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Alameda County  
Environmental Health

# Ultramar, Inc.

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September 13, 2011

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

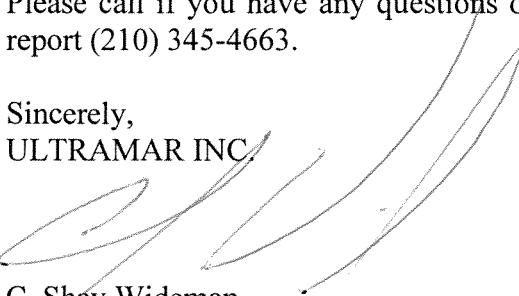
SUBJECT: SEMI-ANNUAL GROUNDWATER MONITORING REPORT  
FORMER BEACON STATION NO. 12574  
22315 REDWOOD ROAD RWQCB Case No. 01-0167  
CASTRO VALLEY, CALIFORNIA ACDEH: RO 0000355

Mr. Wickham:

Please find enclosed the **Semi-Annual Groundwater Monitoring 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 are 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

September 13, 2011

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

Subject: **Transmittal of Semi-Annual Monitoring Report**  
Third Quarter 2011  
Former Beacon Station 12574  
22315 Redwood Road, Castro Valley, California

Mr. Wickham:

At the request of Ultramar Inc., Horizon Environmental Inc. (Horizon) is forwarding the enclosed *Semi-Annual Groundwater Monitoring Report* dated September 13, 2011. The report documents results of third quarter 2011 groundwater monitoring at the subject site.

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

Sincerely,  
**HORIZON ENVIRONMENTAL INC.**

A handwritten signature in blue ink that reads "Karen P. Liptak".

Karen P. Liptak  
Staff Geologist

Enclosure

cc: Mr. C. Shay Wideman, Ultramar, Inc.  
Mr. Allen Shin, Banya Investment LLC  
Mr. Bill Courtney



September 13, 2011

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

**Subject:** **Groundwater Monitoring Report**  
Second Semi-Annual 2011  
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 Groundwater Monitoring Report which documents the second semi-annual 2011 groundwater monitoring at the above-referenced Site (Figure 1). There are currently six groundwater monitoring wells (MW-1 through MW-6) associated with this Site. Wells MW-1 through MW-4 are located within the Site property boundaries, while well MW-5A is located offsite to the west within the North Sixth Street right-of-way, and well MW-6 is located offsite to the south on the adjoining Kashikar property, as shown on the Site Map (Figure 2).

## **Groundwater Monitoring**

Groundwater monitoring activities were conducted by Horizon on August 24, 2011 according to Horizon Field Methods and Procedures, which are presented as Attachment A, and Horizon Monitoring Well Data Sheets, which are included as Attachment B. The depth-to-water (DTW) levels in the six monitoring wells were measured to the nearest 0.01-foot from the top-of-casing (TOC), and the DTW level measurements were subtracted from surveyed TOC elevations to obtain groundwater elevations, as listed in Table 1. The physical parameters conductivity, pH and temperature were monitored with field instrumentation during the purging process. On August 25, 2011, Horizon transported the 107 gallons of monitoring well purge water to the InStrat, Inc. facility in Rio Vista, California for disposal. The non-hazardous waste manifest for the purge water is included in Attachment B.

Groundwater samples were collected by Horizon from wells MW-1 through MW-6, and were submitted under chain-of-custody (COC) documentation to Kiff Analytical LLC, a California Department of Health Services-certified analytical laboratory (NELAP No. 08263CA) located in Davis, California. As requested by the Alameda County Department of Environmental Health (ACDEH) in Item #3 of their January 8, 2009 letter, the groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg); the volatile aromatic

compounds benzene, toluene, ethylbenzene and total xylenes (BTEX); the fuel oxygenates methyl-t-butyl ether (MTBE), di-isopropyl 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) by Environmental Protection Agency (EPA) Method 8260B. Copies of the laboratory reports and Chain-of-Custody are included as Attachment C. Historical groundwater data as reported by previous consultants is included as Attachment D.

### **Groundwater Monitoring Results**

Groundwater elevation data was used to construct the Groundwater Elevation Contour Map (Figure 2). The groundwater flow direction beneath the Site is towards the southwest at an average rate of 0.02 foot/foot, as depicted on the Groundwater Elevation Contour Map (Figure 2). Groundwater monitoring previously performed at the Site has indicated a similar groundwater magnitude and flow direction, as summarized on the Historical Groundwater Flow Chart included as Figure 2A. The distribution of TPHg, Benzene and MTBE analytical data are shown on the Groundwater Analytical Summary (Figure 3). A Benzene Isoconcentration Map is shown on Figure 4.

### **GeoTracker Electronic Data Deliverables**

The analytical electronic data deliverable (EDD) was prepared and uploaded by Kiff. The groundwater level EDD (GEO\_WELL) was prepared and uploaded by Horizon. The GEO\_WELL upload confirmation sheet for this semi-annual monitoring and the Semi-Annual Monitoring (SAM) Report EDD (GEO\_REPORT) upload confirmation sheet for the previous SAM report are contained in Attachment E.

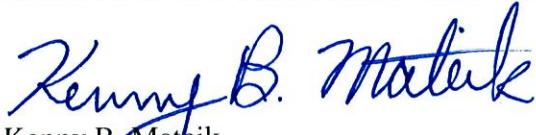
### **Discussion and Recommendations**

Continued elevated concentrations of TPHg, BTEX and MTBE in onsite wells MW-1 and MW-2 indicate limited hydrocarbon degradation beneath the Site. Horizon submitted the Subsurface Investigation Report (Horizon, December 22, 2010) that detailed the installation of offsite well MW-5A, onsite vapor wells VW-1, VW-2 and VW-3, and onsite vapor monitoring points VP-1, VP-2 and VP-3. The Alameda County Department of Environmental Health (ACDEH) requested a work plan for proposed vapor extraction testing in their letter dated March 6, 2007. Horizon proposed the vapor extraction testing (VET) in the Vapor Extraction Testing Work Plan (Work Plan) dated April 26, 2011, which was approved by the Alameda County Environmental Health Services (ACEHS) on May 23, 2011. The purpose of the testing was to evaluate the feasibility of utilizing vapor extraction methods for the remediation of gasoline hydrocarbons beneath the site. Horizon submitted the results of the VET in the Report on Soil Vapor Extraction Testing, dated August 23, 2011 to ACEHS. The data generated in this report will be utilized in the preparation of a combined Problem Assessment Report (PAR), Site Conceptual Model (SCM), [Draft] Corrective Action Plan (CAP), and Risk-Based Corrective Action (RBCA) assessment report to be submitted to the ACEHS later in 2011.

If you have any questions, please contact Horizon at (916) 939-2170.

Sincerely,

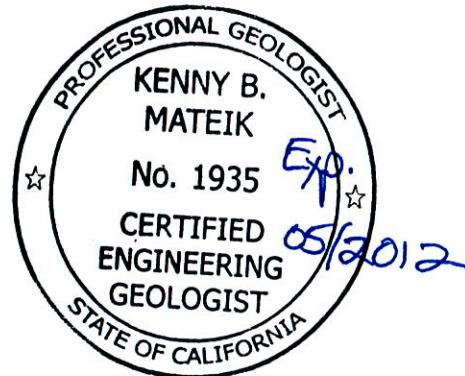
**HORIZON ENVIRONMENTAL INC.**



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



Karen P. Liptak  
Staff Geologist



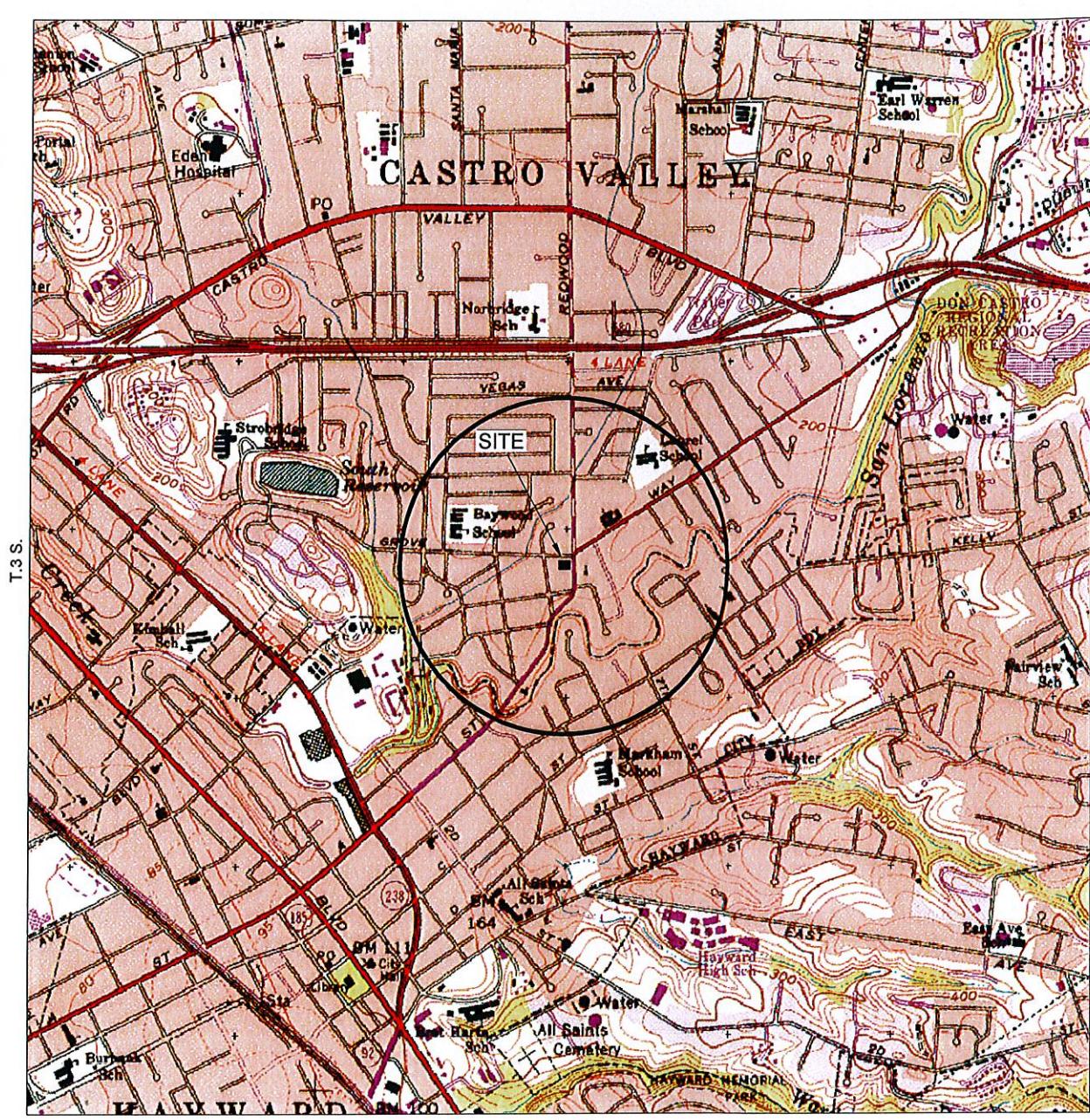
Attachments:

- Figure 1: Site Vicinity Map
- Figure 2: Site Map / Groundwater Elevation Contour Map
- Figure 2A: Historical Groundwater Flow Table
- Figure 3: Groundwater Analytical Summary
- Figure 4: Benzene Isoconcentration Map
- Figure 5: TPHg and Benzene vs. Time Graph for Monitoring Well MW-1
- Figure 6: TPHg and Benzene vs. Time Graph for Monitoring Well MW-2

Table 1: Groundwater Monitoring Data

- Attachment A: Horizon Field Methods and Procedures
  - Site Description and Background
- Attachment B: Horizon Monitoring Well Data Sheets
  - Purge Water Disposal Documentation
- Attachment C: Analytical Report
- Attachment D: Historical Groundwater Data
- Attachment E: GeoTracker Electronic Data Deliverable Confirmation Sheets

- c: Mr. C. Shay Wideman, Ultramar, Inc.  
Mr. Allen Shin, Banya Investment LLC  
Mr. Bill Courtney, Property Manager  
Mr. Ali Kashikar, Offsite Property Owner



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



QUADRANGLE LOCATION



SCALE 1:24,000



HORIZON ENVIRONMENTAL INC.

Project Number: 1574.41  
Prepared By: K. Liptak  
Reviewed By: K. Mateik

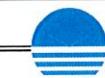
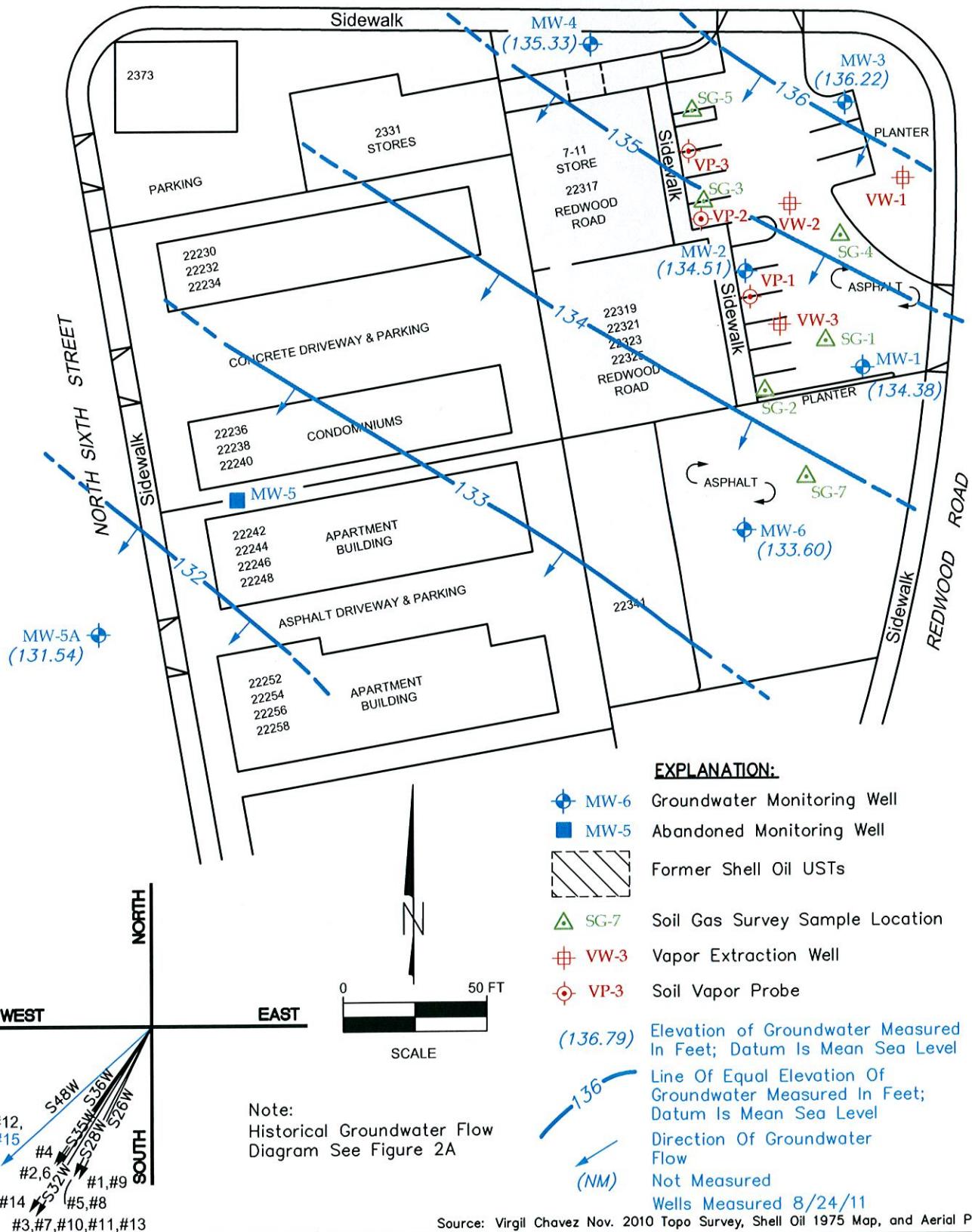
Drawn By: M. LaCoste  
Date: 10/7/04  
Revised Date:

SITE LOCATION MAP

FORMER BEACON STATION NO. 12574  
22315 REDWOOD ROAD  
CASTRO VALLEY, CA.

FIGURE  
1

GROVE WAY



HORIZON ENVIRONMENTAL INC.

Project Number: 1574.48  
Prepared By: E. Kruck  
Reviewed By: K. Mateik

Drawn By: C. Bechtell  
Date: 09/11  
Revised Date:

GROUNDWATER ELEVATION  
CONTOUR MAP

FORMER BEACON STATION NO. 12574  
22315 REDWOOD ROAD  
CASTRO VALLEY, CA.

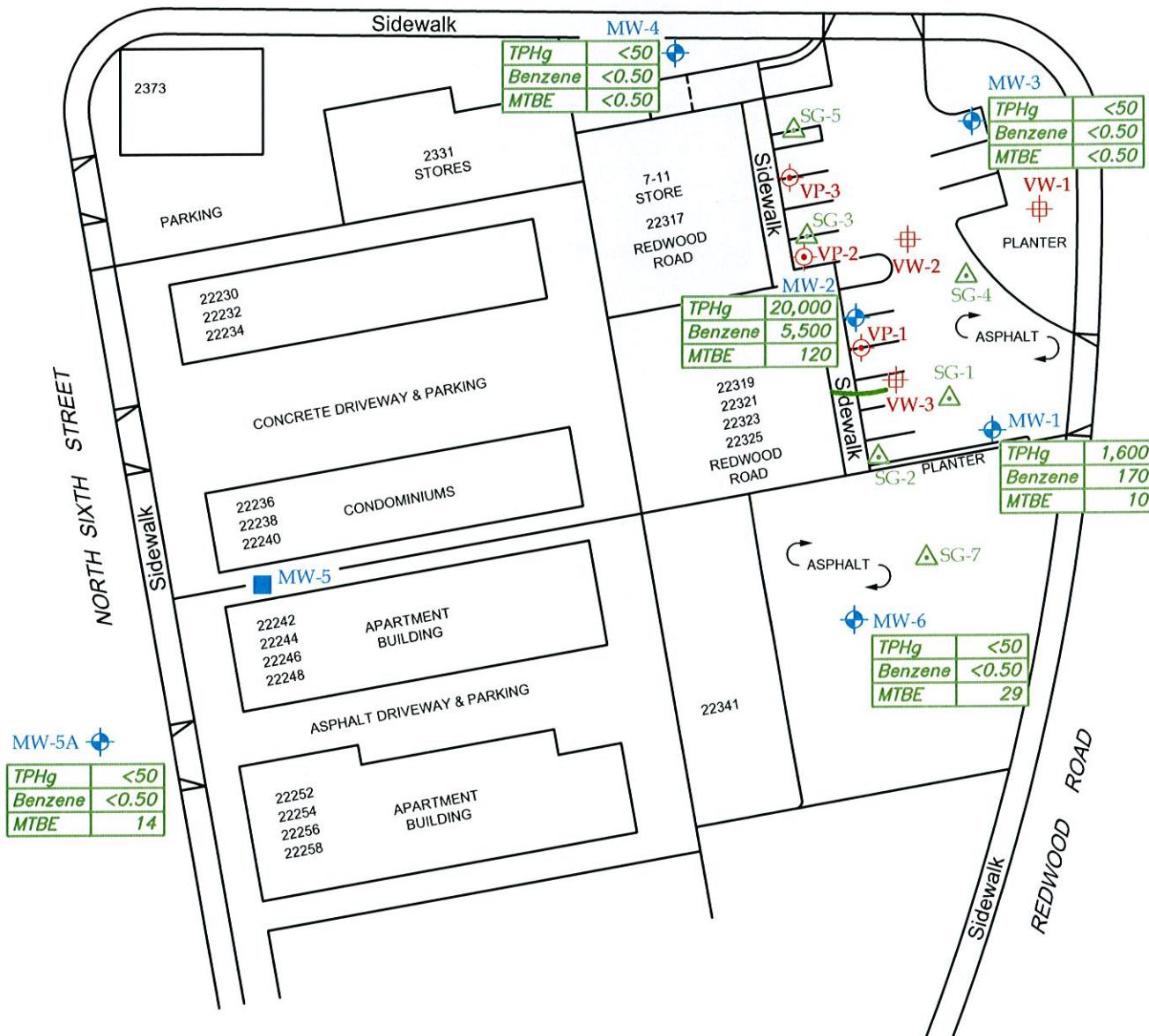
FIGURE

2

**Figure 2A**  
**HISTORICAL GROUNDWATER FLOW CHART**  
Former Beacon Station No. 12574  
22315 Redwood Road,  
Castro Valley, California

Date	Map ID Number	Direction of Groundwater Flow
08/31/04	#1	S 26 W
02/01/05	#2	S 35 W
07/29/05	#3	S 32 W
01/16/05	#4	S 36 W
08/30/06	#5	S 28 W
02/13/07	#6	S 35 W
08/13/07	#7	S 32 W
02/11/08	#8	S 28 W
07/29/08	#9	S 26 W
02/25/09	#10	S 32 W
08/26/09	#11	S 32 W
01/29/10	#12	S 48 W
08/23/10	#13	S 32 W
03/03/11	#14	S 34 W
08/24/11	#15	S 48 W

### GROVE WAY



#### EXPLANATION:

MW-6 Groundwater Monitoring Well

MW-5 Abandoned Monitoring Well

Former Shell Oil USTs

SG-7 Soil Gas Survey Sample Location

VW-3 Vapor Extraction Well

VP-3 Soil Vapor Probe

TOTAL PETROLEUM HYDROCARBONS  
AS GASOLINE IN PARTS PER MILLION (ppm)  
BENZENE CONCENTRATION IN ppm  
METHYL-TERT BUTYL ETHER IN ppm

(NS) Not Sampled

Wells Sampled 8/24/11



Source: Virgil Chavez Nov. 2010 Topo Survey, Shell Oil 1975 Map, and Aerial Photos



HORIZON ENVIRONMENTAL INC.

Project Number: 1574.48  
Prepared By: E. Kruck  
Reviewed By: K. Mateik

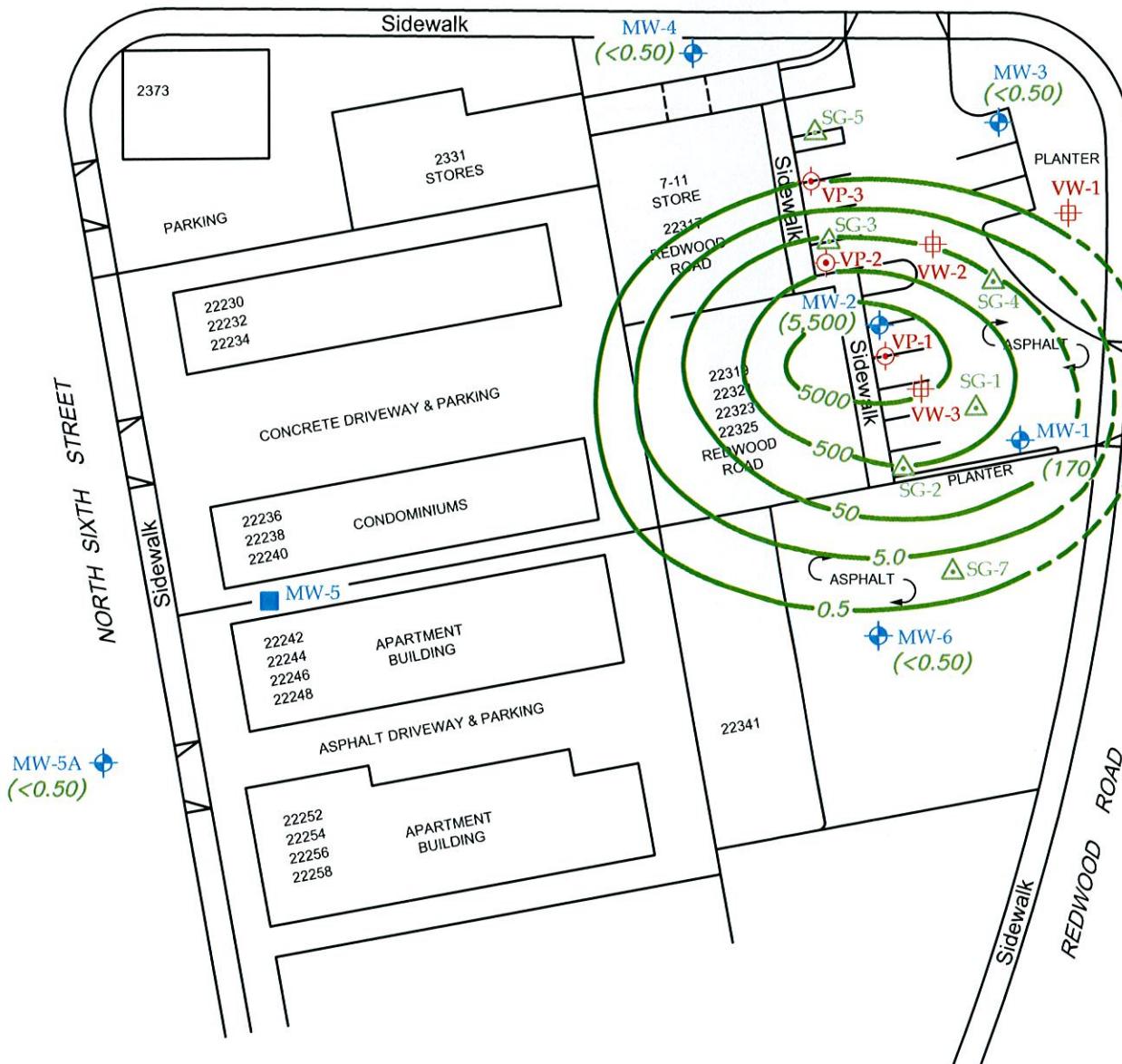
Drawn By: C. Bechtell  
Date: 09/11  
Revised Date:

GROUNDWATER  
ANALYTICAL SUMMARY  
FORMER BEACON STATION NO. 12574  
22315 REDWOOD ROAD  
CASTRO VALLEY, CA.

FIGURE

3

GROVE WAY



EXPLANATION:

MW-6 Groundwater Monitoring Well

MW-5 Abandoned Monitoring Well

Former Shell Oil USTs

(3700) Benzene Concentrations Measured In Parts Per Billion

Line Of Equal Concentration Of Benzene Measured In Parts Per Billion

Wells Sampled 8/24/11

SG-7 Soil Gas Survey Sample Location

VW-3 Vapor Extraction Well

VP-3 Soil Vapor Probe



SCALE

Source: Virgil Chavez Nov. 2010 Topo Survey, Shell Oil 1975 Map, and Aerial Photos



HORIZON ENVIRONMENTAL INC.

Project Number: 1574.48  
Prepared By: E. Kruck  
Reviewed By: K. Mateik

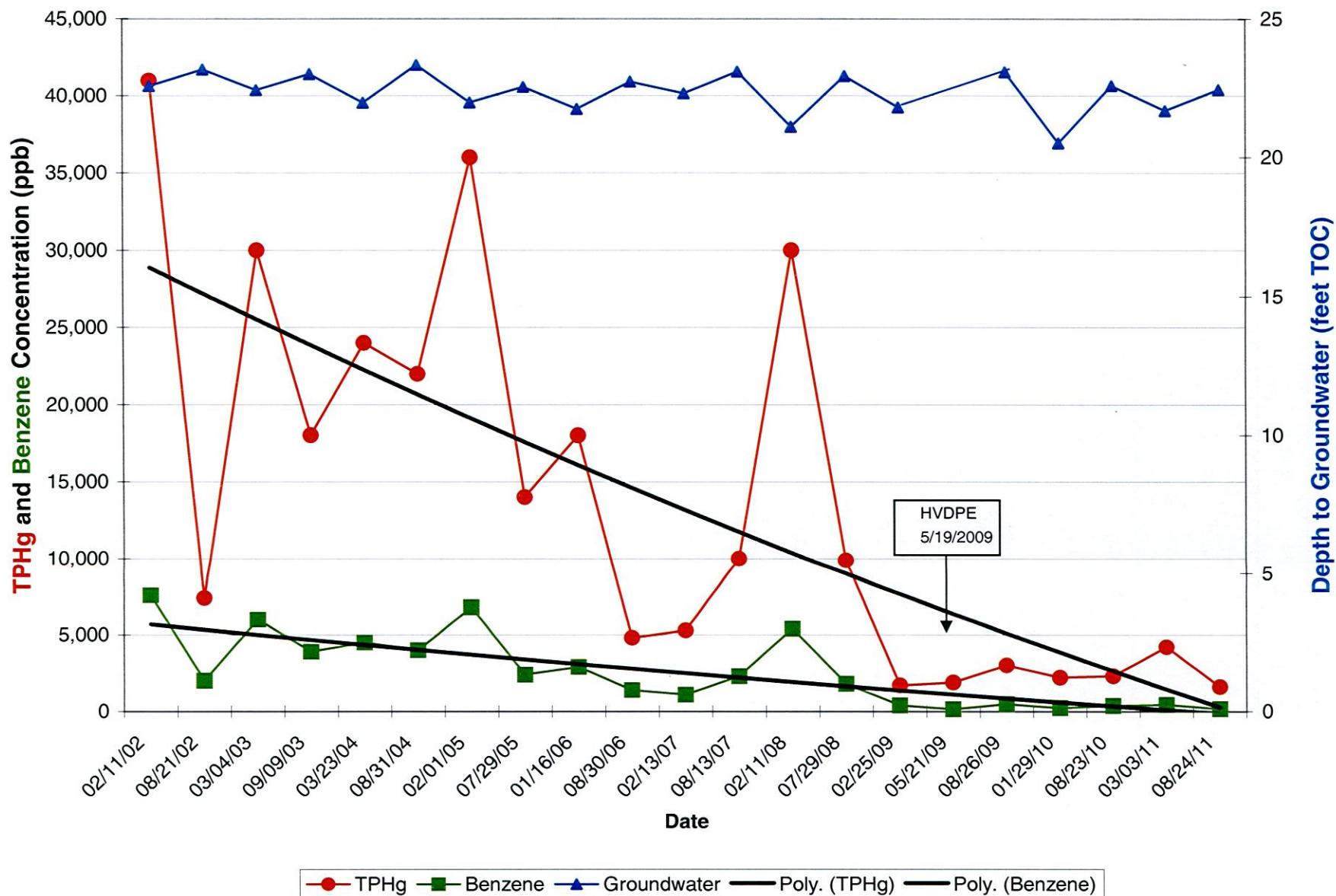
Drawn By: C. Bechtell  
Date: 09/11  
Revised Date:

BENZENE  
ISOCONCENTRATION MAP  
FORMER BEACON STATION NO. 12574  
22315 REDWOOD ROAD  
CASTRO VALLEY, CA.

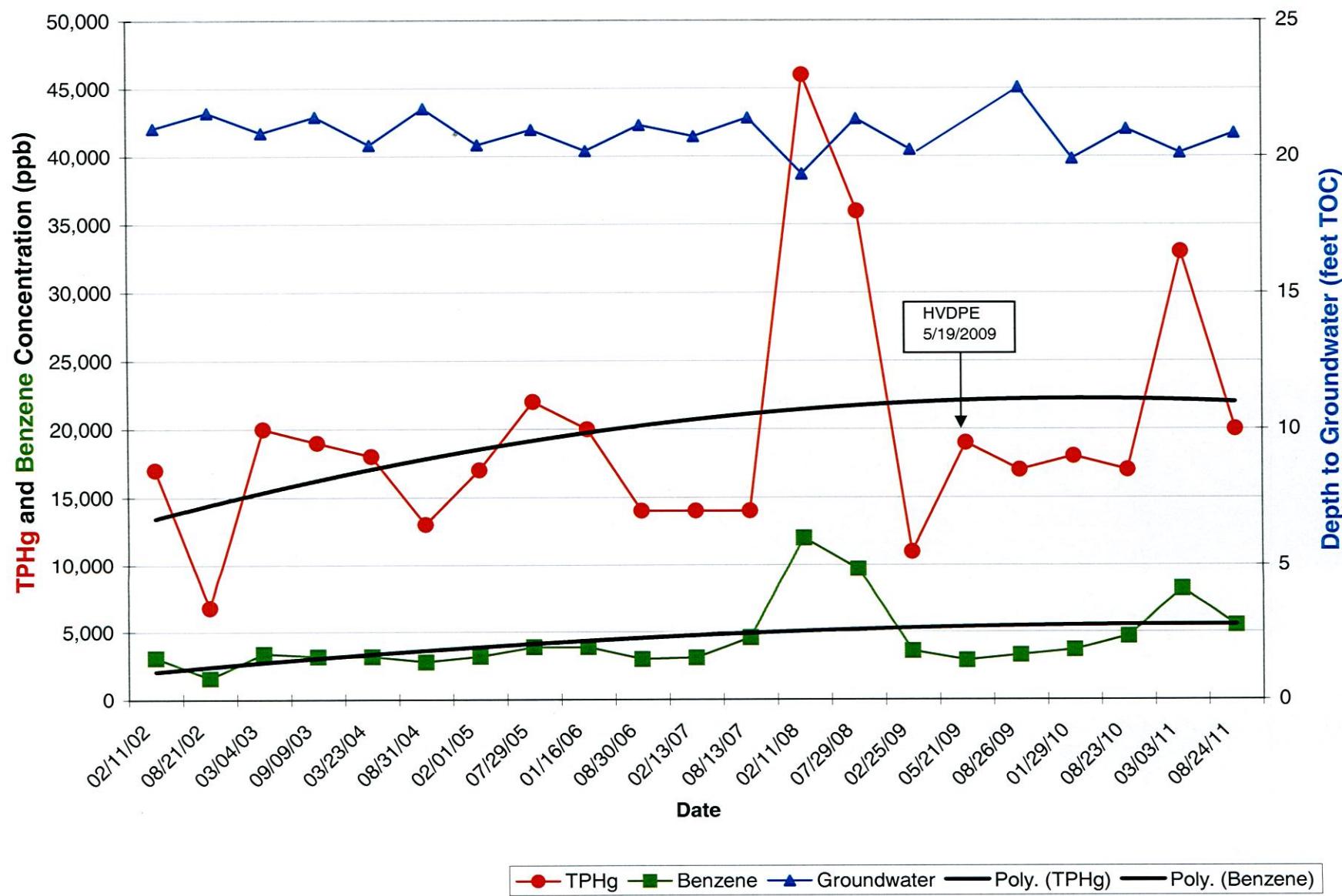
FIGURE

4

**FIGURE 5**  
**TPHg and Benzene vs. Time**  
**Monitoring Well MW-1**  
**Former Beacon Station No. 12574**  
**22135 Redwood Road, Castro Valley, California**



**FIGURE 6**  
**TPHg and Benzene vs. Time**  
**Monitoring Well MW-2**  
**Former Beacon Station No. 12574**  
**22315 Redwood Road, Castro Valley, California**



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

Well Number	Date	TPHg ppb	Benzene ppb	Toluene ppb	Ethylbenz. ppb	Xylenes ppb	MTBE ppb	Depth to GW	T.O.C. Elevation	GW Elevation	Comments
<b>MW-1</b>	02/11/02	41,000	7,600	160	1,600	4,200	640	22.58	158.70	136.12	no comments
	08/21/02	7,400	2,000	31	220	510	270	23.18		135.52	no comments
	03/04/03	30,000	6,000	130	1,300	2,900	490	22.43		136.27	no comments
	09/09/03	18,000	3,900	69	760	1,700	390	23.02		135.68	no comments
	10' - 30'	24,000	4,500	89	1,000	2,000	410	21.97		136.73	no comments
	03/23/04	22,000	4,000	77	780	1,600	290	23.35		135.35	no comments
	08/31/04										
	02/01/05	36,000	6,800	160	1,800	3,000	360	21.98		136.72	no comments
	07/29/05	14,000	2,400	54	460	750	170	22.55		136.15	no comments
	01/16/06	18,000	2,900	61	860	1,300	200	21.75		136.95	no comments
	08/30/06	4,800	1,400	22	150	240	110	22.74		135.96	no comments
	02/13/07	5,300	1,100	49	210	280	110	22.31		136.39	no comments
	08/13/07	10,000	2,300	49	11	630	160	23.10		135.60	no comments
	02/11/08	30,000	5,400	260	2,300	3,400	150	21.10		137.60	no comments
<b>4" casing diameter</b>	07/29/08	9,900	1,800	28	720	220	69	22.95		135.75	no comments
	02/25/09	1,700	400	7.0	53	34	33	21.81		136.89	slight odor / no sheen
	05/21/09	1,900	160	50	120	140	15	nm		nc	post HDPE sample
	08/26/09	3,000	480	130	120	240	29	23.09		135.61	slight odor / no sheen
	01/29/10	2,200	240	16	45	100	15	20.51		138.19	slight odor / no sheen
	08/23/10	2,300	370	7.0	54	83	17	22.59		136.11	odor / no sheen
	11/10/10	-----	-----	-----	-----	-----	-----	156.83		GPS surveying of well	
	03/03/11	4,200	440	14	190	120	21	21.69		135.14	odor / no sheen
	08/24/11	1,600	170	6.3	20	26	10	22.45		134.38	slight odor / no sheen
<b>MW-2</b>	02/11/02	17,000	3,100	270	690	1,600	660	21.03	157.33	136.30	no comments
	08/21/02	6,800	1,600	44	290	260	440	21.60		135.73	no comments
	03/04/03	20,000	3,400	200	590	1,100	670	20.86		136.47	no comments
	09/09/03	19,000	3,200	120	630	940	630	21.45		135.88	no comments
	10' - 30'	18,000	3,200	110	640	740	580	20.41		136.92	no comments
	03/23/04	13,000	2,800	59	510	420	430	21.75		135.58	no comments
	08/31/04	13,000	3,200	110	700	730	440	20.42		136.91	no comments
	02/01/05	17,000	3,200	210	770	930	360	20.97		136.36	no comments
	07/29/05	22,000	3,900	120	770	790	370	20.19		137.14	slight sheen / odor
	01/16/06	20,000	3,900	79	480	450	390	21.14		136.19	no comments
	08/30/06	14,000	3,000	110	600	620	340	20.73		136.60	sheen
	02/13/07	14,000	3,100	150	560	410	240	21.41		135.92	no comments
	08/13/07	14,000	4,600	150	560	410	240	21.41		135.92	no comments
	02/11/08	46,000	12,000	4,400	1,700	5,200	150	19.35		137.98	no comments
	07/29/08	36,000	9,700	840	1,400	4,000	160	21.38		135.95	no comments
	02/25/09	11,000	3,600	66	400	320	130	20.25		137.08	odor / no sheen
<b>4" casing diameter</b>	05/21/09	19,000	2,900	710	590	1,900	97	nm		nc	post HDPE sample
	08/26/09	17,000	3,300	280	640	1,600	160	22.53		134.80	odor / no sheen
	01/29/10	18,000	3,700	140	550	1,100	110	19.91		137.42	odor / no sheen
	08/23/10	17,000	4,700	72	550	380	160	21.00		136.33	odor / no sheen
	11/10/10	-----	-----	-----	-----	-----	-----	155.36		GPS surveying of well	
	03/03/11	33,000	8,200	150	1,800	2,400	73	20.12		135.24	odor / no sheen
	08/24/11	20,000	5,500	89	1,000	410	120	20.85		134.51	odor / no sheen

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

Well Number	Date	TPHg ppb	Benzene ppb	Toluene ppb	Ethylibenz. ppb	Xylenes ppb	MTBE ppb	Depth to GW	T.O.C. Elevation	GW Elevation	Comments
MW-3 screen interval 10' - 30' 4" casing diameter	02/11/02	ns	ns	ns	ns	ns	ns	21.55	159.23	137.68	not sampled
	08/21/02	ns	ns	ns	ns	ns	ns	22.00		137.23	not sampled
	03/04/03	ns	ns	ns	ns	ns	ns	21.48		137.75	not sampled
	09/09/03	ns	ns	ns	ns	ns	ns	21.84		137.39	not sampled
	03/23/04	ns	ns	ns	ns	ns	ns	20.82		138.41	not sampled
	08/31/04	ns	ns	ns	ns	ns	ns	21.93		137.30	no comments
	02/01/05	ns	ns	ns	ns	ns	ns	20.56		138.67	no comments
	07/29/05	ns	ns	ns	ns	ns	ns	21.37		137.86	no comments
	01/16/06	ns	ns	ns	ns	ns	ns	20.75		138.48	no comments
	08/30/06	ns	ns	ns	ns	ns	ns	21.60		137.63	no comments
	02/13/07	ns	ns	ns	ns	ns	ns	21.37		137.86	no comments
	08/13/07	ns	ns	ns	ns	ns	ns	nm		nm	well paved over
	02/11/08	ns	ns	ns	ns	ns	ns	nm		nm	well paved over
	07/29/08	ns	ns	ns	ns	ns	ns	nm		nm	well paved over
	02/25/09	<50	<0.50	<0.50	<0.50	<0.50	<0.50	20.87		138.36	no odor / no sheen
	08/26/09	140	<0.50	<0.50	0.71	<0.50	<0.50	21.68		137.55	no odor / no sheen
	01/29/10	<50	<0.50	<0.50	<0.50	<0.50	<0.50	19.60		139.63	no odor / no sheen
	08/23/10	<50	<0.50	<0.50	<0.50	<0.50	<0.50	21.10		138.13	no odor / no sheen
	11/10/10	-----	-----	-----	-----	-----	-----	157.37			GPS surveying of well
	03/03/11	<50	<0.50	<0.50	<0.50	<0.50	<0.50	20.58		136.79	no odor / no sheen
	08/24/11	<50	<0.50	<0.50	<0.50	<0.50	<0.50	21.15		136.22	no odor / no sheen
MW-4 screen interval 13' - 28' 2" casing diameter	02/11/02	ns	ns	ns	ns	ns	ns	16.81	154.13	137.32	not sampled
	08/21/02	ns	ns	ns	ns	ns	ns	17.58		136.55	not sampled
	03/04/03	ns	ns	ns	ns	ns	ns	16.70		137.43	not sampled
	09/09/03	ns	ns	ns	ns	ns	ns	17.48		136.65	not sampled
	03/23/04	ns	ns	ns	ns	ns	ns	16.35		137.78	not sampled
	08/31/04	ns	ns	ns	ns	ns	ns	nm		nm	no comments
	02/01/05	ns	ns	ns	ns	ns	ns	16.70		137.43	no comments
	07/29/05	ns	ns	ns	ns	ns	ns	17.06		137.07	no comments
	01/16/06	ns	ns	ns	ns	ns	ns	16.56		137.57	no comments
	08/30/06	ns	ns	ns	ns	ns	ns	17.18		136.95	no comments
	02/13/07	ns	ns	ns	ns	ns	ns	17.01		137.12	no comments
	08/13/07	ns	ns	ns	ns	ns	ns	17.94		136.19	no comments
	02/11/08	ns	ns	ns	ns	ns	ns	15.68		138.45	no comments
	07/29/08	ns	ns	ns	ns	ns	ns	17.31		136.82	no comments
	02/25/09	<50	<0.50	<0.50	<0.50	<0.50	<0.50	16.44		137.69	no odor / no sheen
	08/26/09	<50	<0.50	<0.50	<0.50	<0.50	<0.50	17.41		136.72	no odor / no sheen
	01/29/10	<50	<0.50	<0.50	<0.50	<0.50	<0.50	16.15		137.98	no odor / no sheen
	08/23/10	<50	<0.50	<0.50	<0.50	<0.50	<0.50	16.78		137.35	no odor / no sheen
	11/10/10	-----	-----	-----	-----	-----	-----	152.26			GPS surveying of well
	03/03/11	<50	<0.50	<0.50	<0.50	<0.50	<0.50	16.29		135.97	no odor / no sheen
	08/24/11	<50	<0.50	<0.50	<0.50	<0.50	<0.50	16.93		135.33	no odor / no sheen

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

Well Number	Date	TPHg ppb	Benzene ppb	Toluene ppb	Ethylbenz. ppb	Xylenes ppb	MTBE ppb	Depth to GW	T.O.C. Elevation	GW Elevation	Comments
<b>MW-5</b>	02/11/02	ns	ns	ns	ns	ns	ns	15.70	150.73	135.03	not sampled
	08/21/02	ns	ns	ns	ns	ns	ns	16.17		134.56	not sampled
	03/04/03	ns	ns	ns	ns	ns	ns	15.46		135.27	not sampled
	09/09/03	ns	ns	ns	ns	ns	ns	16.05		134.68	not sampled
	03/23/04	ns	ns	ns	ns	ns	ns	14.88		135.85	not sampled
	08/31/04	ns	ns	ns	ns	ns	ns	nm		nm	unable to locate due to construction
	02/01/05	ns	ns	ns	ns	ns	ns	nm		nm	unable to locate due to construction
	07/29/05	ns	ns	ns	ns	ns	ns	nm		nm	unable to locate due to construction
	08/24/11	ns	ns	ns	ns	ns	ns	nm		nm	unable to locate due to construction
<b>MW-5A</b> screen interval 10' - 30' 2" casing diameter	11/01/10	<50	<0.50	<0.50	<0.50	<0.50	18	15.11	146.36	131.25	no odor / no sheen
	03/03/11	<50	<0.50	<0.50	<0.50	<0.50	17	13.96		132.40	no odor / no sheen
	08/24/11	<50	<0.50	<0.50	<0.50	<0.50	14	14.82		131.54	no odor / no sheen
<b>MW-6</b> screen interval 15' - 30' 2" casing diameter	02/11/02	ns	ns	ns	ns	ns	ns	20.78	156.11	135.33	not sampled
	08/21/02	ns	ns	ns	ns	ns	ns	21.41		134.70	not sampled
	03/04/03	ns	ns	ns	ns	ns	ns	20.64		135.47	not sampled
	09/09/03	ns	ns	ns	ns	ns	ns	21.23		134.88	not sampled
	03/23/04	ns	ns	ns	ns	ns	ns	20.21		135.90	not sampled
	08/31/04	ns	ns	ns	ns	ns	ns	21.50		134.61	no comments
	02/01/05	ns	ns	ns	ns	ns	ns	20.22		135.89	no comments
	07/29/05	ns	ns	ns	ns	ns	ns	20.78		135.33	no comments
	01/16/06	ns	ns	ns	ns	ns	ns	19.92		136.19	no comments
	08/30/06	<50	<0.50	<0.50	<0.50	<0.50	71	20.94		135.17	no comments
	02/13/07	ns	ns	ns	ns	ns	ns	20.35		135.76	no comments
	08/13/07	ns	ns	ns	ns	ns	ns	21.29		134.82	no comments
	02/11/08	ns	ns	ns	ns	ns	ns	19.50		136.61	no comments
	07/29/08	ns	ns	ns	ns	ns	ns	21.23		134.88	no comments
	02/25/09	<50	<0.50	<0.50	<0.50	<0.50	45	19.95		136.16	no odor / no sheen
	08/26/09	<50	<0.50	<0.50	<0.50	<0.50	43	21.27		134.84	no odor / no sheen
	01/29/10	<50	<0.50	<0.50	<0.50	<0.50	46	19.64		136.47	no odor / no sheen
	08/23/10	<50	<0.50	<0.50	<0.50	<0.50	36	20.88		135.23	no odor / no sheen
	11/10/10	-----	-----	-----	-----	-----	-----	154.27			GPS surveying of well
	03/03/11	<50	<0.50	<0.50	<0.50	<0.50	40	19.90		134.37	no odor / no sheen
	08/24/11	<50	<0.50	<0.50	<0.50	<0.50	29	20.67		133.60	no odor / no sheen

**Notes:**

TPHg = Total Petroleum Hydrocarbons as gasoline

TPHd = Total Petroleum Hydrocarbons as diesel

MTBE = Methyl Tertiary-Butyl Ether

< = less than the specified laboratory detection limit

ppb = parts per billion

nm = not measured

ns = not sampled

nc = not calculated

na = not analyzed

T.O.C. = Top of casing    GW = Groundwater

Depths and Elevations recorded in feet.

Monitoring well casing tops resurveyed in November 2010 to Global Positioning System (GPS) coordinates.

**ATTACHMENT A**

**HORIZON FIELD METHODS AND PROCEDURES**

**AND**

**SITE HISTORY INFORMATION**

# HORIZON ENVIRONMENTAL INC.

## GROUNDWATER MONITORING

### FIELD METHODS AND PROCEDURES

The following section describes field procedures that will be conducted by Horizon Environmental Inc. (Horizon) personnel in performance of the tasks involved with this project.

#### **1.0 HEALTH AND SAFETY PLAN**

Fieldwork 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 personal 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. The site health and safety plan shall comply with health and safety guidelines in the Horizon Health and Safety Program Handbook. -

#### **2.0 GROUNDWATER DEPTH EVALUATION**

Each monitoring well is opened and allowed to equalize to atmospheric pressure prior to sounding. Depth-to-water is measured to the nearest 0.01-foot using an electronic, hand-held, water-level indicator. The measuring point is the survey mark on the top of the well casing. The tip of the probe is examined in order to evaluate for the presence or absence of separate-phase product (SPP).

#### **3.0 MONITORING WELL PURGING & SAMPLING**

Prior to purging, a clean, transparent bailer is lowered into the well, and a sample of groundwater is hoisted to the surface. The sample fluid is inspected for the presence of SPP on its surface. If no SPP is observed, sampling activities conducted subsequent to the initial well development activity will be preceded by purging a minimum of three well volumes by hand-bailing or the use of an electrically-operated pump. Purge water will be containerized in properly labeled drums or tanks for proper transport from the site and disposal. Purge water will be monitored for the parameters of temperature, pH, and electrical conductivity until stabilized or the completion of the calculated purge volume. If required, field readings for dissolved oxygen ( $dO_2$ ), recorded to one decimal place, will be obtained utilizing hand-held instruments.

If SPP is observed, then either an interface probe will be lowered into the well to measure the thickness of the separate-phase liquid fuel, or a disposable plastic bailer will be lowered into the well approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  way through the air- SPP -water interface, and hoisted to the surface to measure the thickness of the separate-phase liquid fuel in the bailer.

A well is allowed to recharge to at least 80% of its pre-purge volume prior to sampling. If a well dewatered, it will be allowed to recharge for a minimum of one to two hours prior to sampling. After the water level within the well has stabilized or a reasonable time has passed, a sample is collected within a clean, disposable, bailer lowered into the well approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  way through the air water interface and hoisted to the surface.

#### **4.0 SAMPLE PREPARATION & TRANSPORT FOR LABORATORY ANALYSIS**

Water samples will be transferred directly from the bailer to laboratory-supplied appropriate containers, labeled, stored in a chilled environment (cooler), and transported to a California DHS-certified laboratory for analysis. Samples will be analyzed within the EPA-specified holding time for the requested analysis. Each sample container submitted for analysis will have a label affixed to identify the job number, sample date, time of sample collection, and a sample number unique to that sample.

A chain-of-custody form will be used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples are shipped, the responsible technician or geologist relinquishes custody of the samples by signing the chain-of-custody form, noting the date and time. The sample-control officer at the laboratory:

- verifies sample integrity;
- confirms storage in the proper container;
- recognizes that an adequate volume of fluid has been collected for the required analysis;
- identifies the method of preservation; and
- accepts custody for the laboratory when these conditions have been satisfied.

### Site Description

The Site is located on the southwestern corner of the intersection of Redwood Road and Grove Way in Castro Valley, California, as shown on the Site Location Map (Figure 1). The Site is bounded by Grove Way to the north, Redwood Road to the east, a vacant office building to the south, and residential apartments to the west. Chevron #9-2960 was formerly located at 2416 Grove Avenue, northeast of the Site and across the intersection of Grove Avenue and Redwood Road. The Chevron site is an open Fuel Leak case (RWQCB Case No. 01-0346 and ACDEH Case No. 0275).

Existing Site facilities include a 7-11 convenience store and other commercial buildings situated on the western portion of the Site property, and a parking lot and landscaping areas situated on the central and eastern portions of the Site. Former service station facilities included eight former USTs located in the southern portion of the Site, six former dispenser islands, and associated former fuel distribution piping located in the northern and eastern portions of the Site. There are currently six groundwater monitoring wells (MW-1 through MW-6) associated with this Site. Wells MW-1 through MW-4 are located within the property boundaries, while well MW-5A is located offsite to the west within the North Sixth Street right-of-way, and well MW-6 is located offsite to the south on the adjoining Kashikar property, as shown on the Site Map (Figure 2).

### Site Background

Prior to 1981, the Site had been leased and operated by Shell Oil Company (Shell). Ultramar leased the Site and operated a retail service station (Beacon No. 574) from 1981 to 1987. Information provided by Ultramar indicates that the former Beacon Site facilities included four former fuel USTs located in the southeastern portion of the property and one former waste-oil UST located in the southwestern portion of the property. These USTs were removed by Ultramar in 1987. Three former fuel USTs located to the west of the former Beacon USTs existed and were removed by Shell Oil Company sometime prior to 1981 (Acton, Mickelson, van Dam, Inc., November 1994). Acton, Mickelson, van Dam, Inc. (AMD) indicated that at least one previous generation of USTs had been installed and used at the Site by Shell, however, no records have been located with the ACDEH and local fire department for the removal of the previous generation of Shell USTs. According to the 1994 AMD report, Ultramar was not aware of any specific incidents in which gasoline leaked from or was spilled during filling of any of the former Beacon USTs in use during their Site lease period (AMD, 1994).

The five former Beacon USTs were removed from the Site on May 5, 1987. These USTs consisted of one 500-gallon waste oil UST (Tank T1), two 5,000-gallon diesel USTs (Tanks T2 and T4), an 8,000-gallon gasoline UST (Tank T3), and a 7,000-gallon gasoline UST (Tank T5), as shown on the Site Plan (Figure 2). Records made available by Ultramar indicate that these USTs were originally installed and owned by Shell (AMD, 1994). Analytical results of soil samples collected at the time of the UST removals indicated the presence of petroleum constituents in soil underlying the USTs. Over-excavation of the UST basin to a depth of approximately 20 feet below surface grade (bsg) was performed in May 1987 by Ultramar. After completion of the over-excavation work, laboratory analysis of seven soil samples collected at the limit of the over-excavation indicated concentrations of 125.5, 208.7, and 1,989 milligrams per kilogram (mg/Kg or parts per million [ppm]) of total volatile hydrocarbons (AMD, 1994) primarily along the northern side of the over-excavated UST basin.

Various investigations have been performed at the Site since 1987. A detailed summary of the investigations performed between 1987 and 2008 will be presented in the Site Conceptual Model (SCM) to be prepared later in 2011. The following investigations were performed at the Site since 2009:

- May 2009: High-vacuum dual-phase extraction (HVDPE) remedial testing was performed at the Site. Approximately 220 pounds of vapor-equivalent Total Petroleum Hydrocarbons as gasoline (TPHg) and 1.6 pounds of vapor-equivalent Benzene were removed from the subsurface, and approximately 1,660 gallons of groundwater were extracted from wells MW-1 and MW-2 during the 48 hours of remedial testing. The results of the testing indicated 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, as reported in the High Vacuum Dual-Phase Extraction Testing Report (Horizon, June 30, 2009).
- December 2009: Five direct-push soil gas probes (SG-1 through SG-5) were advanced onsite to collect and analyze soil gas samples. The analytical soil gas results indicated that elevated concentrations of gasoline hydrocarbons were present primarily in shallow soil gas samples SG-1 and SG-3 located near the former USTs and dispensers. The highest concentrations were encountered in sample location SG-3, which was located adjacent to the front of the commercial building at the Site, as reported in the Soil Gas Survey and Soil Assessment Report (Horizon, January 2010).
- December 2009: Five onsite borings (B-1 through B-5) were advanced to collect subsurface soil and groundwater samples. The boring locations were selected based on approximate locations of the former USTs and dispenser islands. The analytical soil and

groundwater results indicated that elevated concentrations of petroleum hydrocarbons are present in saturated soils beneath the western portion of the former UST basin, and are also present in unsaturated and saturated soils beneath the former eastern dispenser islands, as reported in the Soil Gas Survey and Soil Assessment Report (Horizon, January 2010).

- October 2010: One of two proposed offsite direct-push soil gas probes was advanced to collect and analyze soil gas samples. Only temporary offsite soil gas probe SG-7 to the south of the Site was advanced, as no access was granted for offsite soil gas probe SG-6 proposed to the west of the Site. The laboratory analytical results indicate that the soil gas concentrations were below the Region 2 ESL and CHHSL listed values for residential and commercial sites at offsite location SG-7 on the Kashikar property located to the south of the Site at 22341 Redwood Road, as reported in the Subsurface Investigation Report (Horizon, December 2010).
- October 2010: Three onsite vapor extraction wells (VW-1, VW-2 and VW-3), three onsite vapor probe wells (VP-1, VP-2 and VP-3), and one offsite replacement groundwater monitoring well (MW-5A) were installed in their respective borings. Laboratory analytical results of soil samples collected from onsite borings VW-2 (north of the former Shell USTs), VW-3 (south of the former Shell USTs), and VP-2 (northwest of the former Shell USTs) indicated the presence of diesel and gasoline hydrocarbons at depths between 10 to 20 feet bsg. No concentrations of diesel and gasoline hydrocarbons were reported from soil samples from onsite borings VW-1 (just north of the former eastern dispensers), VP-1 (west of the former Shell USTs), and VP-3 (west of the former western dispensers). No concentrations of gasoline hydrocarbons were reported from soil samples from offsite boring MW-5A installed in North Sixth Street, as reported in the Subsurface Investigation Report (Horizon, December 2010), and shown on the Site Area Map (Figure 3).

Groundwater monitoring and sampling has been performed at the Site since 1992. Historical groundwater level data has indicated that groundwater has been present beneath the Site between the depths of approximately 14 to 22 feet bsg, and the direction of groundwater flow beneath the Site has been consistently to the south or southwest. Dissolved concentrations of TPHg, BTEX, and MTBE have been reported for groundwater samples collected from onsite wells MW-1 and MW-2, and dissolved concentrations of MTBE have been reported for groundwater samples collected from offsite wells MW-5A and MW-6.

**ATTACHMENT B**

**HORIZON MONITORING WELL DATA SHEETS**

**AND**

**PURGE WATER DISPOSAL DOCUMENTATION**

HORIZON ENVIRONMENTAL INC.

**HORIZON ENVIRONMENTAL**  
Specialists in Site Assessment, Remedial Testing, Design and Operation

**MONITORING WELL  
OBSERVATION SUMMARY SHEET**

Company Form 8x BISON #12574	Job No. 1574.48
Location 22315 Redwood Rd.	Date 8-24-11
City Castro Valley	Time 0840

**Comments:**

### **Sampler:**

Mark D. Brock

### **Assistant:**

**HORIZON ENVIRONMENTAL INC.**  
Specialists in Site Assessment, Remedial Testing, Design and Operation

MONITORING WELL DATA

Station No Fmr. Beacon # 12574	Location Castro Valley
Address 22315 Redwood Rd.	Job No. 1574-48
Well No. MW - 1	Date 8-24-11

T.D. - D.T.W. x VF = Casing Volume			
30.00	.22.45 = 7.55	x .666 = 4.98 x 4	= 19.92 (20)

"VF = gal/m	2' x 0.17 3' x 0.38	4' x 0.66 5' x 1.50
----------------	------------------------	------------------------

Gals. Purged	5	10	15	20			
Conduct.	621	607	607	605			
P/H	6.65	6.57	6.60	6.61			
Temp (°F)	73.7	72.5	71.5	71.2			
Turbid	clear	clear	clear	clear			
Product/Sheen	N	N	N	N			
Time	1136	1139	1142	1145			
Odor	very slight	very slight	very slight	very slight			

Total Volume Purged: 4

Purging Equipment:  
Pump

Total Gallons Purged: 20

Sampling Equipment:  
BELL SR

Sample Containers:

4 VOA w/HCl

D.T.W. after purging: 28.83

H<sub>2</sub>O Stored? Poly Tank ~ TO INSTRAT

Comments:

DO 3.3

ORP 301

Mark D. Brock

Technician

**HORIZON ENVIRONMENTAL INC.**

Specialists in Site Assessment, Remedial Testing, Design and Operation

**MONITORING WELL DATA**

Station No. Fmrc. Beacon # 12574	Location Castro Valley
Address 22315 Redwood Rd.	Job No. 1574.48
Well No. MW-2	Date 8-24-11

T.D. - D.T.W. x VF = Casing Volume			
30.00	- 20.85	x .66 = 9.15 x 4	= 36.60 (31)

VF = gal/R	2" x 0.17 3" x 0.38	4" x 0.66 8" x 1.50
---------------	------------------------	------------------------

Gals. Purged	9.5	19	28.5	37		
Conduct.	786	794	796	792		
P/H	6.57	6.53	6.56	6.56		Samp. TIMB
Temp (°F)	73.4	70.6	70.0	69.7		1231
Turbid	Slight	Mod.	Mod.	Mod.		
Product/Sheen	N	N	N	N		
Time	1211	1216	1221	1226		
Odor	YSS	YSS	YSS	YSS		

Total Volume Purged: 4

Purging Equipment:  
Pump

Total Gallons Purged:

37

Sampling Equipment:  
BELLSR

Sample Containers:

4 VOA w/HCl

D.T.W. after purging:

28.00

H<sub>2</sub>O Stored? Poly Tank ~ TO INSTRAT

Comments:

DO 2.8

orp 283

replaced lock, bolt screws broke off.

Mark D. Brock  
Technician

# HORIZON ENVIRONMENTAL INC.

Specialists in Site Assessment, Remedial Testing, Design and Operation

## MONITORING WELL DATA

Station No. Frmr. Beacon # 12574	Location Castro Valley
Address 22315 Redwood Rd.	Job No. 1574.48
Well No. MW-3	Date 8-24-11

$$T.D. - D.T.W. \times ^*V.F = \text{Casing Volume}$$

30.00	.21.15 = 8.85	$\times .66 = 5.84 \times 4 = 23.36$ (24)
-------	---------------	---

$V.F =$ gal./ft	$2' \times 0.17$ $3' \times 0.38$	$4' \times 0.66$ $5' \times 1.50$
--------------------	--------------------------------------	--------------------------------------

Gals. Purged	6	12	18	24			
Conduct.	391	378	380	378			
P/H	7.35	7.14	7.08	7.05			Samp. TIME
Temp (°F)	70.7	69.5	69.4	69.4			1041
Turbid	Slight	Mod.	Slight	clear			
Product/Sheen	N	N	N	N			
Time	1027	1030	1033	1036			
Odor	N	N	N	N			

Total Volume Purged:

4

Purging Equipment:

Pump

Total Gallons Purged:

24

Sampling Equipment:

BELLER

Sample Containers:

4 VOA w/HCl

D.T.W. after purging:

27.63

H<sub>2</sub>O stored? Poly Tank ~ TO INSTRAT

Comments:

DO 3.7

orp 286

Mark D. Brock

Technician

# HORIZON ENVIRONMENTAL INC.

Specialists in Site Assessment; Remedial Testing, Design and Operation

## MONITORING WELL DATA

Station No. Frmr. Beacon # 12574	Location Castro Valley
Address 22315 Redwood Rd.	Job No. 1574.48
Well No. MW-4	Date 8-24-11

$$T.D. - D.T.W. \times "V.F. = Casing Volume$$

30.00	.16.93 = 13.07	x .17 = 2.22 x 4	= 8.88 (9)
-------	----------------	------------------	------------

"V.F. gal/R	2 x 0.17 3 x 0.38	4 x 0.66 5 x 1.50
----------------	----------------------	----------------------

Gals. Purged	2.5	5	7.5	9		
Conduct.	713	700	703	701		
P/H	7.49	7.46	7.45	7.43		Samp. TIMB
Temp (°F)	67.8	67.0	66.4	66.1		1011
Turbid	Slight	Slight	Slight	Slight		
Product/Sheen	N	N	N	N		
Time	1000	1002	1004	1006		
Odor	N	N	N	N		

Total Volume Purged:

4

Purging Equipment:  
Pump

Total Gallons Purged:

9

Sampling Equipment:  
BELLER

Sample Containers:

4 VOA w/HCl

D.T.W. after purging:

17.91

H<sub>2</sub>O Stored? Poly Tank ~ TO INSTRAT

Comments:

DO 3.4

ORP 278

Mark D. Brock  
Technician

# HORIZON ENVIRONMENTAL INC.

Specialists in Site Assessment, Remedial Testing, Design and Operation

## MONITORING WELL DATA

Station No. Frmr. Beacon # 12574	Location Castro Valley
Address 22315 Redwood Rd.	Job No. 1574-48
Well No. MW - 5 A	Date 8-24-11

$$\text{T.D.} - \text{D.T.W.} \times \text{'VF} = \text{Casing Volume}$$

30.00	.14.82 = 15.18	x .17 = 2.58	x 4 = 10.32 (10.50)
-------	----------------	--------------	---------------------

'VF = gal/in	2" x 0.17 3" x 0.38	4" x 0.66 8" x 1.50
-----------------	------------------------	------------------------

Gals. Purged	3	6	9	10.5		
Conduct.	735	734	742	744		
P/H	6.90	6.76	6.76	6.75		Samp. TIMB
Temp (°F)	69.8	68.2	67.7	67.4		0941
Turbid	Mod.	Mod.	Mod.	Mod.		
Product/Sheen	N	N	N	N		
Time	0931	0933	0935	0936		
Odor	N	N	N	N		

Total Volume Purged:

4

Purging Equipment:

Pump

Total Gallons Purged:

10.50

Sampling Equipment:

BELL & CROY

Sample Containers:

4 VOA w/HCl

D.T.W. after purging:

22.03

H<sub>2</sub>O stored? Poly Tank ~ TO INSTRET

Comments:

DO 4.2

orp 269

Mark D. Brock  
Technician

**HORIZON ENVIRONMENTAL INC.**

Specialists in Site Assessment, Remedial Testing, Design and Operation

**MONITORING WELL DATA**

Station No. Fmr. Beacon # 12574	Location Castro Valley
Address 22315 Redwood Rd.	Job No. 1574.48
Well No. MW-6	Date 8-24-11

T.D. - D.T.W. x VF = Casing Volume			
30.00	- 20.67 = 9.33	x .17 = 1.58 x 4	= 6.32 (7)

VF = gal/R	2 x 0.17 3 x 0.38	4 x 0.68 5 x 1.50
---------------	----------------------	----------------------

Gals. Purged	2	4	6	7		
Conduct.	680	670	672	675		
P/H	6.83	6.76	6.77	6.76		Samp. TIMB
Temp (°F)	73.0	71.9	71.9	71.6		111
Turbid	Slight	Slight	Slight	Slight		
Product/Sheen	N	N	N	N		
Time	1101	1103	1105	1106		
Odor	N	N	N	N		

Total Volume Purged: 4

Purging Equipment:  
Pump

Total Gallons Purged: 7

Sampling Equipment:  
BELLER

Sample Containers:  
4 VOA w/HCl

D.T.W. after purging: 24.11

H<sub>2</sub>O Stored? Poly Tank ~ To Instrat

Comments:  
DO 3.4

orp 296

Mark D. Brock  
Technician

# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No.		Manifest Document No. HOR 11-060		2. Page 1 of 1		
GENERATOR	3. Generator's Name and Mailing Address  Former Beacon # 12574 22315 Redwood Rd Castro Valley		4. Generator's Phone ( )  Horizon Env		5. Transporter 1 Company Name  Horizon Env		6. US EPA ID Number  7. Transporter 2 Company Name  8. US EPA ID Number	
							A. State Transporter's ID B. Transporter 1 Phone C. State Transporter's ID D. Transporter 2 Phone	
							E. State Facility's ID F. Facility's Phone 707) 374-3834	
	9. Designated Facility Name and Site Address  InStrat Inc 1105 S Airport Rd R.I.S. Vista CA		10. US EPA ID Number					
	11. WASTE DESCRIPTION  Non HAZARDOUS monitoring well water		12. Containers No. Type 1 Poly 107 gal.		13. Total Quantity		14. Unit Wt./Vol.	
G. Additional Descriptions for Materials Listed Above  Color - Clear odor - 0 Solids - 0					H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information								
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.								
Date								
Printed/Typed Name Mark D. Brock		Signature Mark W. Brock		Month Day Year 8 25 11				
17. Transporter 1 Acknowledgement of Receipt of Materials								
Printed/Typed Name Mark D. Brock		Signature Mark W. Brock		Month Day Year 8 25 11		Date		
18. Transporter 2 Acknowledgement of Receipt of Materials								
Printed/Typed Name Patrick McLaughlin		Signature P. McLaughlin		Month Day Year 8 25 11		Date		
19. Discrepancy Indication Space								
20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.								
Printed/Typed Name Patrick McLaughlin		Signature P. McLaughlin		Month Day Year 8 25 11		Date		
FACILITY								

**ATTACHMENT C**

**ANALYTICAL REPORT**



Report Number : 78577

Date : 09/01/2011

## Laboratory Results

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

Subject : 6 Water Samples  
Project Name : Former Beacon 12574-SAM  
Project Number : 1574.48  
P.O. Number : WO 110543

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. Testing procedures comply with the 2003 NELAC standard. All soil samples are reported on a total weight (wet weight) basis unless noted otherwise in the case narrative. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. 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



Report Number : 78577

Date : 09/01/2011

Subject : 6 Water Samples  
Project Name : Former Beacon 12574-SAM  
Project Number : 1574.48  
P.O. Number : WO 110543

## Case Narrative

Matrix Spike/Matrix Spike Duplicate results associated with samples MW-2 and MW-1 for the analytes Benzene and Tert-Butanol were affected by the analyte concentrations already present in the un-spiked sample.



Report Number : 78577

Date : 09/01/2011

Project Name : **Former Beacon 12574-SAM**Project Number : **1574.48**Sample : **MW-1**

Matrix : Water

Lab Number : 78577-01

Sample Date : 08/24/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	170	0.50	ug/L	EPA 8260B	08/29/11 12:40
Toluene	6.3	0.50	ug/L	EPA 8260B	08/29/11 12:40
Ethylbenzene	20	0.50	ug/L	EPA 8260B	08/29/11 12:40
Total Xylenes	26	0.50	ug/L	EPA 8260B	08/29/11 12:40
Methyl-t-butyl ether (MTBE)	10	0.50	ug/L	EPA 8260B	08/29/11 12:40
Diisopropyl ether (DIPE)	0.72	0.50	ug/L	EPA 8260B	08/29/11 12:40
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	08/29/11 12:40
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	08/29/11 12:40
Tert-Butanol	7.6	5.0	ug/L	EPA 8260B	08/27/11 03:27
TPH as Gasoline	1600	50	ug/L	EPA 8260B	08/29/11 12:40
1,2-Dichloroethane	0.50	0.50	ug/L	EPA 8260B	08/29/11 12:40
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/29/11 12:40
1,2-Dichloroethane-d4 (Surr)	97.9		% Recovery	EPA 8260B	08/29/11 12:40
Toluene - d8 (Surr)	95.5		% Recovery	EPA 8260B	08/29/11 12:40



Report Number : 78577

Date : 09/01/2011

Project Name : Former Beacon 12574-SAM

Project Number : 1574.48

Sample : MW-2

Matrix : Water

Lab Number : 78577-02

Sample Date : 08/24/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	5500	15	ug/L	EPA 8260B	08/27/11 04:45
Toluene	89	15	ug/L	EPA 8260B	08/27/11 04:45
Ethylbenzene	1000	15	ug/L	EPA 8260B	08/27/11 04:45
Total Xylenes	410	15	ug/L	EPA 8260B	08/27/11 04:45
Methyl-t-butyl ether (MTBE)	120	15	ug/L	EPA 8260B	08/27/11 04:45
Diisopropyl ether (DIPE)	< 15	15	ug/L	EPA 8260B	08/27/11 04:45
Ethyl-t-butyl ether (ETBE)	< 15	15	ug/L	EPA 8260B	08/27/11 04:45
Tert-amyl methyl ether (TAME)	< 15	15	ug/L	EPA 8260B	08/27/11 04:45
Tert-Butanol	< 70	70	ug/L	EPA 8260B	08/27/11 04:45
TPH as Gasoline	20000	1500	ug/L	EPA 8260B	08/27/11 04:45
1,2-Dichloroethane	< 15	15	ug/L	EPA 8260B	08/27/11 04:45
1,2-Dibromoethane	< 15	15	ug/L	EPA 8260B	08/27/11 04:45
1,2-Dichloroethane-d4 (Surr)	103		% Recovery	EPA 8260B	08/27/11 04:45
Toluene - d8 (Surr)	98.5		% Recovery	EPA 8260B	08/27/11 04:45



Report Number : 78577

Date : 09/01/2011

Project Name : **Former Beacon 12574-SAM**Project Number : **1574.48**Sample : **MW-3**

Matrix : Water

Lab Number : 78577-03

Sample Date : 08/24/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	08/28/11 00:23
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/28/11 00:23
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:23
1,2-Dichloroethane-d4 (Surrogate)	103		% Recovery	EPA 8260B	08/28/11 00:23
Toluene - d8 (Surrogate)	98.5		% Recovery	EPA 8260B	08/28/11 00:23



Report Number : 78577

Date : 09/01/2011

Project Name : Former Beacon 12574-SAM

Project Number : 1574.48

Sample : MW-4

Matrix : Water

Lab Number : 78577-04

Sample Date : 08/24/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	08/28/11 00:56
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/28/11 00:56
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 00:56
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	08/28/11 00:56
Toluene - d8 (Surr)	98.4		% Recovery	EPA 8260B	08/28/11 00:56



Report Number : 78577

Date : 09/01/2011

Project Name : **Former Beacon 12574-SAM**Project Number : **1574.48**Sample : **MW-5A**

Matrix : Water

Lab Number : 78577-05

Sample Date : 08/24/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 01:28
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 01:28
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 01:28
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 01:28
<b>Methyl-t-butyl ether (MTBE)</b>	<b>14</b>	0.50	ug/L	EPA 8260B	08/28/11 01:28
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 01:28
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 01:28
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 01:28
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	08/28/11 01:28
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/28/11 01:28
<b>1,2-Dichloroethane</b>	<b>0.58</b>	0.50	ug/L	EPA 8260B	08/28/11 01:28
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 01:28
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	08/28/11 01:28
Toluene - d8 (Surr)	98.6		% Recovery	EPA 8260B	08/28/11 01:28



Report Number : 78577

Date : 09/01/2011

Project Name : Former Beacon 12574-SAM

Project Number : 1574.48

Sample : MW-6

Matrix : Water

Lab Number : 78577-06

Sample Date : 08/24/2011

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 02:01
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 02:01
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 02:01
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 02:01
<b>Methyl-t-butyl ether (MTBE)</b>	<b>29</b>	0.50	ug/L	EPA 8260B	08/28/11 02:01
<b>Diisopropyl ether (DIPE)</b>	<b>0.73</b>	0.50	ug/L	EPA 8260B	08/28/11 02:01
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 02:01
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 02:01
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	08/28/11 02:01
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/28/11 02:01
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 02:01
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/28/11 02:01
1,2-Dichloroethane-d4 (Surr)	99.8		% Recovery	EPA 8260B	08/28/11 02:01
Toluene - d8 (Surr)	97.5		% Recovery	EPA 8260B	08/28/11 02:01

**QC Report : Method Blank Data****Project Name : Former Beacon 12574-SAM****Project Number : 1574.48**

<u>Parameter</u>	<u>Measured Value</u>	<u>Method Reporting Limit</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Date Analyzed</u>
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	08/27/2011
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/27/2011
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
1,2-Dichloroethane-d4 (Surr)	104	%		EPA 8260B	08/27/2011
Toluene - d8 (Surr)	102	%		EPA 8260B	08/27/2011
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/29/2011
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	08/29/2011
1,2-Dichloroethane-d4 (Surr)	99.0	%		EPA 8260B	08/29/2011
Toluene - d8 (Surr)	97.5	%		EPA 8260B	08/29/2011

<u>Parameter</u>	<u>Measured Value</u>	<u>Method Reporting Limit</u>	<u>Units</u>	<u>Analysis Method</u>	<u>Date Analyzed</u>
Benzene	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Toluene	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	08/27/2011
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	08/27/2011
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	08/27/2011
1,2-Dichloroethane-d4 (Surr)	101	%		EPA 8260B	08/27/2011
Toluene - d8 (Surr)	98.5	%		EPA 8260B	08/27/2011

## QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : Former Beacon 12574-SAM

Project Number : 1574.48

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.	Duplicate Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
1,2-Dibromoethane														
	78520-05	<0.50	38.9	38.8	38.0	39.6	ug/L	EPA 8260B	8/27/11	97.6	102	4.30	80-120	25
1,2-Dichloroethane														
	78520-05	<0.50	39.1	39.0	40.0	41.1	ug/L	EPA 8260B	8/27/11	102	105	2.91	75.7-122	25
Benzene														
	78520-05	160	39.1	39.0	179	190	ug/L	EPA 8260B	8/27/11	58.6	85.4	37.1	80-120	25
Diisopropyl ether														
	78520-05	<0.50	38.7	38.6	42.1	42.8	ug/L	EPA 8260B	8/27/11	109	111	1.81	80-120	25
Ethyl-tert-butyl ether														
	78520-05	<0.50	39.0	38.9	42.2	42.4	ug/L	EPA 8260B	8/27/11	108	109	0.770	76.5-120	25
Ethylbenzene														
	78520-05	22	39.1	39.0	55.0	57.7	ug/L	EPA 8260B	8/27/11	84.0	91.0	7.90	80-120	25
Methyl-t-butyl ether														
	78520-05	100	39.2	39.2	134	140	ug/L	EPA 8260B	8/27/11	87.7	104	17.1	69.7-121	25
P + M Xylene														
	78520-05	38	39.1	39.0	70.1	74.1	ug/L	EPA 8260B	8/27/11	80.7	91.1	12.2	76.8-120	25
Tert-Butanol														
	78520-05	1100	189	188	1220	1240	ug/L	EPA 8260B	8/27/11	64.1	77.9	19.4	80-120	25
Tert-amyl-methyl ether														
	78520-05	3.7	39.0	38.9	44.7	45.6	ug/L	EPA 8260B	8/27/11	105	108	2.27	78.9-120	25

Project Name : Former Beacon 12574-SAM

Project Number : 1574.48

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
Toluene	78520-05	18	39.1	39.0	53.7	56.4	ug/L	EPA 8260B	8/27/11	91.2	98.3	7.53	80-120	25
1,2-Dibromoethane	78586-02	<0.50	39.8	39.8	39.0	38.7	ug/L	EPA 8260B	8/29/11	98.0	97.2	0.750	80-120	25
1,2-Dichloroethane	78586-02	<0.50	40.0	40.0	38.6	38.7	ug/L	EPA 8260B	8/29/11	96.4	96.7	0.307	75.7-122	25
Benzene	78586-02	<0.50	40.0	40.0	38.0	37.1	ug/L	EPA 8260B	8/29/11	95.0	92.8	2.41	80-120	25
Diisopropyl ether	78586-02	<0.50	39.6	39.6	39.8	40.4	ug/L	EPA 8260B	8/29/11	100	102	1.55	80-120	25
Ethyl-tert-butyl ether	78586-02	<0.50	39.9	39.9	39.6	40.8	ug/L	EPA 8260B	8/29/11	99.1	102	3.14	76.5-120	25
Ethylbenzene	78586-02	<0.50	40.0	40.0	39.7	38.6	ug/L	EPA 8260B	8/29/11	99.2	96.6	2.62	80-120	25
Methyl-t-butyl ether	78586-02	<0.50	40.2	40.2	38.5	39.7	ug/L	EPA 8260B	8/29/11	95.7	98.8	3.23	69.7-121	25
P + M Xylene	78586-02	<0.50	40.0	40.0	38.6	37.3	ug/L	EPA 8260B	8/29/11	96.5	93.2	3.40	76.8-120	25

Project Name : Former Beacon 12574-SAM

Project Number : 1574.48

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
<b>Tert-amyl-methyl ether</b>														
	78586-02	<0.50	39.9	39.9	39.2	39.1	ug/L	EPA 8260B	8/29/11	98.4	97.9	0.471	78.9-120	25
<b>Toluene</b>														
	78586-02	<0.50	40.0	40.0	37.8	36.2	ug/L	EPA 8260B	8/29/11	94.5	90.6	4.28	80-120	25
<b>1,2-Dibromoethane</b>														
	78589-02	<0.50	39.8	39.8	41.9	41.3	ug/L	EPA 8260B	8/27/11	105	104	1.32	80-120	25
<b>1,2-Dichloroethane</b>														
	78589-02	<0.50	40.0	40.0	41.4	42.0	ug/L	EPA 8260B	8/27/11	103	105	1.61	75.7-122	25
<b>Benzene</b>														
	78589-02	<0.50	40.0	40.0	42.0	41.9	ug/L	EPA 8260B	8/27/11	105	105	0.244	80-120	25
<b>Diisopropyl ether</b>														
	78589-02	<0.50	39.6	39.6	44.5	43.7	ug/L	EPA 8260B	8/27/11	112	110	1.96	80-120	25
<b>Ethyl-tert-butyl ether</b>														
	78589-02	<0.50	39.9	39.9	43.1	41.8	ug/L	EPA 8260B	8/27/11	108	105	2.94	76.5-120	25
<b>Ethylbenzene</b>														
	78589-02	<0.50	40.0	40.0	41.9	40.5	ug/L	EPA 8260B	8/27/11	105	101	3.41	80-120	25
<b>Methyl-t-butyl ether</b>														
	78589-02	<0.50	40.2	40.2	40.4	39.1	ug/L	EPA 8260B	8/27/11	101	97.3	3.33	69.7-121	25

## QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : Former Beacon 12574-SAM

Project Number : 1574.48

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
P + M Xylene	78589-02	<0.50	40.0	40.0	42.2	40.6	ug/L	EPA 8260B	8/27/11	105	102	3.76	76.8-120	25
Tert-Butanol	78589-02	<5.0	193	193	210	209	ug/L	EPA 8260B	8/27/11	109	108	0.655	80-120	25
Tert-amyl-methyl ether	78589-02	<0.50	39.9	39.9	43.7	41.6	ug/L	EPA 8260B	8/27/11	110	104	4.82	78.9-120	25
Toluene	78589-02	<0.50	40.0	40.0	40.4	39.3	ug/L	EPA 8260B	8/27/11	101	98.3	2.58	80-120	25

## QC Report : Laboratory Control Sample (LCS)

Project Name : **Former Beacon 12574-SAM**Project Number : **1574.48**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,2-Dibromoethane	39.8	ug/L	EPA 8260B	8/27/11	97.0	80-120
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	8/27/11	102	75.7-122
Benzene	40.0	ug/L	EPA 8260B	8/27/11	96.1	80-120
Diisopropyl ether	39.6	ug/L	EPA 8260B	8/27/11	107	80-120
Ethyl-tert-butyl ether	39.9	ug/L	EPA 8260B	8/27/11	104	76.5-120
Ethylbenzene	40.0	ug/L	EPA 8260B	8/27/11	95.8	80-120
Methyl-t-butyl ether	40.2	ug/L	EPA 8260B	8/27/11	102	69.7-121
P + M Xylene	40.0	ug/L	EPA 8260B	8/27/11	98.5	76.8-120
Tert-Butanol	193	ug/L	EPA 8260B	8/27/11	92.0	80-120
Tert-amyl-methyl ether	39.9	ug/L	EPA 8260B	8/27/11	104	78.9-120
Toluene	40.0	ug/L	EPA 8260B	8/27/11	100	80-120
1,2-Dibromoethane	40.0	ug/L	EPA 8260B	8/29/11	100	80-120
1,2-Dichloroethane	40.2	ug/L	EPA 8260B	8/29/11	97.8	75.7-122
Benzene	40.2	ug/L	EPA 8260B	8/29/11	95.1	80-120
Diisopropyl ether	39.8	ug/L	EPA 8260B	8/29/11	98.4	80-120
Ethyl-tert-butyl ether	40.1	ug/L	EPA 8260B	8/29/11	99.7	76.5-120
Ethylbenzene	40.2	ug/L	EPA 8260B	8/29/11	99.3	80-120
Methyl-t-butyl ether	40.4	ug/L	EPA 8260B	8/29/11	95.1	69.7-121
P + M Xylene	40.2	ug/L	EPA 8260B	8/29/11	96.0	76.8-120
TPH as Gasoline	501	ug/L	EPA 8260B	8/29/11	102	70.0-130
Tert-amyl-methyl ether	40.1	ug/L	EPA 8260B	8/29/11	97.4	78.9-120
Toluene	40.2	ug/L	EPA 8260B	8/29/11	95.4	80-120

## QC Report : Laboratory Control Sample (LCS)

Project Name : Former Beacon 12574-SAM

Project Number : 1574.48

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,2-Dibromoethane	39.8	ug/L	EPA 8260B	8/27/11	103	80-120
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	8/27/11	100	75.7-122
Benzene	40.0	ug/L	EPA 8260B	8/27/11	102	80-120
Diisopropyl ether	39.6	ug/L	EPA 8260B	8/27/11	108	80-120
Ethyl-tert-butyl ether	39.9	ug/L	EPA 8260B	8/27/11	105	76.5-120
Ethylbenzene	40.0	ug/L	EPA 8260B	8/27/11	103	80-120
Methyl-t-butyl ether	40.2	ug/L	EPA 8260B	8/27/11	99.9	69.7-121
P + M Xylene	40.0	ug/L	EPA 8260B	8/27/11	104	76.8-120
TPH as Gasoline	505	ug/L	EPA 8260B	8/27/11	110	70.0-130
Tert-Butanol	193	ug/L	EPA 8260B	8/27/11	107	80-120
Tert-amyl-methyl ether	39.9	ug/L	EPA 8260B	8/27/11	108	78.9-120
Toluene	40.0	ug/L	EPA 8260B	8/27/11	100	80-120



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

SRG # / Lab No.

18577

Page 1 of 1

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

Sampling Company Log Code:  
**HEIE**

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

Global ID: **T0600100155**

Project #: **1574.48**  
P.O. #: **WO 110543**

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

Project Name:  
**Former Beacon 12574-SAM**

Sampler Signature: **Mark D. Brock**

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

**Sampling**

		<b>40 ml VOA</b>	<b>Sleeve</b>	<b>Poly</b>	<b>Glass</b>	<b>Teflon</b>	<b>HCl</b>
							<b>HNO<sub>3</sub></b>
							<b>None</b>
							<b>Ice</b>
							<b>WATER</b>
							<b>Soil</b>
							<b>Air</b>



**ATTACHMENT D**

**HISTORICAL GROUNDWATER DATA**

**Table 2**  
**Cumulative Groundwater Elevation Data**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Top of Casing Elevation (Feet) <sup>1</sup>	Date Sounded	Depth to Groundwater (Feet) <sup>1</sup>	Groundwater Elevation (Feet) <sup>2</sup>	Well Depth (Feet)
MW-1	156.55	03/27/92	22.43	134.12	-
		06/04/92	23.40	133.15	-
		09/23/92	24.07	132.48	-
		11/12/92	24.16	132.39	29.33
		02/02/93	21.87	134.68	29.80
		05/07/93	22.58	133.97	29.84
		05/18/93	22.66	133.89	-
		08/11/93	23.41	133.14	29.81
		11/05/93	24.09	132.46	29.81
		03/01/94	22.76	133.79	29.85
		06/02/94	23.24	133.31	29.85
		09/09/94	23.93	132.62	29.86
		12/20/94	22.94	133.61	29.85
		03/08/95	22.20	134.35	29.71
		06/14/95	22.65	133.90	29.70
		09/26/95	23.44	133.11	29.71
		12/27/95	23.04	133.51	29.72
		03/26/96	21.39	135.16	29.71
		06/05/96	22.43	134.12	29.73
		09/16/96	24.42	132.13	29.74
		12/02/96	23.14	133.41	29.75
		03/10/97	22.30	134.25	29.76
		06/12/97	22.97	133.58	29.76
		09/29/97	23.35	133.20	29.78
		12/01/97	22.73	133.82	29.79
		03/19/98	20.56	135.99	29.78
		05/28/98	21.78	134.77	29.76
		08/31/98	22.64	133.91	29.78
		12/08/98	22.87	133.68	29.76
		02/17/99	21.53	135.02	29.75
		06/10/99	22.74	133.81	29.74
		09/07/99	23.06	133.49	29.73
		12/13/00	23.06	133.46	29.74
		3/16/00	20.66	135.89	29.75
		6/12/00	22.53	134.02	29.76
		9/5/00	22.73	133.82	29.74
		11/13/00	23.20	133.35	29.74
		2/26/01	21.75	134.80	29.73
		6/12/01	22.70	133.85	29.73
		9/21/01	23.40	133.15	29.73
MW-2	155.17	03/27/92	20.82	134.35	-
		06/04/92	21.81	133.36	-
		09/23/92	22.45	132.72	-
		11/12/92	22.60	132.57	29.71

**Table 2**  
**Cumulative Groundwater Elevation Data**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Top of Casing Elevation (Feet) <sup>1</sup>	Date Sounded	Depth to Groundwater (Feet) <sup>1</sup>	Groundwater Elevation (Feet) <sup>2</sup>	Well Depth (Feet)
		02/02/93	20.28	134.89	29.73
		05/07/93	20.97	134.20	29.73
		05/18/93	21.06	134.11	-
		08/11/93	21.85	133.32	29.70
		11/05/93	22.32	132.85	29.70
		03/01/94	21.19	133.98	29.68
		06/02/94	21.59	133.58	29.69
		09/09/94	22.33	132.84	29.66
		12/20/94	21.37	133.80	29.65
		03/08/95	20.60	134.57	29.52
		06/14/95	21.04	134.13	29.54
		09/26/95	21.84	133.33	29.53
		12/27/95	21.44	133.73	29.56
		03/26/96	19.81	135.36	29.56
		06/05/96	20.83	134.34	29.59
		09/16/96	21.93	133.24	29.58
		12/02/96	21.54	133.63	29.58
		03/10/97	20.71	134.46	29.58
		06/12/97	21.41	133.76	29.52
		09/29/97	21.26	133.91	29.51
		12/01/97	20.97	134.20	29.50
		03/19/98	18.98	136.19	29.51
		05/28/98	20.22	134.95	29.50
		08/31/98	21.09	134.08	29.51
		12/08/98	21.31	133.86	29.50
		02/17/99	20.02	135.15	29.51
		06/10/99	21.30	133.87	29.50
		09/07/99	21.49	133.68	29.50
		12/13/99	21.52	133.65	29.50
		3/16/00	19.13	136.04	29.50
		6/12/00	20.93	134.24	29.50
		9/5/00	21.15	134.02	29.50
		11/13/00	21.66	133.51	29.50
		2/26/01	20.17	135.00	29.50
		6/12/01	21.15	134.02	29.50
		9/21/01	21.63	133.54	29.50
MW-3	157.13	03/27/92	21.46	135.67	-
		06/04/92	22.34	134.79	-
		09/23/92	22.84	134.29	-
		11/12/92	23.04	134.09	29.55
		02/02/93	21.03	136.10	29.45
		05/07/93	21.59	135.54	29.53
		05/18/93	21.73	135.40	-
		08/11/93	22.31	134.82	29.41
		11/05/93	22.85	134.28	29.41

**Table 2**  
**Cumulative Groundwater Elevation Data**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Top of Casing Elevation (Feet) <sup>1</sup>	Date Sounded	Depth to Groundwater (Feet) <sup>1</sup>	Groundwater Elevation (Feet) <sup>2</sup>	Well Depth (Feet)
		03/01/94	21.97	135.16	29.55
		06/02/94	22.29	134.84	29.56
		09/09/94	22.91	134.22	29.56
		12/20/94	22.11	135.02	29.54
		03/08/95	21.40	135.73	29.38
		06/14/95	21.80	135.33	29.36
		09/26/95	22.38	134.75	29.37
		12/27/95	22.07	135.06	29.37
		03/26/96	20.73	136.40	29.38
		06/05/96	21.54	135.59	29.40
		09/16/96	22.37	134.76	29.43
		12/02/96	22.35	134.78	29.45
		03/10/97	21.44	135.69	29.47
		06/12/97	21.97	135.16	29.45
		09/29/97	22.30	134.83	29.45
		12/01/97	21.78	135.35	29.46
		03/19/98	19.88	137.25	29.46
		05/28/98	20.91	136.22	29.47
		08/31/98	21.61	135.52	29.47
		12/08/98	21.83	135.30	29.47
		02/17/99	20.81	130.32	29.45
		06/10/99	21.61	135.52	29.45
		09/07/99	21.91	135.22	29.45
		12/13/99	21.93	135.20	29.44
		3/16/00	19.86	137.27	29.46
		6/12/00	21.61	135.52	29.46
		9/5/00	21.54	135.59	29.47
		11/13/00	21.98	135.15	29.46
		2/26/01	20.65	136.48	29.46
		6/12/01	21.70	135.43	29.46
		9/21/01	22.05	135.07	29.46
MW-4	151.96	05/18/93	17.55	134.41	-
		08/11/93	17.50	134.46	28.43
		11/05/93	15.84	136.12	28.43
		03/01/94	17.35	134.61	28.11
		06/02/94	17.68	134.28	28.12
		09/09/94	18.19	133.77	28.13
		12/20/94	17.52	134.44	28.10
		03/08/95	16.82	135.14	27.97
		06/14/95	17.22	134.74	27.97
		09/26/95	17.79	134.17	27.91
		12/27/95	17.47	134.49	27.89
		03/26/96	16.32	135.64	27.89
		06/05/96	17.10	134.86	27.88
		09/16/96	17.85	134.11	27.89

**Table 2**  
**Cumulative Groundwater Elevation Data**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Top of Casing Elevation (Feet) <sup>1</sup>	Date Sounded	Depth to Groundwater (Feet) <sup>1</sup>	Groundwater Elevation (Feet) <sup>2</sup>	Well Depth (Feet)
		12/02/96	17.59	134.37	27.88
		03/10/97	16.79	135.17	27.89
		06/12/97	17.49	134.47	27.90
		09/29/97	18.33	133.63	27.91
		12/01/97	17.36	134.60	27.90
		03/19/98	15.90	136.06	27.91
		05/28/98	16.34	135.62	27.90
		08/31/98	16.83	135.13	27.90
		12/08/98	17.37	134.59	27.91
		02/17/99	16.49	135.47	27.98
		06/10/99	17.63	134.33	24.76
		09/07/99	17.80	134.16	24.75
		12/13/99	17.82	134.14	24.73
		3/16/00	15.81	136.15	24.71
		6/12/00	16.64	135.32	24.70
		9/5/00	16.71	135.25	24.70
		11/13/00	17.24	134.72	24.70
		2/26/01	15.83	136.13	24.70
		6/12/01	16.80	135.16	24.70
		9/21/01	17.30	134.66	24.71
MW-5	148.68	05/18/93	15.72	132.96	-
		08/11/93	16.42	132.26	28.43
		11/05/93	16.92	131.76	28.43
		03/01/94	15.54	133.14	28.11
		06/02/94	16.19	132.49	28.12
		09/09/94	16.87	131.81	28.13
		12/20/94	15.87	132.84	28.10
		03/08/95	15.11	133.57	27.97
		06/14/95	15.69	132.99	27.97
		09/26/95	16.46	132.22	27.91
		12/27/95	15.91	132.77	27.89
		03/26/96	14.31	134.37	27.89
		06/05/96	15.43	133.25	27.88
		09/16/96	16.52	132.16	27.89
		12/02/96	16.05	132.63	27.88
		03/10/97	14.80	133.88	27.89
		06/12/97	15.95	132.78	27.90
		09/29/97	16.33	132.35	27.91
		12/01/97	15.48	133.20	27.90
		03/19/98	13.16	135.52	27.91
		05/28/98	14.04	134.64	27.90
		08/31/98	14.81	133.87	27.90
		12/08/98	15.75	132.93	27.91
		02/17/99	14.80	133.88	27.98
		06/10/99	15.54	133.14	24.76

**Table 2**  
**Cumulative Groundwater Elevation Data**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Top of Casing Elevation (Feet) <sup>1</sup>	Date Sounded	Depth to Groundwater (Feet) <sup>1</sup>	Groundwater Elevation (Feet) <sup>2</sup>	Well Depth (Feet)
		09/07/99	16.01	132.67	24.75
		12/13/99	16.21	132.47	24.73
		3/16/00	14.35	134.33	29.60
		6/12/00	15.21	133.47	29.61
		9/5/00	15.80	132.88	29.60
		11/13/00	16.21	132.47	29.60
		2/26/01	14.71	133.97	29.61
		6/12/01	15.72	132.96	29.60
		9/21/01	16.21	132.47	29.60
MW-6	153.96	05/18/93	20.80	133.16	-
		08/11/93	21.64	132.32	31.15
		11/05/93	22.11	131.85	31.15
		03/01/94	20.80	133.16	29.96
		06/02/94	21.37	132.59	29.98
		09/09/94	22.05	131.91	29.96
		12/20/94	21.06	132.90	29.89
		03/08/95	20.29	133.67	29.67
		06/14/95	20.81	133.15	29.65
		09/26/95	21.62	132.34	29.66
		12/27/95	21.12	132.84	29.63
		03/26/96	19.50	134.46	29.60
		06/05/96	20.56	133.40	29.63
		09/16/96	21.70	132.26	29.65
		12/02/96	21.25	132.71	29.66
		03/10/97	20.16	133.80	29.64
		06/12/97	21.16	132.80	29.62
		09/29/97	21.51	132.45	29.62
		12/01/97	20.89	133.07	29.61
		03/19/98	18.71	135.25	29.60
		05/28/98	19.99	133.97	29.62
		08/31/98	20.81	133.15	29.63
		12/08/98	21.00	132.96	29.64
		02/17/99	19.54	134.42	29.63
		06/10/99	20.74	133.22	27.98
		09/07/99	21.23	132.73	27.98
		12/13/99	21.22	132.74	27.98
		3/16/00	18.79	135.17	27.99
		6/12/00	20.49	133.47	27.99
		9/5/00	20.95	133.01	27.98
		11/13/00	21.44	132.52	27.98
		2/26/01	19.86	134.10	27.99
		6/12/01	20.91	133.05	27.98
		9/21/01	21.22	132.74	27.99
MW-7	156.09	05/18/93	22.64	133.45	-

**Table 2**  
**Cumulative Groundwater Elevation Data**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Top of Casing Elevation (Feet) <sup>1</sup>	Date Sounded	Depth to Groundwater (Feet) <sup>1</sup>	Groundwater Elevation (Feet) <sup>2</sup>	Well Depth (Feet)
		08/11/93	23.25	132.84	30.75
		11/05/93	23.93	132.16	30.75
		03/01/94	22.72	133.37	30.11
		06/02/94	23.22	132.87	30.12
		09/09/94	23.90	132.19	30.12
		12/20/94	22.98	133.11	30.10
		03/08/95	22.14	133.95	29.91
		06/14/95	22.61	133.48	29.91
		09/26/95	23.43	132.66	29.90
		12/27/95	23.01	133.08	29.90
		03/26/96	21.32	134.77	29.87
		06/05/96	22.37	133.72	29.91
		09/16/96	23.51	132.58	29.90
		12/02/96	23.08	133.01	29.91
		03/10/97	21.94	134.15	29.90
		06/12/97	22.96	133.13	29.88
		09/29/97	23.35	132.74	29.87
		12/01/97	22.68	133.41	29.88
		03/19/98	20.52	135.57	29.88
		05/28/98	21.76	134.33	29.88
		08/31/98	22.66	133.43	29.86
		12/08/98 <sup>3</sup>			
MW-8	158.04	05/18/93	21.55	136.49	-
		08/11/93	22.43	135.61	34.82
		11/05/93	23.00	135.04	34.82
		03/01/94	22.05	135.99	34.04
		06/02/94	22.29	135.75	34.04
		09/09/94	22.99	135.05	34.04
		12/20/94	22.14	135.90	33.98
		03/08/95	21.25	136.79	34.48
		06/14/95	21.70	136.34	34.49
		09/26/95	22.29	135.75	34.40
		12/27/95	21.96	136.08	34.43
		03/26/96	20.48	137.56	34.42
		06/05/96	21.50	136.54	34.41
		09/16/96	22.38	135.66	34.43
		12/02/96	22.39	135.65	34.42
		03/10/97	20.89	137.16	34.43
		06/12/97	21.80	136.24	34.42
		09/29/97	22.81	135.23	34.40
		12/01/97	21.70	136.34	34.41
		03/19/98	19.35	138.69	34.42
		05/28/98	20.52	137.52	34.41
		08/31/98	21.40	136.64	34.40
		12/08/98 <sup>3</sup>			

**Table 2**  
**Cumulative Groundwater Elevation Data**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Top of Casing Elevation (Feet) <sup>1</sup>	Date Sounded	Depth to Groundwater (Feet) <sup>1</sup>	Groundwater Elevation (Feet) <sup>2</sup>	Well Depth (Feet)
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**NOTES:**

1 : Measurement and reference elevation taken from notch/mark on top north side of well casing.

2 : Elevation reference to mean sea level.

Well Depth : Measured from top of casing to bottom of well.

3 : Well abandoned.

**Table 3**  
**Summary of Groundwater Analytical Results**  
**Former Beacon Station # 12574 - Castro Valley, California**

**Table 3**  
**Summary of Groundwater Analytical Results**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Sample Date	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-2	9/21/01	23,000	NA	NA	4,600	75	1,200	2,300	450
	03/27/92	18,000	<50	<50	2,400	2,300	870	3,300	-
	06/04/92	14,000	<5,000	NA	1,900	1,700	580	2,300	-
	09/23/92	22,000	NA	NA	2,100	1,500	760	2,900	-
	11/12/92	29,000	NA	NA	2,400	860	540	3,500	-
	02/02/93	24,000	NA	NA	2,700	1,900	590	2,600	-
	05/07/93	19,000	NA	NA	1,800	1,300	460	2,600	-
	08/11/93	23,000	NA	NA	2,300	1,500	550	2,300	-
	11/05/93	30,000	NA	NA	3,100	2,900	860	3,700	-
	03/01/94	13,000	NA	NA	1,500	490	350	1,100	-
	06/02/94	12,000	NA	NA	2,000	790	460	1,300	-
	09/09/94	13,000	NA	NA	1,800	660	440	1,000	-
	12/20/94	16,000	NA	NA	2,300	1,000	650	1,900	-
	03/08/95	16,000	NA	NA	2,200	1,000	550	2,100	-
	06/14/95	NS	NS	NS	NS	NS	NS	NS	-
	09/26/95	18,000	NA	NA	2,500	1,000	770	2,700	-
	12/27/95	NS	NS	NS	NS	NS	NS	NS	-
	03/26/96	33,000	NA	NA	4,200	2,600	1,000	5,000	-
	06/05/96	NS	NS	NS	NS	NS	NS	NS	-
	09/16/96	19,000	NA	NA	2,600	490	560	2,000	940
	12/02/96	NS	NS	NS	NS	NS	NS	NS	NS
	03/10/97	23,000	NA	NA	3,700	870	650	3,000	1,400
	06/12/97	NS	NS	NS	NS	NS	NS	NS	NS
	09/29/97	30,000	NA	NA	4,900	880	990	3,800	1,400
	12/01/97	NS	NS	NS	NS	NS	NS	NS	NS
	03/19/98	72,000	NA	NA	14,000	9,500	2,300	11,000	<1,500
	05/28/98	NS	NS	NS	NS	NS	NS	NS	NS
	08/31/98	29,000	NA	NA	4,900	1,600	960	3,900	890
	12/08/98	NS	NS	NS	NS	NS	NS	NS	NS
	02/17/99	26,000	NA	NA	5,200	930	1,200	4,400	640
	06/10/99	NS	NS	NS	NS	NS	NS	NS	NS
	09/07/99	32,000	NA	NA	5,700	600	1200	3,500	1,100
	12/13/99	NS	NS	NS	NS	NS	NS	NS	NS
	3/16/00	38,000	NA	NA	4,900	780	1,100	3,700	870
	6/12/00	NS	NS	NS	NS	NS	NS	NS	NS
	9/5/00	21,000	NA	NA	3,400	490	730	2,200	1,000
	11/13/00	NS	NS	NS	NS	NS	NS	NS	NS
	2/26/01	33,000	NA	NA	5,200	260	1,400	3,200	740

**Table 3**  
**Summary of Groundwater Analytical Results**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Sample Date	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-3	6/12/01	NS	NS	NS	NS	NS	NS	NS	NS
	9/21/01	63,000	NA	NA	4,400	180	1,000	2,000	730
	03/27/92	160	<50	<50	9.2	4.8	10	23	-
	06/04/92	120	<50	NA	7.5	2.7	0.5	15	-
	09/23/92	220	NA	NA	8.3	4.3	62	19	-
	11/12/92	230	NA	NA	12	5.5	77	19	-
	02/02/93	86	NA	NA	2.4	0.71	27	6.2	-
	05/07/93	140	NA	NA	2.6	1.2	39	8.4	-
	08/11/93	490	NA	NA	15	8.1	14	37	-
	11/05/93	820	NA	NA	45	24	34	93	-
	03/01/94	410	NA	NA	7.4	2.7	56	10	-
	06/02/94	440	NA	NA	13	4.9	14	31	-
	09/09/94	620	NA	NA	12	4.8	97	20	-
	12/20/94	770	NA	NA	24	11	16	36	-
	03/08/95	300	NA	NA	6.1	0.97	4.8	7.5	-
	06/14/95	NS	NS	NS	NS	NS	NS	NS	-
	09/26/95	130	NA	NA	4.8	1.6	4.8	9.4	-
	12/27/95	NS	NS	NS	NS	NS	NS	NS	-
	03/26/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	-
	06/05/96	NS	NS	NS	NS	NS	NS	NS	-
	09/16/96	170	NA	NA	10	2.9	44	15	<5.0
	12/02/96	NS	NS	NS	NS	NS	NS	NS	NS
	03/10/97	84	NA	NA	2.3	<0.50	14	2.6	<5.0
	06/12/97	NS	NS	NS	NS	NS	NS	NS	NS
	09/29/97	740	NA	NA	61	9.8	42	61	<5.0
	12/01/97	NS	NS	NS	NS	NS	NS	NS	NS
	03/19/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	05/28/98	NS	NS	NS	NS	NS	NS	NS	NS
	08/31/98	320	NA	NA	6.7	1.0	10	9.3	3.4
	12/08/98	NS	NS	NS	NS	NS	NS	NS	NS
	02/17/99	310	NA	NA	<5.0	8.6	1.8	13	14
	06/10/99	NS	NS	NS	NS	NS	NS	NS	NS
	09/07/99	99	NA	NA	4.2	0.51	4.0	3.0	<5.0
	12/13/99	NS	NS	NS	NS	NS	NS	NS	NS
	3/16/00	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	6/12/00	NS	NA	NA	NS	NS	NS	NS	NS
	9/5/00	240	NA	NA	3.0	0.53	9.6	4.0	<5.0
	11/13/00	NS	NA	NA	NS	NS	NS	NS	NS

**Table 3**  
**Summary of Groundwater Analytical Results**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Sample Date	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-4	2/26/01	100	NA	NA	0.84	<0.50	3.5	1.7	0.84
	6/12/01	NS	NS	NS	NS	NS	NS	NS	NS
	8/27/01 <sup>3</sup>	-	-	-	-	-	-	-	-
	05/18/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	08/11/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	11/05/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	03/01/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	06/02/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	09/09/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	12/20/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	03/08/95	NS	NS	NS	NS	NS	NS	NS	-
	06/14/95	NS	NS	NS	NS	NS	NS	NS	-
	09/26/95	NS	NS	NS	NS	NS	NS	NS	-
	12/27/95	NS	NS	NS	NS	NS	NS	NS	-
	03/26/96	NS	NS	NS	NS	NS	NS	NS	-
	06/05/96	NS	NS	NS	NS	NS	NS	NS	-
	09/16/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	12/02/96	NS	NS	NS	NS	NS	NS	NS	NS
	03/10/97	NS	NS	NS	NS	NS	NS	NS	NS
	06/12/97	NS	NS	NS	NS	NS	NS	NS	NS
	09/29/97	NS	NS	NS	NS	NS	NS	NS	NS
	12/01/97	NS	NS	NS	NS	NS	NS	NS	NS
	03/19/98	NS	NS	NS	NS	NS	NS	NS	NS
	05/28/98	NS	NS	NS	NS	NS	NS	NS	NS
	08/31/98	NS	NS	NS	NS	NS	NS	NS	NS
	12/08/98	NS	NS	NS	NS	NS	NS	NS	NS
	02/17/99	NS	NS	NS	NS	NS	NS	NS	NS
	06/10/99	NS	NS	NS	NS	NS	NS	NS	NS
	09/07/99	NS	NS	NS	NS	NS	NS	NS	NS
	12/13/99	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	3/16/00	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/00	NS	NS	NS	NS	NS	NS	NS	NS
	9/5/00	NS	NS	NS	NS	NS	NS	NS	NS
	11/13/00	NS	NS	NS	NS	NS	NS	NS	NS
	2/26/01	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/01	NS	NS	NS	NS	NS	NS	NS	-
	8/27/01 <sup>3</sup>	-	-	-	-	-	-	-	-
	05/18/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	08/11/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-

**Table 3**  
**Summary of Groundwater Analytical Results**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Sample Date	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
	11/05/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	03/01/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	06/02/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	09/09/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
MW-5 (cont.)	12/20/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	03/08/95	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	06/14/95	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	09/26/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	-
	12/27/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	-
	03/26/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	-
	06/05/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	15
	09/16/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	20
	12/02/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	12
	03/10/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	7.0
	06/12/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	7.2
	09/29/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	12/01/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	03/19/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	05/28/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	08/31/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	12/08/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	02/17/99	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	06/10/99	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	09/07/99	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	12/13/99	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
MW-6	3/16/00	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	6/12/00	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	9/5/00	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	11/13/00	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	2/26/01	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	6/12/01	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	8/27/01 <sup>3</sup>	-	-	-	-	-	-	-	-
	05/18/93	170	NA	NA	<0.5	<0.5	<0.5	<0.5	
	08/11/93	78	NA	NA	<0.5	<0.5	<0.5	<0.5	
	11/05/93	170	NA	NA	<0.5	<0.5	<0.5	<0.5	
	03/01/94	210	NA	NA	<0.5	<0.5	<0.5	<0.5	
	06/02/94	190	NA	NA	<0.5	<0.5	<0.5	<0.5	
	09/09/94	140	NA	NA	<0.5	<0.5	<0.5	<0.5	
	12/20/94	210	NA	NA	<0.5	<0.5	<0.5	<0.5	

**Table 3**  
**Summary of Groundwater Analytical Results**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Sample Date	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
	03/08/95	180 <sup>1</sup>	NA	NA	<0.5	<0.5	<0.5	<0.5	
	06/14/95	220 <sup>1</sup>	NA	NA	<0.5	<0.5	<0.5	<0.5	
	09/26/95	110 <sup>1</sup>	NA	NA	<0.50	<0.50	<0.50	<0.50	
	12/27/95	130 <sup>1</sup>	NA	NA	<0.50	<0.50	<0.50	<0.50	
	03/08/95	100 <sup>1</sup>	NA	NA	<0.50	<0.50	<0.50	<0.50	
MW-6 (cont.)	06/05/96	100 <sup>1</sup>	NA	NA	<0.50	<0.50	<0.50	<0.50	430
	09/16/96	170	NA	NA	<0.50	<0.50	<0.50	<0.50	430
	12/02/96	160	NA	NA	<0.50	<0.50	<0.50	<0.50	160
	03/10/97	140	NA	NA	<0.50	<0.50	<0.50	<0.50	390
	06/12/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	330
	09/29/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	130
	12/01/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	200
	03/19/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	240
	05/28/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	290
	08/31/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	290
	12/08/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	230
	02/17/99	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	200
	06/10/99	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	290
	09/07/99	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	230
	12/13/99	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	180
	3/16/00	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	260
	6/12/00	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	160
	9/5/00	<50	NA	NA	<0.50	0.50	<0.50	0.81	170
	11/13/00	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	190
	2/26/01	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	130
	6/12/01	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	96
MW-7	8/27/01 <sup>3</sup>	-	-	-	-	-	-	-	-
	05/18/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	
	08/11/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	
	11/05/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	
	03/01/94	60	NA	NA	<0.5	<0.5	<0.5	<0.5	
	06/02/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	
	09/09/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	
	12/20/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	
	03/08/95	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	
	06/14/95	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	
	09/26/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	
	12/27/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	

**Table 3**  
**Summary of Groundwater Analytical Results**  
**Former Beacon Station # 12574 - Castro Valley, California**

Well ID	Sample Date	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
	03/08/95	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	
	06/05/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	20
	09/16/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	26
	12/02/96	140	NA	NA	<0.50	<0.50	<0.50	<0.50	140
	03/10/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	29
	06/12/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	28
	09/29/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	27
MW-7 (cont.)	12/01/97	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	29
	03/19/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	6.0
	05/28/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	25
	08/31/98	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	20
MW-8	12/08/98 <sup>2</sup>								
	05/18/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	08/11/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	11/05/93	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	03/01/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	06/02/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	09/09/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	12/20/94	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	-
	03/08/95	NS	NS	NS	NS	NS	NS	NS	-
	06/14/95	NS	NS	NS	NS	NS	NS	NS	-
	09/26/95	NS	NS	NS	NS	NS	NS	NS	-
	12/27/95	NS	NS	NS	NS	NS	NS	NS	-
	03/08/95	NS	NS	NS	NS	NS	NS	NS	-
	06/05/96	NS	NS	NS	NS	NS	NS	NS	-
	09/16/96	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.0
	12/02/96	NS	NS	NS	NS	NS	NS	NS	NS
	03/10/97	NS	NS	NS	NS	NS	NS	NS	NS
	06/12/97	NS	NS	NS	NS	NS	NS	NS	NS
	09/29/97	NS	NS	NS	NS	NS	NS	NS	NS
	12/01/97	NS	NS	NS	NS	NS	NS	NS	NS
	03/19/98	NS	NS	NS	NS	NS	NS	NS	NS
	05/28/98	NS	NS	NS	NS	NS	NS	NS	NS
	08/31/98	NS	NS	NS	NS	NS	NS	NS	NS
	12/08/98 <sup>2</sup>								

Notes:

<: Below indicated detection limit.

NS : Not sampled.

NA: Not Analyzed.

**Table 3**  
**Summary of Groundwater Analytical Results**  
**Former Beacon Station # 12574 - Castro Valley, California**

**ATTACHMENT E**

**GEOTRACKER ELECTRONIC DATA DELIVERABLE**

**CONFIRMATION SHEETS**

STATE WATER RESOURCES CONTROL BOARD  
**GEOTRACKER ESI**

## SUCCESS

Processing is complete. No errors were found!  
Your file has been successfully submitted!

<u>Submittal Type:</u>	GEO_WELL
<u>Submittal Title:</u>	1574-Q311
<u>Facility Global ID:</u>	T0600100155
<u>Facility Name:</u>	BEACON #12574
<u>File Name:</u>	GEO_WELL.zip
<u>Organization Name:</u>	Horizon Environmental Inc.
<u>Username:</u>	HORIZON
<u>IP Address:</u>	69.12.226.3
<u>Submittal Date/Time:</u>	9/14/2011 2:23:01 PM
<u>Confirmation Number:</u>	4345410943

STATE WATER RESOURCES CONTROL BOARD  
**GEO TRACKER ESI**

## SUCCESS

Your GEO\_REPORT file has been successfully submitted!

<u>Submittal Type:</u>	GEO_REPORT
<u>Report Title:</u>	12574-SAMR-1Q11
<u>Report Type:</u>	Monitoring Report - Semi-Annually
<u>Report Date:</u>	4/28/2011
<u>Facility Global ID:</u>	T0600100155
<u>Facility Name:</u>	BEACON #12574
<u>File Name:</u>	12574-SAMR-1Q11.pdf
<u>Organization Name:</u>	Horizon Environmental Inc.
<u>Username:</u>	HORIZON
<u>IP Address:</u>	69.12.226.3
<u>Submittal Date/Time:</u>	4/28/2011 2:29:29 PM
<u>Confirmation Number:</u>	9910918474