KELLEHER & ASSOCIATES
Environmental Mgmt LLC

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June 19, 2009

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 – *First Quarter 2009 Groundwater-Monitoring and Utility Survey Results*, April 30, 2009.

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 February 9, 2009 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. RRM also conducted a utility survey during the first quarter 2009 as part of ongoing feasibility studies, the results of which are presented on Figure 2 of the report.

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 30 foot wide by 60 foot long zone of heavily impacted saturated soils (670 bank cubic yards) between 7 to 17 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, sparging-enhanced dual-phase extraction, or in-situ chemical oxidation.

In view of these conclusions, RRM had recommended the conduct of appropriate feasibility studies to determine the optimal remedial approach followed by the preparation of a formal corrective action plan. Specially, they recommended 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 had also recommended mapping all underground utilities that would potentially interfere with or complicate remedial strategies.

Based on the results of the utility survey and other factors of concern to the stake holders in the project, RRM is no longer recommending that a dual extraction pilot test be conducted, and has commenced work on a CAP document. We anticipate submitting this document for County review by the end of June 2009.

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: Kim Dincel, Esq., Hines, Smith et al, counsel for Pearce Parties; Gail Ward, Senior Claims Specialist, Safeco, for Thompson 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 Kacmpf, RRM

April 30, 2009
RRM Project # KCE514

900 Central Avenue Corrective Action Account
c/o Mr. Brian Kelleher
Kelleher & Associates
5655 Silver Creek Valley Road PMB 281
San Jose, CA 95138

Re: ***First Quarter 2009 Groundwater Monitoring and Utility Survey Results***
900 Central Avenue
Alameda, CA

Dear Mr. Kelleher:

This report, prepared by RRM, Inc. (RRM), presents the results of the first quarter 2009 groundwater monitoring event conducted on February 9, 2009, at the referenced site (Figure 1). Well specifications are summarized in Table 1 and groundwater elevation and analytical data are summarized in Table 2. An extended site plan 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.

Also during the first quarter 2009, RRM conducted a utility survey as part of ongoing feasibility study work. The results are presented in Figure 2.

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 initial 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 14.07 feet above mean sea level (MSL) at well MW-4 to 14.81 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 remained relatively stable since the November 2008 monitoring event; however, pronounced seasonal fluctuations in the shallow water table are typical at the site. A groundwater elevation contour for the February 9, 2009 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 73,000 parts per billion (ppb) and 20,000 ppb, respectively. Benzene was only detected in Well MW-1 at a concentration of 3,190 ppb. Analysis for MtBE and other fuel oxygenates has been discontinued, as these compounds have not been detected in groundwater at the site. All groundwater samples were also analyzed for 1,2-dibromoethane and 1,2-dichloroethane, as requested in the December 8, 2008, Alameda County Health Care Services (County) letter. None of the compounds were detected in any groundwater samples; therefore, analysis for these compounds will not

be continued. 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 low and/or 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 provided recommendations for remedial action feasibility testing at the site in the *Response to Technical Comments* letter dated January 21, 2009. However, based on additional review of site conditions and discussions with site stakeholders, RRM is currently preparing a Corrective Action Plan for the site that will fully respond to concerns the County raised in its January 21, 2009 correspondence.

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

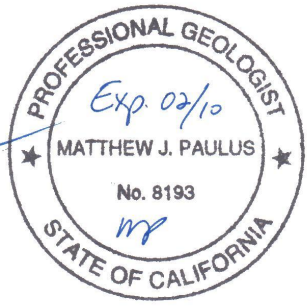
Sincerely,

RRM, Inc.

for:

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 – Extended Site Map
Figure 3 – Groundwater Elevation Contour Map, February 9, 2009
Figure 4 – TPHg/Benzene Groundwater Concentration Map, February 9, 2009

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	<0.500	<0.500	<0.500	<1.50	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
	11/06/08		13.76	14.51	100,000	2,870	5,160	1,720	13,800	NA	NA	NA	
	02/09/09		**13.76**	**14.51**	**73,000**	**3,190**	**4,250**	**2,410**	**16,800**	**NA**	**NA**	**NA**	**7**
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	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	4
	06/03/08		11.07	17.24	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	09/04/08		12.95	15.36	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	11/06/08		13.52	14.79	52	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	3
	02/09/09		**13.50**	**14.81**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**7**

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	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	4
	06/03/08		10.82	16.87	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	09/04/08		12.62	15.07	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	11/06/08		13.20	14.49	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	
	02/09/09		**13.21**	**14.48**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**7**
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	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	4
	06/03/08		10.99	16.38	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	09/04/08		12.68	14.69	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	11/06/08		13.25	14.12	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	
	02/09/09		**13.30**	**14.07**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**7**
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	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	4
	06/03/08		10.84	16.41	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	09/04/08		12.53	14.72	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	11/06/08		13.12	14.13	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	
	02/09/09		**13.16**	**14.09**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**7**
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	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	4
	06/03/08		10.81	16.43	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	09/04/08		12.51	14.73	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	1
	11/06/08		13.10	14.14	<50	<0.500	<0.500	<0.500	<1.50	NA	NA	NA	
	02/09/09		**13.14**	**14.10**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.50**	**NA**	**NA**	**NA**	**7**

Table 2
Groundwater Elevation and Analytical Data

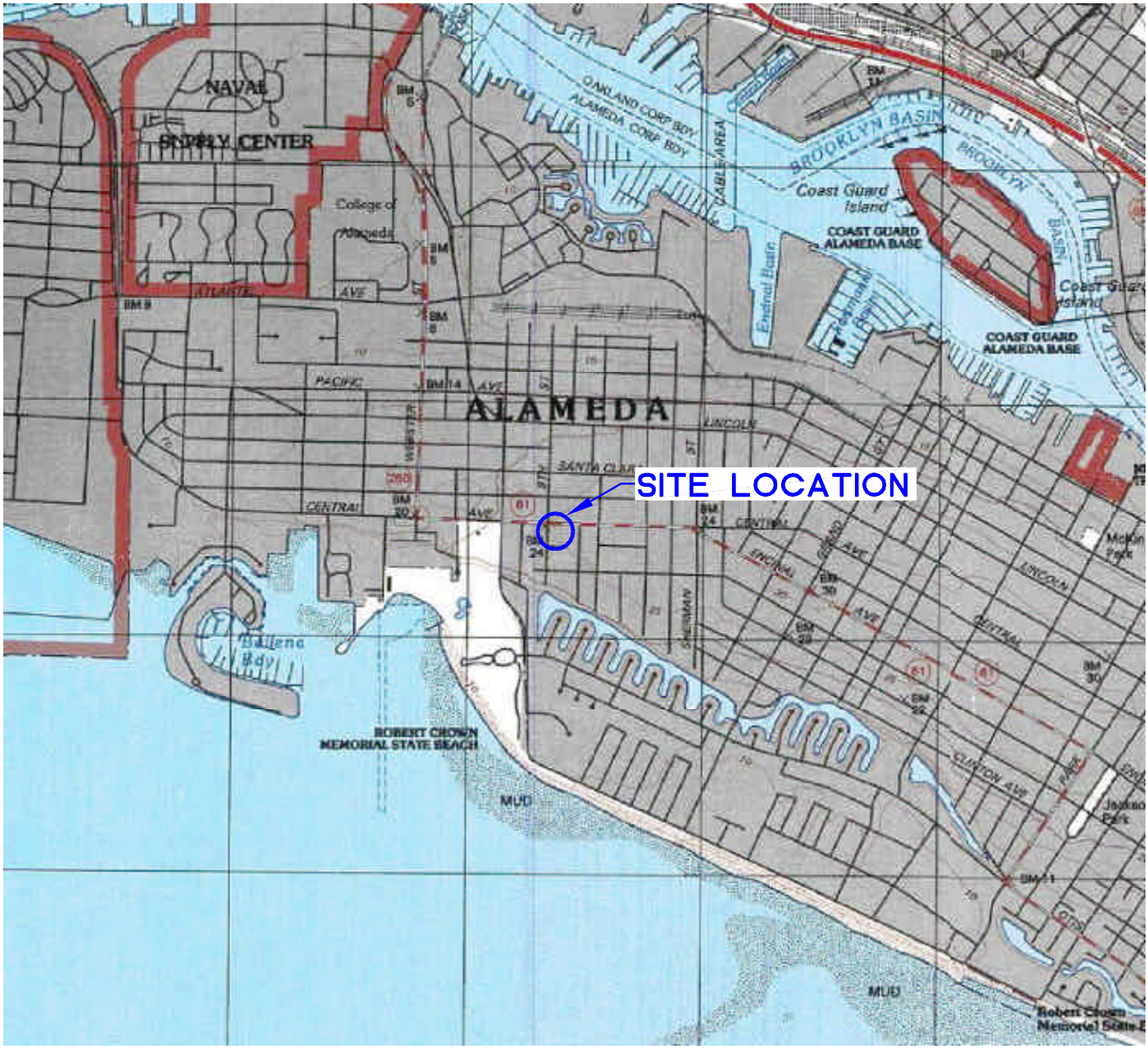
900 Central Avenue
Alameda, California

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	<4.40	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
	11/06/08		12.75	14.68	19,000	<4.40	28.1	369	2,340	NA	NA	NA	6
	02/09/09		**12.77**	**14.66**	**20,000**	**<4.40**	**51.9**	**738**	**4,410**	**NA**	**NA**	**NA**	**7**
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
TOC = top of casing
TPHg = gasoline range total petroleum hydrocarbons
TPHd = diesel range total petroleum hydrocarbons
TPHmo = motor oil range total petroleum hydrocarbons
TBA = tert-Butanol
MtBE = Methyl tert-Butyl Ether
ppb = parts per billion (micrograms per liter)
< = none detected at or above reported detection limit
NS = not sampled
NA = not analyzed

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.
6 = Although TPH as Gasoline compounds are present, result includes heavy end hydrocarbons within the C5 - C12 quantitation range (possibly aged gasoline).
7 = Sample also analyzed for 1,2-dibromoethane and 1,2-dichloroethane; neither was detected.



N

SCALE IN FEET

0 2,000

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

PREPARED BY

RRM

SITE LOCATION MAP

900Central Avenue
Alameda, California

FIGURE:
1
PROJECT:
KCE514

8"ø PLASTIC
3"ø PLASTIC
6"ø
4"ø
M.H.
6"ø
CENTRAL AVENUE
56'
8"ø
M.H.
2"ø PLASTIC (4"ø CAST ENCASED)
4"ø PLASTIC
SB-5
SB-4
RW-1
SB-1
SB-3
SUSPECT FORMER UST
SIDEWALK
MW-4
8"ø
MW-2
P-3
P-1
EB-1
P-2
SB-2
MW-1
FENCE/PROPERTY BOUNDARY
P-4
FORMER CANOPY
MW-5
SB-6
EB-2
SIDEWALK
MW-3
APARTMENT BUILDING
P-5
MW-6
EB-3
FORMER STATION/GARAGE
36'
P-6
P-7
P-8
1 1/4"ø PLASTIC
NINTH STREET

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

UTILITY – PG&E (GAS)

UTILITY – WATER

UTILITY – STORM DRAIN

UTILITY – SANITARY SEWER

M.H. MANHOLE

N

SCALE IN FEET

0 20

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

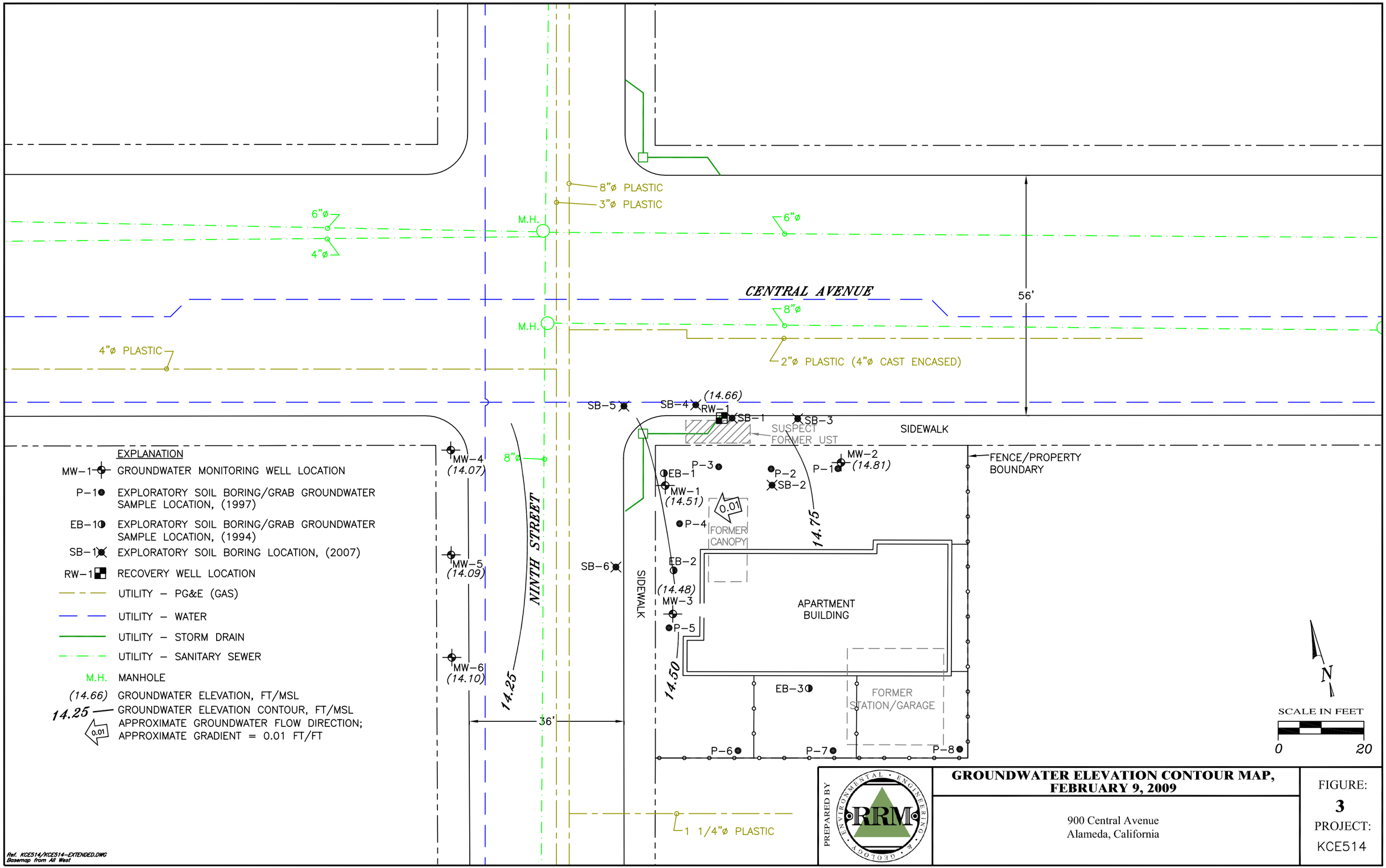
PREPARED BY

RRM ENVIRONMENTAL • ENGINEERING • GEOLOGY

EXTENDED SITE MAP

900 Central Avenue
Alameda, California

FIGURE:
2
PROJECT:
KCE514



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

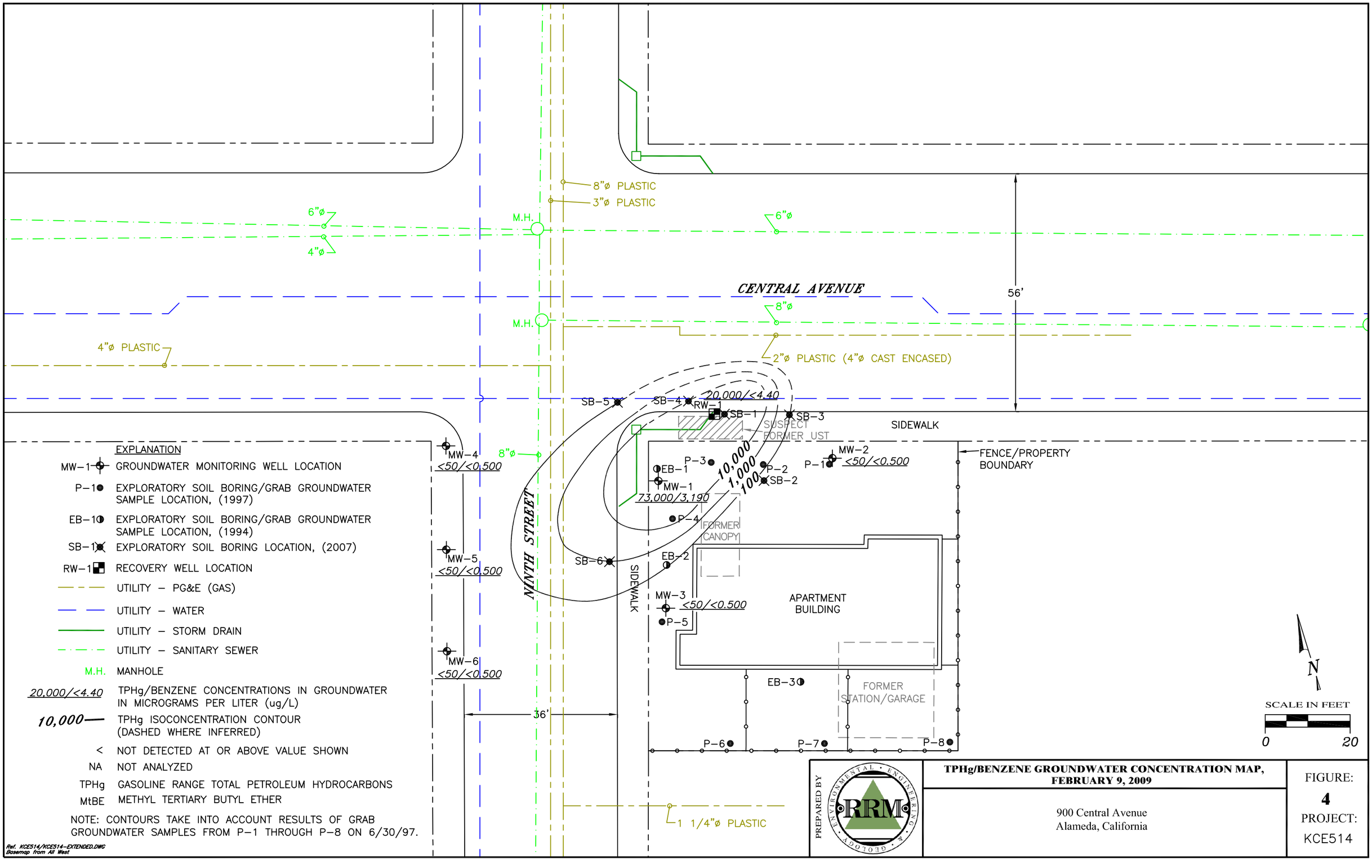
PREPARED BY

RRM ENVIRONMENTAL · ENGINEERING · GEOLOGY

GROUNDWATER ELEVATION CONTOUR MAP, FEBRUARY 9, 2009

900 Central Avenue
Alameda, California

FIGURE:
3
PROJECT:
KCE514



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
- UTILITY – PG&E (GAS)
- UTILITY – WATER
- UTILITY – STORM DRAIN
- UTILITY – SANITARY SEWER
- M.H. — MANHOLE
- 20,000/<4.40 — TPHg/BENZENE CONCENTRATIONS IN GROUNDWATER IN MICROGRAMS PER LITER (ug/L)
- 10,000 — TPHg ISOCONCENTRATION CONTOUR (DASHED WHERE INFERRED)
- < — NOT DETECTED AT OR ABOVE VALUE SHOWN
- NA — NOT ANALYZED
- TPHg — GASOLINE RANGE TOTAL PETROLEUM HYDROCARBONS
- MtBE — METHYL TERTIARY BUTYL ETHER

NOTE: CONTOURS TAKE INTO ACCOUNT RESULTS OF GRAB GROUNDWATER SAMPLES FROM P-1 THROUGH P-8 ON 6/30/97.

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

PREPARED BY RRM ENVIRONMENTAL ENGINEERING & GEOLOGY

TPHg/BENZENE GROUNDWATER CONCENTRATION MAP, FEBRUARY 9, 2009

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.

March 04, 2009(Revised)

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

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

RE: KCE514/900 Central Ave, Alameda

Order No.: 0902063

Dear Matt Kaempf:

Torrent Laboratory, Inc. received 7 samples on 2/9/2009 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 3/4/09 Date

Patti Sandrock
QA Officer

Torrent
LABORATORY, INC.

Torrent Laboratory, Inc.

Date: *04-Mar-09*

CLIENT: Remediation Risk Management, Inc.
Project: KCE514/900 Central Ave, Alameda
Lab Order: 0902063

CASE NARRATIVE

Per Client EDB,EDC reported for all samples.

Rev 1 3/4/09.

483 Sinclair Frontage Rd., Milpitas, CA 95035 | tel: 408.263.5258 | fax: 408.263.8293 | www.torrentlab.com

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: 2/9/2009
Date Reported: 3/4/2009

Client Sample ID: MW-1
Sample Location: 900 Central Ave, Alameda
Sample Matrix: GROUNDWATER
Date/Time Sampled 2/9/2009 1:45:00 PM

Lab Sample ID: 0902063-001
Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/12/2009	0.5	88	44.0	3190	µg/L	R18714
Toluene	SW8260B	2/12/2009	0.5	88	44.0	4250	µg/L	R18714
Ethylbenzene	SW8260B	2/12/2009	0.5	88	44.0	2410	µg/L	R18714
1,2-Dibromoethane (EDB)	SW8260B	2/12/2009	0.5	88	44.0	ND	µg/L	R18714
1,2-Dichloroethane (EDC)	SW8260B	2/12/2009	0.5	88	44.0	ND	µg/L	R18714
Xylenes, Total	SW8260B	2/12/2009	1.5	88	132	16800	µg/L	R18714
Surr: Dibromofluoromethane	SW8260B	2/12/2009	0	88	61.2-131	110	%REC	R18714
Surr: 4-Bromofluorobenzene	SW8260B	2/12/2009	0	88	64.1-120	109	%REC	R18714
Surr: Toluene-d8	SW8260B	2/12/2009	0	88	75.1-127	110	%REC	R18714
TPH (Gasoline)	SW8260B(TPH)	2/12/2009	50	88	4400	73000	µg/L	G18714
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/12/2009	0	88	58.4-133	70.5	%REC	G18714

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: 2/9/2009
Date Reported: 3/4/2009

Client Sample ID: MW-2
Sample Location: 900 Central Ave, Alameda
Sample Matrix: GROUNDWATER
Date/Time Sampled 2/9/2009 11:50:00 AM

Lab Sample ID: 0902063-002
Date Prepared: 2/12/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Toluene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Ethylbenzene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dibromoethane (EDB)	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dichloroethane (EDC)	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Xylenes, Total	SW8260B	2/12/2009	1.5	1	1.50	ND	µg/L	R18714
Surr: Dibromofluoromethane	SW8260B	2/12/2009	0	1	61.2-131	106	%REC	R18714
Surr: 4-Bromofluorobenzene	SW8260B	2/12/2009	0	1	64.1-120	94.9	%REC	R18714
Surr: Toluene-d8	SW8260B	2/12/2009	0	1	75.1-127	98.6	%REC	R18714
TPH (Gasoline)	SW8260B(TPH)	2/12/2009	50	1	50	ND	µg/L	G18714
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/12/2009	0	1	58.4-133	101	%REC	G18714

Client Sample ID: MW-3
Sample Location: 900 Central Ave, Alameda
Sample Matrix: GROUNDWATER
Date/Time Sampled 2/9/2009 12:10:00 PM

Lab Sample ID: 0902063-003
Date Prepared: 2/12/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Toluene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Ethylbenzene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dibromoethane (EDB)	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dichloroethane (EDC)	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Xylenes, Total	SW8260B	2/12/2009	1.5	1	1.50	ND	µg/L	R18714
Surr: Dibromofluoromethane	SW8260B	2/12/2009	0	1	61.2-131	95.6	%REC	R18714
Surr: 4-Bromofluorobenzene	SW8260B	2/12/2009	0	1	64.1-120	93.9	%REC	R18714
Surr: Toluene-d8	SW8260B	2/12/2009	0	1	75.1-127	101	%REC	R18714
TPH (Gasoline)	SW8260B(TPH)	2/12/2009	50	1	50	ND	µg/L	G18714
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/12/2009	0	1	58.4-133	90.3	%REC	G18714

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: 2/9/2009
Date Reported: 3/4/2009

Client Sample ID: MW-4
Sample Location: 900 Central Ave, Alameda
Sample Matrix: GROUNDWATER
Date/Time Sampled 2/9/2009 1:20:00 PM

Lab Sample ID: 0902063-004
Date Prepared: 2/12/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Toluene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Ethylbenzene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dibromoethane (EDB)	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dichloroethane (EDC)	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Xylenes, Total	SW8260B	2/12/2009	1.5	1	1.50	ND	µg/L	R18714
Surr: Dibromofluoromethane	SW8260B	2/12/2009	0	1	61.2-131	107	%REC	R18714
Surr: 4-Bromofluorobenzene	SW8260B	2/12/2009	0	1	64.1-120	102	%REC	R18714
Surr: Toluene-d8	SW8260B	2/12/2009	0	1	75.1-127	103	%REC	R18714
TPH (Gasoline)	SW8260B(TPH)	2/12/2009	50	1	50	ND	µg/L	G18714
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/12/2009	0	1	58.4-133	89.2	%REC	G18714

Client Sample ID: MW-5
Sample Location: 900 Central Ave, Alameda
Sample Matrix: GROUNDWATER
Date/Time Sampled 2/9/2009 12:55:00 PM

Lab Sample ID: 0902063-005
Date Prepared: 2/12/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Toluene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Ethylbenzene	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dibromoethane (EDB)	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dichloroethane (EDC)	SW8260B	2/12/2009	0.5	1	0.500	ND	µg/L	R18714
Xylenes, Total	SW8260B	2/12/2009	1.5	1	1.50	ND	µg/L	R18714
Surr: Dibromofluoromethane	SW8260B	2/12/2009	0	1	61.2-131	104	%REC	R18714
Surr: 4-Bromofluorobenzene	SW8260B	2/12/2009	0	1	64.1-120	101	%REC	R18714
Surr: Toluene-d8	SW8260B	2/12/2009	0	1	75.1-127	99.6	%REC	R18714
TPH (Gasoline)	SW8260B(TPH)	2/12/2009	50	1	50	ND	µg/L	G18714
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/12/2009	0	1	58.4-133	99.3	%REC	G18714

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: 2/9/2009
Date Reported: 3/4/2009

Client Sample ID: MW-6
Sample Location: 900 Central Ave, Alameda
Sample Matrix: GROUNDWATER
Date/Time Sampled 2/9/2009 12:35:00 PM

Lab Sample ID: 0902063-006
Date Prepared: 2/13/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/13/2009	0.5	1	0.500	ND	µg/L	R18714
Toluene	SW8260B	2/13/2009	0.5	1	0.500	ND	µg/L	R18714
Ethylbenzene	SW8260B	2/13/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dibromoethane (EDB)	SW8260B	2/13/2009	0.5	1	0.500	ND	µg/L	R18714
1,2-Dichloroethane (EDC)	SW8260B	2/13/2009	0.5	1	0.500	ND	µg/L	R18714
Xylenes, Total	SW8260B	2/13/2009	1.5	1	1.50	ND	µg/L	R18714
Surr: Dibromofluoromethane	SW8260B	2/13/2009	0	1	61.2-131	115	%REC	R18714
Surr: 4-Bromofluorobenzene	SW8260B	2/13/2009	0	1	64.1-120	124 S	%REC	R18714
Surr: Toluene-d8	SW8260B	2/13/2009	0	1	75.1-127	96.6	%REC	R18714

Note: S-Surrogate recoveries out of limit-high bias. Data reported as no target analytes were observed in the sample.

TPH (Gasoline)	SW8260B(TPH)	2/13/2009	50	1	50	ND	µg/L	G18714
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/13/2009	0	1	58.4-133	91.5	%REC	G18714

Client Sample ID: RW-1
Sample Location: 900 Central Ave, Alameda
Sample Matrix: GROUNDWATER
Date/Time Sampled 2/9/2009 2:10:00 PM

Lab Sample ID: 0902063-007
Date Prepared: 2/13/2009

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Benzene	SW8260B	2/13/2009	0.5	8.8	4.40	ND	µg/L	R18714
Toluene	SW8260B	2/13/2009	0.5	8.8	4.40	51.9	µg/L	R18714
Ethylbenzene	SW8260B	2/13/2009	0.5	8.8	4.40	738	µg/L	R18714
1,2-Dibromoethane (EDB)	SW8260B	2/13/2009	0.5	8.8	4.40	ND	µg/L	R18714
1,2-Dichloroethane (EDC)	SW8260B	2/13/2009	0.5	8.8	4.40	ND	µg/L	R18714
Xylenes, Total	SW8260B	2/13/2009	1.5	22	33.0	4410	µg/L	R18714
Surr: Dibromofluoromethane	SW8260B	2/13/2009	0	22	61.2-131	107	%REC	R18714
Surr: Dibromofluoromethane	SW8260B	2/13/2009	0	8.8	61.2-131	109	%REC	R18714
Surr: 4-Bromofluorobenzene	SW8260B	2/13/2009	0	22	64.1-120	114	%REC	R18714
Surr: 4-Bromofluorobenzene	SW8260B	2/13/2009	0	8.8	64.1-120	117	%REC	R18714
Surr: Toluene-d8	SW8260B	2/13/2009	0	22	75.1-127	86.1	%REC	R18714
Surr: Toluene-d8	SW8260B	2/13/2009	0	8.8	75.1-127	87.0	%REC	R18714
TPH (Gasoline)	SW8260B(TPH)	2/13/2009	50	22	1100	20000	µg/L	G18714
Surr: 4-Bromofllurobenzene	SW8260B(TPH)	2/13/2009	0	22	58.4-133	82.2	%REC	G18714

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: 0902063
Project: KCE514/900 Central Ave, Alameda

ANALYTICAL QC SUMMARY REPORT

BatchID: G18714

Sample ID **MB_G18714**	SampType: **MBLK**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **2/12/2009**	RunNo: **18714**
Client ID: **ZZZZZ**	Batch ID: **G18714**	TestNo: **SW8260B(TP**		Analysis Date: **2/12/2009**	SeqNo: **269905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	ND	50									
Surr: 4-Bromofllurobenzene	11.60	0	11.36	0	102	58.4	133				

Sample ID **LCS_G18714**	SampType: **LCS**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **2/12/2009**	RunNo: **18714**
Client ID: **ZZZZZ**	Batch ID: **G18714**	TestNo: **SW8260B(TP**		Analysis Date: **2/12/2009**	SeqNo: **269906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	191.0	50	227	0	84.1	52.4	127				
Surr: 4-Bromofllurobenzene	8.180	0	11.36	0	72.0	58.4	133				

Sample ID **LCSD_G18714**	SampType: **LCSD**	TestCode: **TPH_GAS_W**	Units: **µg/L**	Prep Date: **2/13/2009**	RunNo: **18714**
Client ID: **ZZZZZ**	Batch ID: **G18714**	TestNo: **SW8260B(TP**		Analysis Date: **2/13/2009**	SeqNo: **269907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (Gasoline)	198.0	50	227	0	87.2	52.4	127	191	3.60	20	
Surr: 4-Bromofllurobenzene	10.31	0	11.36	0	90.8	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: 0902063
Project: KCE514/900 Central Ave, Alameda

ANALYTICAL QC SUMMARY REPORT

BatchID: R18714

Sample ID **MB_R18714**	SampType: **MBLK**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **2/12/2009**	RunNo: **18714**
Client ID: **ZZZZZ**	Batch ID: **R18714**	TestNo: **SW8260B**		Analysis Date: **2/12/2009**	SeqNo: **269719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane (EDB)	ND	0.500									
1,2-Dichloroethane (EDC)	ND	0.500									
Benzene	ND	0.500									
Ethylbenzene	ND	0.500									
Toluene	ND	0.500									
Xylenes, Total	ND	1.50									
Surr: Dibromofluoromethane	13.11	0	11.36	0	115	61.2	131				
Surr: 4-Bromofluorobenzene	12.80	0	11.36	0	113	64.1	120				
Surr: Toluene-d8	11.63	0	11.36	0	102	75.1	127				

Sample ID **LCS_R18714**	SampType: **LCS**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **2/12/2009**	RunNo: **18714**
Client ID: **ZZZZZ**	Batch ID: **R18714**	TestNo: **SW8260B**		Analysis Date: **2/12/2009**	SeqNo: **269720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	16.60	0.500	17.04	0	97.4	66.9	140				
Toluene	16.60	0.500	17.04	0	97.4	76.6	123				
Surr: Dibromofluoromethane	11.00	0	11.36	0	96.8	61.2	131				
Surr: 4-Bromofluorobenzene	12.07	0	11.36	0	106	64.1	120				
Surr: Toluene-d8	11.41	0	11.36	0	100	75.1	127				

Sample ID **LCSD_R18714**	SampType: **LCSD**	TestCode: **8260B_W**	Units: **µg/L**	Prep Date: **2/12/2009**	RunNo: **18714**
Client ID: **ZZZZZ**	Batch ID: **R18714**	TestNo: **SW8260B**		Analysis Date: **2/12/2009**	SeqNo: **269721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	16.67	0.500	17.04	0	97.8	66.9	140	16.6	0.421	20	
Toluene	17.06	0.500	17.04	0	100	76.6	123	16.6	2.73	20	
Surr: Dibromofluoromethane	13.03	0	11.36	0	115	61.2	131	0	0	0	
Surr: 4-Bromofluorobenzene	11.39	0	11.36	0	100	64.1	120	0	0	0	
Surr: Toluene-d8	12.00	0	11.36	0	106	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: 0902063

Company Name: RRM, Inc.
Address: 2560 Soquel Ave. #202
City: Santa Cruz State: CA Zip Code: 95062
Telephone: 831 475 8141 FAX: 831 475 8249
REPORT TO: Matt Kaempf SAMPLER: Will B.

Location of Sampling: 900 Central Ave, Alameda
Purpose: 1st Qtr GWM
Special Instructions / Comments: EDF: Global ID - T0600102089
P.O. #: KCE514
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
- [x] 5 Work Days std
- [ ] 1 Work Day
- [ ] Other

SAMPLE TYPE:
- [ ] Storm Water
- [ ] Waste Water
- [ ] Ground Water
- [ ] Soil
- [ ] Air
- [ ] Other

REPORT FORMAT:
- [ ] QC Level IV
- [x] 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	BTEX / THP gas / MTBE / Oxygenates	THP Diesel / Motor Oil / Si-Gel	Pesticide - 8081	PCB - 8082	Metals / CAM - 17 / LUFT 5 / 7 Metals	8270 Full List / PAHs Only			REMARKS
001A	MW-1	020909/1345	GW	3	40ml VOA's		X								
002A	MW-2	1150													
003A	MW-3	1210													
004A	MW-4	1320													
005A	MW-5	1255													
006A	MW-6	1235													
007A	RW-1	1410													

TORRENT LAB

	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:
1	[signature]	Will Bachar	020909/—	1600 —	[signature]	Farguson	02-09-09	4PM
2	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:

Were Samples Received in Good Condition? [x] Yes [ ] NO Samples on Ice? [x] Yes [ ] NO Method of Shipment drop off 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: _____ Date: _____ Log In Reviewed By: _____ Date: _____

Torrent Laboratory, Inc

Change Order Form

Date: 2/27/09 Time: _____

Client: RRM Order ID: _____

Project Number: 0902063 Project Name: KCE514/900 Central Ave, Alameda

Order Taken By: Nutan Ordered By: Julie Awanto

Laboratory ID	Client ID	Change Requested
0902063-001A	MW-1	EDB, EDC added
-002A	" -2	
-003A	" -3	
-004A	" -4	
-005A	" -5	
-006A	" -6	
-007A	RW-1	

Remarks:

Plz repeat EDB, EDC for all samples.

Date Test(s) Added: 2/27/09 Test(s) Added By: NSK.

Note: Original to be placed in client file (electronic and/or hardcopy)

Current Folder: **Inbox** **Sign Out**

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Delete ☐ Bypass Trash

Subject: KCE514 - Report 0902063
From: "Julie Avanto" <julie@rrmsc.com>
Date: Fri, February 27, 2009 9:26 am
To: pm@torrentlab.com
Options: View Full Header | View Printable Version | Download this as a file

Nutan,

As we discussed earlier, please report EDB (Ethylene dibromide) and EDC (1,2-dichloroethane) for all samples from the referenced report.

Julie
--
Julie Avanto
Project Engineer
RRM, Inc.
2560 Soquel Avenue, Suite 202
Santa Cruz, California 95062
(831) 475-8141 office
(831) 475-8249 fax
(831) 227-1978 cell

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Take Address

Field Data Sheet

Depth to Water Data Form

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

Site Information

900 Central Ave.	020909	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: WO
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):
6	MW-1	1107	18.73'	13.76				
1	MW-2	1049	18.40'	13.50				
2	MW-3	1053	18.70'	13.21				
5	MW-4	1103	17.95'	13.30				
4	MW-5	1100	17.95'	13.16				
3	MW-6	1057	17.10'	13.14				
7	RW-1	1112	19.05'	12.77				4" Well

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-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) ____

Purged By: WG (name)

Purge Calculation

total depth =	18.73
depth to water -	13.76
linear feet of water =	4.97
gallons per linear foot X	.17
gallons per casing =	0.84
number of casings X	3
calculated purge =	2.53

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	1324	0						
volume 1	1327	1.00	6.99	663	16.8	cloudy	light	strong
volume 2	1330	2.00	7.02	665	16.9	"	hvy	"
volume 3	1333	2.75	7.07	672	17.1	"	"	"
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	020909	1345
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)		
	[ ] 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-2	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] Diposable [ ] Teflon #: ___
- [ ] Submersible Pump; type: _____
- [ ] Other (specify) _____

Purged By: wb (name)

Purge Calculation

total depth =	18.40
depth to water -	13.50
linear feet of water =	4.90
gallons per linear foot X	.17
gallons per casing =	0.83
number of casings X	3
calculated purge =	2.50

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 (µs @ 25° C)	temp (°F circle °C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1133	0						
volume 1	1137	1.00	7.07	263	16.4	brown	hvy	mod.
volume 2	1139	1.75	7.07	242	16.3	"	"	"
volume 3	1142	2.50	7.06	236	16.2	"	"	"
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	020909	1150
Dupe # ___		12:00

Sampled By: wb (name)

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B)	40 ml VOA	HCl
	[x] BTEX (8260B)		
	[ ] 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

900 Central Ave.	MW-3	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 =	18.70
depth to water -	13.21
linear feet of water =	5.49
gallons per linear foot X	.17
gallons per casing =	0.93
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: WS
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	1153	0						
volume 1	1156	1.00	7.05	239	17.0	brown	hvy.	none
volume 2	1159	2.00	7.05	246	17.3	"	"	"
volume 3	12:02	3.00	7.04	248	17.5	"	"	"
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	020909	1210
Dupe # ___	_____	12:00

Sampled By: WS
name

# of Cont.	Analyses (check and circle)	Container/Size	Preservative
3	[x] TPH gas (8260B)	40 ml VOA	HCl
	[x] BTEX (8260B)		
	[ ] 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-4	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 =	17.95
depth to water -	13.30
linear feet of water =	4.65
gallons per linear foot X	.17
gallons per casing =	0.79
number of casings X	3
calculated purge =	2.37

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	1258	0						
volume 1	1301	1.00	6.66	263	16.5	brown	hvy	none
volume 2	1304	1.75	6.63	267	18.0	"	"	"
volume 3	1308	2.50	6.61	268	18.2	"	"	"
volume 4								
complete								

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

Groundwater Sampling Information

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

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

Sample ID	Date	Time (24:00)
MW-4	020909	1320
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)		
	[ ] 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-5	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 =	17.95
depth to water -	13.16
linear feet of water =	4.79
gallons per linear foot X	.17
gallons per casing =	0.81
number of casings X	3
calculated purge =	2.44

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 (µs @ 25° C)	temp (°F circle C)	color (see below)	turbity (NTU or see below)	odor (see below)
start	1238	0						
volume 1	1241	1.00	6.66	285	17.5	brown	hvy	none
volume 2	1244	1.75	6.92	290	17.6	"	"	"
volume 3	1247	2.50	6.97	295	17.7	"	"	"
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	020909	1255
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)		
	[ ] 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

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

Site Information

900 Central Ave.	MW-6	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 =	17.10
depth to water -	13.14
linear feet of water =	3.96
gallons per linear foot X	.17
gallons per casing =	0.67
number of casings X	3
calculated purge =	2.02

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	1214	0						
volume 1	1217	0.75	6.83	236	18.2	O/K brown	hvy	strong
volume 2	1220	1.50	6.95	232	18.0	"	"	"
volume 3	1223	2.00	7.03	231	18.0	"	"	"
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	020909	1235
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)		
	[ ] 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)		RW-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 =	19.05
depth to water -	12.77
linear feet of water =	6.28
gallons per linear foot x	.67
gallons per casing =	4.21
number of casings x	3
calculated purge =	12.62

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: WG (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	1348	0						
volume 1	1354	4.25	7.07	371	15.8	gray	hvy	strong.
volume 2	1357	8.50	6.69	370	16.9	"	"	"
volume 3	1401	12.75	6.67	391	17.1	"	"	"
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	020909	1410
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)		
	[ ] 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]