wells
10-Eligilie Water Kliockout (76 Iuli).	Induced Vacuums (1st/2nd/3rd)
VES Data	MW-1B
Manometer Readings VES-IN - 40 in 160	MW-1A &
VES-EFF VES-EFF	EW-1 0
EW-3 - 40 in H20	EW-2
2=- 0//	Depth to Water
Vapor Flow Rate VES-IN 350 Ft/men	Onsite Wells
Groundwater Extraction Observations and Measuremen	
Groundwater Flow Rate ~ 1, 5 99 m	MW-1B EW-2
Tank Level (% Full) 95%;	MW-2A EW-3
Totalizer Reading 3581185	MW-3A
Influent Groundwater Stream	Offsite Wells
Product Odor (faint/strong) Mob/s from	MW-7A 1 MW-4A /
Turbidity Turbidity	MW-7B MW-9A
pH —	MW-7C MW-9B
Color Cleav	
Sheen	MW-7B MW-5B
Notes	
Groundwater Sampling	Departure Checklist
EW-3 (influent)	IC Engine off
Tank Sample	IC Engine locked
Talik Salliple	Wells secure
General OBSERVATIONS and MEASUREMENTS	Equipment secure
	GW piping secure
Weather Conditions? Suny	Tank ladder removed
Tank Condition 6000	Site cleared
Piping condition (900)	Site cicared
IC Engine Condition	
Misc. Notes No Depth Neter	

VES Operation and Maintenace Field Log 160 Holmes Street, Livermore, California

PERSONNEL: DATE: VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL Sample Collection Hours Operated upon Arrival 8567. 7 VES-IN Battery Status Grow VES-EFF IC-Engine at 40-Inches Water Ves No IC-Engine Water Knockout (% full): Observation Wells Induced Vacuums (1st/2nd/3rd) MW-1B **VES Data** MW-1A VES-IN Manometer Readings EW-1 **VES-EFF** EW-3 EW-2 Depth to Water Vapor Flow Rate VES-IN Onsite Wells MW-1A EW-1 Groundwater Extraction Observations and Measurements w/5 GPM MW-1B EW-2 Groundwater Flow Rate MW-2A EW-3 Tank Level (% Full) 3581755 MW-3A Totalizer Reading Influent Groundwater Stream Offsite Wells MW-4A MW-7A Product Odor (faint/strong) MW-7B MW-9A Turbidity MW-7C MW-9B pH MW-5A MW-7A Color MW-5B Sheen MW-7B Notes Departure Checklist Groundwater Sampling IC Engine off EW-3 (influent) IC Engine locked Tank Sample \ Wells secure Equipment secure General OBSERVATIONS and MEASUREMENTS GW piping secure Weather Conditions? Tank ladder removed Tank Condition Site cleared Piping condition IC Engine Condition Misc. Notes put recirculation in

VES Operation and Maintenace Field Log 160 Holmes Street, Livermore, California

PERSONNEL: 9/	DATE: 5-14-10	
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sam	ple Collection
Hours Operated upon Arrival 8570. 1	VES-IN	
Battery Status Good	VES-EFF	
IC-Engine at 40-Inches Water (Ve) No		Talking to the
IC-Engine Water Knockout (% full):	Obse	ervation Wells
	Induced Va	ncuums (1st/2nd/3rd)
VES Data	MW-1B () . C) —
Manometer Readings VES-IN	MW-1A 0.0	
VES-EFF	EW-1 0-0	
EW-3	EW-2 0-0	
Vapor Flow Rate VES-IN		pth to Water
		Onsite Wells
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate 2.0 G-PM	MW-1B	EW-2
Tank Level (% Full)	MW-2A	EW-3
Totalizer Reading 3,588,228	MW-3A	
Influent Groundwater Stream		Offsite Wells
Product Odor (faint/strong) Strong	MW-7A	MW-4A
Turbidity law	MW-7B	MW-9A
рН	MW-7C	MW-9B
Color box	MW-7A	MW-5A
Sheen NO	MW-7B	MW-5B
Notes		
Groundwater Sampling	Depa	rture Checklist
EW-3 (influent)	IC Engin	ne off
Tank Sample	IC Engine lo	ocked
	Wells se	ecure
General OBSERVATIONS and MEASUREMENTS	Equipment se	
Weather Conditions? Sunn	GW piping so	ecure
Tank Condition Ewoty	Tank ladder rem	
Piping condition 1000	Site cle	eared
IC Engine Condition 900 d		100
wine Homes Started Filling tank 2.		

discharging tank 1

VES Operation and Maintenace Field Log 160 Holmes Street, Livermore, California

PE	ERSONNEL: SA	DATE: 5-17-10	
	TO A MEA CUIDEMENTE LIBON ADDIVAL	Samul	le Collection
	IS and MEASUREMENTS UPON ARRIVAL	VES-IN	Concensi
Hours O	perated upon Arrival 8575 5		Walter Land
	Battery Status Good	VES-EFF	
The same of the sa	e at 40-Inches Water Yes No	01	- Walle
IC-Engine Water	Knockout (% full): 0%		vation Wells
			uums (1st/2nd/3rd)
	VES Data	MW-1B	
Manometer Readings	VES-IN - 40.0	MW-1A	
	VES-EFF	EW-1	
	EW-3 -41.0	EW-2	
Vapor Flow Rate	VES-IN 380 P/M	Dept	th to Water
		On	site Wells
Groundwater	Extraction Observations and Measurements	MW-1A	EW-1
Groundwater	r Flow Rate ~ 1.5 G-PM	MW-1B	EW-2
Tank Lev	vel (% Full)	MW-2A	EW-3
	zer Reading 35885,773	MW-3A	
Influent Groundwater Stream		Offsite Wells	
Product Odor (f	aint/strong) Stron	MW-7A	MW-4A
	Turbidity low	MW-7B	MW-9A
	рН	MW-7C	MW-9B
	Color by n	MW-7A	MW-5A
	Sheen	MW-7B	MW-5B
	Notes		
ALC: N. A. S.	Groundwater Sampling	Depar	ture Checklist
EW	-3 (influent)	IC Engine	2.0
		IC Engine loc	
1	ank Sample	Wells see	
	SPORDLY THONG I AME I CUID PARENTS	Equipment sec	
	DBSERVATIONS and MEASUREMENTS		
Weather Conditions?		GW piping sec	
Tank Condition		Tank ladder remo	- /
Piping condition		Site clea	ared
IC Engine Condition			
Misc. Notes	replaced broken PVC in		

VES Operation and Maintenace Field Log 160 Holmes Street, Livermore, California

PERSONNEL: DO	DATE: 5-18	-10
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Samp	le Collection
Hours Operated upon Arrival 85803	VES-IN	
Battery Status 600	VES-EFF	
IC-Engine at 40-Inches Water (Ves) No		
IC-Engine Water Knockout (% full):	Obser	rvation Wells
To Dilgine Halor through (1974)	Induced Vac	cuums (1st/2nd/3rd)
VES Data	MW-1B	
Manometer Readings VES-IN - 39-8	MW-1A	
VES-EFF VES-EFF	EW-1	
EW-3 - 40-3	EW-2	
Vapor Flow Rate VES-IN 400		th to Water
vapor riow reace 125 m.		nsite Wells
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate ~ 1.5 GPM	MW-1B	EW-2
Tank Level (% Full) ~ 10%	MW-2A	EW-3
Totalizer Reading 3589 DS1	MW-3A	
Influent Groundwater Stream		ffsite Wells
Product Odor (faint/strong) Med/ Arang	MW-7A	MW-4A
Turbidity (ow	MW-7B	MW-9A
рН	MW-7C	MW-9B
Color toht brown	MW-7A	MW-5A
Sheen	MW-7B	MW-5B
Notes		
Groundwater Sampling	Depar	ture Checklist
EW-3 (influent)	IC Engine off	
Tank Sample	IC Engine loc	eked
	Wells se	cure
General OBSERVATIONS and MEASUREMENTS	Equipment se	cure
Weather Conditions?	GW piping se	
Tank Condition Good	Tank ladder remo	
Piping condition Cost	Site cle	ared
IC Engine Condition Cood		
Misc. Notes NO Death to Water Mexer		

VES Operation and Maintenace Field Log

PERSONNEL: DO	DATE: 5-19	-1 <i>D</i>
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sam	ple Collection
Hours Operated upon Arrival 2588-0	VES-IN	_
Battery Status Good	VES-EFF	
IC-Engine at 40-Inches Water (es) No		
IC-Engine Water Knockout (% full): 0%	Obse	ervation Wells
	Induced Va	acuums (1st/2nd/3rd)
VES Data	MW-1B	1
Manometer Readings VES-IN -40 m 120	MW-1A	
VES-EFF	EW-1 0	
Vapor Flow Rate VES-IN 400 Flow	EW-2	
Vapor Flow Rate VES-IN 400 Flow	Dep	oth to Water
	0	nsite Wells ,
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate al. S spm	MW-1B	EW-2
Tank Level (% Full) ~ 10%	MW-2A	EW-3
Totalizer Reading 3589469	MW-3A	
Influent Groundwater Stream	0	ffsite Wells
Product Odor (faint/strong) Med/strong	MW-7A	MW-4A
Turbidity low	MW-7B	MW-9A
рН	MW-7C	MW-9B
color lingt brown	MW-7A	MW-5A
Sheen	MW-7B	MW-5B
Notes —		
Groundwater Sampling	Depar	ture Checklist
EW-3 (influent)	IC Engine	off V
Tank Sample —	IC Engine loc	ked /
	Wells see	cure V
General OBSERVATIONS and MEASUREMENTS	Equipment sec	cure V
Weather Conditions?	GW piping sec	cure /
Tank Condition	ank ladder remo	ved V
Piping condition	Site clea	ared 1
C Engine Condition	+	
Misc. Notes No DTW Meter		

VES Operation and Maintenace Field Log

PERSONNEL: VA DA	TE: 5-20-1	0
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sam	ple Collection
Hours Operated upon Arrival 8575-8	VES-IN V	
Battery Status Oed	VES-EFF	
IC-Engine at 40-Inches Water Yes No		
IC-Engine Water Knockout (% full):	Obse	ervation Wells
	Induced Va	acuums (1st/2nd/3rd)
VES Data	MW-1B	
Ianometer Readings VES-IN - 40.0	MW-1A	
VES-EFF	EW-1	
EW-3	EW-2	
Vapor Flow Rate VES-IN - 790 C/m	De	pth to Water
	C	Insite Wells
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate V 1.8 GPM	MW-1B	EW-2
Tank Level (% Full) 40%	MW-2A	EW-3
Totalizer Reading 3589,700	MW-3A	
Influent Groundwater Stream	Offsite Wells	
Product Odor (faint/strong) Strong	MW-7A	MW-4A
Turbidity	MW-7B	MW-9A
pH /	MW-7C	MW-9B
Color DO	MW-7A	MW-5A
Sheen	MW-7B	MW-5B
Notes		
Groundwater Sampling	Depa	rture Checklist
EW-3 (influent)	IC Engin	e off
Tank Sample	IC Engine lo	cked
	Wells se	ecure
General OBSERVATIONS and MEASUREMENTS	Equipment se	cure
Veather Conditions? Suha 5	GW piping se	ecure
Tank Condition God	ank ladder rem	
Piping condition Geod	Site cle	ared
C Engine Condition ()		
Misc. Notes breaker off ingle		

VES Operation and Maintenace Field Log

		V
ES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sam	ple Collection
Hours Operated upon Arrival 8600. 7	VES-IN	
Battery Status Good	VES-EFF	
IC-Engine at 40-Inches Water Yes No		College Const
IC-Engine Water Knockout (% full):	Obse	rvation Wells
	Induced Va	cuums (1st/2nd/3rd)
VES Data	MW-1B	0 ——
anometer Readings VES-IN - 41	MW-1A O. C	
VES-EFF	EW-1 0.0	
EW-3	EW-2 0.0	
Vapor Flow Rate VES-IN 490 F/m	Dep	oth to Water
	O	nsite Wells
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate ~ (5 GPM	MW-1B	EW-2
Tank Level (% Full) 60%	MW-2A	EW-3
Totalizer Reading 358 9,8 58	MW-3A	
Influent Groundwater Stream	Offsite Wells	
Product Odor (faint/strong) Strong	MW-7A	MW-4A
Turbidity low	MW-7B	MW-9A
рН	MW-7C	MW-9B
Color 5th	MW-7A	MW-5A
Sheen V	MW-7B	MW-5B
Notes		
Groundwater Sampling	Depar	ture Checklist
EW-3 (influent)	IC Engine	off
Tank Sample	IC Engine loc	ked
	Wells sec	eure
General OBSERVATIONS and MEASUREMENTS	Equipment sec	cure
eather Conditions? SLhty	GW piping sec	cure
Tank Condition	ank ladder remo	
Piping condition	Site clea	
Engine Condition	propare of Keys return	
Misc. Notes	Keys NEW	nel

VES Operation and Maintenace Field Log

160 Holmes Street, Livermore, California PERSONNEL: DATE: VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL Sample Collection Hours Operated upon Arrival 86 11.2 VES-IN Battery Status GOOD VES-EFF IC-Engine at 40-Inches Water (Yes) IC-Engine Water Knockout (% full): Observation Wells Induced Vacuums (1st/2nd/3rd) **VES Data** 0 MW-1B -40.Z VES-IN Manometer Readings 0 2A 6 MW-1A 40 0 VES-EFF EW-1 0 EW-3 EW-2 200 Vapor Flow Rate VES-IN Depth to Water Onsite Wells Groundwater Extraction Observations and Measurements MW-1A EW-1 Groundwater Flow Rate MW-1B EW-2 Tank Level (% Full) - 60% MW-2A EW-3 Totalizer Reading A:3590323 MW-3A Influent Groundwater Stream Offsite Wells Product Odor (faint/strong) MW-7A MW-4A Turbidity MW-7B MW-9A pH MW-7C MW-9B Color light Brown MW-7A MW-5A Sheen MW-7B MW-5B wear alwes next time Notes Groundwater Sampling Departure Checklist EW-3 (influent) IC Engine off Tank Sample IC Engine locked Wells secure General OBSERVATIONS and MEASUREMENTS Equipment secure Weather Conditions? MINIO GW piping secure Tank Condition 6,000 ank ladder removed Piping condition 000 vs Site cleared @00D C Engine Condition First DAY Tille

Misc. Notes

VES Operation and Maintenace Field Log

VES OBSERVATIONS and MEASUREMENTS UPON AR	RIVAL Sample C	Collection	
Hours Operated upon Arrival 8618.1	VES-IN		
Battery Status (Food	VES-EFF		
IC-Engine at 40-Inches Water (Yes) No	a characteristic part		
IC-Engine Water Knockout (% full):	Observat	Observation Wells	
	Induced Vacuus	ms (1st/2nd/3rd)	
VES Data	MW-1B		
anometer Readings VES-IN - 40	MW-1A		
VES-EFF	EW-1		
EW-3	EW-2	DE THE SE	
Vapor Flow Rate VES-IN 480 F/m	Depth t	o Water	
	Onsite	Wells	
Groundwater Extraction Observations and Measureme	nts MW-1A	EW-1	
Groundwater Flow Rate ~ 1.5 GBM	MW-1B	EW-2	
Tank Level (% Full)	MW-2A	EW-3	
Totalizer Reading 3590,811	MW-3A		
Influent Groundwater Stream	Offsite	e Wells	
Product Odor (faint/strong)	MW-7A	MW-4A	
Turbidity lot	MW-7B	MW-9A	
рН	MW-7C	MW-9B	
Color Syn	MW-7A	MW-5A	
Sheen	MW-7B	MW-5B	
Notes			
Groundwater Sampling	Departure	e Checklist	
EW-3 (influent)	IC Engine off		
Tank Sample	IC Engine locked		
	Wells secure		
General OBSERVATIONS and MEASUREMENTS	Equipment secure		
/eather Conditions?	GW piping secure		
Tank Condition	ank ladder removed		
Piping condition	Site cleared		
C Engine Condition			
Misc. Notes			

VES Operation and Maintenace Field Log

PERSONNEL: DO	DATE: 5-25	-60
		Market S
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Samı	ole Collection
Hours Operated upon Arrival <u>\$623.2</u>	VES-IN	
Battery Status 600 d	VES-EFF	
IC-Engine at 40-Inches Water Yes No		
IC-Engine Water Knockout (% full):	Obse	rvation Wells
	Induced Va	cuums (1st/2nd/3rd)
VES Data	MW-1B &	2 1 2
Manometer Readings VES-IN - 40 To the	MW-1A	2
VES-EFF	EW-1	2
EW-3 - 40 in Hoo	EW-2	9
Vapor Flow Rate VES-IN 400 A/m	Dep	th to Water
	OI	nsite Wells
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate ~ 1.5 gpm	MW-1B	EW-2
Tank Level (% Full) 60 %	MW-2A	EW-3
Totalizer Reading 3596 566	MW-3A	
Influent Groundwater Stream	Of	ffsite Wells
Product Odor (faint/strong) Strong	MW-7A	MW-4A
Turbidity OW	. MW-7B	MW-9A
рН	MW-7C	MW-9B
color light brown	MW-7A	MW-5A
Sheen	MW-7B	MW-5B
Notes		
Groundwater Sampling	Depar	ture Checklist
EW-3 (influent)	IC Engine	e off
Tank Sample	IC Engine loc	ked
	Wells see	cure V
General OBSERVATIONS and MEASUREMENTS	Equipment sec	cure ~
Weather Conditions? (God / Vain	GW piping see	cure
Tank Condition Coord	ank ladder remo	ved
Piping condition Good	Site clea	ared
IC Engine Condition Good	MARKET IN	F. E-1-7. T-12. "
Misc. Notes		

VES Operation and Maintenace Field Log

PERSONNEL: DO	DATE: 5-20	3-10
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sam	ple Collection
Hours Operated upon Arrival 46316	VES-IN	pre concetion
Battery Status 6000	VES-EFF	
IC-Engine at 40-Inches Water (Yes) No		
IC-Engine Water Knockout (% full):	Obse	ervation Wells
	Induced Va	acuums (1st/2nd/3rd)
VES Data	MW-1B C)
anometer Readings VES-IN - 40 Tm HD	MW-1A O	
VES-EFF	EW-1 O	
EW-3 - 40 Fn H.O	EW-2)
Vapor Flow Rate VES-IN 400 Hm	Dej	oth to Water
	0	nsite Wells
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate ~ 1.5 gpm	MW-1B	EW-2
Tank Level (% Full) 90%	MW-2A	EW-3
Totalizer Reading 3590834	MW-3A	
Influent Groundwater Stream	0	ffsite Wells
Product Odor (faint/strong) Strong	MW-7A	MW-4A
Turbidity low	MW-7B	MW-9A
pH	MW-7C	MW-9B
Color light brown	MW-7A	MW-5A
Sheen	MW-7B	MW-5B
Notes		
Groundwater Sampling	Depai	rture Checklist
EW-3 (influent)	IC Engine	e off
Tank Sample	IC Engine lo	cked V
	Wells se	cure
General OBSERVATIONS and MEASUREMENTS	Equipment se	cure
reather Conditions? Cloudy	GW piping se	cure
Tank Condition Good	ank ladder remo	oved V
Piping condition 6006	Site cle	ared
C Engine Condition Good		
Misc. Notes No Depth to Water neter		

VES Operation and Maintenace Field Log

PERSONNEL: 47	DATE: 5/27/10	
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVA	L Sampl	le Collection
Hours Operated upon Arrival 8638.	VES-IN	4 - 1 - 1 - 1
Battery Status Gwd	VES-EFF	
IC-Engine at 40-Inches Water Yes No		
IC-Engine Water Knockout (% full):	Observ	vation Wells
	Induced Vac	uums (1st/2nd/3rd)
VES Data	MW-1B 0.0	
Manometer Readings VES-IN -40.0	MW-1A 0-0	
VES-EFF	EW-1 0-0	
EW-3 -41.2	EW-2 3 0	
Vapor Flow Rate VES-IN 500 E/M	Dept	h to Water
	Ons	site Wells
Groundwater Extraction Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate 4.5	MW-IB	EW-2
Tank Level (% Full) 80 %	MW-2A	EW-3
Totalizer Reading 3591,005	MW-3A	
Influent Groundwater Stream	Offs	site Wells
Product Odor (faint/strong)	MW-7A	MW-4A
Turbidity	MW-7B	MW-9A
рН	MW-7C	MW-9B
Color	MW-7A	MW-5A
Sheen	MW-7B	MW-5B
Notes		
Groundwater Sampling	Depart	ure Checklist
EW-3 (influent)	IC Engine	off
Tank Sample	IC Engine lock	ed
	Wells secu	ire
General OBSERVATIONS and MEASUREMENTS	Equipment secu	
Weather Conditions?	GW piping secu	
Tank Condition	ank ladder remov	
Piping condition	Site clear	
IC Engine Condition		
Misc. Notes FILL PROGNE		
The state of the sales		

VES Operation and Maintenace Field Log

PERSONNE	L: DA	TE: 5-28-1	0
VES OBSERVATIONS and M	IEASUREMENTS UPON ARRIVAL	Samp	ole Collection
Hours Operated upon	Arrival 8642.5	VES-IN V	
Batter	y Status Good	VES-EFF	
	s Water Yes No	BUSIAL	W .
IC-Engine Water Knockout (Obser	rvation Wells
		Induced Va	cuums (1st/2nd/3rd)
VES Dat	a	MW-1B	
Manometer Readings VES-IN	-40.4	MW-1A	
VES-EFF		EW-1	
EW-3	-41.0	EW-2	and Comment of the
Vapor Flow Rate VES-IN	500 f/m	Dep	th to Water
		Or	nsite Wells
Groundwater Extraction	Observations and Measurements	MW-1A	EW-1
Groundwater Flow Rate	~ 1.3 GPM	MW-1B	EW-2
Tank Level (% Full)	70°6	MW-2A	EW-3
Totalizer Reading	3591,567	MW-3A	
	oundwater Stream	Of	fsite Wells
Product Odor (faint/strong)	strong	MW-7A	MW-4A
Turbidity	low	MW-7B	MW-9A
рН		MW-7C	MW-9B
Color	brn	MW-7A	MW-5A
Sheen		MW-7B	MW-5B
Notes	/		
Ground	water Sampling	Depar	ture Checklist
EW-3 (influent)		IC Engine	off
Tank Sample		IC Engine loc	ked
		Wells see	cure
General OBSERVATI	ONS and MEASUREMENTS	Equipment sec	cure
Weather Conditions? 56 Nny		GW piping sec	
Tank Condition 500d		ank ladder remo	
Piping condition Good		Site clea	ared
IC Engine Condition			
Misc. Notes	1 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		

VES Operation and Maintenace Field Log

PERSONNEL:	DATE: 5/29/1	0	
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sam	ple Collection	
Hours Operated upon Arrival 8648	VES-IN	pic concetion	
Battery Status GOOD	VES-EFF		
IC-Engine at 40-Inches Water Yes No	V LO-LIT		
IC-Engine Water Knockout (% full):	Obse	ervation Wells	
		acuums (1st/2nd/3rd)	
VES Data	MW-1B		
anometer Readings VES-IN -40.1	MW-1A		
VES-EFF	EW-1 C		
EW-3 ~ 40.3	EW-2		
Vapor Flow Rate VES-IN 500 F/W		oth to Water	
		Onsite Wells	
Groundwater Extraction Observations and Measurements	MW-1A	EW-1	
Groundwater Flow Rate ~ 1.7 GPM	MW-1B	EW-2	
Tank Level (% Full) 75% - 80%	MW-2A	EW-3	
Totalizer Reading 3591172.5	MW-3A		
Influent Groundwater Stream	Offsite Wells		
Product Odor (faint/strong) moderate	MW-7A	MW-4A	
Turbidity	MW-7B	MW-9A	
pH	MW-7C	MW-9B	
Color H. Brown	MW-7A	MW-5A	
Sheen	MW-7B	MW-5B	
Notes			
Groundwater Sampling	Depar	ture Checklist	
EW-3 (influent)	IC Engine	off V	
Tank Sample	IC Engine loc	ked 🗸	
2	Wells see	cure /	
General OBSERVATIONS and MEASUREMENTS	Equipment sec	cure U	
eather Conditions? Sonny	GW piping sec	cure U	
Tank Condition 6,600	ank ladder remo	ved V	
Piping condition 6000	Site clea	ared U	
Engine Condition Green			
Misc. Notes Filed proporty (2) arrival			

ALLTERRA

VES Operation and Maintenace Field Log 160 Holmes Street, Livermore, California

PERSONNEL: LB D	ATE: 5/30/10		
VES OBSERVATIONS and MEASUREMENTS UPON ARRIVAL	Sam	ple Collection	
Hours Operated upon Arrival 8654.	VES-IN	presentetion	
Battery Status GOOD	VES-EFF		
IC-Engine at 40-Inches Water Yes No	VES-EIT		
IC-Engine Water Knockout (% full):	Ohee	ervation Wells	
To Eligino Water Knockout (70 Iuni).		acuums (1st/2nd/3rd)	
VES Data	MW-1B	b/ / T 7	0
VES-IN -40-3	MW-1A	14	0
VES-EFF	EW-1		1
EW-3 4 -40.9	EW-2		(
Vapor Flow Rate VES-IN 420 f/M		oth to Water	
		nsite Wells	
Groundwater Extraction Observations and Measurements	MW-1A	EW-1	
Groundwater Flow Rate 1 25 GPM	MW-1B	EW-2	
Tank Level (% Full) 75-80%	MW-2A	EW-3	
Totalizer Reading 395 1596	MW-3A	11:11:11:11	
Influent Groundwater Stream	0	ffsite Wells	
Product Odor (faint/strong) Moderate	MW-7A	MW-4A	
Turbidity	MW-7B	MW-9A	
рН	MW-7C	MW-9B	
Color Lt., Brown	MW-7A	MW-5A	- 1
Sheen	MW-7B	MW-5B	
Notes			
Groundwater Sampling	Depai	ture Checklist	
EW-3 (influent)	IC Engine	e off X	
Tank Sample	IC Engine lo	cked X	
	Wells se	cure 🔾	
General OBSERVATIONS and MEASUREMENTS	Equipment se	cure 🔾	
Weather Conditions? Sunny Not	GW piping se	cure	
Tank Condition GOD	ank ladder remo	oved /	
Piping condition 600 D	Site cle	ared	
IC Engine Condition 600 D	- 61 (57-1342		
Misc. Notes Found Slight Suction in EW-1,		ustik iles	
manquete flyotrated between any 1 clas		77.56-4-4	

IC running for 5 hours.

ALLTERRA

VES Operation and Maintenace Field Log

160 Holmes Street, Livermore, California

PERSONNEL: SA	DATE: 3-31-	0
VES OBSERVATIONS and MEASUREMENTS UPON	ARRIVAL Sam	ole Collection
Hours Operated upon Arrival 8666.	VES-IN	<u> </u>
Battery Status Council	VES-EFF	
IC-Engine at 40-Inches Water Yes No		and the same
IC-Engine Water Knockout (% full):	Obse	rvation Wells
	Induced Va	cuums (1st/2nd/3rd)
VES Data	MW-1B	
Manometer Readings VES-IN	MW-1A	
VES-EFF	EW-1	
EW-3	EW-2	
Vapor Flow Rate VES-IN	Dep	oth to Water
Manager Transfer of the State o	0	nsite Wells
Groundwater Extraction Observations and Measur	rements MW-1A	EW-1
Groundwater Flow Rate 1.5 GPM	MW-1B	EW-2
Tank Level (% Full) 75%	MW-2A	EW-3
Totalizer Reading 3951707	MW-3A	
Influent Groundwater Stream	0	ffsite Wells
Product Odor (faint/strong)	MW-7A	MW-4A
Turbidity	MW-7B	MW-9A
рН	MW-7C	MW-9B
Color	MW-7A	MW-5A
Sheen	MW-7B	MW-5B
Notes	the same of the sa	
Groundwater Sampling	Depar	ture Checklist
EW-3 (influent)	IC Engine	e off
Tank Sample	IC Engine lo	cked
	Wells se	cure
General OBSERVATIONS and MEASUREME	NTS Equipment se	cure
Weather Conditions?	GW piping se	cure
Tank Condition	ank ladder remo	oved
Piping condition	Site cle	ared
IC Engine Condition		
Misc. Notes T1 @ 75% too		

APPENDIX B Certified Analytical Reports and Chains of Custody

McCampbell Analytical,	Inc.
"When Quality Counts"	

Allterra Environmental, Inc	Client Project ID: 160 Holmes Street, Livermore, CA	Date Sampled: 05/06/10
849 Almar Ave, Ste. C #281		Date Received: 05/06/10
049 Minut 11ve, 5te. C #201	Client Contact: James Allen	Date Reported: 05/12/10
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 05/12/10

WorkOrder: 1005153

May 12, 2010

Dear .	James:
--------	--------

Enclosed within are:

- 1) The results of the 3 analyzed samples from your project: 160 Holmes Street, Livermore, CA,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager McCampbell Analytical, Inc.



1005153

Only tank sample on a rush per Cric

	ALLTERRA														Ch	ain	of C	ust	ody	Rec	cord	l						
2				ue, Suite C,												Turn	Around	Time (circle (one)	RUSH	(2411	R) 48	HR 7	72HR	5 Day	9	
		W	ebsite: www	alifornia 950 allterraenv.c acsimile: (8)	om	5-2609								8015/8021)										(0				
Report and Bill to: /			1 122-2000 1	acsimile. (o.	71142	2-2003)15/				560)			-80	070	20)	831				
Project Number:	160													A 8(× ×			pilos	19/0	09/0	525/		0.8		
Project Location: Project Name:	160 Holmes S	Street, Liveri	more, CA											BE (EP			(097	nol (EP	(260)	8260)	olved	PA 601	A 6010	8270,	say	0.9/20		
Sampler Signature:	ENG				T		0		_	-				MT	20)	15)	A 80	the the	rs (8	EPA	diss	S (E	E	EPA	ioas	0/20		
	Sample C	ollection		Containers	+	M	atrix	_	+	Pr	reser	vation	1	X	₹ 80	08 1	E	N T	nge	S	otal	fetal	ctals	A's	ty/B	109		Pa
Field Point Name Sample ID	Date	Time	Number of Containers	Container Type	Air	Water	Soil	Sludge	Other	lce	HCI	HNOs	Other	PPHg/ BTEX/ MTBE (EPA	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Ethanol and Methanol (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA 8260)	Hardness/Total dissolved solids	CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200.9/200.8)		EDF required
V4S-IN	5-6-10	11:00	1	Tedder	V				- 1	/				/														~
VES-IN GU-IN Tank-Z	1	1	4	V89		/				/	1			V.														-
Janu-C			4	1		~																					•	
-																											7	
					0		1/)																			
Received By:	A 40	len	Date: 5-6-60 Date: Date:	Time:	Rece	eived B	h	/ e	1	Ta	6	26)	Comi	ICE GO HE DE	E / t° OOD C AD SI CHLO	360 ONDITI PACE A PRINAT	ED IN I	AB	APPRO CO PR G MET	ESER	VED IN	V I LAB_					

McCampbell Analytical, Inc.

1534 Willow Pass Rd (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, CA 94565-1701 WorkOrder: 1005153 ClientCode: ATRS WaterTrax WriteOn ✓ EDF Excel Fax ✓ Email HardCopy ThirdParty J-flag Report to: Bill to: Requested TAT: 5 days James Allen Email: allterraenvironmental@yahoo.com, mic Accounts Payable Allterra Environmental, Inc. Allterra Environmental cc: Date Received: 05/06/2010 PO: 849 Almar Ave, Ste. C #281 849 Almar Ave, Ste. C #281 Santa Cruz, CA 95060 ProjectNo: 160 Holmes Street, Livermore, CA Santa Cruz, CA 95060 Date Printed: 05/06/2010 831-425-2608 FAX 831-425-2609 micah@allterraenv.com Requested Tests (See legend below) Lab ID **Client ID** Collection Date Hold 1 2 3 5 6 9 10 12 Matrix 11 1005153-001 VES-IN Air 5/6/2010 11:00 Α Α 1005153-002 GW-IN Water 5/6/2010 11:00 Α 1005153-003 Tank-2 Water 5/6/2010 11:00 Α Test Legend: 5 2 3 G-MBTEX_AIR G-MBTEX_W PREDF REPORT 7 6 10 8 11 12 The following SampID: 001A contains testgroup. Prepared by: Melissa Valles

Comments: 003-24hr

Sample Receipt Checklist

Client Name:	Allterra Envir	onmental, Inc			Date a	and Time Received:	5/6/2010 5	14:17 PM
Project Name:	160 Holmes S	treet, Livermore, CA			Check	dist completed and r	eviewed by:	Melissa Valles
WorkOrder N°:	1005153	Matrix Air/Water			Carrie	r: <u>Benjamin Ysla</u>	s (MAI Courier)	1
		<u>Chair</u>	of Cu	ıstody (C	COC) Informa	ation		
Chain of custody	present?		Yes	V	No 🗆			
Chain of custody	signed when relir	nquished and received?	Yes	V	No 🗆			
Chain of custody	agrees with sam	ole labels?	Yes	✓	No 🗌			
Sample IDs noted	by Client on COC	?	Yes	V	No 🗆			
Date and Time of	collection noted by	y Client on COC?	Yes	✓	No \square			
Sampler's name r	noted on COC?		Yes	V	No 🗆			
		<u>s</u>	ample	Receip	t Information	1		
Custody seals in	tact on shipping co	ontainer/cooler?	Yes		No 🗆		NA 🔽	
Shipping containe	er/cooler in good o	ondition?	Yes	V	No 🗆			
Samples in prope	er containers/bottle	es?	Yes	✓	No 🗆			
Sample containe	rs intact?		Yes	✓	No 🗆			
Sufficient sample	volume for indica	ted test?	Yes	✓	No 🗌			
		Sample Prese	rvatio	n and Ho	old Time (HT) Information		
All samples recei	ived within holding	time?	Yes	✓	No 🗌			
Container/Temp B	Blank temperature		Coole	er Temp:	3.6°C		NA \square	
Water - VOA vial	ls have zero head	space / no bubbles?	Yes	✓	No 🗆	No VOA vials subm	nitted \square	
Sample labels ch	necked for correct	preservation?	Yes	V	No 🗌			
Metal - pH accep	table upon receipt	(pH<2)?	Yes		No 🗆		NA 🗹	
Samples Receive	ed on Ice?		Yes	✓	No 🗆			
		(Ісе Тур	e: WE	T ICE)			
* NOTE: If the "N	No" box is checked	d, see comments below.						
=====		======				=====	====	======
Client contacted:		Date contac	ted:			Contacted	l by:	
Comments:								

Allterra Environmental, Inc	Client Project ID: 160 Holmes Street, Livermore, CA	Date Sampled:	05/06/10
849 Almar Ave, Ste. C #281	Liverniole, CA	Date Received:	05/06/10
	Client Contact: James Allen	Date Extracted:	05/07/10
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed:	05/07/10

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

Analytical methods: SW8021B/8015Bm Extraction method: SW5030B Work Order: 1005153 Lab ID Client ID Matrix TPH(g) MTBE Benzene Toluene Ethylbenzene Xylenes % SS Comments 001A VES-IN 180 160 1.4 8.9 1.0 11 115 d1 Reporting Limit for DF = 1; Α 0.25 0.25 0.25 0.25 25 2.5 μ g/L ND means not detected at or 0.05 1.0 0.005 0.005 0.005 0.005 mg/Kg above the reporting limit

* water and vapor samples are reported in μg/l	., soil/sludge/solid sar	nples in mg/kg,	wipe samples in µg/wipe	, product/oil/non-aqueous	liquid samp	les in mg/L.

[#] cluttered chromatogram; sample peak coelutes with surrogate peak.

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

Allterra Environmental, Inc	Client Project ID: 160 Holmes Street, Livermore, CA	Date Sampled:	05/06/10
849 Almar Ave, Ste. C #281	Liverniole, CA	Date Received:	05/06/10
	Client Contact: James Allen	Date Extracted:	05/07/10
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed:	05/07/10

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

Extractio	on method: SW5030	hod: SW5030B Analytical methods: SW8021B/8015Bm Work Order:							1005153		
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	VES-IN	A	49	42	0.42	2.3	0.24	2.4	2	115	d1

ppm (mg/l	ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.											
Reporting Limit for DF =1;	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L			
ND means not detected at or above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg			

^{*} vapor samples are reported in $\mu L/L$, soil/sludge/solid samples in mg/kg, wipe samples in $\mu g/wipe$, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in $\mu g/L$.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant



Allterra Environmental, Inc	Client Project ID: 160 Holmes Street, Livermore, CA	Date Sampled:	05/06/10
849 Almar Ave, Ste. C #281	Liverinore, CA	Date Received:	05/06/10
	Client Contact: James Allen	Date Extracted:	05/07/10
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed:	05/07/10

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

Analytical methods: SW8021B/8015Bm Extraction method: SW5030B Work Order: 1005153 Lab ID Client ID Matrix TPH(g) MTBE Benzene Toluene Ethylbenzene Xylenes Comments 003A Tank-2 W 8300 73,000 120 450 100 2000 50 106

Reporting Limit for DF =1; ND means not detected at or	W	50	5.0	0.5	0.5	0.5	0.5	μg/L
above the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

^{*} water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in μ g/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

- +The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
- d1) weakly modified or unmodified gasoline is significant

[#] cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

Allterra Environmental, Inc

Client Project ID: 160 Holmes Street,
Livermore, CA

Date Sampled: 05/06/10

Date Received: 05/06/10

Client Contact: James Allen

Date Extracted: 05/07/10-05/10/10

Santa Cruz, CA 95060

Client P.O.: Date Analyzed: 05/07/10-05/10/10

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1005153

Extraction	on method: SW5030B			Analyt	ical methods: S	SW8021B/8015	Bm		Worl	COrder:	1005153
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
002A	GW-IN	w	27,000	200,000	350	1800	1100	5000	200	99	d1
Repor	rting Limit for DF =1; eans not detected at or	W	50	5.0	0.5	0.5	0.5	0.5		_	
	eans not detected at or we the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005		<u>Ig</u>	

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg	wipe samples in μg /wipe, product/oil/non-aqueous liquid samples and all
TCLP & SPLP extracts in mg/L.	

[#] cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water/Air QC Matrix: Water BatchID: 50480 WorkOrder 1005153

EPA Method SW8021B/8015Bm	Extra	ction SW	5030B					S	Spiked San	nple ID	: 1005149-0	02A			
Analyte	Sample	Sample Spiked M		MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)						
raidiyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD			
TPH(btexf)	ND	60	94.1	113	18.1	103	97.3	5.77	70 - 130	20	70 - 130	20			
MTBE	ND	10	112	101	10.4	103	98.7	4.70	70 - 130	20	70 - 130	20			
Benzene	ND	10	89.8	85.5	4.97	82.6	80.3	2.74	70 - 130	20	70 - 130	20			
Toluene	ND	10	87.3	85.9	1.64	80.8	79.1	2.11	70 - 130	20	70 - 130	20			
Ethylbenzene	ND	10	86.3	84.3	2.43	81	78.9	2.58	70 - 130	20	70 - 130	20			
Xylenes	ND	30	84.5	84.2	0.339	80.6	78.7	2.39	70 - 130	20	70 - 130	20			
%SS:	107	10	102	94	8.35	94	94	0	70 - 130	20	70 - 130	20			

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 50480 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1005153-001A	05/06/10 11:00 AM	05/07/10	05/07/10 11:59 AM	1005153-002A	05/06/10 11:00 AM	05/07/10	05/07/10 3:59 PM
1005153-002A	05/06/10 11:00 AM	05/10/10	05/10/10 10:56 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

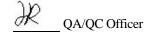
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 50486 WorkOrder 1005153

EPA Method SW8021B/8015Bm	Extra	ction SW	5030B					S	Spiked San	nple ID	: 1005171-0	02A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
7 tildiyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btexf)	ND	60	109	91.8	17.4	103	99.9	3.56	70 - 130	20	70 - 130	20
MTBE	ND	10	96.3	96.5	0.147	95.8	93.8	2.14	70 - 130	20	70 - 130	20
Benzene	ND	10	76.8	79.3	3.01	81.3	82.5	1.49	70 - 130	20	70 - 130	20
Toluene	ND	10	80.8	82.3	1.77	80.3	80.8	0.592	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	79.8	83.1	4.06	80.6	79.9	0.838	70 - 130	20	70 - 130	20
Xylenes	ND	30	79.1	81.3	2.80	79.5	77.7	2.34	70 - 130	20	70 - 130	20
%SS:	103	10	97	100	2.66	95	96	1.40	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 50486 SUMMARY

Lab ID	ID Date Sampled Date Extracted Date And		Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1005153-003A	05/06/10 11:00 AM	05/07/10	05/07/10 6:47 AM	1005153-003A	05/06/10 11:00 AM	05/07/10	05/07/10 10:59 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

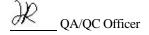
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.



McCampbell Analytical,	Inc.
"When Quality Counts"	

Allterra Environmental, Inc	Client Project ID: #160 Holmes Street	Date Sampled: 05/20/10
849 Almar Ave, Ste. C #281		Date Received: 05/20/10
049 Minut 11ve, 5te. C #201	Client Contact: Nathaniel Allen	Date Reported: 05/25/10
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 05/25/10

WorkOrder: 1005524

May 25, 2010

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Enclosed within are:

- 1) The results of the 1 analyzed sample from your project: #160 Holmes Street,
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Applytical Inc

McCampbell Analytical, Inc.

		4	LLT		7												Around	Ch	ain	of (Cust	ody	Rec	ord			
				ue, Suite C,												Turn .	Around	Time (circle o	ne)	RUSH	Lang	481	HR 7	2HR	5 Day)
		We	ebsite: www	alifornia 950 allterraenv.co facsimile: (83	om	5-26)9							8015/8021)										(0)			
Report and Bill to: A		mental, Inc.												\$015				\$260			ds	020	020)	/831			
Project Number:	160	· · · · · · · · · · · · · · · · · · ·	C1											PA 8				PA 8		_	soli	9/010)9/01	,625		8.00	
Project Location: Project Name:	160 Holmes S		nore, CA											E (E			(09	ol (E	(09)	8260	lved	A 60	1091	8270	6	9/2	
Sampler Signature:	800 an	-										,		/IB	(02	100	4 82	than	s (82	PA	lisso	(EP	(EP/	PA	SSBO	/200	
	Sample C	ollection		Containers	_		Matri	X		F	reser	vation	n	×	807	801	(EP)	Me	nger	S (F	otal	ctals	tals	1,8 (E	y/Bi	0108	2
Field Point Name Sample ID	Date	Time	Number of Containers	Container	Air	Water	Soil	Sludge	Other	lce	HCI	HNO	Other	TPHg/ BTEX/ MTBE (EPA	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Ethanol and Methanol (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA \$260)	Hardness/Total dissolved solids	CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200,9/200.8)	EDF required
VES-IN	5-20-10	11:30	1	tedler	V					/																	~
																									,		
												38															
Sampled By:	In Alle	Λ	Date: 520-10	Time: 1550	Rege	ived	By:	1	-	×				Com	ments		ICE / to	COND	ITION	1	APE	PROPR	IATE)		
Received By:	2	_	Date:	Time:	Rece	iveld	By	V	1			_	-	-			HEAD DECHL	SPACE ORIN	ABSE	N LAE		PRESI	ERVED	IN LA	B N	A	
Received By:			Date:	Time:	Rece	ived	Ву										PRESE	RVAT		ONO I		LIALS	OTHER	1		est in	

McCampbell Analytical, Inc.

1534 Willow Pass Rd (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Prepared by: Samantha Arbuckle

Pittsburg, CA 94565-1701 WorkOrder: 1005524 ClientCode: ATRS WaterTrax WriteOn ✓ EDF Excel Fax ✓ Email HardCopy ThirdParty J-flag Report to: Bill to: Requested TAT: 5 days Nathaniel Allen Email: allterraenvironmental@yahoo.com, mic Accounts Payable Allterra Environmental, Inc. Allterra Environmental cc: Date Received: 05/20/2010 PO: 849 Almar Ave, Ste. C #281 849 Almar Ave, Ste. C #281 Santa Cruz, CA 95060 ProjectNo: #160 Holmes Street Santa Cruz, CA 95060 Date Printed: 05/20/2010 831-425-2608 FAX 831-425-2609 micah@allterraenv.com Requested Tests (See legend below) Lab ID **Client ID** Collection Date Hold 2 3 5 6 8 9 10 12 Matrix 1 11 1005524-001 VES-IN Air 5/20/2010 11:30 Α Test Legend: 5 2 G-MBTEX_AIR PREDF REPORT 3 7 10 6 8 12

Comments:

The following SampID: 001A contains testgroup.

Allterra Environmental, Inc

Client Name:

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269

Date and Time Received:

5/20/2010 6:50:54 PM

Sample Receipt Checklist

Project Name:	#160 Holmes Stre	et				Chec	klist o	completed and reviewed by:	Samantha Arbuckle
WorkOrder N°:	1005524	Matrix	<u>Air</u>			Carri	er:	Benjamin Yslas (MAI Courier)	
			<u>Chain</u>	of Cu	stody	(COC) Inform	ation	<u>1</u>	
Chain of custody	present?			Yes	V	No 🗆			
Chain of custody	signed when relinquis	shed and	d received?	Yes	v	No 🗆			
Chain of custody	agrees with sample la	abels?		Yes	✓	No 🗆			
Sample IDs noted	by Client on COC?			Yes	v	No 🗆			
Date and Time of	collection noted by Clie	ent on Co	OC?	Yes	✓	No 🗆			
Sampler's name n	noted on COC?			Yes	✓	No 🗆			
			<u>s</u>	ample	Recei	pt Informatio	<u>n</u>		
Custody seals int	act on shipping contai	ner/cool	er?	Yes		No 🗆		NA 🗹	
Shipping containe	er/cooler in good condi	tion?		Yes	v	No 🗆			
Samples in prope	er containers/bottles?			Yes	✓	No 🗆			
Sample container	rs intact?			Yes	✓	No 🗆			
Sufficient sample	volume for indicated t	est?		Yes	✓	No 🗌			
		<u>Sa</u>	mple Prese	rvatior	n and F	Hold Time (H	Γ) Info	ormation	
All samples receiv	ved within holding time	e?		Yes	✓	No 🗌			
Container/Temp E	Blank temperature			Coole	r Temp	:		NA 🗹	
Water - VOA vial	s have zero headspac	e / no b	ubbles?	Yes		No 🗆	No	VOA vials submitted 🗹	
Sample labels ch	ecked for correct pres	ervation	1?	Yes	~	No 🗌			
Metal - pH accept	table upon receipt (pH-	<2)?		Yes		No 🗆		NA 🗹	
Samples Receive	ed on Ice?			Yes		No 🗸			
* NOTE: If the "N	lo" box is checked, se	e comm 	nents below. 			- — — — —			
Client contacted:			Date contact	ted:				Contacted by:	
Comments:									

A CONTRACTOR OF THE CONTRACTOR	· · · · · ·		
Allterra Environmental, Inc	Client Project ID: #160 Holmes Street	Date Sampled:	05/20/10
849 Almar Ave, Ste. C #281		Date Received:	05/20/10
	Client Contact: Nathaniel Allen	Date Extracted:	05/20/10
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed:	05/20/10

	Ga	asoline R	Range (C6-C12)	Volatile Hy	drocarbons	as Gasoline	e with BTEX a	and MTBE	*		
Extraction	method: SW5030B			Analy	tical methods: S	SW8021B/8015	5Bm		Wor	k Order:	1005524
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	VES-IN	A	310	86	0.39	12	2.7	24	1	114	d1
	ing Limit for DF =1;	A	25	2.5	0.25	0.25	0.25	0.25		μg/I	
	ans not detected at or	S	1.0	0.05	0.005	0.005	0.005	0.005		mg/k	

* water and vapor samples	are reported in ug/L	soil/sludge/solid		wine samples in ug/wine	: product/oil/non-aqueous	s liaind samble	
* water and vapor samples		SOH/SHIIGE/SOHG	samples in mg/kg.				es in mg/L.

[#] cluttered chromatogram; sample peak coelutes with surrogate peak.

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

Allterra Environmental, Inc

849 Almar Ave, Ste. C #281

Client Project ID: #160 Holmes Street

Date Sampled: 05/20/10

Date Received: 05/20/10

Client Contact: Nathaniel Allen

Date Extracted: 05/20/10

Santa Cruz, CA 95060

Client P.O.:

Date Analyzed: 05/20/10

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

Extracti	on method: SW5030B				Analytical methods	: SW8021B/80	15Bm		Worl	k Order:	1005524
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	VES-IN	A	88	24	0.12	3.0	0.60	5.5	1	114	d1

ppm (mg/I	ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.														
Reporting Limit for DF =1;	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L						
ND means not detected at or above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg						

^{*} vapor samples are reported in μ L/L, soil/sludge/solid samples in mg/kg, wipe samples in μ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in μ g/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant



1534 Willow Pass Road, Pittsburg, CA 94565-1701

Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Bm

QC Matrix: Water BatchID: 50763 WorkOrder 1005524 W.O. Sample Matrix: Air

EPA Method SW8021B/8015Bm	Spiked Sample ID: 1005530-001A											
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
/ thany to	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex ^f	ND	60	86.5	86.5	0	94.1	86.4	8.47	70 - 130	20	70 - 130	20
MTBE	ND	10	104	104	0	105	109	3.53	70 - 130	20	70 - 130	20
Benzene	ND	10	97.8	95.8	2.06	99.1	100	1.31	70 - 130	20	70 - 130	20
Toluene	ND	10	85.2	83	2.59	89.7	90.4	0.835	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	88	85.7	2.66	88.7	89.3	0.690	70 - 130	20	70 - 130	20
Xylenes	ND	30	100	98.1	2.34	102	102	0	70 - 130	20	70 - 130	20
%SS:	104	10	100	100	0	98	101	3.00	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 50763 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1005524-001A	05/20/10 11:30 AM	1 05/20/10	05/20/10 8:18 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer

McCampbell Analytical, Inc.

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Allterra Environmental, Inc	Client Project ID: #160 Holmes Street	Date Sampled: 05/20/10
849 Almar Ave, Ste. C #281		Date Received: 05/20/10
019 Filmul 11ve, Ble. C #201	Client Contact: Nathaniel Allen	Date Reported: 05/25/10
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 05/25/10

WorkOrder: 1005525

May 25, 2010

T .	3 T .1	
Dear	Nath	aniali

Enclosed within are:

- 1) The results of the 1 analyzed sample from your project: #160 Holmes Street,
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

		4	LLT	HILE	1																Cust					_	
		849	Almar Aven	ue, Suite C,	#281									- Y		Turn.	Around	Time (circle o	ne)	RUSH	24H	R 48	HR 7	2HR (5 Day	
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				.allterraenv.c										8015/8021)													
		Phone. (831)	425-2608 F	acsimile: (8	31) 42	5-260	19						_	5/8				6				6	-	0 1			
Report and Bill to: A	Ilterra Environ	mental, Inc.												108				826			é	502	020	8,0		~	
Project Number:	160												-	×				X		_	los	00	9/0	62		0.8	
Project Location:	160 Holmes S	Street, Liven	nore, CA											\equiv			6	E	6	997	pa	9	109	270		37.50	
Project Name:	1	7												BE	1	200.00	126	lou	826	96	solv	EPA	PA	8 8	SSa	00.5	
Sampler Signature:		h			_	-								Z	20	5	, A 8	the set	LS.	EP,	dis	l) s	(E	EP,	loa	0/2	
	Sample C	Collection		Containers	-		Matri	X		P	reser	vation	1	×	08	80	E	Ž	nge	8	otal	eta	E	S	y/B	109	
Field Point Name Sample ID	Date	Time	Number of Containers	Container	Air	Water	Soil	Sludge	Other	lce	HCI	HNOs	Other	TPHg/ BTEX/ MTBE (EPA	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Ethanol and Methanol (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA 8260)	Hardness/Total dissolved solids	CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200.9/200.8)	
GL-IN	5-20-10	11:30	4	VOC		V					/			~			-					-					
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Regeneed By:	()		Datg: /	Time:	Ree	cived	Bya	1	1/	1								DE	CHLOF	RINATI	ED IN L	AB M	PR	ESER\	ED IN	LAB_	AND
12-4	1	_	Thelow	1725	-1(X	1	V	10			-									VOA	5 080	META	ALS OT	HER		
Received By:			Date:	Time:	Res	cived	By		-									PR	ESERV	ATION							
Acceived By.			Louis.	Tillio.	1.00	-	.,																				

McCampbell Analytical, Inc.

1534 Willow Pass Rd

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Prepared by: Samantha Arbuckle

	rg, CA 94565-1701 252-9262					Work	Ordei	: 1	10055	525	(ClientC	ode: A	TRS				
		WaterTrax	WriteOn	✓ EDF		Excel			Fax	[✓ Email		Hard	Сору	Thi	rdParty	□ J-	flag
Report to: Nathaniel Allen Allterra Environmental, Inc 849 Almar Ave, Ste. C #281 Santa Cruz, CA 95060 831-425-2608 FAX 831-425-2609		cc: PO:	llterraenviror 160 Holmes	nmental@yahoo.d Street	com, m	nic	Al 84 Sa	ccou Ilteri 19 A anta	ra En Almar a Cruz	z, CA 9	ental te. C #2	281		Date			5 (05/20/ 05/20/	
										Req	uested	Tests	(See leg	gend be	elow)			
Lab ID	Client ID		Matrix	Collection Date	Hold	1	2		3	4	5	6	7	8	9	10	11	12
1005525-001	GW-IN		Water	5/20/2010 11:30		Α	А											
Test Legend:																		
1 G-ME	BTEX_W 2	PREDF REP	PORT	3					4					Γ	5			
6	7			8					9						10			
11	12																	

Comments:

Allterra Environmental, Inc

Client Name:

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269

Date and Time Received:

5/20/2010 6:55:41 PM

Sample Receipt Checklist

Project Name: #16	60 Holmes Stree	et				Check	klist completed and reviewed	l by: Samantha Arbuckle
WorkOrder N°: 10	05525	Matrix	<u>Water</u>			Carrie	r: <u>Benjamin Yslas (MAI C</u>	<u>Courier)</u>
			<u>Chain</u>	of Cu	stody (C	OC) Informa	ation	
Chain of custody pres	sent?			Yes	V	No 🗆		
Chain of custody sign	ned when relinquish	ned and	d received?	Yes	V	No 🗆		
Chain of custody agre	ees with sample lat	oels?		Yes	✓	No 🗌		
Sample IDs noted by 0	Client on COC?			Yes	V	No 🗆		
Date and Time of colle	ection noted by Clier	nt on C0	OC?	Yes	✓	No 🗆		
Sampler's name noted	d on COC?			Yes	✓	No 🗆		
			Sa	ample	Receipt	Information	1	
Custody seals intact of	on shipping contain	er/coole		Yes		No 🗆	NA 🗹	
Shipping container/co	ooler in good conditi	on?		Yes	V	No 🗆		
Samples in proper co	ontainers/bottles?			Yes	✓	No 🗆		
Sample containers in	tact?			Yes	✓	No 🗆		
Sufficient sample volu	ume for indicated te	st?		Yes	✓	No 🗌		
		Saı	mple Preser	vation	and Ho	old Time (HT) Information	
All samples received	within holding time?		-	Yes	✓	No 🗆	-	
Container/Temp Blank				Coole	r Temp:	22.4°C	NA 🗆	
Water - VOA vials ha		e / no bi	ubbles?	Yes	✓	No 🗆	No VOA vials submitted	
Sample labels checke				Yes	V	No 🗌		
Metal - pH acceptable	e upon receipt (pH<	2)?		Yes		No 🗆	NA 🗹	
Samples Received or	n Ice?			Yes	✓	No 🗆		
			(Ice Type	e: WE	TICE)		
* NOTE: If the "No" b	oox is checked, see	comm	ents below.					
======	=====					====		=======
Client contacted: Date contact				ed:			Contacted by:	
Comments:								

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Telephone: 877-252-9262 Fax: 925-252-9269

Allterra Environmental, Inc	Client Project ID: #160 Holmes Street	Date Sampled:	05/20/10
849 Almar Ave, Ste. C #281		Date Received:	05/20/10
	Client Contact: Nathaniel Allen	Date Extracted:	05/21/10-05/25/10
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed:	05/21/10-05/25/10

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

Analytical methods: SW8021B/8015Bm Extraction method: SW5030B Work Order: 1005525 Lab ID Client ID Matrix TPH(g) MTBE Benzene Toluene Ethylbenzene Xylenes % SS Comments 001A 1500 GW-IN W 25,000 200,000 360 930 5500 200 102 d1 Reporting Limit for DF = 1; W 0.5 0.5 50 5.0 0.5 0.5 μ g/L ND means not detected at or 0.05 1.0 0.005 0.005 0.005 0.005 mg/Kg

$*\ water\ and\ vapor\ samples\ are\ reported\ in\ ug/L,\ soil/sludge/solid\ samples\ in\ mg/kg,\ \ wipe\ samples\ in\ \mu g/wipe,\ product/oil/non-aqueous\ liquid\ samples\ and\ all\ \ and\ samples\ of\ samples\ o$
TCLP & SPLP extracts in mg/L.

[#] cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

- +The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
- d1) weakly modified or unmodified gasoline is significant

above the reporting limit

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 50763 WorkOrder 1005525

EPA Method SW8021B/8015Bm	Extrac	tion SW	5030B					S	Spiked San	nple ID	: 1005530-0	01A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
raidiyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btexf)	ND	60	86.5	86.5	0	94.1	86.4	8.47	70 - 130	20	70 - 130	20
MTBE	ND	10	104	104	0	105	109	3.53	70 - 130	20	70 - 130	20
Benzene	ND	10	97.8	95.8	2.06	99.1	100	1.31	70 - 130	20	70 - 130	20
Toluene	ND	10	85.2	83	2.59	89.7	90.4	0.835	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	88	85.7	2.66	88.7	89.3	0.690	70 - 130	20	70 - 130	20
Xylenes	ND	30	100	98.1	2.34	102	102	0	70 - 130	20	70 - 130	20
%SS:	104	10	100	100	0	98	101	3.00	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 50763 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1005525-001A	05/20/10 11:30 AM	05/21/10	05/21/10 2:33 PM	1005525-001A	05/20/10 11:30 AM	05/25/10	05/25/10 5:26 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

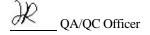
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.



McCampbell Analytical, Inc.

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Allterra Environmental, Inc	Client Project ID: 160 Holmes Street, Livermore	Date Sampled: 05/28/10
849 Almar Ave, Ste. C #281		Date Received: 05/28/10
019 Filmai Five, 8tc. C #201	Client Contact: James Allen	Date Reported: 06/03/10
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 06/02/10

WorkOrder: 1005741

June 04, 2010

-	7	r	
Dea	111	วท	100

Enclosed within are:

- 1) The results of the 2 analyzed samples from your project: 160 Holmes Street, Livermore,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

		-		TERM	= -											C	ha	in	of	Cı	ust	tod	y .	Re	co	rd		
			849 Almar A			81	11	115	71	, ,					Turn												5 Day	9
		Phone: (z, California ww.allterraei 08 Facsimile	nv.con	n		05	74	-/				8015/8020)				_		(0)				
Report and Bill to Project Number: Project Location Project Name Sampler Signatur	160 160 Holmes	vironmen	tal, Inc.	Inc.						& MTBE (EPA	0)	(8260)	Methanol (EPA 8260)	(8260)	PA 8260)	fardness/Total dissolved solids	Metals (EPA 6010/6020)	Metals (EPA 6010/6020)	(EPA 8270,625/8310)	assay	6010/200.9/200.8)						
	Sample Co	llection	Sample (Containers		N	1atri)	(I	reser	vation	1	EX	8020)	8015)	(EPA	Met	gers	S (E	al d	tals	als (s (E	/Bic	010	_	- 22
Sample ID	Date	Time	Number of Containers	Container	Air	Water @	Soil	Sludge	Other	lce	HCI	HNO3	Other	TPHg and BTEX	BTEX (EPA	TPHd (EPA 8	5-fuel oxys (I	Ethanol and I	Lead Scavengers (8260)	Total HVOCs (EPA	Hardness/Tot	CAM-17 Me	LUFT 5 Meta	PAH's/ PNA'	Fish Toxicity/Bioassay	Lead (EPA 60	MTBE (8260)	EDF required
GU-IN VES-IN	5-28-6		4	Voa tedlar	-	~				~	/			/	-													
Sampled By:	7 A/b		Date:	Time:	Rece	ived E	Зу:							Co	mm	ents E/t°.	7. (2*,							6			
Received By:	h Alle	<u> </u>	5-28-10 Date: / 5/28/10 Date:	Time:	c	ived E	41	Vo	ill)					HE DE	ODD	PAC	E AB ATE	SENT DIN L	AB	_	ROPI CONT PRES	AINE	RS ED IN	LAB	3	_	

(+)

McCampbell Analytical, Inc.

1534 Willow Pass Rd

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Prepared by: Melissa Valles

	rg, CA 94565-1701 52-9262					Work	Order	: 1005	741	(ClientC	ode: A	TRS				
		WaterTrax	WriteOn	☑ EDF		Excel		Fax	[✓ Email		Hard	Сору	Thir	dParty	☐ J-1	flag
Report to: James Aller			Ilterraenviro	nmental@yahoo.	com, m	nicah		counts					Requ	uested	TAT:	5 c	days
		cc: PO: ProjectNo: 1	60 Holmes S	Street, Livermore	Allterra Environmental 849 Almar Ave, Ste. C #281							Date Date		05/28/2 05/28/2			
									Req	uested	Tests	(See leg	gend be	elow)			
Lab ID	Client ID		Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1005741-001	GW-IN		Water	5/28/2010			Α	Α									
1005741-002	VES-IN		Air	5/28/2010		Α											_
Test Legend:																	
1 G-MB	TEX_AIR 2	G-MBTEX	_ W	3 PRI	EDF RE	PORT		4						5			
	7												Г	40			

Comments:

The following SampID: 002A contains testgroup.

Sample Receipt Checklist

Client Name:	Allterra Enviro	nmental, Inc			Date a	and Time Received:	5/28/2010	7:18:35 PM
Project Name:	160 Holmes St	reet, Livermore			Check	list completed and r	eviewed by:	Melissa Valles
WorkOrder N°:	1005741	Matrix <u>Air/Water</u>			Carrie	r: <u>Benjamin Ysla</u>	s (MAI Courier	Σ
		Chair	of Cu	stody (C	COC) Informa	ition		
Chain of custody	present?		Yes	V	No 🗆			
Chain of custody	signed when relin	quished and received?	Yes	V	No 🗆			
Chain of custody	agrees with samp	le labels?	Yes	V	No 🗌			
Sample IDs noted	by Client on COC	•	Yes	V	No 🗆			
Date and Time of	collection noted by	Client on COC?	Yes	V	No 🗆			
Sampler's name r	noted on COC?		Yes	V	No 🗆			
		<u>s</u>	ample	Receipt	Information			
Custody seals int	tact on shipping co	ntainer/cooler?	Yes		No 🗆		NA 🔽	
Shipping containe	er/cooler in good c	ondition?	Yes	v	No 🗆			
Samples in prope	er containers/bottle	s?	Yes	V	No 🗆			
Sample containe	rs intact?		Yes	✓	No 🗆			
Sufficient sample	e volume for indicate	ed test?	Yes	✓	No 🗌			
		Sample Prese	rvatio	n and Ho	old Time (HT)) Information		
All samples recei	ived within holding	time?	Yes	✓	No 🗌			
Container/Temp E	Blank temperature		Coole	er Temp:	6°C		NA \square	
Water - VOA vial	ls have zero heads	space / no bubbles?	Yes	~	No 🗆	No VOA vials subm	itted \square	
Sample labels ch	necked for correct	oreservation?	Yes	V	No 🗌			
Metal - pH accep	table upon receipt	(pH<2)?	Yes		No 🗆		NA 🗹	
Samples Receive	ed on Ice?		Yes	V	No 🗆			
		(Ісе Тур	e: WE	T ICE)			
* NOTE: If the "N	No" box is checked	, see comments below.						
=====	=====	======		:	====	=====	=====	======
Client contacted:		Date contac	ted:			Contacted	by:	
Comments:								

Allterra Environmental, Inc

849 Almar Ave, Ste. C #281

Client Project ID: 160 Holmes Street,
Livermore

Date Sampled: 05/28/10

Date Received: 05/28/10

Client Contact: James Allen

Date Extracted: 05/29/10

Santa Cruz, CA 95060

Client P.O.:

Date Analyzed: 05/29/10

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

Analytical methods: SW8021B/8015Bm Extraction method: SW5030B Work Order: 1005741 Lab ID Client ID Matrix TPH(g) MTBE Benzene Toluene Ethylbenzene Xylenes Comments 002A 3.7 0.48 VES-IN 36 ND 1.1 5.2 99 d1

Reporting Limit for DF =1; ND means not detected at or	A	25	2.5	0.25	0.25	0.25	0.25	μg/L
above the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

^{*} water and vapor samples are reported in $\mu g/L$, soil/sludge/solid samples in mg/kg, wipe samples in $\mu g/wipe$, product/oil/non-aqueous liquid samples in mg/L.

[#] cluttered chromatogram; sample peak coelutes with surrogate peak.

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

Allterra Environmental, Inc	Client Project ID: 160 Holmes Street, Livermore	Date Sampled: 05/28/10
849 Almar Ave, Ste. C #281	Livermore	Date Received: 05/28/10
	Client Contact: James Allen	Date Extracted: 05/29/10
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 05/29/10

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

Extracti	on method: SW5030	В		I	Analytical methods	Work Order:		1005741			
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
002A	VES-IN	A	10	1.0	ND	0.27	0.11	1.2	1	99	d1

ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.										
Reporting Limit for DF =1;	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L	
ND means not detected at or above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg	

^{*} vapor samples are reported in $\mu L/L$, soil/sludge/solid samples in mg/kg, wipe samples in $\mu g/wipe$, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in $\mu g/L$.



[#] cluttered chromatogram; sample peak coelutes with surrogate peak.

⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

Allterra Environmental, Inc	Client Project ID: 160 Holmes Street, Livermore	Date Sampled:	05/28/10	
849 Almar Ave, Ste. C #281	Liverniole	Date Received:	05/28/10	
	Client Contact: James Allen	Date Extracted:	06/01/10-06/03/10	
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed:	06/01/10-06/03/10	

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1005741

Extraction	on method: SW5030B			Anaryt	icai metnoas:	5 W 6021D/6013	DIII		WOII	k Order:	.003741
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	GW-IN	W	37,000	190,000	400	1900	1200	6200	200	104	d1
	rting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5		μg/L	
ND means not detected at or above the reporting limit		S	1.0	0.05	0.005	0.005	0.005	0.005		mg/K	

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all
TCLP & SPLP extracts in mg/L.

[#] cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

- +The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
- d1) weakly modified or unmodified gasoline is significant

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water/Air QC Matrix: Water BatchID: 50922 WorkOrder 1005741

EPA Method SW8021B/8015Bm Extraction SW5030B Spiked Sample ID: 1005705-006A												
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
raidiyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btexf)	ND	60	92.6	93.9	1.40	97	95.7	1.34	70 - 130	20	70 - 130	20
MTBE	ND	10	105	105	0	109	111	1.38	70 - 130	20	70 - 130	20
Benzene	ND	10	89.4	87.7	1.96	89.2	90	0.916	70 - 130	20	70 - 130	20
Toluene	ND	10	90.2	88.4	2.00	89.5	88.7	0.977	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	89	87.2	2.09	88.8	88.9	0.163	70 - 130	20	70 - 130	20
Xylenes	ND	30	90.6	88.9	1.89	90.6	91	0.414	70 - 130	20	70 - 130	20
%SS:	98	10	97	96	1.25	96	95	1.09	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 50922 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1005741-001A	05/28/10	06/01/10	06/01/10 6:17 PM	1005741-001A	05/28/10	06/03/10	06/03/10 12:33 AM
1005741-002A	05/28/10	05/29/10	05/29/10 8:15 AM	1005741-002A	05/28/10	05/29/10	05/29/10 8:15 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

QA/QC Officer