KELLEHER & ASSOCIATES
Environmental Mgmt LLC

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October 28, 2008

Steven Plunkett
Alameda Country Health Care Services ("County")
1131 Harbor Bay Parkway, Suite 250
Alameda County, CA 94502-6577

LUFT Site: 900 Central Ave, Alameda (Site)
Re: Report Submittal – *Third Quarter 2008 Groundwater-Monitoring Results*, October 1, 2008.

Dear Mr. Plunkett:

On behalf of the parties contributing to the 900 Central Avenue Corrective Action Account, please find enclosed herewith a copy of the above-reference technical report prepared by RRM, Inc., Santa Cruz, CA (RRM). On behalf of the parties participating in site-remediation efforts, I declare under penalty of perjury that the information contained in the enclosed document is true and correct to the best of my knowledge.

The report covers the groundwater-monitoring event RRM conducted on September 4, 2008 during which they sounded, purged and sampled six monitoring wells and one recovery well. The groundwater-monitoring work was conducted pursuant to the directives set forth in County correspondence dated July 12, 2006 and January 9, 2007.

On the basis of the collective investigation findings, RRM has concluded that the extent of soil and groundwater contamination has been adequately defined. According to RRM, there is a 10 foot thick by 20 foot wide by 50 foot long zone of heavily impacted saturated soils (370 bank cubic yards) between 8 to 18 feet from grade extending southwest from the former tank area through the area of well MW-1. RRM has further concluded that the levels of gasoline contamination in this heavily impacted zone represent a secondary source area that will require active remediation by one of several approaches including remedial excavation or sparging-enhanced dual-phase extraction. Accordingly, RRM is recommending the conduct of appropriate feasibility studies to determine the optimal approach followed by the preparation of a formal corrective action plan. Specially, they are recommending the installation of an air-sparging well midway between wells RW-1 and MW-1 and the conduct of a one-day dual-extraction pilot test using a self-contained mobile unit. They are also recommending mapping all underground utilities that would potentially interfere with or complicate a remedial-excavation approach. If the County concurs with these recommendations, RRM will promptly prepare a concise feasibility study workplan. RRM is recommending that the dual extraction pilot test be conducted during low water table conditions ostensibly in the fourth quarter 2008.

We are in the process of making all the associated Geotracker and FTP uploads that are due in connection with this report. Thank you for your ongoing courtesy and cooperation.

Sincerely:

Brian T. Kelleher
Court consultant/project coordinator
Cc with enclosure: William Nagle, Esq., Special Master Mediator; Robert Bucciere, Esq., and Kim O'Dincel, Esq., Long & Levit counsel for Pearce Parties; Joe Ryan, Esq., Ryan & Lifter, counsel for Thompson Parties; Laurie Sherwood, Esq., Walsworth & Franklin et al counsel for Peterson Parties; Edward Martins, Esq., counsel for Ann Marie Holland and Estate of John Holland Sr.; Hal Reiland, counsel for Barbara Holland; Jack Holland Jr., c/o Mulholland Bros; cc cover letter only, Matt Kaempf, RRM

October 1, 2008
RRM Project # KCE514

900 Central Avenue Corrective Action Account
c/o Brian Kelleher
Kelleher & Associates
812 S. Winchester Blvd., Suite 130, #109
San Jose, CA 95128

Re: ***Third Quarter 2008 Groundwater Monitoring Results***
900 Central Avenue
Alameda, CA

Dear Mr. Kelleher:

This report, prepared by RRM, Inc. (RRM), presents the results of the third quarter 2008 groundwater monitoring event conducted on September 4, 2008, at the referenced site (Figure 1). Well specifications are summarized in Table 1 and groundwater elevation and analytical data are summarized in Table 2. A map of the site is shown on Figure 2, a groundwater elevation contour map is shown on Figure 3, and a gasoline range total petroleum hydrocarbon (TPHg) and benzene concentration map is shown on Figure 4. Previous remedial investigation work is summarized in Attachment A; field and analytical procedures are presented in Attachment B; and certified analytical reports, chain-of-custody, and field data sheets are presented in Attachment C.

SITE BACKGROUND

Site Description and History – The site is located on the southeast corner of Central Avenue and Ninth Street in Alameda, CA. In September 1975, the site operated as a Holland Oil Company retail gasoline station that consisted of a garage at the southwest corner, a pump island canopy in the northeast quadrant, three 550-gallon underground storage tanks (USTs) located beneath the sidewalk on Ninth Street, and a reported waste oil tank. According to Alameda Fire Department records, the original permit for the tanks was issued in 1931 to Mohawk Oil Company. A 1973 business directory lists the operator as EZ Pickings Gas and a 1975 directory as Holland Service Station No. 1. The tanks were removed by Holland Oil Company Inc., in September 1975.

In 1976 the property was sold to the Peterson family. In 1978, the Petersons sold the property to Gary Thompson dba Oak Construction. In October 1978 Oak Construction razed the gas station structures and constructed a residential duplex. The current owners, Karen and Gary Pearce, purchased the property in May 1985. The identification of subsurface contamination in 1994 instigated a lawsuit between the past and present owners. Due to the complexity of the lawsuit, William Nagle was appointed as Special Master in 1996 to help resolve the case. In 2003, Brian Kelleher of Kelleher &

Associates in San Jose, CA was appointed on behalf of the litigating parties to coordinate remedial response actions and associated cost recovery work.

The site is located three blocks east of downtown Alameda and approximately 3,000 feet northeast of Robert Crown Memorial State Beach and San Francisco Bay. The site is on gently sloping terrain approximately 25 feet above mean sea level. There is a man-made lagoon system approximately 1,000 feet south of the site.

The property is located in a mixed residential/commercial area. At the southwest corner of Central Avenue and Ninth Street, was a former church that has since been converted to a movie theater. The property to the northwest (841 Central Avenue) is reportedly the location of a former gas station that operated from approximately 1947 to 1969. Both former gas station properties and the remainder of the surrounding properties are currently residential.

Site Geology and Hydrogeology - Based on interpretation of historical boring logs, the site is underlain by sandy fill to a depth of approximately 3.5 feet. Fine sandy silt and poorly graded sand was encountered beneath the fill to approximately 26 feet below ground surface (bgs), the maximum depth explored. Groundwater was encountered in the borings between 12 and 13 feet bgs. From the two years of quarterly groundwater monitoring, depth to water seasonally ranged from 6 to 13 feet bgs and flow was toward the southwest *(Lowney, "Soil and Groundwater Quality Reconnaissance" July 20, 1994; and Allwest, "Subsurface Investigation Report," August 5, 1997, and quarterly monitoring reports for 1999 and 2002)*.

CURRENT GROUNDWATER MONITORING RESULTS

Groundwater Elevation, Flow Direction and Gradient

Groundwater elevations at monitoring wells MW-1 through MW-6 and RW-1 were calculated from depth to water data (Table 2). Groundwater elevations ranged from 14.69 feet above mean sea level (MSL) at well MW-4 to 15.36 feet above MSL at well MW-2. The groundwater flow direction is toward the west at a gradient of approximately of 0.01 foot/foot. Groundwater elevations have decreased approximately 2 feet since the June 2008 monitoring event, presumably due to the lack of precipitation between events; pronounced seasonal fluctuations in the shallow water table are typical at the site. A groundwater elevation contour for the September 4, 2008 event is shown on Figure 3.

Groundwater Analytical Data

Analytical data for groundwater samples collected from monitoring wells MW-1 through MW-6, and RW-1 are summarized in Table 2 and shown on Figure 4. TPHg was detected in wells MW-1 and RW-1 at concentrations of 66,000 parts per billion (ppb) and 17,000 ppb, respectively. Benzene was only detected in Well MW-1 at a concentration of 4,000 ppb. Analysis for MtBE and other fuel oxygenates has been discontinued, as these compounds have not been detected in groundwater at the site. It should be noted that the laboratory flagged the TPHg results for well RW-1; stating that although gasoline constituents are present, the reported value contains a portion of non-target hydrocarbons present within

the gasoline range. Certified analytical reports and chain-of-custody documentation are presented in Attachment C.

CONCLUSIONS

- Groundwater sample analytical data show that dissolved petroleum hydrocarbons extend from the former UST area to the southwest beneath Ninth Street. Dissolved petroleum hydrocarbons have been defined to non-detect levels by well MW-2 to the east (upgradient), by well MW-3 to the south (cross-gradient), and by wells MW-4 through 6 to the southwest (downgradient).
- Due to the heavy traffic along Central Avenue, it is considered impractical to install a monitoring well in the roadway to define dissolved petroleum hydrocarbons to the north (cross-gradient).
- As fuel oxygenates were not detected in any of the groundwater samples analyzed, the subsurface release likely occurred prior to the 1980s.
- The current and historic shallow groundwater flow direction is west to southwest when using the most recent well elevation survey data in conjunction with historic groundwater depth readings.
- Petroleum hydrocarbons in soil and groundwater have been adequately defined and characterized.
- Dissolved TPHg concentrations in wells RW-1 and MW-1 indicate the presence of residual contamination in the vicinity of the former USTs; these concentrations will likely continue to affect groundwater quality. In addition, the TPHg and/or benzene concentrations at these wells exceed current San Francisco Bay Region RWQCBs Environmental Screening Levels for the vapor intrusion/indoor air pathway for residential land use.

RECOMMENDATIONS

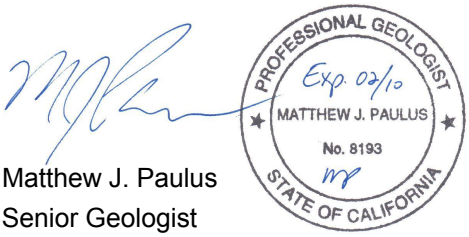
RRM recommends continued quarterly sampling and reporting for all site wells, and completion of the feasibility study proposed in the October 23, 2007, *Subsurface Investigation Results, Second and Third Quarter 2007 Groundwater Monitoring Results.* To date, a written or verbal approval from the Alameda County Health Care Services Agency to conduct the aforementioned feasibility study has not been received.

Should you have any questions regarding the contents of this report, please call RRM at (831) 475-8141.

Sincerely,

RRM, Inc.

Matt Kaempf
Project Manager



Matthew J. Paulus
Senior Geologist
PG 8193

Attachments: Table 1 – Well Specifications
Table 2 – Groundwater Elevation and Analytical Data
Figure 1 – Site Location Map
Figure 2 – Site Map
Figure 3 – Groundwater Elevation Contour Map, September 4, 2008
Figure 4 – TPHg/Benzene Groundwater Concentration Map, September 4, 2008
Attachment A – Summary of Prior Investigation Work
Attachment B – Field and Analytical Procedures
Attachment C – Certified Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets

Table 1
Well Specifications

900 Central Avenue
Alameda, California

Well	Total Depth (feet, bgs)	Casing Diameter (inch)	Screened Interval (feet, bgs)	Screen Length (feet)
MW-1	18	2	6 - 18	12
MW-2	19.5	2	6 - 19.5	13.5
MW-3	18	2	6 - 18	12
MW-4	18	2	6 - 18	12
MW-5	18	2	6 - 18	12
MW-6	18	2	6 - 18	12
RW-1	20	4	5 - 20	15

Notes:

bgs = below ground surface

Table 2
Groundwater Elevation and Analytical Data

900 Central Avenue
Alameda, California

Sample ID	Date Gauged & Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MtBE (ppb)	TPHd (ppb)	TPHmo (ppb)	Notes
Monitoring Wells													
MW-1	11/27/98	25.17	11.77	13.40	360	5.8	5.5	9.2	40	<5.0	<50	<500	
	03/12/99		6.59	18.58	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	06/01/99		8.71	16.46	930	<0.50	19	52	230	<5.0	540	<500	
	09/03/99		11.79	13.38	14,000	300	1,900	890	5,600	<5.0	2,100	<500	
	03/29/02		8.32	16.85	<50	<0.50	<0.50	<0.50	<0.50	<0.50	61	<610	
	07/15/02		11.39	13.78	39,000	1,700	2,900	1,800	7,800	<10	4,200	<5000	
	10/03/02		12.88	12.29	42,000	2,600	3,300	1,800	10,000	<500	8,400	<2500	
	02/05/07		10.40	14.77	26,000	2,550	2,010	1,140	4,870	<0.5	NA	NA	1
	05/04/07		9.77	15.40	28,000	2,080	1,820	739	5,500	NA	NA	NA	1
	08/23/07	28.27	12.23	16.04	56,700	2,570	2,370	1,120	9,560	<11	NA	NA	1,3
	11/28/07		12.94	15.33	51,700	3,160	3,270	1,050	9,250	<11.0	NA	NA	1,3
	02/28/08		8.10	20.17	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	4
	06/03/08		11.40	16.87	11,000	1,060	2,080	784	4,370	NA	NA	NA	1,5
	09/04/08		**13.23**	**15.04**	**66,000**	**4,000**	**5,410**	**62.0**	**11,700**	**NA**	**NA**	**NA**	**1**
MW-2	11/27/98	25.12	11.76	13.41	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	03/12/99		6.53	18.64	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	06/01/99		8.56	16.61	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	09/03/99		11.60	13.57	<50	<0.50	<0.50	<0.50	1.8	<5.0	<50	<500	
	03/29/02		8.10	17.07	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	07/15/02		10.92	14.25	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	10/03/02		DRY	--	NS	NS	NS	NS	NS	NS	NS	NS	
	02/05/07		10.15	15.02	89	<0.5	<0.5	<0.5	<1.50	<0.5	NA	NA	1,2
	05/04/07		9.43	15.74	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	08/23/07	28.31	11.94	16.37	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	11/28/07		12.67	15.64	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	02/28/08		7.89	20.42	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	4
	06/03/08		11.07	17.24	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	1
	09/04/08		**12.95**	**15.36**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**1**

Table 2
Groundwater Elevation and Analytical Data

900 Central Avenue
Alameda, California

Sample ID	Date Gauged & Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MtBE (ppb)	TPHd (ppb)	TPHmo (ppb)	Notes
MW-3	11/27/98	24.58	11.41	13.76	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	03/12/99		6.01	19.16	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	06/01/99		8.16	17.01	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	09/03/99		11.27	13.90	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	03/29/02		7.78	17.39	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<50	<500	
	07/15/02		10.82	14.35	<50	<0.50	<0.50	<0.50	<0.50	<0.50	110	<500	
	10/03/02		12.28	12.89	<50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<500	
	02/05/07		9.85	15.32	<50	<0.5	<0.5	<0.5	<1.50	<0.5	NA	NA	1
	05/04/07		9.19	15.98	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	08/23/07	27.69	11.63	16.06	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	11/28/07		12.31	15.38	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	02/28/08		7.46	20.23	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	4
	06/03/08		10.82	16.87	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	1
	09/04/08		**12.62**	**15.07**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**1**
MW-4	08/23/07	27.37	11.73	15.64	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	11/28/07		12.43	14.94	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	02/28/08		7.81	19.56	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	4
	06/03/08		10.99	16.38	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	1
	09/04/08		**12.68**	**14.69**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**1**
MW-5	08/23/07	27.25	11.56	15.69	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	11/28/07		12.29	14.96	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	02/28/08		7.55	19.70	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	4
	06/03/08		10.84	16.41	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	1
	09/04/08		**12.53**	**14.72**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**1**
MW-6	08/23/07	27.24	11.52	15.72	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	11/28/07		12.24	15.00	<50	<0.500	<0.500	<0.500	<1.50	<0.500	NA	NA	1
	02/28/08		7.43	19.81	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	4
	06/03/08		10.81	16.43	<50	<0.5	<0.5	<0.5	<1.5	NA	NA	NA	1
	09/04/08		**12.51**	**14.73**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**1**

Table 2
Groundwater Elevation and Analytical Data

900 Central Avenue
Alameda, California

Sample ID	Date Gauged & Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOC)	Groundwater Elevation (feet, MSL)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MtBE (ppb)	TPHd (ppb)	TPHmo (ppb)	Notes
RW-1	08/23/07	27.43	11.23	16.20	16,000	<4.40	38.9	571	2,660	<4.40	NA	NA	1,3
	11/28/07		11.97	15.46	24,400	4.75	110	915	3,980	<4.40	NA	NA	1,3
	02/28/08		7.22	20.21	10,100	<0.5	40.3	256	1,430	NA	NA	NA	1,3
	06/03/08		10.41	17.02	40,000	<4.40	120	1,100	8,810	NA	NA	NA	1, 5
	09/04/08		**12.25**	**15.18**	**17,000**	**<4.40**	**41.1**	**640**	**3,290**	**NA**	**NA**	**NA**	**1, 5**
Grab Groundwater Samples													
P-1-W	06/30/97	NA	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	
P-2-W	06/30/97	NA	NA	NA	290	2.4	2.1	1.4	3.1	NA	<100	<1,000	
P-3-W	06/30/97	NA	NA	NA	92,000	190	5,000	4,600	24,000	NA	<100	<1,000	
P-4-W	06/30/97	NA	NA	NA	17,000	610	720	940	3,800	NA	<100	<1,000	
P-5-W	06/30/97	NA	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	
P-6-W	06/30/97	NA	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	
P-7-W	06/30/97	NA	NA	NA	66	2.3	6.5	0.8	4.7	NA	NA	NA	
P-8-W	06/30/97	NA	NA	NA	51	1.7	5.1	0.55	2.4	NA	NA	NA	

Notes:

MSL = relative to mean sea level
MtBE = Methyl tert-Butyl Ether
TOC = top of casing
ppb = parts per billion (micrograms per liter)
TPHg = gasoline range total petroleum hydrocarbons
< = none detected at or above reported detection limit
TPHd = diesel range total petroleum hydrocarbons
NS = not sampled
TPHmo = motor oil range total petroleum hydrocarbons
NA = not analyzed
TBA = tert-Butanol

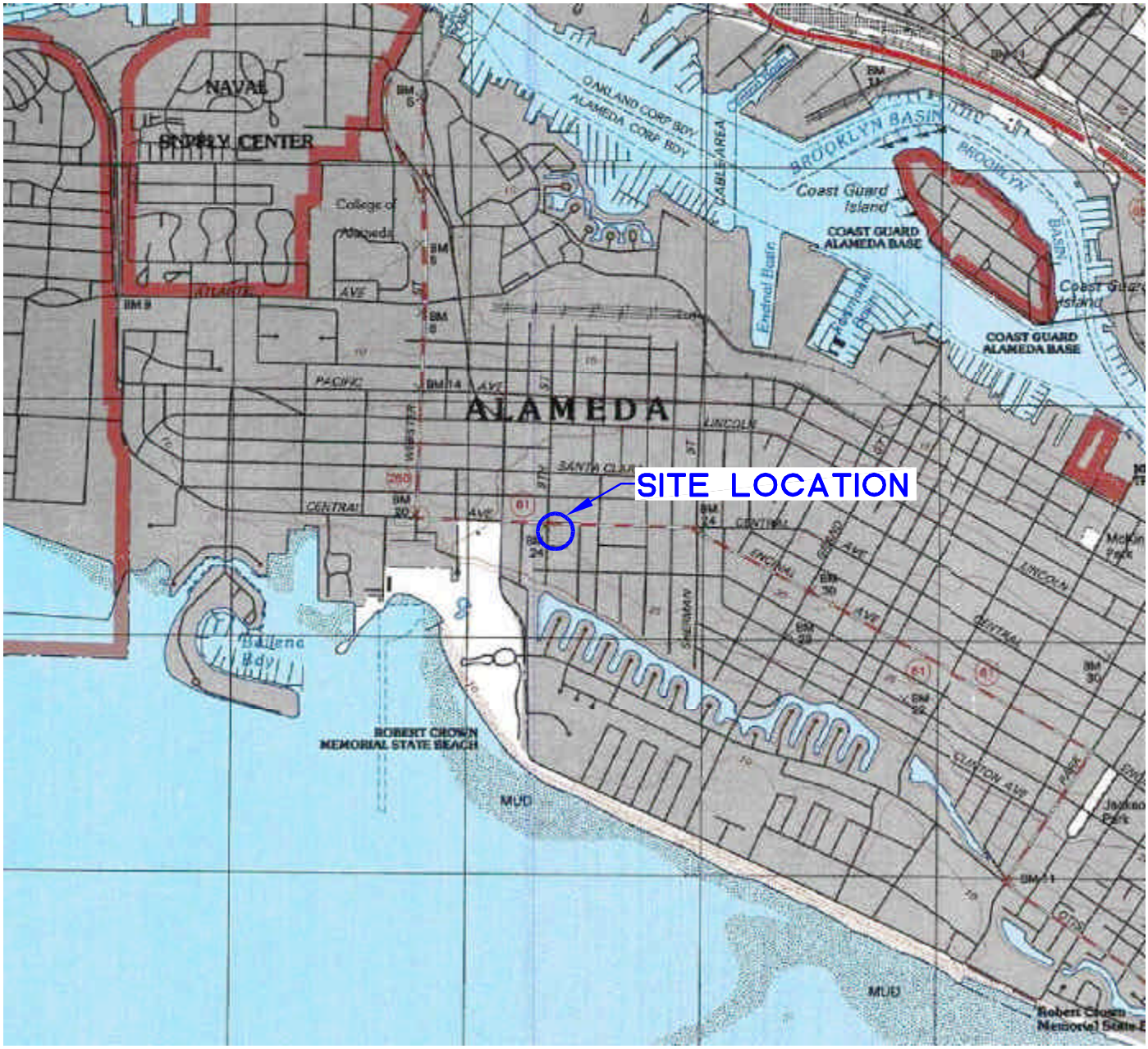
1 = also sampled for the fuel oxygenates ethyl tert-butyl ether (ETBE), isopropyl ether (DIPE), t-butyl alcohol (t-butanol) (TBA), and tert-amyl methyl ether (TAME); none of these compounds detected above the laboratory limit.

2 = the laboratory reported value due to discrete peaks present within the TPH as gasoline quantitation range (heavy end); not typical gasoline.

3 = the laboratory reported results are elevated due to non-target compounds within the gasoline range

4 = also sampled for the fuel oxygenates ethyl tert-butyl ether (ETBE), t-butyl alcohol (t-butanol) (TBA), and tert-amyl methyl ether (TAME); none of these compounds detected above the laboratory limit.

5 = laboratory noted that although TPH as gasoline constituents are present, TPH value includes a significant portion of non-target hydrocarbons present within gasoline range.



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SCALE IN FEET

0 2,000

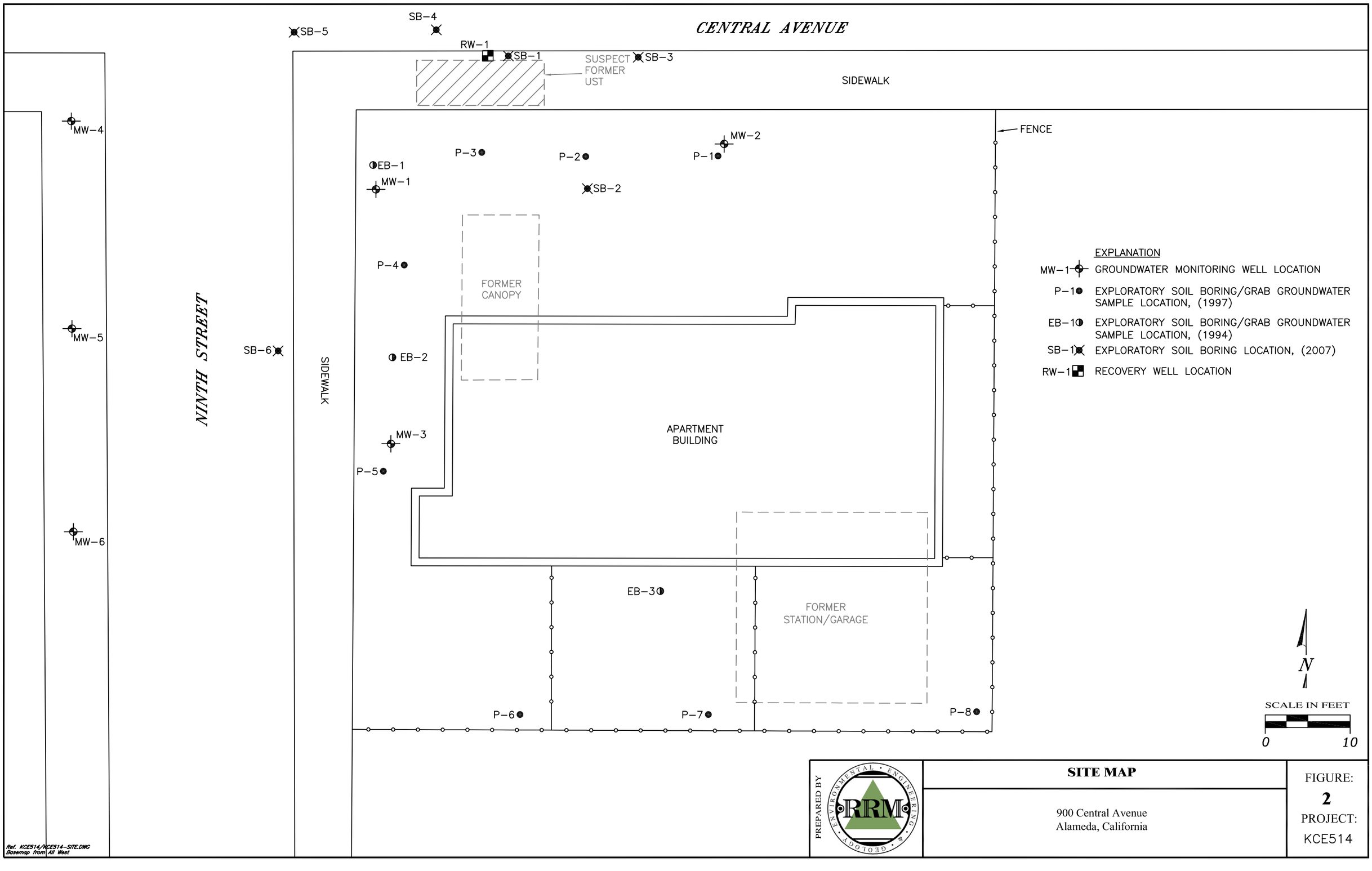
Ref. KCE514/KCE514-SLM.DWG
Base Map from TOPO!© NGH

PREPARED BY

SITE LOCATION MAP

900Central Avenue
Alameda, California

FIGURE:
1
PROJECT:
KCE514



Ref. KCE514/KCE514-SITE.DWG
Basemap from All West

PREPARED BY ENVIRONMENTAL • ENGINEERING & GEOLOGY RRM

SITE MAP

900 Central Avenue
Alameda, California

FIGURE:
2
PROJECT:
KCE514

CENTRAL AVENUE

SB-4
(15.18)
RW-1
SB-1
SB-5
SB-3
SUSPECT FORMER UST
SIDEWALK
FENCE
MW-4
(14.69)
MW-2
(15.36)
P-3
P-2
P-1
EB-1
MW-1
(15.04)
SB-2
P-4
0.01
FORMER CANOPY
MW-5
(14.72)
SB-6
EB-2
NINTH STREET
SIDEWALK
15.25
APARTMENT BUILDING
MW-3
(15.07)
P-5
15.00
MW-6
(14.75)
14.75
EB-3
FORMER STATION/GARAGE
P-6
P-7
P-8

EXPLANATION

MW-1 GROUNDWATER MONITORING WELL LOCATION

P-1 EXPLORATORY SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION, (1997)

EB-1 EXPLORATORY SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION, (1994)

SB-1 EXPLORATORY SOIL BORING LOCATION, (2007)

RW-1 RECOVERY WELL LOCATION

(15.36) GROUNDWATER ELEVATION, FT/MSL

15.25 GROUNDWATER ELEVATION CONTOUR, FT/MSL

0.01 APPROXIMATE GROUNDWATER FLOW DIRECTION; APPROXIMATE GRADIENT = 0.01 FT/FT

N

SCALE IN FEET

0 10

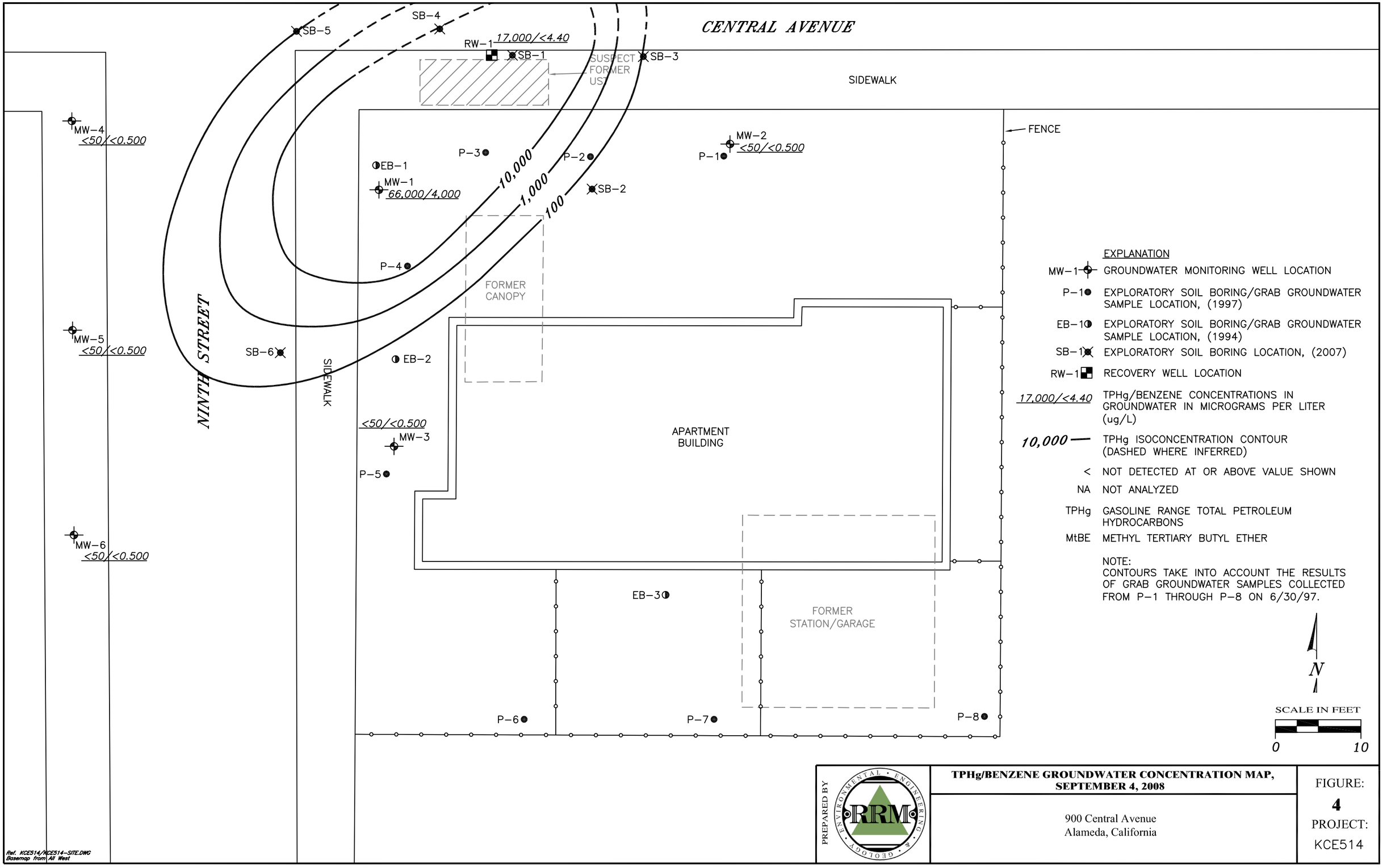
Ref. KCE514/KCE514-SITE.DWG
Basemap from All West

PREPARED BY ENVIRONMENTAL ENGINEERING & GEOLOGY RRM

GROUNDWATER ELEVATION CONTOUR MAP, SEPTEMBER 4, 2008

900 Central Avenue
Alameda, California

FIGURE:
3
PROJECT:
KCE514



Ref. KCE514/KCE514-SITE.DWG
Basemap from All West

PREPARED BY

TPHg/BENZENE GROUNDWATER CONCENTRATION MAP, SEPTEMBER 4, 2008

900 Central Avenue
Alameda, California

FIGURE:
4
PROJECT:
KCE514

A

SUMMARY OF PRIOR INVESTIGATION WORK

ATTACHMENT A
SUMMARY OF PRIOR INVESTIGATION WORK

Historic Remedial Investigations and Groundwater Monitoring

April 1994 Subsurface Investigations - Lowney Associates (Lowney) of Mountain View, CA conducted a site history review that included historic Sanborn maps and aerial photos and completed a subsurface investigation. During the investigation, three bore holes (EB-1 through EB-3) were completed to 20 feet bgs in and around the incorrectly presumed location of the former USTs and pump island; soil samples were collected at 5-foot intervals, geologic logs were prepared; grab groundwater samples were collected from each boring; all groundwater and select soil samples (15 to 16-foot interval) were analyzed for motor oil range total petroleum hydrocarbons (TPHmo), diesel range TPH (TPHd), gasoline range TPH (TPHg), benzene, toluene, ethyl benzene, and xylenes (collectively BTEX); and a leachability test was conducted on the soil sample collected from Boring EB-1. TPHg and benzene were detected in the soil sample collected from EB-1 at 95 parts per million (ppm) and 400 parts per billion (ppb) respectively. In the grab groundwater sample from EB-1, TPHg and benzene were detected at 76,000 ppb and 2,200 ppb respectively *(Lowney Associates, "Soil and Groundwater Quality Reconnaissance" July 20, 1994).*

June 1997 Subsurface Investigations and RBCA Analyses - Allwest Environmental Inc. (Allwest) of San Francisco, CA conducted a file review to assess potential on-site and off-site sources of subsurface contamination. They also advanced eight geoprobe-type soil borings (P-1 through P-8) to 16 feet bgs in and around the presumed location of the former USTs and pump island; collected soil samples at 5-foot intervals and field-tested the samples for total volatile hydrocarbons with an organic vapor analyzer (OVA); prepared geologic logs; collected grab groundwater samples from each boring; and analyzed 31 soil samples and eight groundwater samples for TPHg and BTEX. They reported discolored/odorous soils at 10 to 12 feet bgs in borings P-2 through P-4. TPHg was detected at 4,600 ppm in the soil sample collected at 14.5 feet bgs from Boring P-3. TPHg was detected in five of the eight grab groundwater samples with the highest concentration of 92,000 ppb at Boring P-3. Tier 1 and Tier 2 risk-based corrective-action evaluations were conducted using ASTM methodology. On the basis of the results Allwest concluded that there were no significant human health risks and no need for active remediation (*Allwest, "Subsurface Investigation Report," August 5, 1997).*

November 1998 Well Installations and Sampling – Allwest advanced three bore holes to 18 feet bgs at the northeast quadrant of the site; collected soil samples at 5-foot intervals and field tested the samples for TVH using a field OVA; prepared geologic logs; converted the borings to 2-inch diameter monitoring wells (MW-1 through MW-3) and developed, surveyed, sounded, purged and sampled the wells; and analyzed three groundwater samples for TPHg and BTEX. The depth to groundwater was approximately

12 feet bgs. TPHg and benzene was detected only in the sample from MW-1 at 360 ppb and 5.8 ppb respectively. The well installation report included a recommendation to monitor the wells quarterly for one year. This recommendation was approved by the County (*Allwest "Groundwater Monitoring Well Installation and Sampling" February 2, 1999).*

1999-Quarterly Groundwater Monitoring – From March through September 1999, Allwest conducted three quarterly groundwater monitoring events during which they sounded purged and sampled the three wells. The samples were analyzed for TPHmo, TPHd, and TPHg, and BTEX. Depth to groundwater ranged seasonally from approximately 6 to 12 feet bgs. TPHg was only detected in MW-1 at concentrations ranging from less than 50 ppb to 14,000 ppb. Based on the results, Allwest recommended conducting a risk assessment (*Allwest "Quarterly Groundwater Monitoring Reports" with the following dates: March 3, 1999; July 2, 1999; and October 14, 1999).*

2002-Quarterly Groundwater Monitoring– From March through December 2002, Allwest conducted four quarterly groundwater monitoring events during which they sounded, purged, and sampled the three wells. The samples were analyzed for TPHmo, TPHd, TPHg, and BTEX. Depth to groundwater ranged from approximately 8 to 13 feet bgs. TPHg was only detected in MW-1 at concentrations ranging from less than 50 ppb to 42,000 ppb; Methyl tert-Butyl Ether (MtBE) was not detected (*Allwest "Quarterly Groundwater Monitoring Reports" with the following dates: June 26, 2002; August 8, 2002; October 25, 2002; and "2002 Annual Groundwater Monitoring & Risk Assessment Report," January 31, 2003).*

2003-Production Well Survey, Conceptual Model and Risk Assessment – In December 2002, Allwest reviewed agency files to locate nearby water production wells and identified four irrigation wells and one monitoring well within approximately 500 feet of the site. They prepared a site conceptual model consisting of a 3-dimensional drawing showing known areas of subsurface contamination and potential sensitive receptors. They performed a cursory risk assessment using risk-based screening levels (RBSLs) set forth in published Regional Water Quality Control Board (RWQCB) lookup tables. Based on the risk assessment, Allwest concluded that the levels of TPHg and benzene in groundwater at MW- posed a possible risk to nearby residences via the vapor intrusion pathway. (*Allwest: "2002 Annual Groundwater Monitoring & Risk Assessment Report," January 31, 2003)*.

B

FIELD AND ANALYTICAL PROCEDURES

ATTACHMENT B
FIELD AND ANALYTICAL PROCEDURES

Groundwater Sampling

Groundwater sampling procedures consisted of initially measuring and documenting the water level in the well and checking the well for the presence of separate-phase hydrocarbon (SPH) using an oil/water interface probe or a clear Teflon bailer. If the well did not contain SPH, it was purged a minimum of three casing volumes or until dry. During purging, well stabilization parameters (temperature, pH, and electrical conductivity) were monitored. After 80% recovery of the water levels, a groundwater sample was collected with a clean Teflon bailer and placed into the appropriate EPA-approved containers. Sampling equipment was cleaned with tri-sodium phosphate between uses. The samples were labeled and transported under iced storage to the laboratory using appropriate chain-of-custody documentation.

Laboratory Analytical Procedures

Select soil and all groundwater samples collected from new and existing wells were analyzed in the laboratory for the presence of gasoline range total petroleum hydrocarbons; benzene, toluene, ethylbenzene, and total xylenes using GC/MS and EPA Methods 8260B, 8015B, and 8021B. Select groundwater samples were analyzed for other oxygenates including: ethyl tertiary butyl ether, tertiary butanol, diisopropyl ether, and tertiary amyl methyl ether using EPA Method 8260B.

C

CERTIFIED ANALYTICAL REPORTS, CHAIN-OF-CUSTODY DOCUMENTATION, AND FIELD DATA SHEETS

Torrent
LABORATORY, INC.

September 12, 2008

Matt Kaempf
Remediation Risk Management, Inc.
2560 Soquel Ave, Suite 202
Santa Cruz, CA 95062

TEL: (831) 475-8141
FAX (831)475-8249

RE: KCE514

Order No.: 0809014

Dear Matt Kaempf:

Torrent Laboratory, Inc. received 7 samples on 9/4/2008 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.
Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

Laboratory Director 9/12/08 Date

Patti Sandrock
QA Officer

TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at www.torrentlab.com email: analysis@torrentlab.com

Report prepared for: Matt Kaempf
Remediation Risk Management, Inc.

Date Received: 9/4/2008
Date Reported: 9/12/2008

Client Sample ID: MW-1
Sample Location: KCE514
Sample Matrix: GROUNDWATER
Date/Time Sampled 9/4/2008 1:00:00 PM

Lab Sample ID: 0809014-001
Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	9/10/2008	0.5	88	44.0	4000	µg/L	R17270
Diisopropyl ether (DIPE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethyl tert-butyl ether (ETBE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethylbenzene	SW8260B	9/5/2008	0.5	1	0.500	62.0	µg/L	A17221
t-Butyl alcohol (t-Butanol)	SW8260B	9/5/2008	10	1	10.0	ND	µg/L	A17221
tert-Amyl methyl ether (TAME)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Toluene	SW8260B	9/10/2008	0.5	88	44.0	5410	µg/L	R17270
Xylenes, Total	SW8260B	9/10/2008	1.5	88	132	11700	µg/L	R17270
Surr: Dibromofluoromethane	SW8260B	9/10/2008	0	88	61.2-131	120	%REC	R17270
Surr: Dibromofluoromethane	SW8260B	9/5/2008	0	1	61.2-131	94.6	%REC	A17221
Surr: 4-Bromofluorobenzene	SW8260B	9/10/2008	0	88	64.1-120	120	%REC	R17270
Surr: 4-Bromofluorobenzene	SW8260B	9/5/2008	0	1	64.1-120	102	%REC	A17221
Surr: Toluene-d8	SW8260B	9/10/2008	0	88	75.1-127	121	%REC	R17270
Surr: Toluene-d8	SW8260B	9/5/2008	0	1	75.1-127	103	%REC	A17221
TPH (Gasoline)	SW8260B(TPH)	9/10/2008	50	88	4400	66000	µg/L	G17270
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	9/10/2008	0	88	58.4-133	97.8	%REC	G17270

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Matt Kaempf
Remediation Risk Management, Inc.

Date Received: 9/4/2008
Date Reported: 9/12/2008

Client Sample ID: MW-2
Sample Location: KCE514
Sample Matrix: GROUNDWATER
Date/Time Sampled 9/4/2008 12:15:00 PM

Lab Sample ID: 0809014-002
Date Prepared: 9/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Diisopropyl ether (DIPE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethyl tert-butyl ether (ETBE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethylbenzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
t-Butyl alcohol (t-Butanol)	SW8260B	9/5/2008	10	1	10.0	ND	µg/L	A17221
tert-Amyl methyl ether (TAME)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Toluene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Xylenes, Total	SW8260B	9/5/2008	1.5	1	1.50	ND	µg/L	A17221
Surr: Dibromofluoromethane	SW8260B	9/5/2008	0	1	61.2-131	86.1	%REC	A17221
Surr: 4-Bromofluorobenzene	SW8260B	9/5/2008	0	1	64.1-120	119	%REC	A17221
Surr: Toluene-d8	SW8260B	9/5/2008	0	1	75.1-127	114	%REC	A17221
TPH (Gasoline)	SW8260B(TPH)	9/5/2008	50	1	50	ND	µg/L	B17221
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	9/5/2008	0	1	58.4-133	66.6	%REC	B17221

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Matt Kaempf
Remediation Risk Management, Inc.

Date Received: 9/4/2008
Date Reported: 9/12/2008

Client Sample ID: MW-3
Sample Location: KCE514
Sample Matrix: GROUNDWATER
Date/Time Sampled 9/4/2008 11:55:00 AM

Lab Sample ID: 0809014-003
Date Prepared: 9/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Diisopropyl ether (DIPE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethyl tert-butyl ether (ETBE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethylbenzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
t-Butyl alcohol (t-Butanol)	SW8260B	9/5/2008	10	1	10.0	ND	µg/L	A17221
tert-Amyl methyl ether (TAME)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Toluene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Xylenes, Total	SW8260B	9/5/2008	1.5	1	1.50	ND	µg/L	A17221
Surr: Dibromofluoromethane	SW8260B	9/5/2008	0	1	61.2-131	92.3	%REC	A17221
Surr: 4-Bromofluorobenzene	SW8260B	9/5/2008	0	1	64.1-120	110	%REC	A17221
Surr: Toluene-d8	SW8260B	9/5/2008	0	1	75.1-127	108	%REC	A17221
TPH (Gasoline)	SW8260B(TPH)	9/5/2008	50	1	50	ND	µg/L	B17221
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	9/5/2008	0	1	58.4-133	62.5	%REC	B17221

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Matt Kaempf
Remediation Risk Management, Inc.

Date Received: 9/4/2008
Date Reported: 9/12/2008

Client Sample ID: MW-4
Sample Location: KCE514
Sample Matrix: GROUNDWATER
Date/Time Sampled 9/4/2008 11:35:00 AM

Lab Sample ID: 0809014-004
Date Prepared: 9/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Diisopropyl ether (DIPE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethyl tert-butyl ether (ETBE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethylbenzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
t-Butyl alcohol (t-Butanol)	SW8260B	9/5/2008	10	1	10.0	ND	µg/L	A17221
tert-Amyl methyl ether (TAME)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Toluene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Xylenes, Total	SW8260B	9/5/2008	1.5	1	1.50	ND	µg/L	A17221
Surr: Dibromofluoromethane	SW8260B	9/5/2008	0	1	61.2-131	125	%REC	A17221
Surr: 4-Bromofluorobenzene	SW8260B	9/5/2008	0	1	64.1-120	107	%REC	A17221
Surr: Toluene-d8	SW8260B	9/5/2008	0	1	75.1-127	112	%REC	A17221
TPH (Gasoline)	SW8260B(TPH)	9/10/2008	50	1	50	ND	µg/L	G17270
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	9/10/2008	0	1	58.4-133	101	%REC	G17270

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Matt Kaempf
Remediation Risk Management, Inc.

Date Received: 9/4/2008
Date Reported: 9/12/2008

Client Sample ID: MW-5
Sample Location: KCE514
Sample Matrix: GROUNDWATER
Date/Time Sampled 9/4/2008 11:20:00 AM

Lab Sample ID: 0809014-005
Date Prepared: 9/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Diisopropyl ether (DIPE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethyl tert-butyl ether (ETBE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethylbenzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
t-Butyl alcohol (t-Butanol)	SW8260B	9/5/2008	10	1	10.0	ND	µg/L	A17221
tert-Amyl methyl ether (TAME)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Toluene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Xylenes, Total	SW8260B	9/5/2008	1.5	1	1.50	ND	µg/L	A17221
Surr: Dibromofluoromethane	SW8260B	9/5/2008	0	1	61.2-131	115	%REC	A17221
Surr: 4-Bromofluorobenzene	SW8260B	9/5/2008	0	1	64.1-120	117	%REC	A17221
Surr: Toluene-d8	SW8260B	9/5/2008	0	1	75.1-127	115	%REC	A17221
TPH (Gasoline)	SW8260B(TPH)	9/10/2008	50	1	50	ND	µg/L	G17270
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	9/10/2008	0	1	58.4-133	98.8	%REC	G17270

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Matt Kaempf
Remediation Risk Management, Inc.

Date Received: 9/4/2008
Date Reported: 9/12/2008

Client Sample ID: MW-6
Sample Location: KCE514
Sample Matrix: GROUNDWATER
Date/Time Sampled 9/4/2008 11:00:00 AM

Lab Sample ID: 0809014-006
Date Prepared: 9/5/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Diisopropyl ether (DIPE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethyl tert-butyl ether (ETBE)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Ethylbenzene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
t-Butyl alcohol (t-Butanol)	SW8260B	9/5/2008	10	1	10.0	ND	µg/L	A17221
tert-Amyl methyl ether (TAME)	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Toluene	SW8260B	9/5/2008	0.5	1	0.500	ND	µg/L	A17221
Xylenes, Total	SW8260B	9/5/2008	1.5	1	1.50	ND	µg/L	A17221
Surr: Dibromofluoromethane	SW8260B	9/5/2008	0	1	61.2-131	118	%REC	A17221
Surr: 4-Bromofluorobenzene	SW8260B	9/5/2008	0	1	64.1-120	118	%REC	A17221
Surr: Toluene-d8	SW8260B	9/5/2008	0	1	75.1-127	109	%REC	A17221
TPH (Gasoline)	SW8260B(TPH)	9/10/2008	50	1	50	ND	µg/L	G17270
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	9/10/2008	0	1	58.4-133	90.4	%REC	G17270

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Report prepared for: Matt Kaempf
Remediation Risk Management, Inc.

Date Received: 9/4/2008
Date Reported: 9/12/2008

Client Sample ID: RW-1
Sample Location: KCE514
Sample Matrix: GROUNDWATER
Date/Time Sampled 9/4/2008 12:40:00 PM

Lab Sample ID: 0809014-007
Date Prepared: 9/6/2008

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	9/6/2008	0.5	8.8	4.40	ND	µg/L	A17221
Diisopropyl ether (DIPE)	SW8260B	9/6/2008	0.5	8.8	4.40	ND	µg/L	A17221
Ethyl tert-butyl ether (ETBE)	SW8260B	9/6/2008	0.5	8.8	4.40	ND	µg/L	A17221
Ethylbenzene	SW8260B	9/6/2008	0.5	8.8	4.40	640	µg/L	A17221
t-Butyl alcohol (t-Butanol)	SW8260B	9/6/2008	10	8.8	88.0	ND	µg/L	A17221
tert-Amyl methyl ether (TAME)	SW8260B	9/6/2008	0.5	8.8	4.40	ND	µg/L	A17221
Toluene	SW8260B	9/6/2008	0.5	8.8	4.40	41.1	µg/L	A17221
Xylenes, Total	SW8260B	9/6/2008	1.5	44	66.0	3290	µg/L	A17221
Surr: Dibromofluoromethane	SW8260B	9/6/2008	0	8.8	61.2-131	112	%REC	A17221
Surr: Dibromofluoromethane	SW8260B	9/6/2008	0	44	61.2-131	91.4	%REC	A17221
Surr: 4-Bromofluorobenzene	SW8260B	9/6/2008	0	8.8	64.1-120	114	%REC	A17221
Surr: 4-Bromofluorobenzene	SW8260B	9/6/2008	0	44	64.1-120	114	%REC	A17221
Surr: Toluene-d8	SW8260B	9/6/2008	0	8.8	75.1-127	116	%REC	A17221
Surr: Toluene-d8	SW8260B	9/6/2008	0	44	75.1-127	108	%REC	A17221
TPH (Gasoline)	SW8260B(TPH)	9/10/2008	50	22	1100	17000	µg/L	G17270
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	9/10/2008	0	22	58.4-133	96.6	%REC	G17270

Note: Although TPH as Gasoline constituents are present, TPH value includes a portion of non-gasoline compounds within gasoline quantitative range.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Definitions, legends and Notes

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
a	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

CLIENT: Remediation Risk Management, Inc.
Work Order: 0809014
Project: KCE514

ANALYTICAL QC SUMMARY REPORT

BatchID: A17221

Sample ID **MB_A17221**	SampType: **MBLK**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **9/4/2008**	RunNo: **17221**
Client ID: **ZZZZZ**	Batch ID: **A17221**	TestNo: **SW8260B**		Analysis Date: **9/4/2008**	SeqNo: **247066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.500									
Diisopropyl ether (DIPE)	ND	0.500									
Ethyl tert-butyl ether (ETBE)	ND	0.500									
Ethylbenzene	ND	0.500									
t-Butyl alcohol (t-Butanol)	ND	5.00									
tert-Amyl methyl ether (TAME)	ND	0.500									
Toluene	ND	0.500									
Xylenes, Total	ND	1.50									
Surr: Dibromofluoromethane	12.94	0	11.36	0	114	61.2	131				
Surr: 4-Bromofluorobenzene	12.54	0	11.36	0	110	64.1	120				
Surr: Toluene-d8	13.14	0	11.36	0	116	75.1	127				

Sample ID **LCS_A17221**	SampType: **LCS**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **9/4/2008**	RunNo: **17221**
Client ID: **ZZZZZ**	Batch ID: **A17221**	TestNo: **SW8260B**		Analysis Date: **9/4/2008**	SeqNo: **247067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	17.10	0.500	17.04	0	100	66.9	140				
Toluene	16.55	0.500	17.04	0	97.1	76.6	123				
Surr: Dibromofluoromethane	9.500	0	11.36	0	83.6	61.2	131				
Surr: 4-Bromofluorobenzene	11.27	0	11.36	0	99.2	64.1	120				
Surr: Toluene-d8	12.99	0	11.36	0	114	75.1	127				

Sample ID **LCSD_A17221**	SampType: **LCSD**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **9/5/2008**	RunNo: **17221**
Client ID: **ZZZZZ**	Batch ID: **A17221**	TestNo: **SW8260B**		Analysis Date: **9/5/2008**	SeqNo: **247068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	17.25	0.500	17.04	0	101	66.9	140	17.1	0.873	20	
Toluene	17.29	0.500	17.04	0	101	76.6	123	16.55	4.37	20	
Surr: Dibromofluoromethane	11.81	0	11.36	0	104	61.2	131	0	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: Remediation Risk Management, Inc.
Work Order: 0809014
Project: KCE514

ANALYTICAL QC SUMMARY REPORT

BatchID: A17221

Sample ID **LCSD_A17221**	SampType: **LCSD**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **9/5/2008**	RunNo: **17221**
Client ID: **ZZZZZ**	Batch ID: **A17221**	TestNo: **SW8260B**		Analysis Date: **9/5/2008**	SeqNo: **247068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	12.08	0	11.36	0	106	64.1	120	0	0	0	
Surr: Toluene-d8	12.37	0	11.36	0	109	75.1	127	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Remediation Risk Management, Inc.
Work Order: 0809014
Project: KCE514

ANALYTICAL QC SUMMARY REPORT

BatchID: B17221

Sample ID **MB_B17221**	SampType: **MBLK**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **9/4/2008**	RunNo: **17221**
Client ID: **ZZZZZ**	Batch ID: **B17221**	TestNo: **SW8260B(TP**		Analysis Date: **9/4/2008**	SeqNo: **247078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	50									
Surr: 4-Bromofllurobenzene	6.660	0	11.36	0	58.6	58.4	133				

Sample ID **LCS_B17221**	SampType: **LCS**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **9/3/2008**	RunNo: **17221**
Client ID: **ZZZZZ**	Batch ID: **B17221**	TestNo: **SW8260B(TP**		Analysis Date: **9/3/2008**	SeqNo: **247079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	185.0	50	227	0	81.5	52.4	127				
Surr: 4-Bromofllurobenzene	7.920	0	11.36	0	69.7	58.4	133				

Sample ID **LCSD_B17221**	SampType: **LCSD**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **9/5/2008**	RunNo: **17221**
Client ID: **ZZZZZ**	Batch ID: **B17221**	TestNo: **SW8260B(TP**		Analysis Date: **9/5/2008**	SeqNo: **247080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	190.0	50	227	0	83.7	52.4	127	185	2.67	20	
Surr: 4-Bromofllurobenzene	7.260	0	11.36	0	63.9	58.4	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Remediation Risk Management, Inc.
Work Order: 0809014
Project: KCE514

ANALYTICAL QC SUMMARY REPORT

BatchID: G17270

Sample ID **MB_G17270**	SampType: **MBLK**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **9/10/2008**	RunNo: **17270**
Client ID: **ZZZZZ**	Batch ID: **G17270**	TestNo: **SW8260B(TP**		Analysis Date: **9/10/2008**	SeqNo: **247323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	50									
Surr: 4-Bromofllurobenzene	11.08	0	11.36	0	97.5	58.4	133				

Sample ID **LCS_G17270**	SampType: **LCS**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **9/10/2008**	RunNo: **17270**
Client ID: **ZZZZZ**	Batch ID: **G17270**	TestNo: **SW8260B(TP**		Analysis Date: **9/10/2008**	SeqNo: **247324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	220.0	50	227	28	84.6	52.4	127				
Surr: 4-Bromofllurobenzene	11.69	0	11.36	0	103	58.4	133				

Sample ID **LCSD_G17270**	SampType: **LCSD**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **9/10/2008**	RunNo: **17270**
Client ID: **ZZZZZ**	Batch ID: **G17270**	TestNo: **SW8260B(TP**		Analysis Date: **9/10/2008**	SeqNo: **247325**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	226.0	50	227	28	87.2	52.4	127	220	2.69	20	
Surr: 4-Bromofllurobenzene	11.33	0	11.36	0	99.7	58.4	133	0	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Remediation Risk Management, Inc.
Work Order: 0809014
Project: KCE514

ANALYTICAL QC SUMMARY REPORT

BatchID: R17270

Sample ID **MB_R17270**	SampType: **MBLK**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **9/10/2008**	RunNo: **17270**
Client ID: **ZZZZZ**	Batch ID: **R17270**	TestNo: **SW8260B**		Analysis Date: **9/10/2008**	SeqNo: **247317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.500									
Diisopropyl ether (DIPE)	ND	0.500									
Ethyl tert-butyl ether (ETBE)	ND	0.500									
Ethylbenzene	ND	0.500									
t-Butyl alcohol (t-Butanol)	ND	5.00									
tert-Amyl methyl ether (TAME)	ND	0.500									
Toluene	ND	0.500									
Xylenes, Total	ND	1.50									
Surr: Dibromofluoromethane	12.46	0	11.36	0	110	61.2	131				
Surr: 4-Bromofluorobenzene	12.51	0	11.36	0	110	64.1	120				
Surr: Toluene-d8	12.71	0	11.36	0	112	75.1	127				

Sample ID **LCS_R17270**	SampType: **LCS**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **9/9/2008**	RunNo: **17270**
Client ID: **ZZZZZ**	Batch ID: **R17270**	TestNo: **SW8260B**		Analysis Date: **9/9/2008**	SeqNo: **247318**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.64	0.500	17.04	0	115	66.9	140				
Toluene	18.54	0.500	17.04	0	109	76.6	123				
Surr: Dibromofluoromethane	12.61	0	11.36	0	111	61.2	131				
Surr: 4-Bromofluorobenzene	13.38	0	11.36	0	118	64.1	120				
Surr: Toluene-d8	10.81	0	11.36	0	95.2	75.1	127				

Sample ID **LCSD_R17270**	SampType: **LCSD**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **9/10/2008**	RunNo: **17270**
Client ID: **ZZZZZ**	Batch ID: **R17270**	TestNo: **SW8260B**		Analysis Date: **9/10/2008**	SeqNo: **247319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.79	0.500	17.04	0	110	66.9	140	19.64	4.42	20	
Toluene	17.50	0.500	17.04	0	103	76.6	123	18.54	5.77	20	
Surr: Dibromofluoromethane	13.04	0	11.36	0	115	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	12.95	0	11.36	0	114	64.1	120	0	0	0	
Surr: Toluene-d8	11.25	0	11.36	0	99.0	75.1	127	0	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Torrent LABORATORY, INC.

483 Sinclair Frontage Road
Milpitas, CA 95035
Phone: 408.263.5258
FAX: 408.263.8293
www.torrentlab.com

CHAIN OF CUSTODY

• NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY •

LAB WORK ORDER NO: 0809014

Company Name: RRM, Inc.
Address: 2560 Soquel Ave. #202
City: Santa Cruz State: CA Zip Code: 95062
Telephone: 8314758141 FAX: 831 475 8249
REPORT TO: Matt Kaempf SAMPLER: Will B.

Location of Sampling: KCE514
Purpose: GWM
Special Instructions / Comments: * no MTBE
EDF - GlobalID: T0600102089
P.O. #:
EMAIL: matt@rrmsc.com & labdata@rrmsc.com

TURNAROUND TIME:
- ☐ 10 Work Days
- ☐ 3 Work Days
- ☐ Noon - Nxt Day
- ☐ 7 Work Days
- ☐ 2 Work Days
- ☐ 2 - 8 Hours
- ☒ 5 Work Days STD
- ☐ 1 Work Day
- ☐ Other

SAMPLE TYPE:
- ☐ Storm Water
- ☐ Air
- ☐ Waste Water
- ☐ Other
- ☒ Ground Water
- ☐ Soil

REPORT FORMAT:
- ☐ QC Level IV
- ☒ EDF
- ☐ Excel / EDD

ANALYSIS REQUESTED

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	EPA 8260B - Full List / EPA 8260B - 8010 List	THP gas ☒ BTEX ☒ Oxygenates ☐ MTBE	THP Diesel ☐ Si-Gel ☐ Motor Oil	Pesticide - 8081	PCB - 8082	Metals ☐ CAM - 17 ☐ LUFT 5 ☐ 7 Metals	8270 Full List ☐ PAHs Only			REMARKS
001A	MW-1	090408/1300	GW	3	HCL Voas		X								
002A	MW-2	1215													
003A	MW-3	1155													
004A	MW-4	1135													
005A	MW-5	1120													
006A	MW-6	1100													
007A	RW-1	1240													

	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:
1	[signature]	Will Bachar RRM,	090408	4:00 pm	[signature]		9/4/08	4:00 pm
2								

Were Samples Received in Good Condition? ☒ Yes ☐ NO Samples on Ice? ☐ Yes ☒ NO Method of Shipment: Delivered Sample seals intact? ☒ Yes ☐ NO ☐ N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrangements are made.

Page 1 of 1

Log In By: NO Date: 9/5 Log In Reviewed By: Date:

TORRENT LAB

Field Data Sheet

Depth to Water Data Form

RRM ENVIRONMENTAL ENGINEERING GEOLOGY

2560 Soquel Ave. #202
Santa Cruz, CA 95062
(831) 475-8141

Site Information

900 Central Ave.	090408	KCE514
Project Address	Date	Project Number
Alameda	Alameda	California
City	County	State

Water Level Equipment

- [x] Electronic Indicator
- [ ] Oil Water Interface Probe
- [ ] Other (specify) _____

Measured By: WC
name

Notes: _____

DTW Order	Well ID	Time (24:00)	Total Depth	First DTW (toc or tob)	Total Depth (toc or tob)	Depth to SPH (toc or tob)	SPH Thickness (toc or tob)	Notes (describe SPH):
#7	MW-1	1024	18.73'	13.23				
#5	MW-2	1019	18.40'	12.95				
#4	MW-3	1016	18.70'	12.62				
#3	MW-4	1013	17.95'	12.68				
#2	MW-5	1011	17.95'	12.53				
#1	MW-6	1008	17.10'	12.51				
#6	RW-1	1021	19.05'	12.25				4" Well

Signature: _____

Field Data Sheet

Groundwater Sampling Form

RRM Environmental Engineering & Geology
2560 Soquel Ave. #202
Santa Cruz, CA 95062
(831) 475-8141

Site Information

900 Central Ave. (Project Address)		MW-1 (Well/Sample Point ID)	KCE514 (Project Number)
Alameda (City)	Alameda (County)	California (State)	

Purge Information

Water Level Equipment
- [x] Electronic Indicator
- [ ] Oil Water Interface Probe
- [ ] Other (specify) _____

Purge Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Other (specify) _____

Purge Calculation

total depth =	18.73
depth to water -	13.23
linear feet of water =	5.50
gallons per linear foot X	.17
gallons per casing =	0.94
number of casings X	3
calculated purge =	2.80

casing diameter		gallons per linear foot
0.75 in.	[ ]	0.023
1 in.	[ ]	0.04
2 in.	[x]	0.17
4 in.	[ ]	0.67
6 in.	[ ]	1.5
other	[ ]	calculate

1 cubic foot = 7.48 gallons

Purged By: _____ (name)

Purge Notes: _____

Purged Dry?: N circle Y Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle °C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1243	0						
volume 1	1245	1.00	7.90	350	18.5	brown	hvy	strong
volume 2	1247	2.00	7.82	346	17.9	"	"	"
volume 3	1249	3.00	7.66	356	17.6	"	"	"
volume 4								
complete								

brown, yellow cloudy, clear | heavy, moderate light, trace | strong, moderate slight, none

Groundwater Sampling Information

Sample Type
- [x] Monitoring Well
- [ ] Extraction Well
- [ ] Domestic Well
- [ ] Other (specify) _____

Sampling Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Sampling Port
- [ ] Other (specify) _____

Sample ID	Date	Time (24:00)
MW-1	090408	1300
Dupe # ___	_____	12:00

Sampled By: _____ (name)

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B)	40 ml VOA	HCl
	[x] BTEX (8260B)		
	[x] Fuel Oxys, no MtBE (8270)		
	[ ] MtBE (8270)		
	[ ] Other (specify) _____		
	[ ] VOCs (8010 or 8240 or 8260B)	40 ml VOA	HCl
	[ ] TPH diesel (8015M)	1 liter amber	none
	[ ] Metals (8010)	500 ml plastic	HNO_3
	[ ] Other (specify) _____	_____	_____

Sampling Notes: _____

Signature: _____

Field Data Sheet

Groundwater Sampling Form

2560 Soquel Ave. #202
Santa Cruz, CA 95062
(831) 475-8141

Site Information

900 Central Ave.	MW-2	KCE514
Project Address	Well/Sample Point ID	Project Number

Alameda	Alameda	California
City	County	State

Purge Information

Water Level Equipment
- [x] Electronic Indicator
- [ ] Oil Water Interface Probe
- [ ] Other (specify) _____

Purge Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Other (specify) _____

Purge Calculation

total depth =	18.40
depth to water -	12.95
linear feet of water =	5.45
gallons per linear foot X	.17
gallons per casing =	0.93
number of casings X	3
calculated purge =	2.78

casing diameter		gallons per linear foot
0.75 in.	[ ]	0.023
1 in.	[ ]	0.04
2 in.	[x]	0.17
4 in.	[ ]	0.67
6 in.	[ ]	1.5
other	[ ]	calculate

1 cubic foot = 7.48 gallons

Purged By: WD
name

Purge Notes:

Purged Dry?: N circle Y Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle °C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1158	0						
volume 1	1200	1.00	7.67	154	19.0	brown	hvy	none
volume 2	1202	2.00	7.68	142	18.3	"	"	"
volume 3	1204	3.00	7.68	144	17.8	"	"	"
volume 4								
complete								

brown, yellow cloudy, clear | heavy, moderate light, trace | strong, moderate slight, none

Groundwater Sampling Information

Sample Type
- [x] Monitoring Well
- [ ] Extraction Well
- [ ] Domestic Well
- [ ] Other (specify) _____

Sampling Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Sampling Port
- [ ] Other (specify) _____

Sample ID	Date	Time (24:00)
MW-2	090408	1215
Dupe # ___		12:00

Sampled By: WD
name

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B)	40 ml VOA	HCl
	[x] BTEX (8260B)		
	[x] Fuel Oxys, no MtBE (8270)		
	[ ] MtBE (8270)		
	[ ] Other (specify) _____		
	[ ] VOCs (8010 or 8240 or 8260B)	40 ml VOA	HCl
	[ ] TPH diesel (8015M)	1 liter amber	none
	[ ] Metals (8010)	500 ml plastic	HNO_3
	[ ] Other (specify) _____	_____	_____

Sampling Notes:

Signature: [signature]

Field Data Sheet

Groundwater Sampling Form

2560 Soquel Ave. #202
Santa Cruz, CA 95062
(831) 475-8141

Site Information

900 Central Ave. (Project Address)		MW-3 (Well/Sample Point ID)	KCE514 (Project Number)
Alameda (City)	Alameda (County)	California (State)	

Purge Information

Water Level Equipment
- [x] Electronic Indicator
- [ ] Oil Water Interface Probe
- [ ] Other (specify) _____

Purge Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Other (specify) _____

Purge Calculation

total depth =	18.70
depth to water -	12.62
linear feet of water =	6.08
gallons per linear foot X	.17
gallons per casing =	1.03
number of casings X	3
calculated purge =	3.10

casing diameter		gallons per linear foot
0.75 in.	[ ]	0.023
1 in.	[ ]	0.04
2 in.	[x]	0.17
4 in.	[ ]	0.67
6 in.	[ ]	1.5
other	[ ]	calculate

1 cubic foot = 7.48 gallons

Purged By: [signature] (name)

Purge Notes:

Purged Dry?: N circle Y

Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle °C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1138	0						
volume 1	1140	1.00	8.62	169	20.0	brown	hvy	none
volume 2	1143	2.25	8.32	171	18.7	"	"	"
volume 3	1146	3.25	8.25	172	18.5	"	"	"
volume 4								
complete								

brown, yellow cloudy, clear | heavy, moderate light, trace | strong, moderate slight, none

Groundwater Sampling Information

Sample Type
- [x] Monitoring Well
- [ ] Extraction Well
- [ ] Domestic Well
- [ ] Other (specify) _____

Sampling Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Sampling Port
- [ ] Other (specify) _____

Sample ID	Date	Time (24:00)
MW-3	090408	1155
Dupe # ___	_____	12:00

Sampled By: [signature] (name)

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B)	40 ml VOA	HCl
	[x] BTEX (8260B)		
	[x] Fuel Oxys, no MtBE (8270)		
	[ ] MtBE (8270)		
	[ ] Other (specify) _____		
	[ ] VOCs (8010 or 8240 or 8260B)	40 ml VOA	HCl
	[ ] TPH diesel (8015M)	1 liter amber	none
	[ ] Metals (8010)	500 ml plastic	HNO_3
	[ ] Other (specify) _____		

Sampling Notes:

Signature: [signature]

Field Data Sheet

Groundwater Sampling Form

RRM Environmental Engineering & Geology
2560 Soquel Ave. #202
Santa Cruz, CA 95062
(831) 475-8141

Site Information

Project Address	Well/Sample Point ID	Project Number
900 Central Ave.	MW-4	KCE514

City	County	State
Alameda	Alameda	California

Purge Information

Water Level Equipment
- [x] Electronic Indicator
- [ ] Oil Water Interface Probe
- [ ] Other (specify) _____

Purge Equipment
- [x] Bailer [x] Disposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Other (specify) _____

Purge Calculation

total depth =	17.95
depth to water -	12.68
linear feet of water =	5.27
gallons per linear foot X	.17
gallons per casing =	0.90
number of casings X	3
calculated purge =	2.69

casing diameter		gallons per linear foot
0.75 in.	[ ]	0.023
1 in.	[ ]	0.04
2 in.	[x]	0.17
4 in.	[ ]	0.67
6 in.	[ ]	1.5
other	[ ]	calculate

1 cubic foot = 7.48 gallons

Purged By: _____ name

Purge Notes:

Purged Dry?: N circle Y Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (µs @ 25° C)	temp (°F circle °C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1122	0						
volume 1	1124	1.00	8.56	194	19.2	brown	hvy	none
volume 2	1127	2.00	8.61	189	19.7	"	"	"
volume 3	—	—	—	—				
volume 4								
complete								

brown, yellow cloudy, clear | heavy, moderate light, trace | strong, moderate slight, none

Groundwater Sampling Information

Sample Type
- [x] Monitoring Well
- [ ] Extraction Well
- [ ] Domestic Well
- [ ] Other (specify) _____

Sampling Equipment
- [x] Bailer [x] Disposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Sampling Port
- [ ] Other (specify) _____

Sample ID	Date	Time (24:00)
MW-4	090408	1135
Dupe # ___		12:00

Sampled By: _____ name

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B)	40 ml VOA	HCl
	[x] BTEX (8260B)		
	[x] Fuel Oxys, no MtBE (8270)		
	[ ] MtBE (8270)		
	[ ] Other (specify) _____		
	[ ] VOCs (8010 or 8240 or 8260B)	40 ml VOA	HCl
	[ ] TPH diesel (8015M)	1 liter amber	none
	[ ] Metals (8010)	500 ml plastic	HNO_3
	[ ] Other (specify) _____	_____	_____

Sampling Notes:

Signature: _____

Field Data Sheet

Groundwater Sampling Form

2560 Soquel Ave. #202
Santa Cruz, CA 95062
(831) 475-8141

Site Information

900 Central Ave. (Project Address)		MW-5 (Well/Sample Point ID)	KCE514 (Project Number)
Alameda (City)	Alameda (County)	California (State)	

Purge Information

Water Level Equipment
- [x] Electronic Indicator
- [ ] Oil Water Interface Probe
- [ ] Other (specify) _____

Purge Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Other (specify) _____

Purged By: WD (name)

Purge Calculation

total depth =	17.95
depth to water -	12.53
linear feet of water =	5.42
gallons per linear foot X	.17
gallons per casing =	0.92
number of casings X	3
calculated purge =	2.76

casing diameter		gallons per linear foot
0.75 in.	[ ]	0.023
1 in.	[ ]	0.04
2 in.	[x]	0.17
4 in.	[ ]	0.67
6 in.	[ ]	1.5
other	[ ]	calculate

1 cubic foot = 7.48 gallons

Purge Notes:

Purged Dry?: N circle Y Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle °C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1102	0						
volume 1	1105	1.00	8.69	211	20.1	brown	hvy	non
volume 2	1108	2.00	8.50	194	19.5	"	"	"
volume 3	—	—	—	—				
volume 4								
complete								

brown, yellow / cloudy, clear — heavy, moderate / light, trace — strong, moderate / slight, none

Groundwater Sampling Information

Sample Type
- [x] Monitoring Well
- [ ] Extraction Well
- [ ] Domestic Well
- [ ] Other (specify) _____

Sampling Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Sampling Port
- [ ] Other (specify) _____

Sample ID	Date	Time (24:00)
MW-5	090406	1120
Dupe # ___		12:00

Sampled By: WD (name)

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B)	40 ml VOA	HCl
	[x] BTEX (8260B)		
	[x] Fuel Oxys, no MtBE (8270)		
	[ ] MtBE (8270)		
	[ ] Other (specify) _____		
	[ ] VOCs (8010 or 8240 or 8260B)	40 ml VOA	HCl
	[ ] TPH diesel (8015M)	1 liter amber	none
	[ ] Metals (8010)	500 ml plastic	HNO_3
	[ ] Other (specify) _____	_____	_____

Sampling Notes:

Signature: _____

Field Data Sheet

Groundwater Sampling Form

2560 Soquel Ave. #202
Santa Cruz, CA 95062
(831) 475-8141

Site Information

900 Central Ave. (Project Address)		MW-6 (Well/Sample Point ID)	KCE514 (Project Number)
Alameda (City)	Alameda (County)	California (State)	

Purge Information

Water Level Equipment
- [x] Electronic Indicator
- [ ] Oil Water Interface Probe
- [ ] Other (specify) _____

Purge Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Other (specify) _____

Purge Calculation

total depth =	17.10
depth to water -	12.51
linear feet of water =	4.59
gallons per linear foot X	.17
gallons per casing =	0.78
number of casings X	3
calculated purge =	2.34

casing diameter		gallons per linear foot
0.75 in.	[ ]	0.023
1 in.	[ ]	0.04
2 in.	[x]	0.17
4 in.	[ ]	0.67
6 in.	[ ]	1.5
other	[ ]	calculate

1 cubic foot = 7.48 gallons

Purged By: WG (name)

Purge Notes:

Purged Dry?: N circle Y Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle °C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1040	0						
volume 1	1043	0.75	8.37	271	20.7	brown	hvy	none
volume 2	1046	1.50	8.25	225	19.9	"	"	"
volume 3	1049	2.50	8.13	213	19.9	"	"	"
volume 4								
complete								

brown, yellow cloudy, clear | heavy, moderate light, trace | strong, moderate slight, none

Groundwater Sampling Information

Sample Type
- [x] Monitoring Well
- [ ] Extraction Well
- [ ] Domestic Well
- [ ] Other (specify) _____

Sampling Equipment
- [x] Bailer [x] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Sampling Port
- [ ] Other (specify) _____

Sample ID	Date	Time (24:00)
MW-6	090408	1100
Dupe # ___		12:00

Sampled By: WG (name)

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B)	40 ml VOA	HCl
	[x] BTEX (8260B)		
	[x] Fuel Oxys, no MtBE (8270)		
	[ ] MtBE (8270)		
	[ ] Other (specify) _____		
	[ ] VOCs (8010 or 8240 or 8260B)	40 ml VOA	HCl
	[ ] TPH diesel (8015M)	1 liter amber	none
	[ ] Metals (8010)	500 ml plastic	HNO_3
	[ ] Other (specify) _____	_____	_____

Sampling Notes:

Signature: _____

Field Data Sheet

Groundwater Sampling Form

2560 Soquel Ave. #202
Santa Cruz, CA 95062
(831) 475-8141

Site Information

Project Address: 900 Central Ave.		Well/Sample Point ID: RW-1	Project Number: KCE514
City: Alameda	County: Alameda		State: California

Purge Information

Water Level Equipment
- [x] Electronic Indicator
- [ ] Oil Water Interface Probe
- [ ] Other (specify) ______

Purge Equipment
- [x] Bailer
- [x] Diposable
- [ ] Teflon #: ___
- [x] ~~Submersible Pump; type:~~ ______
- [ ] Other (specify) ______

Purge Calculation

total depth =	19.05
depth to water -	12.25
linear feet of water =	6.80
gallons per linear foot X	.67
gallons per casing =	4.56
number of casings X	3
calculated purge =	13.67

casing diameter		gallons per linear foot
0.75 in.	[ ]	0.023
1 in.	[ ]	0.04
2 in.	[ ]	0.17
4 in.	[x]	0.67
6 in.	[ ]	1.5
other	[ ]	calculate
1 cubic foot = 7.48 gallons		

Purged By: [signature]
name

Purge Notes:

Purged Dry?: N circle Y

Sampling Delay?: N circle Y

	time (24:00)	gallons (purged)	pH (units)	EC (us @ 25° C)	temp (°F circle °C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1218	0						
volume 1	1223	4.50	8.04	223	20.0	gray	hvy	strong.
volume 2	1226	9.00	7.91	205	18.7	"	"	"
volume 3	1229	13.75	7.78	212	18.3	"	"	"
volume 4								
complete								
						brown, yellow cloudy, clear	heavy, moderate light, trace	strong, moderate slight, none

Groundwater Sampling Information

Sample Type
- [x] Monitoring Well
- [ ] Extraction Well
- [ ] Domestic Well
- [ ] Other (specify) ______

Sampling Equipment
- [x] Bailer
- [x] Diposable
- [ ] Teflon #: ___
- [ ] Submersible Pump; type: ______
- [ ] Sampling Port
- [ ] Other (specify) ______

Sample ID	Date	Time (24:00)
RW-1	090408	1240
Dupe # ____		12:00

Sampled By: [signature]
name

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B) [x] BTEX (8260B) [x] Fuel Oxys, no MtBE (8270) [ ] MtBE (8270) [ ] Other (specify) ______	40 ml VOA	HCl
	[ ] VOCs (8010 or 8240 or 8260B)	40 ml VOA	HCl
	[ ] TPH diesel (8015M)	1 liter amber	none
	[ ] Metals (8010)	500 ml plastic	HNO_3
	[ ] Other (specify) ______	______	______

Sampling Notes:

Signature: [signature]