

Ultramar, Inc.

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Alameda County
Environmental Health

June 30, 2009

Mr. Jerry Wickham
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

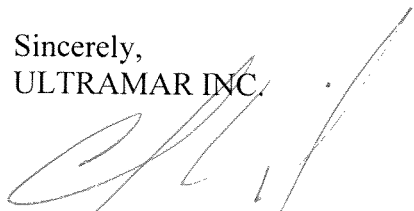
SUBJECT: HIGH VACUUM DUAL-PHASE EXTRACTION TESTING REPORT
FORMER BEACON STATION NO. 12574
22315 REDWOOD ROAD RWQCB Case No. 01-0167
CASTRO VALLEY, CALIFORNIA ACDEH: RO0000355

Mr. Wickham:

Please find enclosed the **High Vacuum Dual-Phase Extraction Testing Report** for the above-referenced facility. Pursuant to your requests, I declare, under penalty of perjury, that the following information and/or recommendations contained in the attached report is true and correct to the best of my knowledge.

Please call if you have any questions or comments regarding this letter or the enclosed report (210) 345-4663.

Sincerely,
ULTRAMAR INC.



C. Shay Wideman
Director – Environmental Liability Management

Enclosures

cc w/o encl. Mr. Ken Mateik, Horizon Environmental



HORIZON ENVIRONMENTAL INC.

Specialists in Site Assessment, Remedial Testing, Design and Operation

June 30, 2009

Mr. Jerry Wickham
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: **Transmittal of High Vacuum Dual-Phase Extraction Testing Report**
Former Beacon Station 12574 RWQCB Case No. 01-0167
22315 Redwood Road, Castro Valley, California ACDEH: RO0000355

Mr. Wickham:

At the request of Ultramar Inc., Horizon Environmental Inc. (Horizon) is forwarding the enclosed *High Vacuum Dual-Phase Extraction Testing Report* dated June 30, 2009.

Please call Horizon at 916-939-2170 if you have any questions or require additional information.

Sincerely,

HORIZON ENVIRONMENTAL INC.

Karen P. Liptak
Staff Geologist

Enclosure

cc: Mr. C. Shay Wideman, Valero Energy Corp.
Mr. Allen Shin, Banya Investment LLC
Mr. Bill Courtney



HORIZON ENVIRONMENTAL INC.

Specialists in Site Assessment, Remedial Testing, Design and Operation

June 30, 2009

Mr. Jerry Wickham, Haz Mat Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: **High Vacuum Dual-Phase Extraction Testing Report**
Former Beacon Station No. 12574 RWQCB Case No. 01-0167
22315 Redwood Road, Castro Valley, California ACDEH: RO0000355

Mr. Wickham:

At the request of Ultramar Inc. (Ultramar), Horizon Environmental Inc. (Horizon) has prepared this report documenting the results of a HVDPE pilot test conducted at the above-referenced site (Figure 1). Horizon proposed HVDPE pilot testing in the Letter Work Plan for Remedial Testing dated December 11, 2008. The Alameda County Department of Environmental Health (ACDEH) approved the proposed HVDPE testing at the Site in a letter dated January 8, 2009. A copy of this approval letter is included as Attachment A. This pilot testing report was prepared in accordance with Appendix A of the RWQCB's Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites dated April 16, 2004.

Site Description and Background

The site is located on the southwestern corner of the intersection of Redwood Road and Grove Way in Castro Valley, California, as depicted on the Site Location Map (Figure 1). The site is bounded by Grove Way to the north, a vacant building to the south, Redwood Road to the east, and private residences to the west. Existing site facilities include a 7/11 liquor store and a commercial building situated in the western portion of the Site, and a parking lot and landscaping areas situated in the central and eastern portions of the Site. Former site facilities included four former fuel underground storage tanks (USTs) located in the southeastern portion of the Site property that were removed by Ultramar in 1987, and three former fuel USTs located to the west of the former Ultramar USTs that were removed by Shell Oil Company sometime prior to 1981 when Ultramar occupied the property.

There are currently five groundwater monitoring wells (MW-1 through MW-4 and MW-6) associated with the Site. Wells MW-1 through MW-4 are located within the Site property boundaries, while well MW-6 is located off-site to the south on an adjoining property. Well MW-5 was destroyed by a third party due to off-site construction activities. Locations of these and other pertinent site features are shown on the Site Plan (Figure 2).

Quarterly groundwater monitoring and sampling has been performed at the Site since 1992. Historical groundwater level data has indicated that groundwater has been seasonally present between the depths of approximately 14 to 22 feet below surface grade (bsg), and the direction of groundwater flow has been consistently to the south-southwest beneath the Site. Recent groundwater quality data has indicated gasoline-impacted groundwater present in wells MW-1 and MW-2, with sheen periodically observed in well MW-2. A Benzene Isoconcentration Map for the February 25, 2009 analytical data is shown on Figure 3.

Dual - Phase Extraction Testing

Horizon retained CalClean, Inc. (CalClean) of Tustin, California to conduct the HVDPE testing. Cal Clean possesses a Permit To Operate (PTO) as Plant No. 12568 Source S-1 for the HVDPE unit to be operated at the Site. As the Permit holder, CalClean notified the Bay Area Air Quality Management District (BAAQMD) of the scheduled 48-hour HVDPE pilot test. The 48-hour HVDPE pilot test was initiated on May 19, 2009 utilizing well MW-1 (screened between 10 and 30 feet bsg) and well MW-2 (screened between 10 and 30 feet bsg), and terminated on May 21, 2009. Horizon Field Procedures are included as Attachment B.

The CalClean HVDPE truck-mounted unit utilized a 450-cubic-feet-per-minute (cfm) liquid-ring blower to impart a vacuum to the selected wells, via a "stinger" set to a pre-determined depth in each selected well casing to extract soil vapor and groundwater. The extracted vapors were treated by thermal oxidation prior to discharge to the atmosphere. Combustion temperatures in the thermal oxidizer ranged from 1400°F to 1440°F. Extracted groundwater was stored in an aboveground 6,000-gallon storage tank to allow for temporary storage of the extracted groundwater prior to disposal.

Operating parameters monitored during the HVDPE pilot test included vacuum (inches of mercury column or in Hg), influent flow rate (standard cubic feet per minute or scfm), influent volatile petroleum hydrocarbon concentration (in parts per million or ppm), catalytic oxidizer effluent temperature (degrees Fahrenheit or °F), and extracted groundwater volume (gallons). Induced vacuum and depth-to-water (DTW) measurements were collected throughout the HVDPE testing in surrounding monitoring wells MW-3, MW-4 and MW-6. Field data collected by CalClean are included as Attachment C.

Depth-to-water (DTW) measurement data was collected prior to initiation, during the HVDPE testing, and immediately after the testing to evaluate the effect of the HVDPE on local groundwater levels. The DTW data and drawdown calculations are summarized in Table 1. Historical groundwater monitoring data for extraction wells MW-1 and MW-2 summarized in Table 2 is included for reference.

Approximately 7½ feet of water column was present in well MW-1 and approximately 9 feet of water column was present in well MW-2 prior to the start of the HVDPE testing. In wells MW-1 and MW-2, the HVDPE stinger was set at a depth of approximately 28 feet (or approximately two feet above the bottom of each well casing) during the HVDPE test. Influent vacuums ranged between 16 to 22 inches of Hg, and influent flow rates ranged from

60 to 100 scfm during the testing. Induced vacuums up to 0.15-inch of water column (WC) were observed in well MW-3, and induced vacuums up to 0.04-inch WC were observed in wells MW-4 and MW-6 during the testing.

Field measurements of the combined influent vapor total petroleum hydrocarbon (TPH) concentrations from both wells MW-1 and MW-2 ranged from 6,070 ppm near the start of the testing and gradually decreased to 2,960 ppm near the end of the HVDPE testing. Field measurements of influent vapor TPH concentrations from well MW-1 ranged between 1,244 ppm near the start of the testing and gradually decreased to 728 ppm near the end of the testing, and field measurements of influent vapor TPH concentrations from well MW-2 ranged between 10,680 ppm near the start of the testing and gradually decreased to 4,820 ppm near the end of the testing.

Laboratory Analyses

Vapor samples of the Influent, well MW-1 and well MW-2 were collected at elapsed test times of 1½ hours and 47¾ hours. A groundwater sample was collected from wells MW-1 and MW-2 approximately ½-hour after the end of the HVDPE test on May 21, 2009. The vapor and groundwater samples were submitted under chain-of-custody documentation to Kiff Analytical (Kiff), a California-certified analytical laboratory (ELAP No. 2236) located in Davis, California.

The vapor samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg), the volatile aromatic compounds benzene, toluene, ethylbenzene and total xylenes (BTEX), and the fuel oxygenate methyl-t-butyl ether (MTBE) utilizing Environmental Protection Agency (EPA) Method 8260B. The groundwater samples were analyzed for TPHg, BTEX and the fuel oxygenates MTBE, diisopropyl ether (DIPE), ethyl-t-butyl ether (ETBE), tert amyl methyl ether (TAME), and tert-butanol (TBA), and the lead scavenger compounds 1,2-dichloroethane (DCA) and 1,2-dibromoethane (EDB) utilizing EPA Method 8260B. In addition, a water sample was collected from the extracted groundwater being stored in the aboveground 6,000 gallon storage tank. The "tank water" sample was also analyzed for TPHg, BTEX, MTBE, DIPE, ETBE, TAME, TBA, DCA and EDB utilizing EPA Method 8260B. The groundwater and vapor analytical data are summarized in Tables 3 and 4, respectively.

Results - Groundwater

Approximately 1,660 gallons of groundwater were extracted during the HVDPE test. A Groundwater Drawdown Map (Figure 4) was prepared for the water-level measurements collected at and near the end of the 48-hour test. The HVDPE test resulted in a groundwater cone of depression centered on extraction wells MW-1 and MW-2. The HVDPE stingers were positioned in wells MW-1 and MW-2 at a depth of approximately 28 feet bsg resulting in maximum drawdowns of 7.7 feet in well MW-2 and 5.9 feet in well MW-1.

Groundwater drawdowns after 47½ hours were measured at 0.09-foot, 0.11-foot, and 0.26-foot in wells MW-3, MW-4, and MW-6, respectively, as shown on Figure 4. Well MW-3 is

located approximately 90 feet northeast (upgradient) of extraction well MW-2; well MW-4 is located approximately 100 feet to the northwest (crossgradient) of extraction well MW-2; and well MW-6 is located approximately 100 feet to the south (downgradient) of extraction well MW-2. Volume calculations indicate that approximately 0.144-pound of TPHg and 0.02-pound of benzene were removed in the groundwater during the 48-hour HVDPE test.

Results - Vapor

Influent TPHg removal rates and total TPHg removed values were derived by using the laboratory-analyzed TPHg vapor concentration values in conjunction with the influent flow rate (in scfm). The vapor analytical results indicated TPHg Influent concentrations were 6,400 parts per million vapor (ppmv) early in the testing, then decreased to 2,500 ppmv near the end of the testing. Influent benzene concentrations were 50 ppmv early in the testing, then decreased to 25 ppmv near the end of the testing. Volume calculations indicate that approximately 220 pounds of vapor-equivalent TPHg and 1.6 pounds of vapor-equivalent benzene were removed during the 48-hour HVDPE test. Induced vacuums up to 0.15-inch of water column (WC) were observed in well MW-3, and induced vacuums up to 0.04-inch WC were observed in wells MW-4 and MW-6 indicating a vapor radius of influence (ROI) as shown on the Vapor ROI Map (Figure 5).

Groundwater Disposal

Laboratory analytical results for the water sample collected from the extracted groundwater being stored in the aboveground storage tank are summarized in Table 3. On the night of Friday May 29, 2009 or early morning Saturday May 30, 2009, approximately 1,000 gallons of tank water was released from the aboveground storage tank to the street due to an act of vandalism. On Monday June 1, 2009, Horizon notified the Alameda County Department of Environmental Health (ACDEH), the California Office of Emergency Services (OES), the Alameda County Department of Public Works (ACDPW), and the California Department of Fish and Game (DFG) of the discharge of gasoline-impacted water to the street. On Tuesday June 2, 2009, Horizon personnel inspected and field-screened the storm drain catch basins at the Site and along the downstream streets for the presence of gasoline vapors with a photo-ionization detector (PID). No gasoline vapors were detected in the storm drain catch basins on site or in the streets along the suspected pathway of the discharged tank water. On Tuesday June 2, 2009, the tank and remaining groundwater were removed from the Site and transported to the InStrat, Inc. facility in Rio Vista, CA for treatment and disposal. A copy of the purge water disposal documentation is included in this report as Attachment C.

Conclusions

The results of the HVDPE testing indicate HVDPE is effective in extracting gasoline vapors from the vadose zone soils beneath the former USTs, and in capturing impacted groundwater from beneath the Site. The extent of the gasoline-impacted soils appears limited, as indicated by the decreasing vapor concentrations as the HVDPE testing progressed. Historical analytical results of soil samples collected since 1991 at the Site have indicated

that gasoline-impacted soil is present primarily in the immediate vicinity of the former UST basins.

As requested by the ACDEH, Horizon has reviewed the construction of existing wells MW-1 and MW-2 with regards to potential limitations for utilizing these wells as future extraction wells. Based on the elevated vapor concentrations removed during the HVDPE test, these two wells are both located in strategic positions within gasoline-impacted soils in proximity to the locations of the former USTs. Generally, vapor extraction well screen lengths are limited to lengths of ten feet or less to target impacted soil areas and still ensure that adequate vapor flow exists in the impacted subsurface soils. Although the 20-foot screen lengths (from 10 to 30 feet bsg) in existing wells MW-1 and MW-2 might generally be considered to be too long for vapor extraction purposes, the longer screen lengths allow for vapor extraction flexibility with regards to fluctuating groundwater levels that historically have fluctuated seasonally between the depths of 18 to 25 feet bsg, thereby leaving 8 to 15 feet of vapor extraction screen length available in wells MW-1 and MW-2 within gasoline-impacted soils in proximity to the source area. As additional analytical information becomes available and a Site Conceptual Model (SCM) is developed for the Site, the usefulness of existing wells MW-1 and MW-2 as extraction wells can be evaluated further.

Recommendations

Based on the above results and conclusions, Horizon recommends the following:

- During advancement of onsite direct-push borings SG-1 through SG-5 for the proposed soil gas survey study (Horizon, May 26, 2009), additional onsite borings should be advanced and soil samples collected for laboratory analysis to evaluate the lateral and vertical extent of gasoline-impacted soils beneath the Site. These borings (B-1 through B-5) will be located in areas of the former dispenser islands and the earlier generation USTs that were removed by Shell Oil Company sometime prior to 1981 when Ultramar occupied the property. A Work Plan section follows these recommendations in order to develop a Site Conceptual Model (SCM), and proceed promptly towards site remediation and eventual site closure.
- The Third Quarter 2009 groundwater sampling results will be evaluated for post-HVDPE effects on the distribution of impacted groundwater beneath the Site.
- Based on the results of the additional soil assessment work, a SCM will be developed for the Site to evaluate the distribution and movement of gasoline hydrocarbons in the subsurface soils and groundwater, and to identify potential impacts of the gasoline hydrocarbons on human health or beneficial uses of groundwater (if any).

Proposed Additional Work

Horizon proposes the following work at the Site:

- Task 1** Advance five direct-push borings (B-1 through B-5) at the locations shown on the Proposed Boring Locations Map (Figure 6) to a maximum depth of approximately 40 feet bsg. All field work will be performed in accordance with the direct-push boring protocol outlined in Horizon's Field Methods and Procedures included in Appendix B.
- Task 2** Collect soil samples with inert PVC sample sleeves at approximately 5-foot depth intervals. Field-screen the soil samples for the presence of volatile hydrocarbons with a photo-ionizing detector (PID) or equivalent device; record drilling progress, stratigraphic and sampling data on the boring logs; and describe soils using the Unified Soil Classification System (USCS). After completion of the borings and sampling, the borings will be backfilled with neat cement grout from the total depth up to the surface and the surface (concrete or asphalt) repaired.
- Task 3** Submit selected soil samples under chain-of-custody documentation to a State-certified analytical laboratory to be analyzed for TPHg, BTEX, and MTBE by EPA Method 8260B.
- Task 4** Prepare a report which summarizes the analytical results of the above proposed assessment work, and presents the field procedures, findings, results, and conclusions. Develop a SCM to evaluate the distribution and movement of gasoline hydrocarbons in the subsurface soils and groundwater, and to identify potential impacts of the gasoline hydrocarbons on human health or beneficial uses of groundwater (if any).

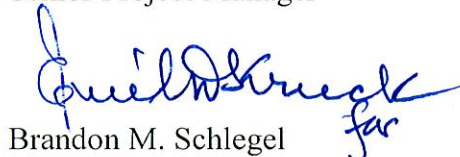
If you have any questions or comments regarding this report, please contact Horizon at (916) 939-2170.

Sincerely,

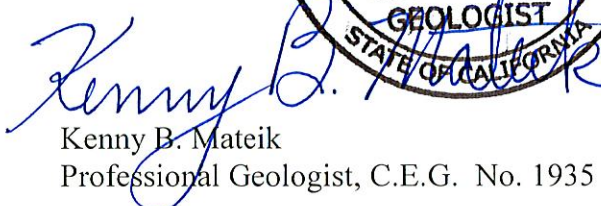
HORIZON ENVIRONMENTAL INC.



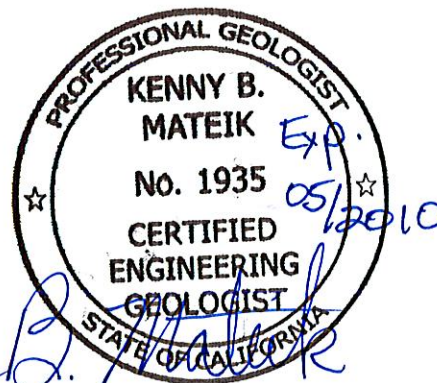
Gary D. Barker
Senior Project Manager



Brandon M. Schlegel
Staff Scientist



Kenny B. Mateik
Professional Geologist, C.E.G. No. 1935

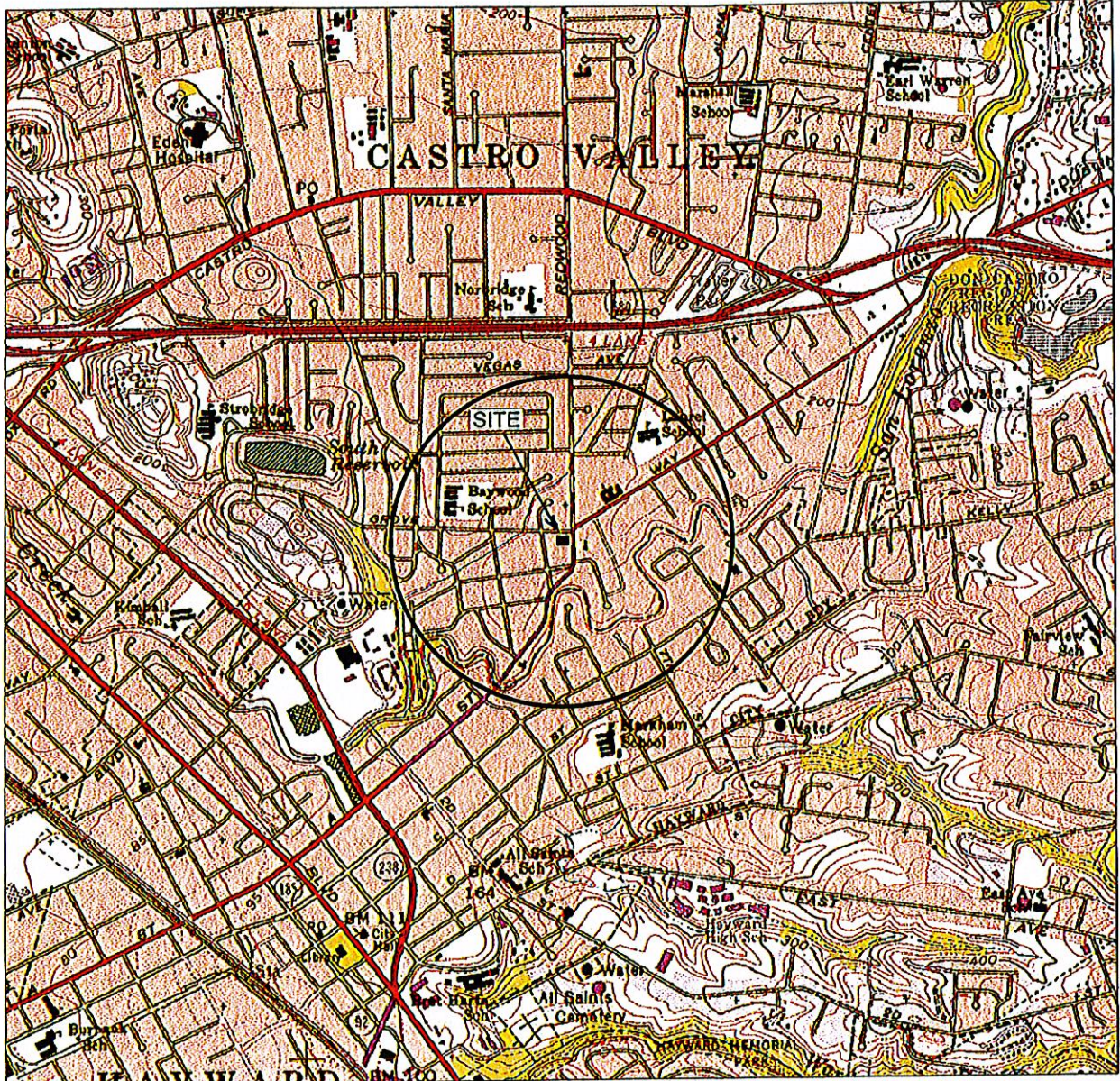


Attachments: Figure 1: Site Location Map
Figure 2: Site Plan / Groundwater Elevation Contour Map (02/25/09)
Figure 3: Benzene Isoconcentration Map (02/25/09)
Figure 4: Groundwater Drawdown Map (05/21/09)
Figure 5: Vapor Radius of Influence Map
Figure 6: Proposed Boring Locations Map

Table 1: Groundwater Level Data
Table 2: Groundwater Analytical Data
Table 3: HVDPE Groundwater and Tank Water Analytical Data
Table 4: HVDPE Vapor Analytical Data

Attachment A. Alameda County DEH Letter
Attachment B. Horizon Field Methods and Procedures
Attachment C. Horizon and Cal Clean Field Data Sheets
Attachment D. Laboratory Data Sheets and Chain-of-Custody Records

c: Mr. C. Shay Wideman, Valero Energy Corp.
Mr. Allen Shin, Banya Investment LLC
Mr. Bill Courtney, Property Manager



GENERAL NOTES:
 BASE MAP FROM U.S.G.S.
 HAYWARD, CA.
 7.5 MINUTE TOPOGRAPHIC
 PHOTOREVISED 1980




QUADRANGLE LOCATION

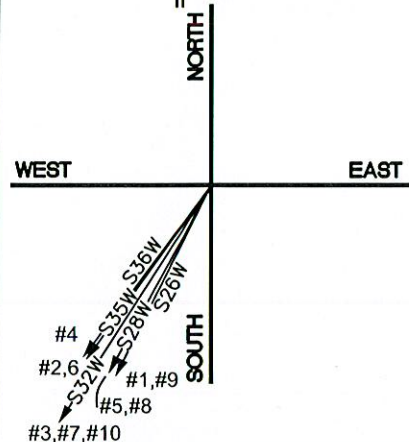
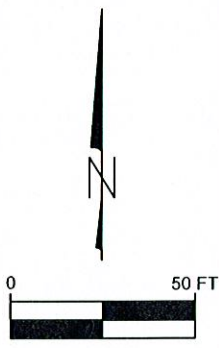
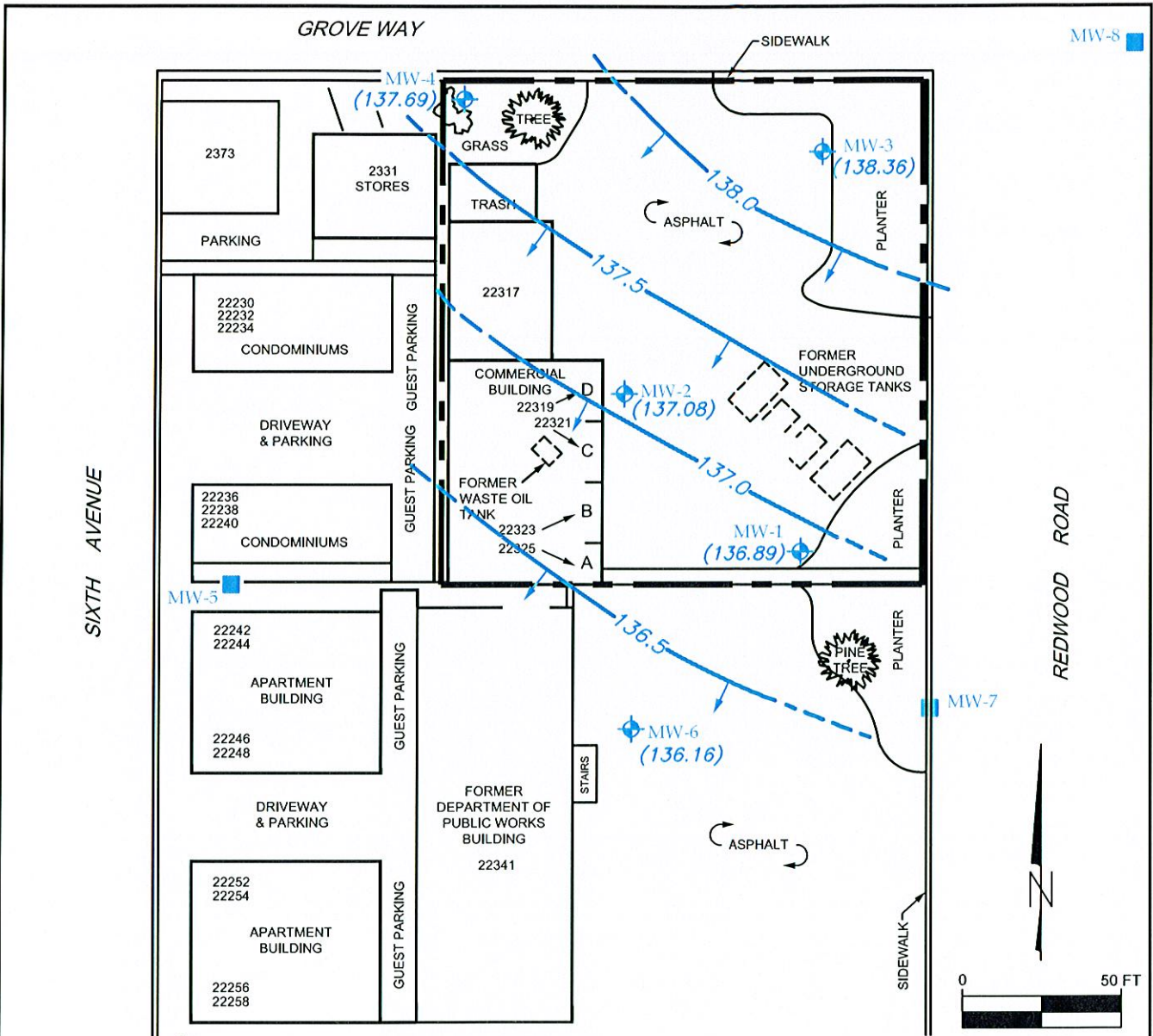


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NORTH

 HORIZON ENVIRONMENTAL INC.		SITE LOCATION MAP FORMER BEACON STATION NO. 12574 22315 REDWOOD ROAD CASTRO VALLEY, CA.	FIGURE 1
Project Number: 1574.41 Prepared By: K. Liptak Reviewed By: K. Matek	Drawn By: M. LaCoste Date: 10/7/04 Revised Date:		



Date	Direction Of Groundwater Flow	ID No.
08/31/04	S 26 W	#1
02/01/05	S 35 W	#2
07/29/05	S 32 W	#3
01/16/05	S 36 W	#4
08/30/06	S 28 W	#5
02/13/07	S 35 W	#6
08/13/07	S 32 W	#7
02/11/08	S 28 W	#8
07/29/08	S 26 W	#9
02/25/09	S 32 W	#10

EXPLANATION:

- MW-6 Groundwater Monitoring Well
- MW-8 Abandoned Monitoring Well
- (138.36)* Elevation of Groundwater Measured In Feet; Datum Is Mean Sea Level
- Line Of Equal Elevation Of Groundwater Measured In Feet; Datum Is Mean Sea Level
- Direction Of Groundwater Flow
- (NM)* Not Measured
- Wells Measured 2/25/09

Source: Figure Modified From Survey Drawing Prepared By Majors For Tesoro Refining.

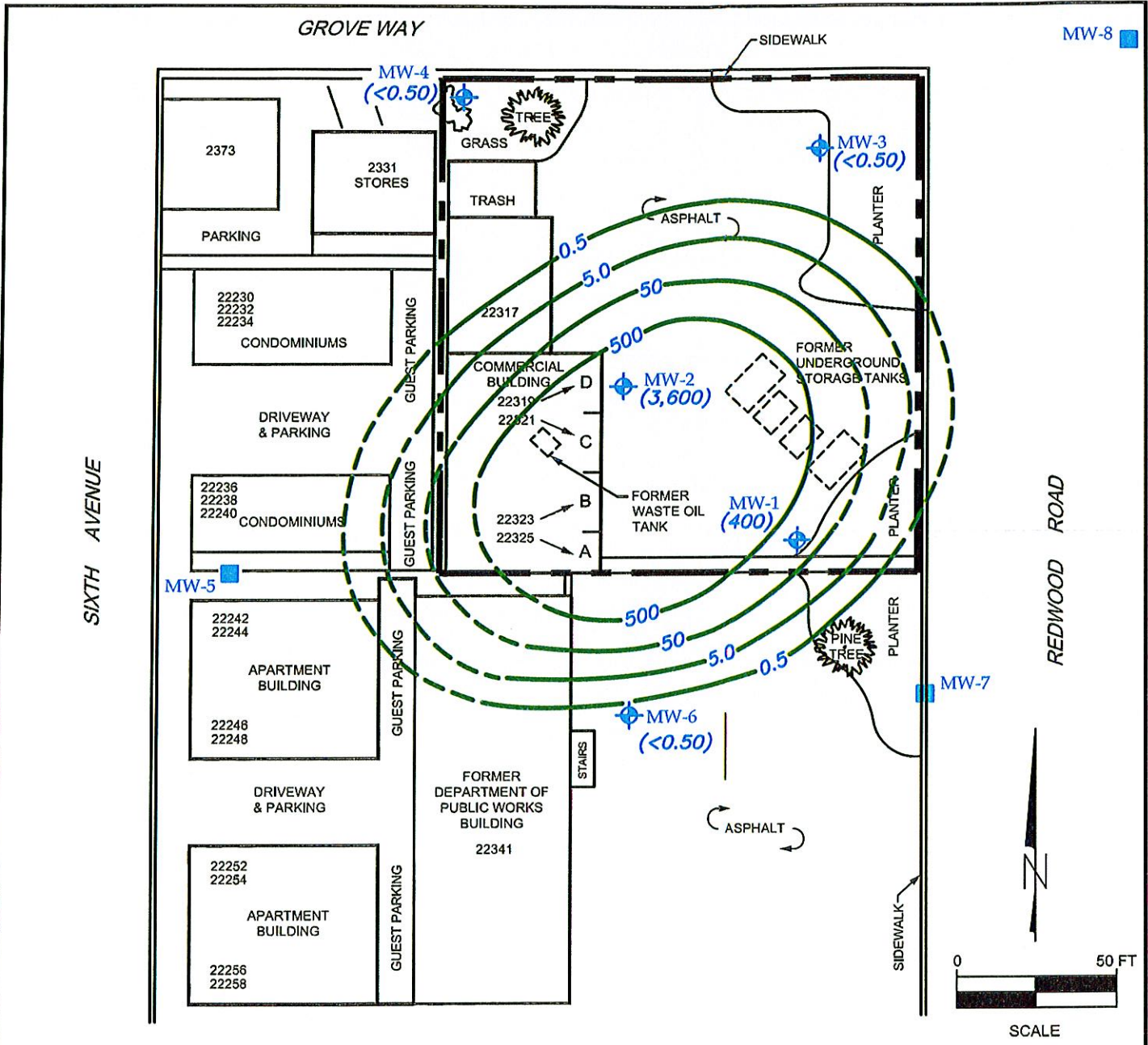


Project Number: 1574.46
 Prepared By: K. Liptak
 Reviewed By: K. Mateik

Drawn By: C. Bechtell
 Date: 03/09
 Revised Date:

SITE MAP/GROUNDWATER ELEVATION CONTOUR MAP
 FORMER BEACON STATION NO. 12574
 22315 REDWOOD ROAD
 CASTRO VALLEY, CA.

FIGURE
2




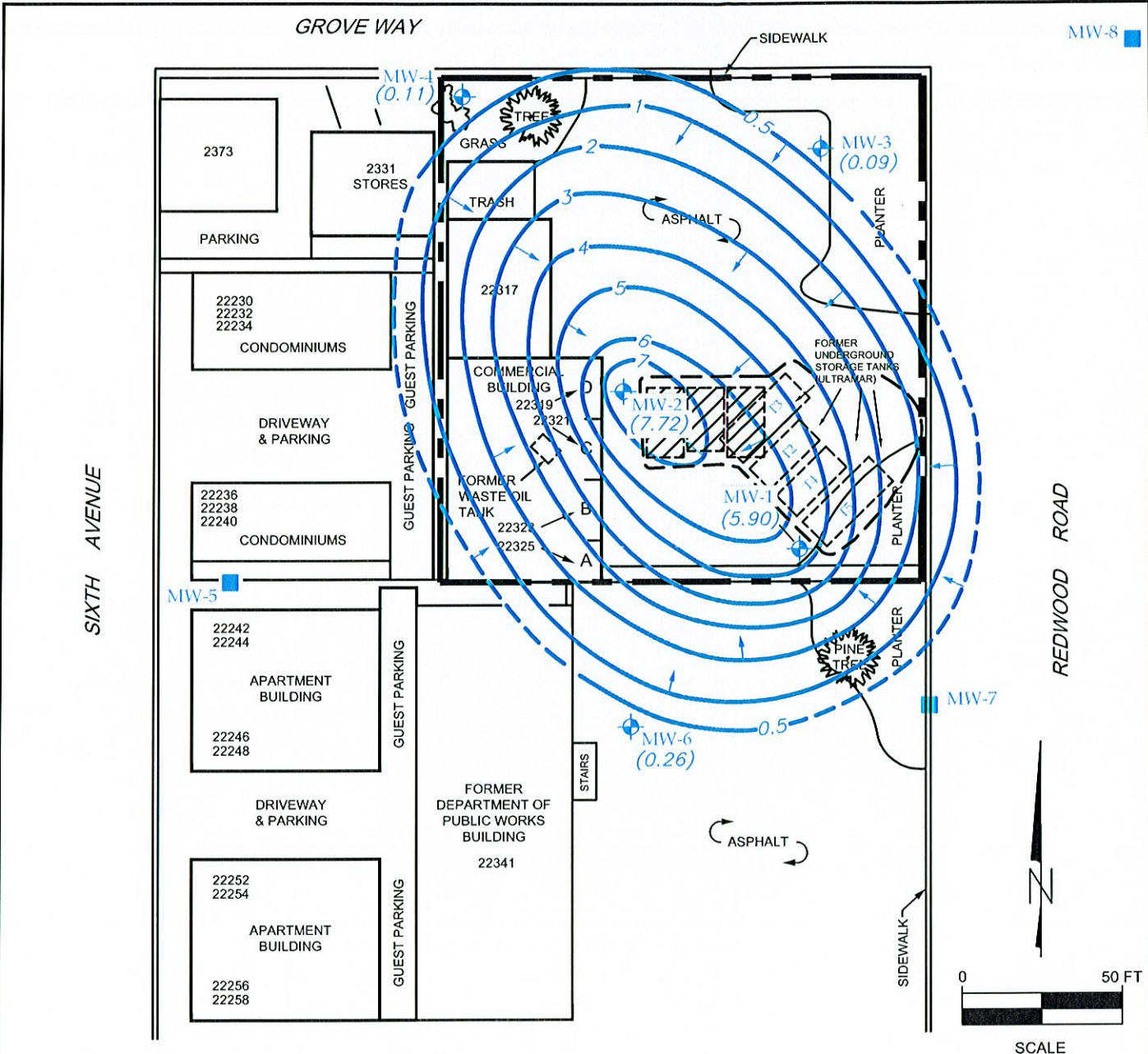
EXPLANATION:

- MW-6 Groundwater Monitoring Well
- MW-8 Abandoned Monitoring Well
- (3,600)** Benzene Concentration Measured In Parts Per Billion
- Line Of Equal Concentration Of Benzene Measured In Parts Per Billion





Wells Sampled 02/25/09

Source: Figure Modified From Survey Drawing Prepared By Majors For Tesoro Refining.


 HORIZON ENVIRONMENTAL INC.		BENZENE ISOCONCENTRATION MAP FORMER BEACON STATION NO. 12574 22315 REDWOOD ROAD CASTRO VALLEY, CA.	FIGURE 3
Project Number: 1574.46 Prepared By: K. Liptak Reviewed By: K. Mateik	Drawn By: C. Bechtell Date: 03/09 Revised Date:		

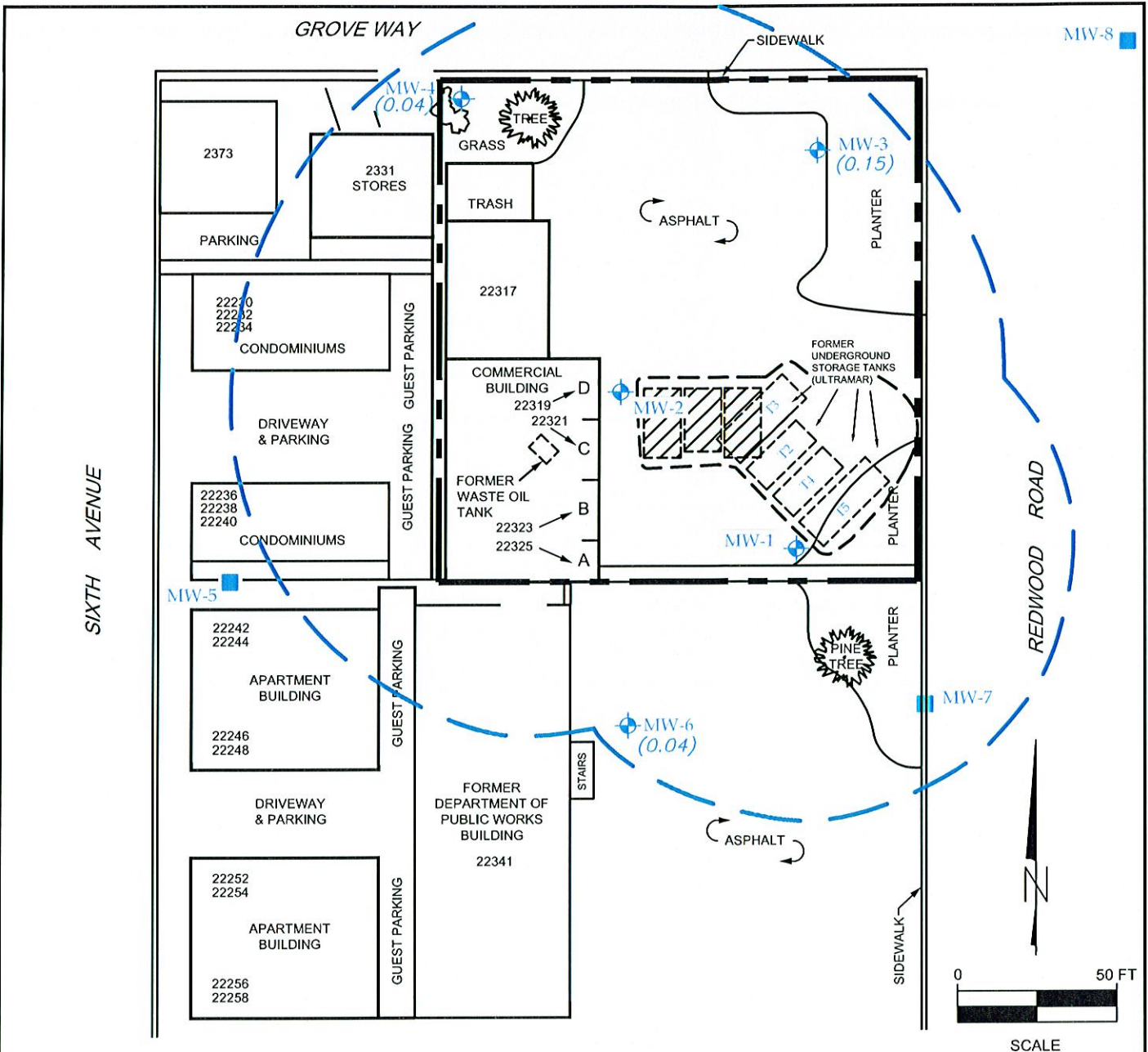


EXPLANATION:




-  MW-6 Groundwater Monitoring Well
 -  MW-8 Abandoned Monitoring Well
 -  (0.26) Drawdown Measured In Feet After 48 Hours Of Extraction
 -  Line Of Equal Drawdown Of Groundwater Measured In Feet
- Wells Measured (5/21/09).

Source: Figure Modified From Survey Drawing Prepared By Majors For Tesoro Refining.


 HORIZON ENVIRONMENTAL INC.	GROUNDWATER DRAWDOWN MAP	FIGURE
	FORMER BEACON STATION NO. 12574 22315 REDWOOD ROAD CASTRO VALLEY, CA.	4
Project Number: 1574.21 Prepared By: B. Schlegel Reviewed By: K. Mateik	Drawn By: C. Bechtell Date: 06/09 Revised Date:	

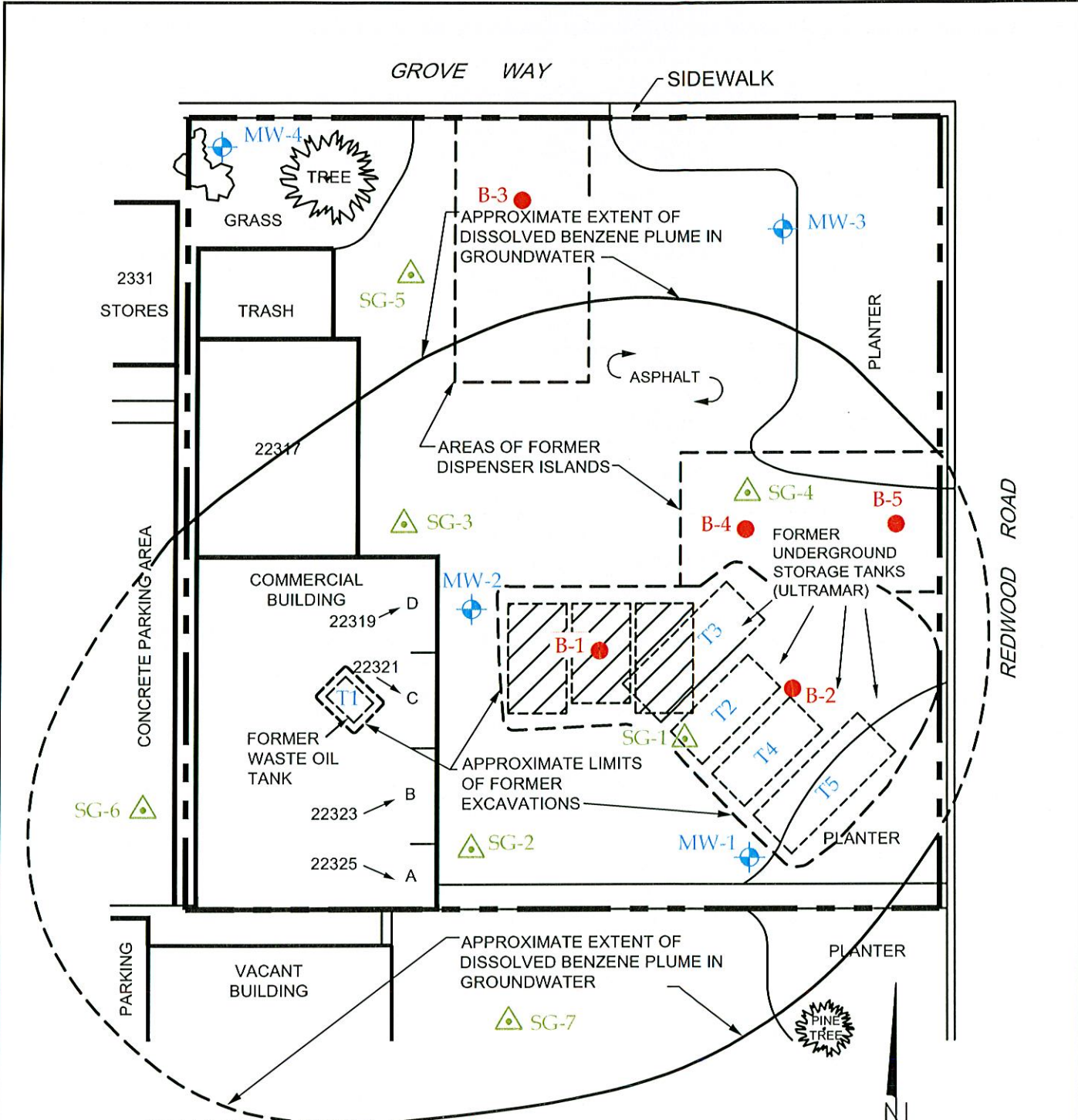


EXPLANATION:




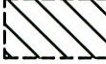
-  MW-6 Groundwater Monitoring Well
-  MW-8 Abandoned Monitoring Well
- (0.15r)* Induced Vacuum Measured In Inches After 48 Hours Of Extraction
-  Approximate Vapor Radius Of Influence
- Wells Measured (5/21/09)

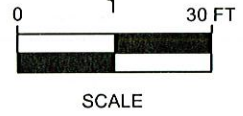
Source: Figure Modified From Survey Drawing Prepared By Majors For Tesoro Refining.

 HORIZON ENVIRONMENTAL INC.		VAPOR RADIUS OF INFLUENCE MAP FORMER BEACON STATION NO. 12574 22315 REDWOOD ROAD CASTRO VALLEY, CA.	FIGURE 5
Project Number: 1574.21 Prepared By: B. Schlegel Reviewed By: K. Mateik	Drawn By: C. Bechtell Date: 06/09 Revised Date:		




EXPLANATION:

-  MW-6 Groundwater Monitoring Well
-  SG-7 Proposed Soil Gas Survey Sample Location
-  B-5 Proposed Boring Locations
-  Former Shell Oil USTs



Source: Figure Modified From Survey Drawing Prepared By Others For Ultramar

 HORIZON ENVIRONMENTAL INC.		SITE MAP WITH PROPOSED BORING LOCATIONS FORMER BEACON STATION NO. 12574 22315 REDWOOD ROAD CASTRO VALLEY, CA.	FIGURE 6
Project Number: 1574.21 Prepared By: K. Mateik Reviewed By: G. Barker	Drawn By: C. Bechtell Date: 06/09 Revised Date:		

**Table 1 - DPE Groundwater Test Data
Former Beacon Station No. 12574
22315 Redwood Road
Castro Valley, California**

Well Number	Date	Depth to GW (feet)	Drawdown (feet)	Field Comments
MW-1 10' - 30' screen interval (extraction well)	2/25/09	21.81		1Q 2009 Monitoring
	5/19/09	22.44	0.00	Pre DPE test
	5/19/09	28.0	5.56	DPE test @ 11.5 hours
	5/20/09	28.0	5.56	DPE test @ 25.5 hours
	5/20/09	28.0	5.56	DPE test @ 34.5 hours
	5/21/09	28.0	5.56	DPE test @ 47 hours
	5/21/09	28.34	5.90	Post DPE test
MW-2 10' - 30' screen interval (extraction well)	2/25/09	20.25		1Q 2009 Monitoring
	5/19/09	20.90	0.00	Pre DPE test
	5/19/09	28.0	7.10	DPE test @ 11.5 hours
	5/20/09	28.0	7.10	DPE test @ 25.5 hours
	5/20/09	28.0	7.10	DPE test @ 34.5 hours
	5/21/09	28.0	7.10	DPE test @ 47 hours
	5/21/09	28.62	7.72	Post DPE test
MW-3 10' - 30' screen interval	2/25/09	20.87		1Q 2009 Monitoring
	5/19/09	21.33	0.00	Pre DPE test
	5/19/09	21.37	0.04	DPE test @ 6 hours
	5/19/09	21.39	0.06	DPE test @ 11.5 hours
	5/20/09	21.41	0.08	DPE test @ 25.5 hours
	5/20/09	21.41	0.08	DPE test @ 34.5 hours
	5/21/09	21.42	0.09	DPE test @ 47 hours
MW-4 13' - 28' screen interval	2/25/09	16.44		1Q 2009 Monitoring
	5/19/09	16.96	0.00	Pre-DPE test
	5/19/09	16.99	0.03	DPE test @ 6 hours
	5/19/09	17.02	0.06	DPE test @ 11.5 hours
	5/20/09	17.05	0.09	DPE test @ 25.5 hours
	5/20/09	17.06	0.10	DPE test @ 34.5 hours
	5/21/09	17.07	0.11	DPE test @ 47 hours
MW-6 15' - 30' screen interval	2/25/09	19.95		1Q 2009 Monitoring
	5/19/09	20.61	0.00	Pre-DPE test
	5/19/09	20.72	0.11	DPE test @ 6 hours
	5/19/09	20.75	0.14	DPE test @ 11.5 hours
	5/20/09	20.85	0.24	DPE test @ 25.5 hours
	5/20/09	20.86	0.25	DPE test @ 34.5 hours
	5/21/09	20.87	0.26	DPE test @ 47 hours

**Table 2 - Groundwater Monitoring Data
Former Beacon Station No. 12574
22315 Redwood Road
Castro Valley, California**

Well Number	Date	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TBA (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	DCA (ppb)	EDB (ppb)	TOC Elevation	Depth to GW	GW Elevation	Field Comments
MW-1 (10' - 30' screen interval)	02/13/07	5,300	1,100	49	210	280	110.0	na	na	na	na	na	na	158.70	22.31	136.39	1Q07 monitoring
	08/13/07	10,000	2,300	49	11	630	160.0	na	na	na	na	na	na		23.10	135.60	3Q07 monitoring
	02/11/08	30,000	5,400	260	2,300	3,400	150	na	na	na	na	na	na		21.10	137.60	1Q08 monitoring
	07/29/08	9,900	1,800	28	720	220	69	na	na	na	na	na	na		22.95	135.75	3Q08 monitoring
	02/25/09	1,700	400	7.0	53	34	33	na	na	na	na	na	na		21.81	136.89	1Q09 monitoring
	05/21/09	1,900	160	50	120	140	15	8.4	1.1	< 0.50	< 0.50	0.80	< 0.50		28.34	130.36	0.5-hr post-HVDPE
MW-2 (10' - 30' screen interval)	02/13/07	14,000	3,100	110	600	620	340	na	na	na	na	na	na	157.33	20.73	136.60	1Q07 monitoring
	08/13/07	14,000	4,600	150	560	410	240	na	na	na	na	na	na		21.41	135.92	3Q07 monitoring
	02/11/08	46,000	12,000	4,400	1,700	5,200	150	na	na	na	na	na	na		19.35	137.98	1Q08 monitoring
	07/29/08	36,000	9,700	840	1,400	4,000	160	na	na	na	na	na	na		21.38	135.95	3Q08 monitoring
	02/25/09	11,000	3,600	66	400	320	130	na	na	na	na	na	na		20.25	137.08	1Q09 monitoring
	05/21/09	19,000	2,900	710	590	1,900	97	50	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0		28.62	128.71	0.5-hr post-HVDPE

Notes:

TPHg = total petroleum hydrocarbons as gasoline

B = benzene

T = toluene

E = ethylbenzene

X = xylenes

MTBE = methyl-tert-butyl ether

TBA = tert-butanol

DIPE = Diisopropyl ether

ETBE = Ethyl-t-butyl ether

TAME = Tert-amyl methyl ether

DCA = 1,2-dichloroethane

EDB = 1,2-dibromoethane

ppb = parts per billion

na = not analyzed

GW = GroundWater

TOC = Top of Casing

Depths and Elevations recorded in feet

**Table 3 - Analytical Groundwater Data
Former Beacon Station No. 12574
22315 Redwood Road**

Sample Name	Date Collected	Elapsed Time (hours)	TPHg ppb	Benzene ppb	Toluene ppb	Ethylbenz. ppb	Xylenes ppb	MTBE ppb	TBA ppb	DIPE ppb	ETBE ppb	TAME ppb	DCA ppb	EDB ppb
MW-1	05/21/09	0.5-hour post HVDPE	1,900	160	50	120	140	15	8.4	1.1	<0.50	<0.50	0.80	<0.50
MW-2	05/21/09	0.5-hour post HVDPE	19,000	2,900	710	590	1,900	97	50	<6.0	<6.0	<6.0	<6.0	<6.0

Notes: TPHg = Total Petroleum Hydrocarbons as gasoline
 MTBE = Methyl-tertiary-butyl-ether
 DIPE = Diisopropyl ether
 ETBE = Ethyl-t-butyl ether
 TAME = Tert-amyl methyl ether
 TBA = Tert-Butanol

DCA = 1,2-dichloroethane
 EDB = 1,2-dibromoethane

ppb = parts per billion (or micrograms per liter)

Well MW-1 screened 10' - 30'
 Well MW-2 screened 10' - 30'

Sample Name	Date Collected	Elapsed Time (hours)	TPHg ppb	Benzene ppb	Toluene ppb	Ethylbenz. ppb	Xylenes ppb	MTBE ppb	TBA ppb	DIPE ppb	ETBE ppb	TAME ppb	DCA ppb	EDB ppb
DPE water	05/21/09	26 hours	2,200	83	71	24	240	5.5	27	<0.50	<0.50	<0.50	<0.50	<0.50
CVSD discharge limitations			15,000	5.0	1,000	700	10,000	nl	nl	nl	nl	nl	nl	nl

nl = not listed

**Table 4 - Analytical Vapor Data
Former Beacon Station No. 12574
22315 Redwood Road
Castro Valley, California**

Sample Name	Date Collected	Elapsed Time (hours)	TPHg ppmv	Benzene ppmv	Toluene ppmv	Ethylbenz. ppmv	Xylenes ppmv	MTBE ppmv
INF	05/19/09	1.5 hours	6,400	50	31	56	140	<0.40
MW-1	05/19/09	1.5 hours	1,700	21	12	16	45	<0.15
MW-2	05/19/09	1.5 hours	9,300	90	60	130	340	<0.70
INF	05/21/09	47.75 hours	2,500	25	27	22	66	<0.40
MW-1	05/21/09	47.75 hours	900	10	15	8.3	28	<0.15
MW-2	05/21/09	47.75 hours	3,900	36	36	32	94	<0.70

Notes: TPHg = Total Petroleum Hydrocarbons as gasoline
ppmv = parts per million vapor

ATTACHMENT A

ALAMEDA COUNTY DEPT. OF

ENVIRONMENTAL HEALTH APPROVAL LETTER

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-8577
(510) 567-6700
FAX (510) 337-93

January 8, 2009

Mr. Robert Ehlers
Valero
685 West Third Street
Hanford, CA 93230

Castro Group LLC
2021 Francisco Street
Berkeley, CA 94709-2213

Ms. Mary Moore
EMB Group LLC & Mary Moore
Re Trust 611 Marlin Court
Redwood City, CA 94065-1214

Mr. Allen Shin
Banya Investments LLC
3011 Cabrillo Avenue
San Ramon, CA 94583

Mr. Paul Wilson
1238 Stanyan Street
San Francisco, CA 94117

Subject: Fuel Leak Case No. RO0000355 and Geotracker Global ID T0600100155, Beacon #12574, 22315 Redwood Road, Castro Valley, CA 94546

Dear Mr. Ehlers, Castro Group LLC, Ms. Moore, Mr. Shin, and Mr. WILSON:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site including the recently submitted document entitled, "*Letter Work Plan for Remedial Testing*," and dated December 11, 2008. The "*Letter Work Plan for Remedial Testing*," which was prepared by Horizon Environmental, Inc., proposes conducting short-term, high-vacuum, dual-phase extraction testing. The proposed scope of work for DPE testing is generally acceptable and may be implemented as proposed.

We request that you address the following technical comments, perform the proposed work, and send us the technical reports requested below.

TECHNICAL COMMENTS

1. **Use of Monitoring Wells for Remedial Testing.** Dual-phase extraction is proposed from existing monitoring wells MW-1 and MW-2. The use of existing monitoring wells may limit the effectiveness of the remedial testing because the wells are not optimally constructed for extraction, are not necessarily located in the most contaminated areas, and are screened over a 20-foot interval. We request that the evaluation of the DPE testing include discussion of the potential limitations due to the use of existing monitoring wells. Any proposal for additional DPE testing must include extraction wells designed for optimal effectiveness that are located within the areas where the largest mass of residual hydrocarbons are believed to be present. Please present your results and recommendations in the Dual-phase Extraction Testing Report requested below.

Robert Ehlers
Castro Group LLC
Mary Moore
Allen Shin
Paul Wilson
RO0000355
January 8, 2009
Page 2

2. **Potential Vapor Intrusion.** The concentrations of fuel hydrocarbons in soil and groundwater at the site exceed Environmental Screening Levels (San Francisco Bay Regional Water Quality Control Board May 2008) for potential vapor intrusion to indoor air and also exceed Tier 2 criteria calculated in the risk-based corrective action analysis conducted for the site in 1996 and 1998 (El Dorado Environmental, "*Risk-based Corrective Action Tier 1 and Tier 2 Analyses*," dated December 21, 1996 and "*Supplement to Risk-based Corrective Action Tier 1 and Tier 2 Analyses*," dated March 29, 1999). Therefore, an evaluation of potential vapor intrusion to indoor air that includes soil vapor sampling must be conducted for the site and potentially affected off-site areas. Please present your plans for soil vapor sampling in the Soil Vapor Sampling Work Plan requested below.
3. **Groundwater Monitoring.** Please continue the groundwater monitoring program on the current semi-annual basis. However, additional analyses are required for the site. In addition to the current analytes of TPHg, BTEX, and MTBE, all groundwater samples must be analyzed for fuel additives TBA, ETBE, TAME, DIPE, 1,2-DCA, and EDB using EPA Method 8260. Please present the groundwater sampling results in the Groundwater Monitoring Reports requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- April 13, 2009 – First Quarter 2008, Semi-Annual Groundwater Monitoring Report ✓
- May 26, 2009 – Dual-phase Extraction Testing Report and Soil Vapor Sampling Work Plan ✓
Extension to 6/30/09
- October 13, 2009 – Third Quarter 2009, Semi-Annual Groundwater Monitoring Report ✓

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup

Robert Ehlers
Castro Group LLC
Mary Moore
Allen Shin
Paul Wilson
RO0000355
January 8, 2009
Page 3

programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements ([http://www.swrcb.ca.gov/ust/cleanup/electronic reporting](http://www.swrcb.ca.gov/ust/cleanup/electronic%20reporting)).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

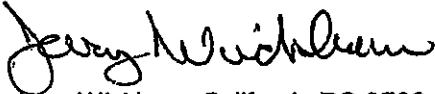
AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Robert Ehlers
Castro Group LLC
Mary Moore
Allen Shin
Paul Wilson
RO000355
January 8, 2009
Page 4

If you have any questions, please call me at 510-567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,



Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Gary Barker, Horizon Environmental, Inc., 4970 Windplay Drive, #C5, El Dorado Hills, CA 95762

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

Ken Mateik

From: Wickham, Jerry, Env. Health [jerry.wickham@acgov.org]
Sent: Thursday, May 07, 2009 5:47 PM
To: Ken Mateik
Subject: RE: Extension Request for DPE Report for Castro Valley, CA site - Fuel Leak Case # RO0000355 (T0600100155)

Based on your request, the schedule for submittal of a DPE Pilot Test Report is extended to June 30, 2009.

Regards,

Jerry Wickham

Senior Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
phone: 510-567-6791
Fax: 510-337-9335
jerry.wickham@acgov.org

Online case files are available at the following website <http://www.acgov.org/aceh/index.htm>

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From: Ken Mateik [mailto:KMateik@horizonenvironmental.net]
Sent: Thursday, May 07, 2009 10:47 AM
To: jerry.wickham@acgov.org
Subject: RE: Extension Request for DPE Report for Castro Valley, CA site - Fuel Leak Case # RO0000355 (T0600100155)

Mr. Wickham, since the DPE work at Former Beacon No. 12574 (Fuel Leak Case # RO0000355) is scheduled to take place on May 19-21, we will need to a request that an extension for the submittal of the DPE Testing Report be granted from May 26, 2009 until June 30, 2009 so that we will be able to prepare the report presenting the field procedures, results, evaluations, and conclusions of the DPE testing.

Submittal of the Soil Vapor Sampling Work Plan can remain on May 26, 2009.

Thank you.

Ken Mateik
Professional Geologist No. 5861
HORIZON ENVIRONMENTAL INC.
4970 Windplay Drive, Suite 5
El Dorado Hills, CA 95762
916 - 939 - 2170 (Office)
916 - 939 - 2172 (Facsimile)

ATTACHMENT B

HORIZON FIELD PROCEDURES

HORIZON ENVIRONMENTAL INC. FIELD METHODS AND PROCEDURES

The following section describes field procedures that were completed by Horizon Environmental Inc. (Horizon) personnel in performance of this project.

1.0 HEALTH AND SAFETY PLAN

Field work performed by Horizon and subcontractors at the site were conducted according to guidelines established in a Site Health and Safety Plan (SHSP). The SHSP is a document that describes the hazards that may be encountered in the field and specifies protective equipment, work procedures, and emergency information. A copy of the SHSP was at the site and available for reference by appropriate parties during work at the site.

2.0 LOCATING UNDERGROUND UTILITIES

Prior to commencement of work on site, the location of underground utilities were researched with the assistance of Underground Service Alert (USA). USA contacted the owners of the various utilities in the vicinity of the site to have the utility owners mark the locations of their underground utilities.

3.0 GROUNDWATER DEPTH EVALUATION

Depth to groundwater was measured to the nearest 0.01-foot using an electronic hand-held water level indicator. The tip of the probe was examined to evaluate whether a separate-phase petroleum sheen was present.

4.0 MONITORING WELL SAMPLING

After the water levels within the wells stabilized, a sample was collected with a clean disposable bailer from selected wells. Water samples were contained in air-tight vials and then packed on ice and transported to the laboratory for analysis. Groundwater samples were transported to the laboratory and analyzed within the EPA-specified holding time for requested analyses. Each sample container submitted for analysis had a label affixed to identify the job number, sample date, time of sample collection, and a sample number unique to that sample. Samples were analyzed by a California-certified laboratory

A Chain-of-Custody form was used to record possession of the sample from time of collection to its arrival at the laboratory. When the water samples were shipped, the person in custody of them relinquished the samples by signing the Chain-of-Custody form and noting the time. The Sample Control Officer at the laboratory then verified sample integrity and confirmed that the water sample was collected in the proper container, preserved correctly, and that there was an adequate volume for analysis.

Horizon Field Methods and Procedures

The following sections describe field procedures that will be completed by Horizon Environmental Inc. (Horizon) personnel in performance of the additional soil borings project.

1.0 HEALTH AND SAFETY PLAN

Field work performed by Horizon and subcontractors at the site will be conducted according to guidelines established in a Site Health and Safety Plan (SHSP). The SHSP is a document that describes the hazards that may be encountered in the field and specifies protective equipment, work procedures, and emergency information. A copy of the SHSP will be at the site and available for reference by appropriate parties during work at the site.

2.0 LOCATING UNDERGROUND UTILITIES

Prior to commencement of work on site, the location of underground utilities will be researched with the assistance of Underground Service Alert (USA). USA will contact the owners of the various utilities in the vicinity of the site to have the utility owners mark the locations of their underground utilities. Work associated with borings and monitoring well installations will be preceded by manual hand augering to avoid contact with underground utilities.

3.0 DIRECT-PUSH SOIL BORINGS AND SOIL SAMPLING PROTOCOL

Soil borings and soil sampling will be performed under the supervision of a Horizon geologist. The soil borings will be advanced using a truck-mounted direct-push sampling rig using single or double (dual) rods. Soil sampling will be conducted using a two-foot or four-foot long split-barrel sampler lined with a clear inert polyvinyl chloride (PVC) sample sleeve. The sampler will be driven into the soil at approximately five-foot intervals or less by a hydraulic-driven hammer. Upon recovery, the clear PVC sample sleeve will be removed from the sampler and examined by the geologist. The clear PVC sample sleeve will be cut with a saw, and a portion of the soil sample will be extruded and placed in a plastic bag and sealed for later screening with an hNu type photo-ionization detector (PID) or equivalent device. Another portion of the extruded soil sample will be used for classification and description. Generally, the bottom portion of the sample will be sealed in the sample sleeve using Teflon sheets and plastic caps; labeled; and promptly placed in iced storage at approximately 4°C for transport to the laboratory. To reduce cross-contamination between samples, the split-barrel sampler will be washed in a soap solution and double-rinsed between each sampling event.

After the portion of the extruded soil sample is placed in the plastic bag, it will be allowed to warm, inducing volatilization of petroleum hydrocarbon vapors. The headspace vapors will be screened with the PID. The highest observed reading will be recorded on the boring logs.

4.0 SEALING OF SOIL BORINGS

Upon completion of the soil sampling activities, each boring will be backfilled with bentonite and neat cement grout to approximately one foot below surface grade, and the remaining borehole will be backfilled with concrete tinted to match the surrounding asphalt surface.

ATTACHMENT C

**CAL CLEAN FIELD DATA SHEETS
WATER DISPOSAL DOCUMENTATION**

UNIT
VACUUM
MW-1 / MW-2

SCFM
MW-1 / MW-2

HIGH VACUUM DUAL PHASE EXTRACTION SYSTEM FIELD DATA SHEET

CALCLEAN INC.
(714) 734-9137

Project Location: 22315 REDWOOD ROAD
Client: HORIZON / TESORO

City: CASTRO VALLEY

Site #: FORMER BEACON 12574

Date: 5/19/2009

Page 1 of 2

Operator (s): BERNARDO

					Well: MW-1	Well: MW-2	Well:	Well:	Well: MW-3	Well: MW-4	Well: MW-6	Well:						
Initial Depth to Groundwater					22.94	20.90			21.33	16.96	20.61							
Screen Interval					29.93	29.75	TD					289720						
Time	Unit Vacuum (Hg.)	Total Flowrate (scfm)	TOX Temp. (degF)	TOX Inlet Conc. (ppmv)	PID	Stinger Depth (feet)	PID	Stinger Depth (feet)	Stinger Depth (feet)	Stinger Depth (feet)	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O	DTW (ft)	Vacuum "H ₂ O	DTW (ft)
	↓	↓			ON	28'	ON	28'										
1230	22	60	1440	5880	817		10380											
1300	20	65	1418	5670							0.15	2134	0.00	17.00	0.00	20.59		
1330	18	76	1405	6070							0.15	2136	0.00	17.00	0.00	20.68		
1400	18	75	1400	5840	1244		10680				0.15	2137	0.00	17.01	0.00	20.69		
1430	18	77	1406	5750							0.15	2137	0.00	17.01	0.00	20.71		
1530	18	76	1409	5450	1238		9670				0.15	2137	0.02	17.01	0.00	20.69		
1630	18	75	1413	5210							0.15	2137	0.02	16.99	0.01	20.70		
1730	18	77	1410	5030							0.15	2137	0.00	16.99	0.01	20.72		
1730	21/23	35/30			1195		8710											
1830	18	76	1408	4790							0.15	2137	0.00	16.99	0.01	20.72		
1830	19/20	40/35	1405		943		6490											
1930	17	90	1402	4100							0.15	2138	0.00	17.01	0.02	20.72		
1930	19/20	40/36			951		6500											
2000	17	92	1407	4130							0.15	2138	0.00	17.01	0.02	20.74		
2200	17	90	1400	4020							0.15	2138	0.00	17.01	0.02	20.75		
2200	19/20	40/36			945		6470											
2400	17	92	1401	3990							0.15	2139	0.03	17.02	0.03	20.75		

Comments: 5-19-09 STACK @ 1240 (0 PPMV). TOTAL INLET @ 1400 (5840 PPMV).
MW-1 @ 1403 (1244 PPMV). MW-2 @ 1406 (10680 PPMV).

6

11.5

UNIT
VACUUM
MW-1/MW-2

SCFM
MW-1/MW-2

HIGH VACUUM DUAL PHASE EXTRACTION SYSTEM FIELD DATA SHEET

CALCLEAN INC.
(714) 734-9137

Project Location: 22316 REDWOOD ROAD
Client: HORIZON / TESORO

City: CASTRO VALLEY Site #: FORMER BEACON 12574
Operator (s): BERNARDO

Date: 5/20/2008 Page 2 of 2

					Well: MW-1	Well: MW-2	Well:	Well:	Well: MW-3	Well: MW-4	Well: MW-6	Well:					
Initial Depth to Groundwater					22.44	20.90			21.33	16.96	20.61						
Screen Interval					29.93	29.75						789720					
Time	Unit Vacuum (Hg.)	Total Flowrate (scfm)	TOX Temp. (degF)	TOX Inlet Conc. (ppmv)	PID	Stinger Depth (feet)	PID	Stinger Depth (feet)	Stinger Depth (feet)	Vacuum H ₂ O	DTW (ft)	Vacuum H ₂ O	DTW (ft)	Vacuum H ₂ O	DTW (ft)	Vacuum H ₂ O	DTW (ft)
	↓	↓			ON	28'	ON	28'									
0200	17	90	1405	3850						0.15	21.39	0.03	17.02	0.03	20.77		
0200	19/20	40/36			967		6730										
0400	17	91	1400	3830						0.12	21.39	0.03	17.04	0.04	20.79		
0600	16	100	1403	3770						0.12	21.40	0.03	17.04	0.04	20.80		
0600	18/19	44/40			918		6050										
0800	16	98	1402	3710						0.12	21.40	0.03	17.05	0.04	20.81		
1100	18	75	1407	3480						0.12	21.40	0.03	17.05	0.04	20.84		
1100	20/21	35/33			852		5880										
25.5	1400	18	75	1401	3290					0.12	21.41	0.03	17.05	0.04	20.86		
1700	18	77	1400	3310						0.12	21.41	0.03	17.06	0.04	20.85		
1700	19/20	40/36			840		5510										
2000	18	75	1411	3260						0.14	21.41	0.04	17.06	0.04	20.86		
34.5	2300	18	76	1406	3140					0.14	21.41	0.04	17.06	0.04	20.86		
2300	19/20	40/36			795		5340										
5/21																	
0300	17	93	1402	3020						0.13	21.42	0.04	17.07	0.03	20.86		
0700	17	90	1405	2960						0.13	21.42	0.04	17.07	0.03	20.86		
0700	20/19	39/42			728		4820										
1100	18	76	1407	2980						0.13	21.42	0.04	17.07	0.03	20.87		
47	1130	19	70	1401	2960					0.13	21.42	0.04	17.07	0.03	20.87		
1130	21/23	35/30			734		4820									291	380

Comments: 5-21-09 TOTAL INLET @ 1215 (2960 PPMV). MW-1 @ 1218 (734 PPMV).
MW-2 @ 1221 (4820 PPMV). TOTAL WATER 1660 GAL. 1,660 gallons

VAPOR (DAY ONE)

Flow =	75	carbon size	200 pounds	
Quick Calc's for Mass Flow of TPH-G and		gac mtbe removal efficiency	2%	
		gac tphg/benz removal efficiency	15%	
Ctph =	6400 ppmv	Mtph =	161.2 lb/day	
Cbenz =	50 ppmv	Mbenz =	1.09 lb/day	
CMTBE =	0.40 ppmv	MMTBE =	0.01 lb/day	
Mtph =	0.11192 lb/min			
Mbenz =	0.00076 lb/min			
Mmtbe =	0.00001 lb/min			
at 1.5 hours		days to VAP. GAC break thru		
		TPHg		0.19
		days to VAP. GAC break thru		
		BENZ		27.5
		days to VAP. GAC break thru		
		MTBE		406.1

VAPOR (DAY TWO)

Flow =	70 scfm	carbon size	200 pounds	
Quick Calc's for Mass Flow of TPH-G and		gac mtbe removal efficiency	2%	
		gac tphg/benz removal efficiency	15%	
Ctph =	2500 ppmv	Mtph =	58.8 lb/day	
Cbenz =	25 ppmv	Mbenz =	0.51 lb/day	
CMTBE =	0.40 ppmv	MMTBE =	0.01 lb/day	
Mtph =	0.04080 lb/min			
Mbenz =	0.00035 lb/min			
Mmtbe =	0.00001 lb/min			
at 47.5 hours		days to VAP. GAC break thru		
		TPHg		0.51
		days to VAP. GAC break thru		
		BENZ		58.9
		days to VAP. GAC break thru		
		MTBE		435.2

Mtphg = 161.2 + 58.8 = 220 pounds of TPHg

Mbenz = 1.09 + 0.51 = 1.60 pounds of benzene

Mmtbe = 0.01 + 0.01 = 0.02 pound of MTBE

WATER

Assumptions: water flows thru gac in series			
Flow =		830 GPD	
AQ. GAC Influent		carbon size	200 pounds
		gac mtbe removal efficiency	2%
		gac tphg/benz removal efficiency	10%
TPHg	10500 ppb	tphg pound per hr	0.00303209
benzene	1530 ppb	benzene pound per hr	0.000441819
toluene	380 ppb	toluene pound per hr	0.000109733
ethylben	355 ppb	ethylbenzene pound per hr	0.000102514
xylene	1020 ppb	xylene pound per hr	0.000294546
MTBE	56 ppb	MTBE pound per hr	1.61712E-05
TBA	29 ppb	TBA pound per hr	8.37435E-06

All concs.
are averages
of wells
MW-1 and
MW-2 water
samples

WATER

Mtphg = 0.003 x 48 = 0.144-pound of TPHg

days to AQ. GAC break thru		TPHg	275
Gallons to AQ. GAC break thru		TPHg	228,115
days to AQ. GAC break thru		BENZ	1,886
Gallons to AQ. GAC break thru		BENZ	1,565,496
days to AQ. GAC break thru		MTBE	10,306
Gallons to AQ. GAC break thru		MTBE	8,554,320
days to AQ. GAC break thru		TBA	19,902
Gallons to AQ. GAC break thru		TBA	577,159

NON-HAZARDOUS Waste Hauler Document

Daily Field Ticket No. 81315 - 78801

GENERATOR

Name: Horgan / UHmann Site
 EPA # _____
 Address: _____

DESIGNATED TSD FACILITY

Name: Instrat
 EPA # _____
 Address: 1105C Airport Rd
 Pro Vista Ca

ALTERNATE TDS FACILITY

Name: _____
 EPA # _____
 Address: _____

Order Placed: _____ Order Date: _____

WASTE

- DRILLING MUD - GASWELL WATER - OTHER purge water
 Weight/Volume 600 gals Units gal Container: - Dump Truck Tank Truck

This material is nonhazardous because:
 1) it is a drilling mud containing only the additives listed by the Department in its exemption letter and contains no significant concentrations of toxic materials from natural sources, or
 2) is a sulfur-dioxide scrubber solution from a sodium hydroxide or sodium carbonate oil field boiler scrubber system, and possesses no characteristics that would require its handling as a hazardous waste.

 SIGNATURE OF AUTHORIZED AGENT DATE

TRANSPORTER

Warren E. Gomes Exc. Inc.
 P. O. Box 369
 Rio Vista, CA 94571
 (707) 374-2881
 EPA # CAD076557370

Job No. 22315 Redwood Rd
 Castro Valley Ca
 Unit No. 24

Pick Up Date 6-2-09
Richard Taylor
 SIGNATURE OF BUYER

TSD FACILITY

Name Instrat QTY Measured 600 gals
 EPA # _____ - BBL - TONS - OTHER

Method of Disposal:

- Injection Well
 - Landfill
 - Land Treatment
 - Surface Impoundment
 - Other G.A.C.

Mark Batters
 SIGNATURE OF AUTHORIZED AGENT

6-2-09
 DATE

TSD TO GENERATOR

Bill of Lading

ATTACHMENT D

LABORATORY DATA SHEETS AND

CHAIN OF CUSTODY RECORD



Report Number : 68576

Date : 05/22/2009

Ken Mateik
Horizon Environmental
4970 Windplay Drive, Suite 5
El Dorado Hills, CA 95762

Vapor
Day one

Subject : 3 Vapor Samples
Project Name : Former Beacon 12574
Project Number : 1574.21
P.O. Number : 12574-035

Dear Mr. Mateik,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink that reads "Joel Kiff". The signature is stylized and cursive.

Joel Kiff



Report Number : 68576

Date : 05/22/2009

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **INF**

Matrix : **Air**

Lab Number : **68576-01**

Sample Date : **05/19/2009**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene (ppmv)	50	0.40	ppmv	EPA 8260B	05/20/2009
Toluene (ppmv)	31	0.40	ppmv	EPA 8260B	05/20/2009
Ethylbenzene (ppmv)	56	0.30	ppmv	EPA 8260B	05/20/2009
Total Xylenes (ppmv)	140	0.30	ppmv	EPA 8260B	05/20/2009
Benzene	160	1.5	mg/m3	EPA 8260B	05/20/2009
Toluene	120	1.5	mg/m3	EPA 8260B	05/20/2009
Ethylbenzene	250	1.5	mg/m3	EPA 8260B	05/20/2009
Total Xylenes	640	1.5	mg/m3	EPA 8260B	05/20/2009
Methyl-t-butyl ether (ppmv)	< 0.40	0.40	ppmv	EPA 8260B	05/20/2009
Methyl-t-butyl ether (MTBE)	< 1.5	1.5	mg/m3	EPA 8260B	05/20/2009
TPH as Gasoline (ppmv)	6400	80	ppmv	EPA 8260B	05/21/2009
TPH as Gasoline	25000	300	mg/m3	EPA 8260B	05/21/2009
1,2-Dichloroethane-d4 (Surr)	85.0		% Recovery	EPA 8260B	05/20/2009
Toluene - d8 (Surr)	85.6		% Recovery	EPA 8260B	05/20/2009



Report Number : 68576

Date : 05/22/2009

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **MW-1**

Matrix : Air

Lab Number : 68576-02

Sample Date :05/19/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene (ppmv)	21	0.20	ppmv	EPA 8260B	05/20/2009
Toluene (ppmv)	12	0.15	ppmv	EPA 8260B	05/20/2009
Ethylbenzene (ppmv)	16	0.15	ppmv	EPA 8260B	05/20/2009
Total Xylenes (ppmv)	45	0.15	ppmv	EPA 8260B	05/20/2009
Benzene	67	0.50	mg/m3	EPA 8260B	05/20/2009
Toluene	48	0.50	mg/m3	EPA 8260B	05/20/2009
Ethylbenzene	69	0.50	mg/m3	EPA 8260B	05/20/2009
Total Xylenes	200	0.50	mg/m3	EPA 8260B	05/20/2009
Methyl-t-butyl ether (ppmv)	< 0.15	0.15	ppmv	EPA 8260B	05/20/2009
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	mg/m3	EPA 8260B	05/20/2009
TPH as Gasoline (ppmv)	1700	25	ppmv	EPA 8260B	05/20/2009
TPH as Gasoline	6800	90	mg/m3	EPA 8260B	05/20/2009
1,2-Dichloroethane-d4 (Surr)	83.2		% Recovery	EPA 8260B	05/20/2009
Toluene - d8 (Surr)	85.4		% Recovery	EPA 8260B	05/20/2009



Report Number : 68576

Date : 05/22/2009

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **MW-2**

Matrix : Air

Lab Number : 68576-03

Sample Date :05/19/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene (ppmv)	90	0.80	ppmv	EPA 8260B	05/20/2009
Toluene (ppmv)	60	0.70	ppmv	EPA 8260B	05/20/2009
Ethylbenzene (ppmv)	130	0.60	ppmv	EPA 8260B	05/20/2009
Total Xylenes (ppmv)	340	0.60	ppmv	EPA 8260B	05/20/2009
Benzene	290	2.5	mg/m3	EPA 8260B	05/20/2009
Toluene	230	2.5	mg/m3	EPA 8260B	05/20/2009
Ethylbenzene	570	2.5	mg/m3	EPA 8260B	05/20/2009
Total Xylenes	1500	2.5	mg/m3	EPA 8260B	05/20/2009
Methyl-t-butyl ether (ppmv)	< 0.70	0.70	ppmv	EPA 8260B	05/20/2009
Methyl-t-butyl ether (MTBE)	< 2.5	2.5	mg/m3	EPA 8260B	05/20/2009
TPH as Gasoline (ppmv)	9300	200	ppmv	EPA 8260B	05/20/2009
TPH as Gasoline	37000	700	mg/m3	EPA 8260B	05/20/2009
1,2-Dichloroethane-d4 (Surr)	85.9		% Recovery	EPA 8260B	05/20/2009
Toluene - d8 (Surr)	86.4		% Recovery	EPA 8260B	05/20/2009

Report Number : 68576

Date : 05/22/2009

QC Report : Method Blank Data

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

<u>Parameter</u>	<u>Measured Value</u>	<u>Method Reporting Limit</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Date Analyzed</u>
TPH as Gasoline (ppmv)	< 2.0	2.0	ppmv	EPA 8260B	05/20/2009
TPH as Gasoline	< 20	20	mg/m3	EPA 8260B	05/20/2009
Benzene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	05/20/2009
Ethylbenzene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	05/20/2009
Toluene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	05/20/2009
Total Xylenes (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	05/20/2009
Benzene	< 0.20	0.20	mg/m3	EPA 8260B	05/20/2009
Ethylbenzene	< 0.20	0.20	mg/m3	EPA 8260B	05/20/2009
Toluene	< 0.20	0.20	mg/m3	EPA 8260B	05/20/2009
Total Xylenes	< 0.20	0.20	mg/m3	EPA 8260B	05/20/2009
Methyl-t-butyl ether (ppmv)	< 0.10	0.10	ppmv	EPA 8260B	05/20/2009
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	05/20/2009
TPH as Gasoline (ppmv)	< 5.0	5.0	ppmv	EPA 8260B	05/20/2009
TPH as Gasoline	< 20	20	mg/m3	EPA 8260B	05/20/2009
1,2-Dichloroethane-d4 (Surr)	97.9		%	EPA 8260B	05/20/2009
Toluene - d8 (Surr)	99.3		%	EPA 8260B	05/20/2009

<u>Parameter</u>	<u>Measured Value</u>	<u>Method Reporting Limit</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Date Analyzed</u>
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KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800



2795 2nd Street Suite 300
 Davis, CA 95616
 Lab: 530.297.4800
 Fax: 530.297.4802

SRG # / Lab No.

68576

Page 1 of 1

Project Contact (Hardcopy or PDF To): KEN MATEIK		California EDF Report? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Chain-of-Custody Record and Analysis Request																													
Company / Address: Horizon Environmental 4970 Windplay Drive, Suite 5, El Dorado Hills, CA 95762		Sampling Company Log Code: HEIE		Analysis Request												TAT																	
Phone #: 916 - 939 - 2170	Fax #: 916 - 939 - 2172	Global ID: T0600100155														<input type="checkbox"/> 12 hr																	
Project #: 1574.21	P.O. #: 12574-035	EDF Deliverable To (Email Address): kiffanalytical.com														<input type="checkbox"/> 24 hr																	
Project Name: Former Beacon 12574		Sampler Signature: <i>Craig Roth</i>														<input type="checkbox"/> 48hr																	
Project Address: 22315 Redwood Road Castro Valley, CA 94546		Sampling		Container				Preservative				Matrix				<input type="checkbox"/> 72 hr																	
Sample Designation		Date	Time	40 ml VOA	Sleeve	Poly	Glass	Tedlar	HCl	HNO ₃	None	Ice	Water	Soil	AIR	MTBE (EPA 8260B)	MTBE (EPA 8260B)	BTEX (EPA 8260B)	TPH Gas (EPA 8260B)	6 Oxygenates (EPA 8260B)	7 Oxygenates (EPA 8260B)	Lead Scav. (1,2 DCA & 1,2 EDB-EPA 8260B)	Volatile Halocarbons (EPA 8260B)	Volatile Organics Full List (EPA 8260B)	Volatile Organics (EPA 824.2 Drinking Water)	TPH as Diesel (EPA 8015M)	TPH as Motor Oil (EPA 8015M)	Total Lead (EPA 8010)	W.E.T. Lead (STLC)	<input checked="" type="checkbox"/> 1 wk	For Lab Use Only		
INF	5-19-09	1400						1			X				X	X	X	X														1 wk	01
MW-1	5-19-09	1403						1			X				X	X	X	X														1 wk	02
MW-2	5-19-09	1406						1			X				X	X	X	X														1 wk	03
Relinquished by: <i>Craig Roth</i>		Date: 092009	Time: 1143	Received by:		Remarks: STANDARD TURN AROUND TIME (One Week)																											
Relinquished by:		Date:	Time:	Received by:		Bill to: ULTRAMAR Inc. Attention: Mr. C. Shay Wideman																											
Relinquished by:		Date: 052009	Time: 1143	Received by Laboratory: <i>ASG</i>		For Lab Use Only: Sample Receipt																											
		Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present																										
							Yes / No																										



Report Number : 68623

Date : 05/23/2009

Ken Mateik
Horizon Environmental
4970 Windplay Drive, Suite 5
El Dorado Hills, CA 95762

Vapor
Day Two

Subject : 3 Vapor Samples
Project Name : Former Beacon 12574
Project Number : 1574.21
P.O. Number : 12574-035

Dear Mr. Mateik,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink that reads "Joel Kiff". The signature is stylized and cursive.

Joel Kiff



Report Number : 68623

Date : 05/23/2009

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **INF**

Matrix : Air

Lab Number : 68623-01

Sample Date :05/21/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene (ppmv)	25	0.40	ppmv	EPA 8260B	05/22/2009
Toluene (ppmv)	27	0.40	ppmv	EPA 8260B	05/22/2009
Ethylbenzene (ppmv)	22	0.30	ppmv	EPA 8260B	05/22/2009
Total Xylenes (ppmv)	66	0.30	ppmv	EPA 8260B	05/22/2009
Benzene	82	1.5	mg/m3	EPA 8260B	05/22/2009
Toluene	100	1.5	mg/m3	EPA 8260B	05/22/2009
Ethylbenzene	95	1.5	mg/m3	EPA 8260B	05/22/2009
Total Xylenes	290	1.5	mg/m3	EPA 8260B	05/22/2009
Methyl-t-butyl ether (ppmv)	< 0.40	0.40	ppmv	EPA 8260B	05/22/2009
Methyl-t-butyl ether (MTBE)	< 1.5	1.5	mg/m3	EPA 8260B	05/22/2009
TPH as Gasoline (ppmv)	2500	40	ppmv	EPA 8260B	05/22/2009
TPH as Gasoline	10000	150	mg/m3	EPA 8260B	05/22/2009
1,2-Dichloroethane-d4 (Surr)	93.1		% Recovery	EPA 8260B	05/22/2009
Toluene - d8 (Surr)	93.2		% Recovery	EPA 8260B	05/22/2009



Report Number : 68623

Date : 05/23/2009

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **MW-1**

Matrix : Air

Lab Number : 68623-02

Sample Date :05/21/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene (ppmv)	10	0.15	ppmv	EPA 8260B	05/22/2009
Toluene (ppmv)	15	0.10	ppmv	EPA 8260B	05/22/2009
Ethylbenzene (ppmv)	8.3	0.10	ppmv	EPA 8260B	05/22/2009
Total Xylenes (ppmv)	28	0.10	ppmv	EPA 8260B	05/22/2009
Benzene	34	0.50	mg/m3	EPA 8260B	05/22/2009
Toluene	56	0.50	mg/m3	EPA 8260B	05/22/2009
Ethylbenzene	36	0.50	mg/m3	EPA 8260B	05/22/2009
Total Xylenes	120	0.50	mg/m3	EPA 8260B	05/22/2009
Methyl-t-butyl ether (ppmv)	< 0.15	0.15	ppmv	EPA 8260B	05/22/2009
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	mg/m3	EPA 8260B	05/22/2009
TPH as Gasoline (ppmv)	900	10	ppmv	EPA 8260B	05/22/2009
TPH as Gasoline	3500	50	mg/m3	EPA 8260B	05/22/2009
1,2-Dichloroethane-d4 (Surr)	89.0		% Recovery	EPA 8260B	05/22/2009
Toluene - d8 (Surr)	90.9		% Recovery	EPA 8260B	05/22/2009



Report Number : 68623

Date : 05/23/2009

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **MW-2**

Matrix : Air

Lab Number : 68623-03

Sample Date :05/21/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene (ppmv)	36	0.80	ppmv	EPA 8260B	05/22/2009
Toluene (ppmv)	36	0.70	ppmv	EPA 8260B	05/22/2009
Ethylbenzene (ppmv)	32	0.60	ppmv	EPA 8260B	05/22/2009
Total Xylenes (ppmv)	94	0.60	ppmv	EPA 8260B	05/22/2009
Benzene	120	2.5	mg/m3	EPA 8260B	05/22/2009
Toluene	140	2.5	mg/m3	EPA 8260B	05/22/2009
Ethylbenzene	140	2.5	mg/m3	EPA 8260B	05/22/2009
Total Xylenes	410	2.5	mg/m3	EPA 8260B	05/22/2009
Methyl-t-butyl ether (ppmv)	< 0.70	0.70	ppmv	EPA 8260B	05/22/2009
Methyl-t-butyl ether (MTBE)	< 2.5	2.5	mg/m3	EPA 8260B	05/22/2009
TPH as Gasoline (ppmv)	3900	70	ppmv	EPA 8260B	05/22/2009
TPH as Gasoline	15000	250	mg/m3	EPA 8260B	05/22/2009
1,2-Dichloroethane-d4 (Surr)	92.1		% Recovery	EPA 8260B	05/22/2009
Toluene - d8 (Surr)	95.3		% Recovery	EPA 8260B	05/22/2009

Report Number : 68623

Date : 05/23/2009

QC Report : Method Blank Data

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	05/22/2009
Ethylbenzene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	05/22/2009
Toluene (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	05/22/2009
Total Xylenes (ppmv)	< 0.050	0.050	ppmv	EPA 8260B	05/22/2009
Benzene	< 0.20	0.20	mg/m3	EPA 8260B	05/22/2009
Ethylbenzene	< 0.20	0.20	mg/m3	EPA 8260B	05/22/2009
Toluene	< 0.20	0.20	mg/m3	EPA 8260B	05/22/2009
Total Xylenes	< 0.20	0.20	mg/m3	EPA 8260B	05/22/2009
Methyl-t-butyl ether (ppmv)	< 0.10	0.10	ppmv	EPA 8260B	05/22/2009
Methyl-t-butyl ether (MTBE)	< 0.20	0.20	mg/m3	EPA 8260B	05/22/2009
TPH as Gasoline (ppmv)	< 5.0	5.0	ppmv	EPA 8260B	05/22/2009
TPH as Gasoline	< 20	20	mg/m3	EPA 8260B	05/22/2009
1,2-Dichloroethane-d4 (Surr)	99.8		%	EPA 8260B	05/22/2009
Toluene - d8 (Surr)	101		%	EPA 8260B	05/22/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
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KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800



2795 2nd Street Suite 300
 Davis, CA 95616
 Lab: 530.297.4800
 Fax: 530.297.4802

SRG # / Lab No. 68623

Project Contact (Hardcopy or PDF To): **KEN MATEIK**

California EDF Report? Yes No

Company / Address: **Horizon Environmental**
 4970 Windplay Drive, Suite 5, El Dorado Hills, CA 95762

Phone #: 916 - 939 - 2170 Fax #: 916 - 939 - 2172

Project #: **1574.21** P.O. #: **12574-035**

Global ID: **T0600100155**

EDF Deliverable To (Email Address): **kiffanalytical.com**

Project Name: **Former Beacon 12574**

Sampler Signature: *[Signature]*

Chain-of-Custody Record and Analysis Request												TAT		For Lab Use Only							
Analysis Request												12 hr	24 hr		48 hr	72 hr	1 wk				
MTBE (EPA 8260B) per EPA 8021 level @ 5.0 ppb	MTBE (EPA 8260B)	BTEX (EPA 8260B)	TPH Gas (EPA 8260B)	5 Oxygenates (EPA 8260B)	7 Oxygenates (EPA 8260B)	Lead Scav.(1,2 DCA & 1,2 EDB-EPA 8260B)	Volatile Halocarbons (EPA 8260B)	Volatile Organics Full List (EPA 8260B)	Volatile Organics (EPA 524.2 Drinking Water)	TPH as Diesel (EPA 8015M)	TPH as Motor Oil (EPA 8015M)	Total Lead (EPA 6010)	W.E.T. Lead (STLC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
INF														X	X	X				1 wk	01
MW-1														X	X	X				1 wk	02
MW-2														X	X	X				1 wk	03

Sample Designation	Sampling		Container				Preservative				Matrix			
	Date	Time	40 ml VOA	Sleeve	Poly	Glass	Tedlar	HCl	HNO ₃	None	Ice	Water	Soil	AIR
INF	5-21-09	1215					1		X					X
MW-1	5-21-09	1218					1		X					X
MW-2	5-21-09	1221					1		X					X

Relinquished by: *[Signature]* Date: 5.22.09 Time: 1333

Relinquished by: _____ Date: _____ Time: _____

Relinquished by: _____ Date: 052209 Time: 1333

Received by: _____

Received by: _____

Received by Laboratory: *[Signature]* KIFF Analytical

Remarks: **STANDARD TURN AROUND TIME (One Week)**

Bill to: **ULTRAMAR Inc.**
 Attention: **Mr. C. Shay Wideman**

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present
					Yes / No

VAPOR



Report Number : 68622

Date : 05/28/2009

Ken Mateik
Horizon Environmental
4970 Windplay Drive, Suite 5
El Dorado Hills, CA 95762

*Water Samples
End of Test*

Subject : 3 Water Samples
Project Name : Former Beacon 12574
Project Number : 1574.21
P.O. Number : 12574.035

Dear Mr. Mateik,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink, appearing to read "Joel Kiff".

Joel Kiff



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Subject : 3 Water Samples
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Case Narrative

Matrix Spike/Matrix Spike Duplicate results associated with sample MW-1 for the analyte Benzene were affected by the analyte concentrations already present in the un-spiked sample.



Report Number : 68622

Date : 05/28/2009

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **MW-1**

Matrix : Water

Lab Number : 68622-01

Sample Date :05/21/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	160	0.50	ug/L	EPA 8260B	05/26/2009
Toluene	50	0.50	ug/L	EPA 8260B	05/26/2009
Ethylbenzene	120	0.50	ug/L	EPA 8260B	05/26/2009
Total Xylenes	140	0.50	ug/L	EPA 8260B	05/26/2009
Methyl-t-butyl ether (MTBE)	15	0.50	ug/L	EPA 8260B	05/26/2009
Diisopropyl ether (DIPE)	1.1	0.50	ug/L	EPA 8260B	05/26/2009
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Tert-Butanol	8.4	5.0	ug/L	EPA 8260B	05/26/2009
TPH as Gasoline	1900	50	ug/L	EPA 8260B	05/26/2009
1,2-Dichloroethane	0.80	0.50	ug/L	EPA 8260B	05/26/2009
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
1,2-Dichloroethane-d4 (Surr)	96.9		% Recovery	EPA 8260B	05/26/2009
Toluene - d8 (Surr)	99.9		% Recovery	EPA 8260B	05/26/2009



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Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **MW-2**

Matrix : Water

Lab Number : 68622-02

Sample Date :05/21/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	2900	6.0	ug/L	EPA 8260B	05/26/2009
Toluene	710	6.0	ug/L	EPA 8260B	05/26/2009
Ethylbenzene	590	6.0	ug/L	EPA 8260B	05/26/2009
Total Xylenes	1900	6.0	ug/L	EPA 8260B	05/26/2009
Methyl-t-butyl ether (MTBE)	97	6.0	ug/L	EPA 8260B	05/26/2009
Diisopropyl ether (DIPE)	< 6.0	6.0	ug/L	EPA 8260B	05/26/2009
Ethyl-t-butyl ether (ETBE)	< 6.0	6.0	ug/L	EPA 8260B	05/26/2009
Tert-amyl methyl ether (TAME)	< 6.0	6.0	ug/L	EPA 8260B	05/26/2009
Tert-Butanol	50	30	ug/L	EPA 8260B	05/26/2009
TPH as Gasoline	19000	600	ug/L	EPA 8260B	05/26/2009
1,2-Dichloroethane	< 6.0	6.0	ug/L	EPA 8260B	05/26/2009
1,2-Dibromoethane	< 6.0	6.0	ug/L	EPA 8260B	05/26/2009
1,2-Dichloroethane-d4 (Surr)	99.0		% Recovery	EPA 8260B	05/26/2009
Toluene - d8 (Surr)	99.9		% Recovery	EPA 8260B	05/26/2009



Report Number : 68622

Date : 05/28/2009

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Sample : **Tank Water**

Matrix : Water

Lab Number : 68622-03

Sample Date :05/21/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	83	0.50	ug/L	EPA 8260B	05/27/2009
Toluene	71	0.50	ug/L	EPA 8260B	05/27/2009
Ethylbenzene	24	0.50	ug/L	EPA 8260B	05/27/2009
Total Xylenes	240	0.50	ug/L	EPA 8260B	05/27/2009
Methyl-t-butyl ether (MTBE)	5.5	0.50	ug/L	EPA 8260B	05/27/2009
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Tert-Butanol	27	5.0	ug/L	EPA 8260B	05/27/2009
TPH as Gasoline	2200	50	ug/L	EPA 8260B	05/27/2009
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
1,2-Dichloroethane-d4 (Surr)	97.8		% Recovery	EPA 8260B	05/27/2009
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	05/27/2009

Report Number : 68622

Date : 05/28/2009

QC Report : Method Blank Data

Project Name : Former Beacon 12574

Project Number : 1574.21

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/26/2009
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/26/2009
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	05/26/2009
Toluene - d8 (Surr)	102		%	EPA 8260B	05/26/2009
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/26/2009
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/26/2009
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/26/2009
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	05/26/2009
Toluene - d8 (Surr)	100		%	EPA 8260B	05/26/2009

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/27/2009
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/27/2009
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/27/2009
1,2-Dichloroethane-d4 (Surr)	98.8		%	EPA 8260B	05/27/2009
Toluene - d8 (Surr)	102		%	EPA 8260B	05/27/2009

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 68622

Date : 05/28/2009

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : Former Beacon 12574

Project Number : 1574.21

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
1,2-Dichloroethane	68621-02	<0.50	40.4	40.5	39.2	38.6	ug/L	EPA 8260B	5/26/09	97.0	95.2	1.86	70-130	25
Benzene	68621-02	<0.50	40.2	40.4	39.6	39.1	ug/L	EPA 8260B	5/26/09	98.6	96.9	1.81	70-130	25
Methyl-t-butyl ether	68621-02	<0.50	40.3	40.5	41.6	40.5	ug/L	EPA 8260B	5/26/09	103	100	3.09	70-130	25
Tert-Butanol	68621-02	<5.0	199	200	186	204	ug/L	EPA 8260B	5/26/09	93.1	102	8.74	70-130	25
Toluene	68621-02	<0.50	39.7	39.9	39.6	39.2	ug/L	EPA 8260B	5/26/09	99.8	98.5	1.34	70-130	25
1,2-Dichloroethane	68622-01	0.80	40.4	40.5	38.9	38.4	ug/L	EPA 8260B	5/26/09	94.1	92.9	1.32	70-130	25
Benzene	68622-01	160	40.3	40.4	185	177	ug/L	EPA 8260B	5/26/09	55.1	35.0	44.5	70-130	25
Methyl-t-butyl ether	68622-01	15	40.4	40.5	52.0	52.5	ug/L	EPA 8260B	5/26/09	91.3	92.4	1.21	70-130	25
Tert-Butanol	68622-01	8.4	200	200	194	202	ug/L	EPA 8260B	5/26/09	92.7	96.9	4.37	70-130	25
Toluene	68622-01	50	39.8	39.9	83.9	81.2	ug/L	EPA 8260B	5/26/09	85.9	79.1	8.23	70-130	25
1,2-Dichloroethane	68633-10	<0.50	40.8	40.8	41.9	41.2	ug/L	EPA 8260B	5/27/09	103	101	1.72	70-130	25
Benzene	68633-10	<0.50	40.6	40.6	40.0	39.2	ug/L	EPA 8260B	5/27/09	98.4	96.5	1.94	70-130	25
Methyl-t-butyl ether	68633-10	<0.50	40.7	40.7	41.2	41.1	ug/L	EPA 8260B	5/27/09	101	101	0.126	70-130	25
Tert-Butanol	68633-10	<5.0	201	201	196	196	ug/L	EPA 8260B	5/27/09	97.3	97.3	0.00511	70-130	25
Toluene	68633-10	<0.50	40.1	40.1	40.0	39.4	ug/L	EPA 8260B	5/27/09	99.8	98.2	1.54	70-130	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 68622

Date : 05/28/2009

QC Report : Laboratory Control Sample (LCS)

Project Name : **Former Beacon 12574**

Project Number : **1574.21**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,2-Dichloroethane	40.8	ug/L	EPA 8260B	5/26/09	98.2	70-130
Benzene	40.6	ug/L	EPA 8260B	5/26/09	98.5	70-130
Methyl-t-butyl ether	40.7	ug/L	EPA 8260B	5/26/09	98.8	70-130
Tert-Butanol	201	ug/L	EPA 8260B	5/26/09	97.4	70-130
Toluene	40.1	ug/L	EPA 8260B	5/26/09	97.2	70-130
1,2-Dichloroethane	40.8	ug/L	EPA 8260B	5/26/09	97.3	70-130
Benzene	40.6	ug/L	EPA 8260B	5/26/09	95.4	70-130
Methyl-t-butyl ether	40.7	ug/L	EPA 8260B	5/26/09	90.0	70-130
Tert-Butanol	201	ug/L	EPA 8260B	5/26/09	95.3	70-130
Toluene	40.1	ug/L	EPA 8260B	5/26/09	97.9	70-130
1,2-Dichloroethane	40.6	ug/L	EPA 8260B	5/27/09	100	70-130
Benzene	40.4	ug/L	EPA 8260B	5/27/09	96.2	70-130
Methyl-t-butyl ether	40.5	ug/L	EPA 8260B	5/27/09	97.5	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/27/09	100	70-130
Toluene	39.9	ug/L	EPA 8260B	5/27/09	101	70-130

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800



2795 2nd Street Suite 300
 Davis, CA 95616
 Lab: 530.297.4800
 Fax: 530.297.4802

SRG # / Lab No. 68622

Project Contact (Hardcopy or PDF To): **KEN MATEIK** California EDF Report? Yes No

Chain-of-Custody Record and Analysis Request

Company / Address: **Horizon Environmental** Sampling Company Log Code: **HEIE**

Phone #: **916 - 939 - 2170** Fax #: **916 - 939 - 2172** Global ID: **T0600100155**

Project #: **1574.21** P.O. #: **12574-035** EDF Deliverable To (Email Address): **kiffanalytical.com**

Project Name: **Former Beacon 12574** Sampler Signature: *[Signature]*

Project Address: **22315 Redwood Road Castro Valley, CA 94546**

Sample Designation	Sampling		Container				Preservative				Matrix			Analysis Request										TAT	For Lab Use Only								
	Date	Time	40 ml VOA	Sleeve	Poly	Glass	Tedlar	HCl	HNO ₃	None	Ice	WATER	Soil	Air	MTBE (EPA 8260B) per EPA 8021 level @ 5.0 ppb	MTBE (EPA 8260B) @ 0.5 ppb	BTEX (EPA 8260B)	TPH Gas (EPA 8260B)	6 Oxygenates (EPA 8260B)	7 Oxygenates (EPA 8260B)	Lead Scav-1,2 DCA & 1,2 EDB-EPA 8260B	Volatile Halocarbons (EPA 8260B)	Volatile Organics Full List (EPA 8260B)			Volatile Organics (EPA 824.2 Drinking Water)	TPH as Diesel (EPA 8015M)	TPH as Motor Oil (EPA 8015M)	Total Lead (EPA 6010)	W.E.T. Lead (STLC)			
MW-1	5-21-09	1310	4					X			X					X	X	X		X												<input type="checkbox"/> 12 hr <input type="checkbox"/> 24 hr <input type="checkbox"/> 48hr <input type="checkbox"/> 72 hr <input checked="" type="checkbox"/> 1 wk	01
MW-2	5-21-09	1307	4					X			X					X	X	X		X												<input type="checkbox"/> 12 hr <input type="checkbox"/> 24 hr <input type="checkbox"/> 48hr <input type="checkbox"/> 72 hr <input checked="" type="checkbox"/> 1 wk	02
Tank Water	5-21-09	1230	4					X			X					X	X	X		X												<input type="checkbox"/> 12 hr <input type="checkbox"/> 24 hr <input type="checkbox"/> 48hr <input type="checkbox"/> 72 hr <input checked="" type="checkbox"/> 1 wk	03

Relinquished by: *[Signature]* Date: **5-22-09** Time: **1335** Received by: _____

Remarks: **STANDARD TURN AROUND TIME (One Week)**

Relinquished by: _____ Date: **052209** Time: **1335** Received by Laboratory: *[Signature]* KIFF Analytical

Bill to: **ULTRAMAR Inc.**
 Attention: **Mr. C. Shay Wideman**

For Lab Use Only: **Sample Receipt**

Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present
12.2	TJB	052209	1334	IR-2	(Yes) No

WATER