



4:38 pm, Jan 23, 2012

Alameda County Environmental Health Roya Kambin Project Manager Marketing Business Unit **Chevron Environmental Management Company** 6101 Bollinger Canyon Road San Ramon, CA 94583 Tel (925) 790-6270 RKambin@Chevron.com

Alameda County Health Care Services 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Re: Former 76 Service Station No. 351644 66 MacArthur Boulevard Oakland, California ACHCS Case NO 0455

l accept the Second Semi-Annual Groundwater Monitoring and Sampling Report and Fourth Quarter 2011 Ozone System Injection O&M Report dated January 19, 2012.

I agree with the conclusions and recommendations presented in this document. The information included is accurate to the best of my knowledge, and appears to meet local agency and Regional Board guidelines. This Second Semi-Annual Groundwater Monitoring and Sampling Report and Fourth Quarter 2011 Ozone System Injection O&M Report was prepared by Conestoga Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

eog Min

Roya Kambin Project Manager

Attachment: Second Semi-Annual Groundwater Monitoring and Sampling Report and Fourth Quarter 2011 Ozone System Injection O&M Report



5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700 http://www.craworld.com

Fax: (510) 420-9170

January 20, 2012

Reference No. 060727

Ms. Barbara Jakub Alameda County Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502

Re: Second Semi-Annual 2011 Groundwater Monitoring and Sampling Report and Fourth Quarter 2011 Ozone Injection System O&M Report 76 Products Service Station 1871 (Union Oil 351644) 66 MacArthur Boulevard Formerly 96 MacArthur Boulevard Oakland, California ACHCS Case No. 0455

Dear Ms. Barbara Jakub

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), Conestoga-Rovers & Associates (CRA) is pleased to submit the *Second Semi-Annual 2011Groundwater Monitoring and Sampling Report* for the site referenced above (Figure 1). Groundwater monitoring and sampling was performed by TRC Solutions (TRC) of Irvine, California and their November 30, 2011 *Field Monitoring Data Package* is included as Attachment A. Current groundwater monitoring and sampling data are presented in Table 1. Laboratory analyses were performed by BC Laboratories of Bakersfield, California and their November 21, 2011 Report is included as Attachment B. Historical groundwater monitoring and sampling data is included as Attachment C.

Ozone system monitoring was performed by Environ Strategy Consultants, Inc. (ESC) during September through November 2011 and their December 19, 2011 report is included as Attachment D.

Equal Employment Opportunity Employer



Reference No. 060727

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RESULTS OF SECOND SEMI-ANNUAL 2011 EVENT

On November 10, 2011, TRC monitored and sampled the site wells per the established schedule.

Results of the current monitoring event indicate the following:

- Groundwater Flow Direction
 Source S
- Hydraulic Gradient

Southwest 0.038

• Approximate Depth to Groundwater 7 to 16 feet below grade

Results of the current sampling event are presented below in Table A:

	TABLE A: GROUNDWATER ANALYTICAL DATA													
				Ethyl	Total									
Well	TPHg	Benzene	Toluene	benzene	Xylenes	MTBE	TBA							
ID	$(\mu g/L)$	(µg/L)	(µg/L)	(µg/L)	$(\mu g/L)$	(µg/L)	(µg/L)							
ESLs	100	1	40	30	20	5	120							
MW-1	410	0.72	< 0.50	7.1	1.4	2.4	60							
MW-6	<50	< 0.50	< 0.50	< 0.50	<1.0	2.2	<10							
MW-7	<50	< 0.50	< 0.50	< 0.50	<1.0	2.9	<10							
MW-8	<50 <0.50 <0.50 <0.50 <1.0 <0.50 <10													
MW-9	51	< 0.50	< 0.50	< 0.50	<1.0	63	<10							
MW-10	<50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	<10							
MW-11	<50	< 0.50	< 0.50	< 0.50	<1.0	< 0.50	<10							
NA ESLs	g/L Micrograms per Liter JA Not Analyzed													
Bold	Exceeds ES	L	-		0									



Reference No. 060727

CONCLUSIONS

The results of ongoing groundwater monitoring and sampling at the site indicate the following:

- 3 -

- Dissolved benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations are below laboratory detection limits and/or drinking water ESLs.
- Dissolved methyl tertiary butyl ether (MTBE) was detected above the ESL in offsite well MW-9; MTBE was below the laboratory detection limit and/or drinking water ESL in all other wells. MTBE concentrations in MW-9 are two orders of magnitude below historic highs.
- Dissolved total petroleum hydrocarbons as gasoline (TPHg) was detected above the ESL in onsite well MW-1; TPHg was below the laboratory detection limit and/or drinking water ESL in all other wells. TPHg concentrations in MW-1 are three orders of magnitude below historic highs.

RECOMMENDATIONS

Based on site conditions, nine years of ozone injection system operation, 20 years of groundwater monitoring and sampling, and low/decreasing hydrocarbon concentrations in groundwater, CRA recommends case closure.

Additionally, CRA proposes to discontinue groundwater sampling of offsite wells MW-10 and MW-11.

- MW-10: The well is located in a high speed blind curve under the freeway overpass where it is dangerous for the sampling crew. No TPHg or benzene has been detected since 2004 and concentrations detected before 2004 were infrequent and below ESLs. MTBE concentrations have remained below the ESL of 5 ug/L since 2007.
- MW-11: The well is located behind a freeway column under the freeway overpass where it is dangerous for the sampling crew to enter and exit. No TPHg or benzene have been detected since 2006 and concentrations detected before 2006 were infrequent and below ESLs. No MTBE has ever been detected.

As stated in CRA's October 21, 2011 *Interim Remediation Results Report*, CRA recommends shutdown of the ozone injection system.



Reference No. 060727

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ANTICIPATED FUTURE ACTIVITIES

Groundwater Monitoring

TRC will monitor and sample site wells per the established schedule. CRA will submit a groundwater monitoring and sampling report.

Closure Request

CRA will submit a formal case closure request.



Reference No. 060727

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Please contact Kiersten Hoey at (510) 420-3347 if you have any questions or require additional information.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

dieisten

Kiersten Hoey

APM/mws/5 Encl.

PRO VICTOR

Jim Schneider, PG 7914

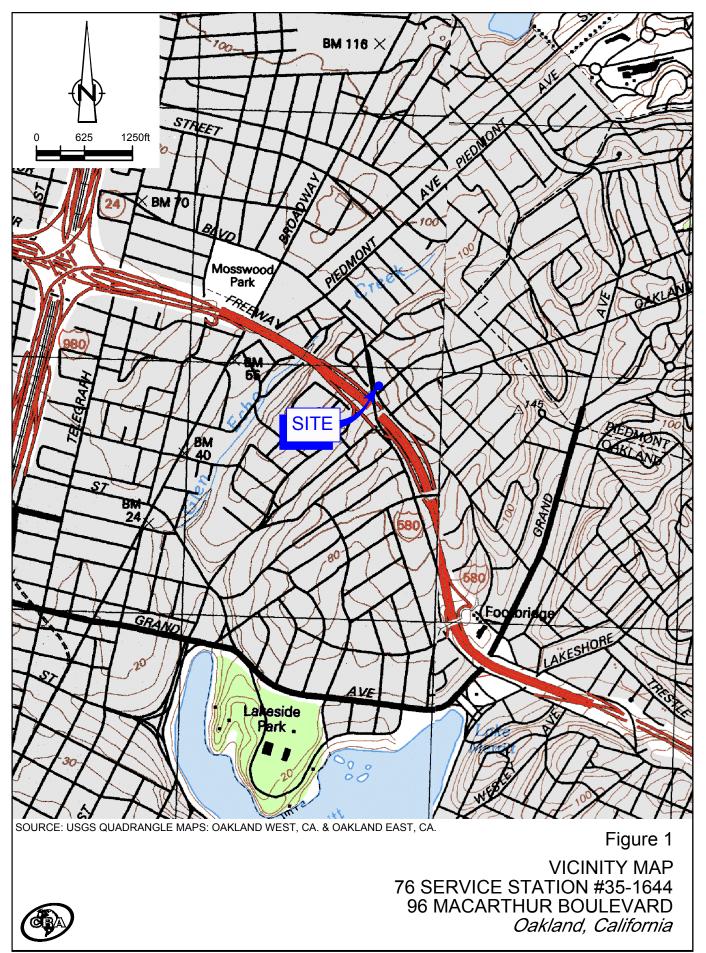
Figure 1	Vicinity Map
Figure 2	Groundwater Elevation and Hydrocarbon Concentration Map

Table 1Groundwater Monitoring and Sampling Data

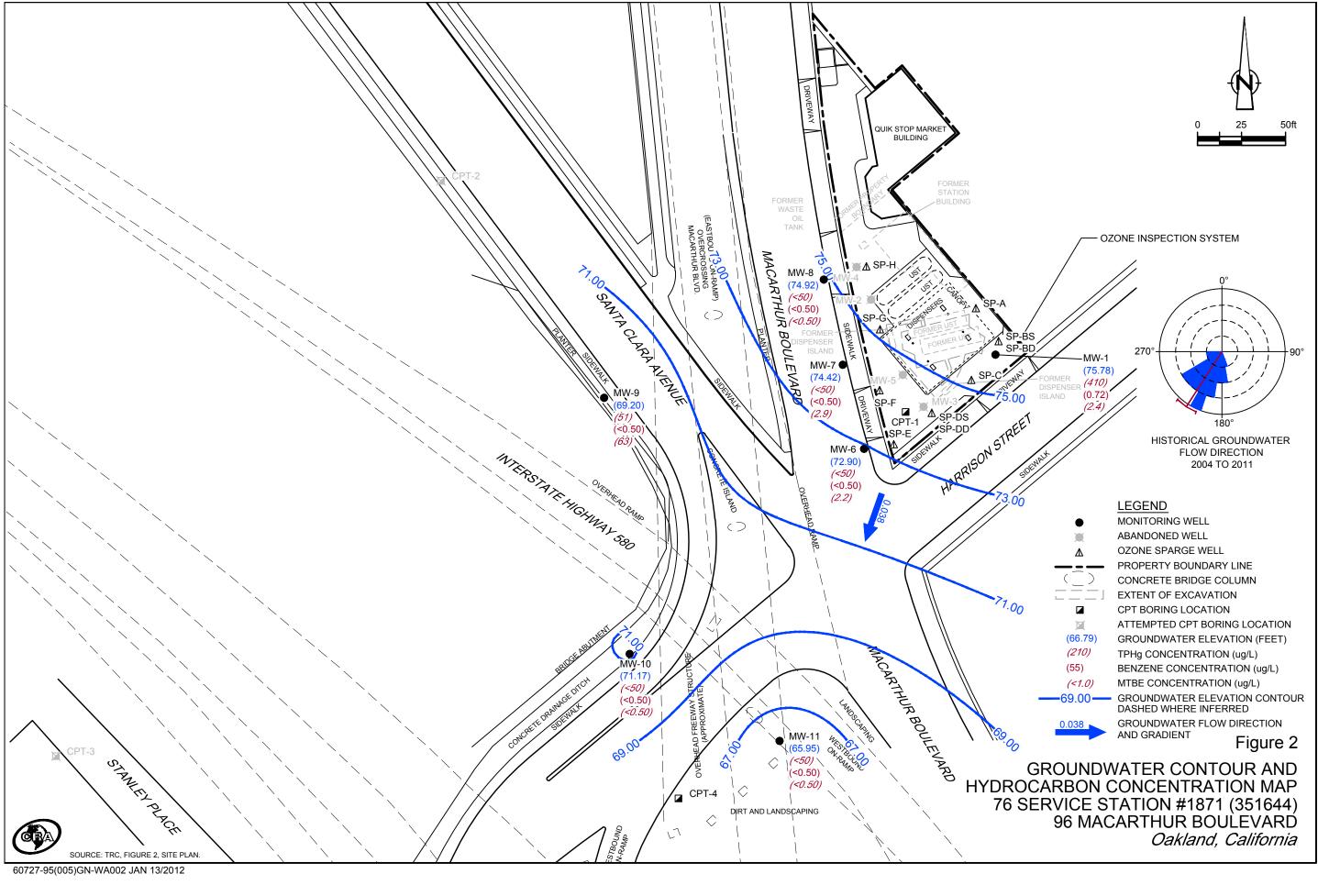
- Attachment A Monitoring Data Package
- Attachment B Laboratory Analytical Report
- Attachment C Historical Groundwater Monitoring and Sampling Data
- Attachment D Ozone Injection System O & M Report

cc: Roya Kambin, Union Oil (electronic copy)

FIGURES



60727-95(005)GN-WA001 JAN 13/2012



60727-95(005)GN-WA002 JAN 13/2012

TABLE

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA UNION OIL #1871 96 MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

					HYDROCARBONS	PRIMARY VOCS								GENERAL CHEMISTRY				
Location	Date	тос	DTW	GWE	TPH Gasoline	В	Т	Ε	X	MTBE by SW8260	TBA	EDB	1,2-DCA	Ethanol	Ferrous iron	Methane	Nitrate (as N)	Sulfate
	Units	ft	ft	ft-amsl	µg∕L	µg/L	µg/L	µg∕L	µg∕L	μg/L	µg∕L	µg∕L	µg/L	µg∕L	µg/L	mg/L	mg/L	mg/L
MW-1	11/10/2011	90.21	14.43	75.78	410	0.72	<0.50	7.1	1.4	2.4	60	<0.50	<0.50	<250	360	0.032	1.2	19
MW-6	11/10/2011	82.51	9.61	72.90	<50	<0.50	<0.50	<0.50	<1.0	2.2	<10	<0.50	<0.50	<250	<100	<0.0010	<0.44	24
MW-7	11/10/2011	83.80	9.38	74.42	<50	<0.50	<0.50	<0.50	<1.0	2.9	<10	<0.50	<0.50	<250	140	0.0041	<0.44	9.0
MW-8	11/10/2011	84.86	9.94	74.92	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<250	<200	<0.0010	3.0	54
MW-9	11/10/2011	85.18	15.98	69.20	51	<0.50	<0.50	<0.50	<1.0	63	<10	<0.50	<0.50	<250	270	<0.0010	1.3	30
MW-10	11/10/2011	78.18	7.01	71.17	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<250	<100	<0.0010	26	24
MW-11	11/10/ 2 011	80.44	14.49	65.95	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<250	<100	<0.0010	5.1	57

Abbreviations and Notes:

TOC = Top of Casing

DTW = Depth to Water

GWE = Groundwater elevation

(ft-amsl) = Feet Above Mean sea level

ft = Feet

 $\mu g/L$ = Micrograms per Liter

mg/L = Milligrams per Liter

TPH - Total Petroleum Hydrocarbons

VOCS = Volatile Organic Compounds

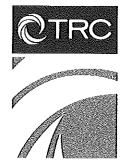
TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA UNION OIL #1871 96 MACARTHUR BOULEVARD OAKLAND, CALIFORNIA

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylene
MTBE = Methyl tert butyl ether
TBA = Tert-Butyl alcohol
DIPE = Diisopropyl ether
ETBE = Tert-Butyl ethyl ether
TAME = Tert-Amyl methyl ether
EDB = 1,2-Dibromoethane (Ethylene dibromide)
1,2-DCA = 1,2-Dichloroethane
= Not available / not applicable
< x = Not detected above laboratory reported practical quantitation level.
J = Estimated concentration

ATTACHMENT A

MONITORING DATA PACKAGE



123 Technology Drive West Irvine, CA 92618

949.727.9336 PHONE 949.727.7399 FAX

www.TRCsolutions.com

DATE:	November 30, 2011
ТО:	Kiersten Hoey CRA 5900 Hollis Street, Suite A Emeryville, California 94608
SITE:	Unocal Site 1871 Facility 351644 96 MacArthur Blvd, Oakland CA

RE: Transmittal of Groundwater Monitoring Data

Dear Ms. Hoey,

Please find attached the field data sheets, chain of custody (COC) forms, and technical services request (TSR) form for the monitoring event that was completed on November 10, 2011. Field measurements and collection of samples submitted to the laboratory were completed in general accordance with our usual groundwater monitoring protocol which is also attached for your reference.

Please call me at 949-341-7440 if you have questions.

Sincerely,

Anju Farfan V Groundwater Program Operations Manager

GENERAL FIELD PROCEDURES

Groundwater Gauging and Sampling Assignments

For each site, TRC technicians are provided with a Technical Service Request (TSR) that specifies activities required to complete the groundwater gauging and sampling assignment for the site. TSRs are based on client directives, instructions from the primary environmental consultant for the site, regulatory requirements, and TRC's previous experience with the site.

Fluid Level Measurements (Gauging)

Initial site activities include determination of well locations based on a site map provided with the TSR. Well boxes are opened and caps are removed. Indications of well or well box damage or of pressure buildup in the well are noted.

Fluid levels in each well are measured using a coated cloth tape equipped with an electronic interface probe, which distinguishes between liquid phase hydrocarbon (LPH) and water. The depth to LPH (if it is present), to water, and to the bottom of the well are measured from the top of the well casing (surveyors mark or notch if present) to the nearest 0.01 foot. Unless otherwise instructed, a well with less than 0.67 foot between the measured top of water and the measured bottom of the well casing is considered dry, and is not sampled. If the well contains 0.67 foot or more of water, an attempt is made to bail and/or sample as specified on the TSR.

Unless otherwise instructed, a well that is found to contain a measureable amount of LPH (0.01 foot) is not purged or sampled. Instead, one casing volume of fluid is bailed from the well and the well is re-sealed.

Purging and Groundwater Parameter Measurement

TSR instructions may specify that a well not be purged (no-purge sampling), be purged using low-flow methods, or be purged using conventional pump and/or bail methods. Conventional purging generally consists of pumping or bailing until a minimum of three casing volumes of water have been removed or until the well has been pumped dry. Pumping is generally accomplished using submersible electric or pneumatic diaphragm pumps. The pump intake is initially set at about 5 feet below the level of water in the casing, and is lowered as needed to compensate for falling water level. Pump depths are recorded in Field Notes.

During conventional purging, three groundwater parameters (temperature, pH, and conductivity) are measured after removal of each casing volume. Stabilization of these parameters, to within 10 percent, confirm that sufficient purging has been completed. In some cases, the TSR indicates that other parameters are also to be measured during purging. TRC commonly measures dissolved oxygen (DO), oxidation-reduction potential (ORP), and/or turbidity. Instruments used for groundwater parameter measurements are calibrated daily according to manufacturer's instructions.

Low-flow purging utilizes a bladder or peristaltic pump to remove water from the well at a low rate. Groundwater parameters specified by the TSR are measured continuously, using a flow cell, until they become stable in general accordance with EPA guidelines.

Groundwater Sample Collection

After wells are purged, or not purged, according to TSR instructions, samples are collected for laboratory analysis. For wells that have been purged using conventional pump or bail methods, sampling is conducted after the well has recovered to 80 percent of its original volume or after two hours if the well does not recover to at least 80 percent. If there is insufficient recharge of water in the well after two hours, the well is not sampled.

GENERAL FIELD PROCEDURES

Samples are collected by lowering a new, disposable polyethylene bottom-fill bailer to just below the water level in the well. The bailer is retrieved and the water sample is carefully transferred to containers specified for the laboratory analytical methods indicated by the TSR. Particular care is given to containers for volatile organic analysis (VOAs) which require filling to zero headspace and fitting with Teflon-sealed caps.

Sample containers are labeled with project number (or site number), well designation, sample date, sample time, and the sampler's initials, and placed in an insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container descriptions and requested analyses are entered onto a chain-of-custody form in order to provide instructions to the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the field to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form.

For wells that have been purged using low-flow methods, sample containers are filled from the effluent stream of the bladder or peristaltic pump. In some cases, if so specified by the TSR, samples are taken from the sample ports of actively pumping remediation wells.

Sequence of Gauging, Purging and Sampling

The sequence in which monitoring activities are conducted is specified on the TSR. In general, wells are gauged beginning with the least affected well and ending with the well that has the highest concentration based on previous analytic results. After all gauging for the site is completed, wells are purged and/or sampled from the least-affected to the most-affected well. If wells must be gauged or sampled out of order, alternate interface probes and/or pumps are utilized and are noted in field documentation.

Decontamination

In order to reduce the possibility of cross contamination between wells, strict isolation and decontamination procedures are observed. Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging, and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that could come in contact with fluids are either dedicated a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of washing in a solution of Liquinox and water and rinsing twice. The final rinse is in deionized water.

Purge Water Disposal

Purge water is generally collected in labeled drums for disposal as non-hazardous waste. Drums may be left on site for disposal by others, or transported to a collection location at a TRC field office, in either Fullerton, California or Concord, California, for eventual transfer to a licensed treatment or recycling facility. Alternatively, purge water may be collected directly from the site by a licensed vacuum truck company, or may be treated on site by an active remediation system, if so directed.

Exceptions

Additional tasks or non-standard procedures, if any, that may be requested or required for a particular site, are documented in field notes on the following pages.

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	c at Time Sa 0, 16	amp	led	Tota	I Gallons Pur	ged		Sample 042.7					
Comments			l			I		0.2		···{			
· · · · · · · · · · · · · · · · · ·	······················			······									
Well No		l	670			d:	Sub	•					
Depth to Wa		i	9.38	<u> </u>	Depth to Proc		<u> </u>						
Total Depth	· · · _		24.32			Recovered (g			-				
Water Colur			14,94			eter (Inches):_		<u> </u>					
80% Recha	rge Depth(fe	et):	12.37		1 Well Volum	ie (gallons):							
Time Start	Time Stop	Í	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F,C)	pН	D.O. (mg/L)	ORP	Turbidity			
Pre-F	Purge				·			2.74-	[69]				
0726					576.4	19,7	7,13	0.81	166				
	0731			<u>6</u>	577.7	19.5	7.06	0.78	170				
				 	C growthe Game.	e E E Constant All							
01-1			1										
	c at Time S 9.81	amp	nea	lot	al Gallons Pur q	gea	Sample Time						
Comments				<u> </u>	_	l	·····		(i			
		_			·····								



·		C				IG FIELD NO								
Site: 187			Proje	ect No.:_\93-	487.0035,	1644		Date:	11/16	1				
Well No	Mw-6				Purge Metho	d:	Sub		ť					
	ater (feet):		61		Depth to Product (feet):									
Total Depth	(feet)	2	1.42	. <u></u>										
Water Colu	mn (feet):				Casing Diam	eter (Inches):_		2	_					
80% Recha	rge Depth(fe	et):	12,57	·	1 Well Volum	e (gallons):		3						
Time Start	Time Stop	Depl Wa		Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F,C)	pН	D.O. (mg/L)	ORP	Turbidity				
	Purge	字"指"你死		的目标出现		· , · ·		1.67	179					
0804.				3	626.0	18.9	7.23	2.56	177					
	09,09			6	675.1	19.6	7.12	1.57	175					
					010.4			1.16	11-					
Stati	c at Time Sa	mpled			ll Gallons Pur q			Sample	Time					
	: Dry at	d	40 lour											
· · · · ·			<u>1 (10 +)~</u>	·····		······								
	la a						ها قسر	•						
Well No	Mw-9				Purge Metho	d:	<u>HB</u>		<u> </u>					
Depth to Wa	ater (feet):	•	5.98	<u> </u>	Depth to Proc	duct (feet):	سویا 							
Total Depth	(feet)		9.87		LPH & Water	Recovered (g	allons):	**************************************	-					
Water Colu	mn (feet):		3,89	the second s	Casing Diam	eter (Inches):_		2						
80% Recha	rge Depth(fe	et)	16.76		1 Well Volum	e (gallons):								
	· · · · · · · · · · · · · · · · · · ·							· · · · · · · · · · · · · · · · · · ·						
Time Start	Time Stop	Wa	th to iter iet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F,C)	рН	D.O. (mg/L)	ORP	Turbidity				
	Purge		<u>INSES</u>					2.11	138					
0639				2	4-89.6 483.4	16:7	7.45	1.72	144					
	0647			3	484.9	16.8	7.39	4,01	149					
Ctot		i		Tab				Sample Time						
				1018	al Gallons Pur	yeu		Sample	e linie					
	ic at Time Sa 16.01							1h	17	•••				
Comments	16.01		dallon		3			10	7					



			GROU	NDWATE	R SAMPLIN	IG FIELD NO	DTES			
			Tec	hnician:	A. Vidi	lrs	_	\$		
Site: 187			Proj	ect No.:_ <u>\</u> §_		1644		Date:_	11/1	ofu
Well No	<u>Mw</u>	-			Purge Metho	d:	Sub_			(
Depth to W	ater (feet):		14.4.3		Depth to Proc	duct (feet):	•~•			
Total Depth	(feet)	:	24.02		LPH & Water					
Water Colu	mn (feet):		9.59		Casing Diam	eter (Inches):		4		
80% Recha	rge Depth(fe	eet):	<u>16-35</u>	-) 	1 Well Volum	e (gallons):	·	7		1
Time Start	Time Stop	-	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F,C)	pН	D.O. (mg/L)	ORP	Turbldity
	Purge 0824	1			179 6	10 19	47 J.P	0.8	177	
0820	064	-		14	477.5	[9.7	7.15	1.80	173	
		1		21	A The second sec					· ·
		1								
01-4	e el Time D		1						• 1	<u> </u>
Stati	c at Time Sa	amp	iea	1 018	al Gallon's Pur	gea		Sample		
Comments	<u>,</u>	9	gallons	· DId	not recover	- In 4.5 m	inves	ov .	· · · · · · · · · · · · · · · · · · ·	uks.
Well No					Purge Metho	d:				
Depth to Wa	ater (feet):		·		Depth to Proc	duct (feet):				
Total Depth	(feet)					Recovered (ga	allons):		_	
Water Colur						eter (Inches);			-	
80% Recha		1			•	e (gallons);				
Time Start	Time Stop	l	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F,C)	pН	D.O. (mg/L)	ORP	Turbidity
Pre-F	Purge						 			
							 			
							+			
				·						
]		<u> </u>	<u> </u>
Stati	c at Time S	am	oled	Tot	al Gallons Pur	ged		Sample	Time	
Comments	3 1					I				
Į					· · · · · · · · · · · · · · · · · · ·					

CTRC

WELL BOX CONDITION REPORT

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SITE NO. ADDRESS DATE	18 0 11/1	71 16 0]11	Mac.	frthu		31vd.		<u>Oak</u>	iland,	CA										PERFOMED BY: A- Hudwers PAGE OF /
Well Name	Current Well Box Size	# of Ears	# of Stripped Ears	# of Broken Ears	# of Broken Bolts	# of Missing Bolts	Seal Damaged	Missing Lid	Broken Lid	Well Box is Exposed	Well Box Is Below Grade	Unable to Access	Unable to Locate	Foundation Damaged	Paved Over	Street Well	Saw Cut Needed	System Well	USA Marked Well	Comments
	12"	2	Ó	0	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	
Mw-10	12	2	0	O	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	
Mw - 8	127	2	Ô	0	0	0	X	Ν	N	N	N	N	N	N.	N	X	Ņ	N	N	
WW-7	12'	2	0	0	0	0	N	N	N	N	N	N	N	N	N	X	N	N	N	
MW-6	2"	2	0	0	0	0	\sim	N	N	N	N	N	N	N	W	X	ĪN	N	N	
Mw-9	[2]	2	0	0	0	0	N	N	N.	N	N	N	N	N	N	N	N	N	N	
Mw-1	12"	2	Ó	0	0	0	N	N	N	N	N	N	N	N	N	N	N	N	N	
															········		-			
											_									



187 CRA Union Oil Site ID: Union Oil Consultant: ANALYSES REQUIRED T0000101493 Kerston LAN Site Global ID: Consultant Contact: Turnaround Time (TAT): Machr-hur Siva. 80073 20 510 420 3347 Site Address: Consultant Phone No.: Standard 🔯 24 Hours 🖾 Cinkland, CA Sampling Company: TRC 48 Hours 🗀 72 Hours 🗆 NO. A K0181 45 Union Oil PM: Sampled By (PRINT): Special Instructions linver S AnAMEN \geq 225 710 6270 EPA 8260B Union Oil PM Phone No.: ~~~ EPA 8260B Full List with OXYS TRMSampler Signature: ZNR Nitrat(Charge Code: NWRTB- 0 2 - 0 44-0- LAB TPH - Diesel by EPA 8015 NJA1 BTEX/MTBE/OXYS by Ethanol by EPA 8260B **BC** Laboratories, Inc. 1 MRCI TPH - G by GC/MS ~ Project Manager: Molly Meyers This is a LEGAL document. ALL fields must be filled out CORRECTLY and 4100 Atlas Court, Bakersfield, CA 93308 COMPLETELY. 的船后的 Methow(Phone No. 661-327-4911 くちょうく 144 × بل SAMPLE ID Date line. **Field Point Name** DTW Matrix (yymmdd) Sample Time # of Containers Notes / Comments w-s-A MW. - 11 0/54-11117 X Х X ン X CREA MW-10 W-S-A 0127 1 W - Y Ŵ-S-A (437 Aw - T W-S-A NW-n 1006 W-S-A MAN - G 1017 Ŵ-S-A MW-(3) V/ ₩-S-A W-S-A W-S-A W-S-A W-S-A W-S-A Relinguished Bv Company Date / Time: Relinquished By Date / Time ; Relinquished By Company Company Date / Time: 1300 $\mathbb{R}($ 11/10/14 Received By Date / Time: Received By Company Company Date / Time : Received By Company Date / Time:

Mand Brann Belats HR-4 1944

Union Oil Company of California a 6101 Bollinger Canyon Road a San Ramon, CA 94583

COC _____ of _____

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TRC SOLUTIONS

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TECHNICAL SERVICES REQUEST FORM

26-Oct-11

Site ID: Address City: Cross Stree	Oakla		vard		Project No.: Client: Contact #: PM: PM Contact #:	183487.0035.1644 Roya Kambin 925-790-6270 Kiersten Hoey 510-420-3347	/ 00TA01 CRA	
Total numbe Depth to Wa ACTIVITIE	ter (ft.):		Max	Well Diamete . Well Diamete . Well Depth (er (in.): 4 ft): 30	# of Techs, # of I Travel Time (hrs lotes	•	6
Gauging: Purge/Samplii	ng: 🗹	1						
No Purge/San				·				
RELATED		TIES Not	es					
Drums:	V							
Other Activitie	s: 🔽	No Parking	g signs		*		ħ	
Traffic Control	: 🔽	City of Oal	kland &	Caltrans	Dern	ut attal	red.	
NOTIFICAT Mark Karvelot, Q Son's 76: 510-65	uick Stop	Markets, 510-65	7-8500					
SITE INFO								
		after each casing						
Monitor and sam	ple MW-1	last and MW-9 s	econd to I	last.				
Ozone sparge sy 818-968-5864.	rstem on s	site. O&M compa	ıy is Envîı	ronStrategies. If th	ere are any problems	with the system please o	all Darren Azari	an @

.

TRC SOLUTIONS TECHNICAL SERVICES REQUEST FORM

26-Oct-11

Site ID: Address	1871 96 MacArthur Boulevard	Project No.: Client:	183487.0035.1644 / 00TA01 Roya Kambin			
City:	Oakland eet: Harrison Street	Contact #: PM: PM Contact #:	925-790-6270 Kiersten Hoey	CRA		
	RMATION:					
Global ID:	T0600101493					
Lab WO:	351644					
Lab Used:	BC Labs		and the second			
.ab Notes:	Lab anaylses: TPH-G by GC/MS, BTEX/MTBE/TBA by 8260 Sulfate, Nitrate [Container: one 500 mL poly Ferrous Iron [Container: one 500 mL poly w/	unprserved]	by 8260B [Containers	. 3 voas w/HCI)		

Ferrous Iron [Container: one 500 mL poly w/ HCI] Methane [Containers: 2 voas unpreserved]

TRC SOLUTIONS

TECHNICAL SERVICES REQUEST FORM

26-Oct-11

Site ID.:1871Address96 MacArthur BoulevardCity:Oakland

Cross Street Harrison Street

				r	Gau	iging			Sam	pling		r	Field Measu	rements	-	
Well IDs	Benz.	M	BE	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Pre-Purge	Post-Purge	Туре	Comments	
MW-11	0)	0		V		~		~		V		~	D.O., ORP	2" casing	
MW-10	0)	0				~		~					D.O., ORP	2" casing	
MW-8	0)	1.1				~	·			~			D.O., ORP	2" casing	
MW-7	0)	5.2				~		~		<			D.O., ORP	2" casing	
MW-6	0)	6				~		\checkmark			I		D.O., ORP	2" casing	
MW-9	0)	70				~							D.O., ORP	2" casing	
MW-1	3.2	2	10				V		 					D.O., ORP	4" casing	· · · · · · · · · · · · · · · · · · ·

ATTACHMENT B

LABORATORY ANALYTICAL REPORT



Date of Report: 11/21/2011

Kiersten Hoey

Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608

Project:	1871
BC Work Order:	1118646
Invoice ID:	B111626

Enclosed are the results of analyses for samples received by the laboratory on 11/10/2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Molly Meyers

Contact Person: Molly Meyers Client Service Rep

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014



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Water Analysis (General Chemistry)	
1118646-02 - MW-10-W-111110	
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Method Blank Analysis	
Laboratory Control Sample	
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Notes	
Notes and Definitions	

11-18646 CHAIN OF CUSTODY FORM COC Union Oil Company of California a 6101 Bollinger Canyon Road a San Ramon, CA 94583 of CRA 187 ANALYSES REQUIRED Union Oil Site ID: Union Oil Consultant: T0600101493 Kiersten Hoey Consultant Contact: Turnaround Time (TAT): Site Global ID: Q0978 510 420 3347 MycArthur Blud, Standard 😿 24 Hours 🗆 9h Consultant Phone No .: Site Address: Oakland, CA 48 Hours 🗆 72 Hours 🗆 Sampling Company: TRC Rova Kambin Special Instructions Sampled By (PRINT): Union Oil PM: lidners à Andrew BTEX/MTBE/OXYS by EPA 8260B 925 790 6270 Union Oil PM Phone No.: EPA 8260B Full List with OXYS TBA BILOB Sampler Signature: Nitrate Charge Code: NWRTB- 0 351644-0- LAB TPH - Diesel by EPA 8015 ron Ethanol by EPA 8260B BC Laboratories, Inc. MTBF/ TPH - G by GC/MS 2 Project Manager: Molly Meyers This is a LEGAL document. ALL fields must be filled out CORRECTLY and 4100 Atlas Court, Bakersfield, CA 93308 EDC Methane COMPLETELY. Sulfate, PErveys Phone No. 661-327-4911 BTEX/ SAMPLE ID EDB/ Date Notes / Comments Sample Time # of Containers DTW Field Point Name Matrix (yymmdd) \overline{X} X X Х χ X 7 MW-11 0954 (WAS-A 11110 -2 0909 MW-ID W-S-A -3 MW-8 0927 V-S-A MW-7 -4 0937 -S-A - 5 1006 NW-6 W-S-A MW-9 6 1017 V-S-A $\overline{\mathbb{V}}$ V m 03 MW-1 W-S-A SHORT HOLDING TIME W-S-A NO₂ NO3 OF SS i i Ol Cr CHK W-S-A BOD MBAS ¢от DO Cl₂ W-S-A m 1 11 3 8 W-S-A W-S-A Relinguished By Company Date / Time: Date / Time : Date / Time: Relinguished By Company Relinguished By Company 11/10/11 1300 <u>Mary Bogan</u> Received By BeLADS 11-10-11 1900 2200 1-10.11 Date / Time: Company Company Date / Time : Received By Date / Time: Company Received By 11-10-11 14:45 RLR OU 1900 11.10-11 Mary Bogon BCLADS 1)-10-11 2200

Environmental Testing Laboratory Since 1949

Chain of Custody and Cooler Receipt Form for 1118646

Page 1 of 2

Page 3 of 37



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Environmental Testing Laboratory Since 1949

Chain of Custody and Cooler Receipt Form for 1118646 Page 2 of 2

ubmission #: 11-18 44 SHIPPING INFORI			1			SHIPPIN				
Federal Express UPS Hand Delivery Ice Chest None Box BC Lab Field Service Other (Specify) Box Other Other (Specify)										
Refrigerant: Ice,🖉 Blue Ice 🗆	None			comments						
	Containe ntact? Yes_		None 🗹	Commer	its:					
<u> </u>				s 🖓 No 🗆		Descriptio		h COC? Y	es 🗆 No	
COC Received Err ₽YES □ NO Terr	nissivity: () mperature:	<u>.98</u> c	ontainer: _ 	<u>руре</u> т с / с	hermomete	er ID: <u>\ </u>	1_	Date/Tim Analyst I	e <u>וו-10-11</u> nit <u>איא</u> ו	-29971
					SAMPLE N				1	
SAMPLE CONTAINERS	1	2	3	4	5	6	7	8	9	10
T GENERAL MINERAL/ GENERAL PHYSICAL	$\hat{\mathcal{O}}$	~~~~	(P	0	C	0	e			
T PE UNPRESERVED		<u> </u>								
T INORGANIC CHEMICAL METALS										
T INORGANIC CHEMICAL METALS									ŀ	
T CYANIDE										
T NITROGEN FORMS										
T TOTAL SULFIDE										
oz. NITRATE / NITRITE										
T TOTAL ORGANIC CARBON										
TTOX			1							
T CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
Oml VOA VIAL TRAVEL BLANK	02	AB	TAR	AB	AB	M3	MAR	() . (()
lomi VOA VIAL										
<u>QT EPA 413.1, 413.2, 418.1</u>				1						
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL	BD	BG	BBD	B(2)	0/2	B/2	B 2			
40 ml VOA VIAL- 594	126	1 ve	1-0	Pula		1				
QT EPA 508/608/8080	+									
QT EPA 515.1/8150	1			-						
QT EPA 525	1									
QT EPA 525 TRAVEL BLANK	-									
100ml EPA 547	1									
100ml EPA 531.1	1				1					
QT EPA 548						-				
QT EPA 549		+	1				1			
QT EPA 632			-							
QT EPA 8015M				-	1					
OT AMBER				-						
8 OZ. JAR				1						
32 OZ. JAR		+		-						
SOIL SLEEVE										
PCB VIAL				1		1				
PLASTIC BAG	M	0	D	N	D	D	D			
FERROUS IRON	- <u>-</u> v	<u> </u>	+		1		1			
ENCORE		1	,	1	1					

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported: 11/21/2011 10:17 Project: 1871 Project Number: 351644 Project Manager: Kiersten Hoey

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	on	
1118646-01	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 1871 MW-11-W-111110 TRCI	Receive Date: 11/10/2011 22:0 Sampling Date: 11/10/2011 08:5 Sample Depth: Lab Matrix: Water Sample Type: Water Delivery Work Order: Global ID: Global ID: T0600101493 Location ID (FieldPoint): MW-11 Matrix: W Sample QC Type (SACode): CS Cooler ID: K
1118646-02	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 1871 MW-10-W-111110 TRCI	Receive Date:11/10/201122:0Sampling Date:11/10/201109:0Sample Depth:Lab Matrix:WaterSample Type:WaterDelivery Work Order:Global ID:T0600101493Location ID (FieldPoint):MW-10Matrix:WSample QC Type (SACode):CSCooler ID:
1118646-03	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 1871 MW-8-W-111110 TRCI	Receive Date:11/10/201122:0Sampling Date:11/10/201109:2Sample Depth:Lab Matrix:WaterSample Type:WaterDelivery Work Order:WaterGlobal ID:T0600101493Location ID (FieldPoint):MW-8Matrix:WSample QC Type (SACode):CSCooler ID:Cooler ID:



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported: 11/21/2011 10:17 Project: 1871 Project Number: 351644 Project Manager: Kiersten Hoey

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Informati	0n	
1118646-04	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 1871 MW-7-W-111110 TRCI	AW-7
1118646-05	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 1871 MW-6-W-111110 TRCI	 er /IW-6
1118646-06	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 1871 MW-9-W-111110 TRCI	/W-9



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608

Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	----------------------------------

1118646-07	COC Number:		Receive Date:	11/10/2011 22:00
	Project Number:	1871	Sampling Date:	11/10/2011 10:31
	Sampling Location:		Sample Depth:	
	Sampling Point:	MW-1-W-111110	Lab Matrix:	Water
Sampled By:	Sampled By:	TRCI	Sample Type:	Water
			Delivery Work Ord	er:
			Global ID: T06001	01493
			Location ID (Field	Point): MW-1
			Matrix: W	
			Sample QC Type (SACode): CS
			Cooler ID:	





Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/2011 10:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1	118646-01	Client Sampl	e Name:	1871, MW-11-W-11	1110, 11/10/2011	8:54:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		ND	ug/L	1.0	EPA-8260	ND		1
t-Butyl alcohol		ND	ug/L	10	EPA-8260	ND		1
Ethanol		ND	ug/L	250	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Sur	rogate)	96.5	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		105	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Sur	rogate)	95.7	%	86 - 115 (LCL - UCL)	EPA-8260			1

			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8260	11/14/11	11/15/11 00:09	JMC	MS-V12	1	BUK1008



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Gas Testing in Water

BCL Sample ID:	1118646-01	Client Sample	e Name:	1871, MW-1 ⁻	1-W-111110, 11/10/2011	8:54:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane		ND	mg/L	0.0010	RSK-175M	ND		1

			Run			QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	RSK-175M	11/19/11	11/19/11 09:23	JMC	GC-V1	1	BUK0962	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Water Analysis (General Chemistry)

BCL Sample ID:	1118646-01	Client Sampl	e Name:	1871, MW-11-	-W-111110, 11/10/2011	8:54:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Nitrate as NO3		5.1	mg/L	2.2	EPA-300.0	ND	A01	1
Sulfate		57	mg/L	5.0	EPA-300.0	ND	A01	1
Iron (II) Species		ND	ug/L	100	SM-3500-FeD	ND		2

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-300.0	11/11/11	11/11/11 21:33	AKB	IC2	5	BUK0924	
2	SM-3500-FeD	11/11/11	11/11/11 22:30	MSA	SPEC05	1	BUK0946	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1	118646-02	Client Sampl	e Name:	1871, MW-10-W-11	1110, 11/10/2011	9:09:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		ND	ug/L	1.0	EPA-8260	ND		1
t-Butyl alcohol		ND	ug/L	10	EPA-8260	ND		1
Ethanol		ND	ug/L	250	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surr	ogate)	93.4	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		94.8	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Sur	rogate)	95.2	%	86 - 115 (LCL - UCL)	EPA-8260			1

				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8260	11/14/11	11/14/11 23:51	JMC	MS-V12	1	BUK1008

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Gas Testing in Water

BCL Sample ID:	1118646-02	Client Sample	e Name:	1871, MW-10)-W-111110, 11/10/2011	9:09:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane		ND	mg/L	0.0010	RSK-175M	ND		1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	RSK-175M	11/19/11	11/19/11 09:19	JMC	GC-V1	1	BUK0962	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Water Analysis (General Chemistry)

BCL Sample ID:	1118646-02	Client Sampl	e Name:	1871, MW-10-	-W-111110, 11/10/2011	9:09:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Nitrate as NO3		26	mg/L	0.44	EPA-300.0	ND		1
Sulfate		24	mg/L	1.0	EPA-300.0	ND		1
Iron (II) Species		ND	ug/L	100	SM-3500-FeD	ND		2

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-300.0	11/11/11	11/11/11 22:55	AKB	IC2	1	BUK0924	
2	SM-3500-FeD	11/11/11	11/11/11 22:30	MSA	SPEC05	1	BUK0946	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1118646	-03 Client Sampl	e Name:	1871, MW-8-W-111	110, 11/10/2011	9:27:00AM		
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260	ND		1
Ethanol	ND	ug/L	250	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	102	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	96.9	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	92.4	%	86 - 115 (LCL - UCL)	EPA-8260			1

		Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8260	11/14/11	11/14/11 23:33	JMC	MS-V12	1	BUK1008



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Gas Testing in Water

BCL Sample ID:	1118646-03	Client Sample	e Name:	1871, MW-8-	W-111110, 11/10/2011	9:27:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane		ND	mg/L	0.0010	RSK-175M	ND		1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	RSK-175M	11/19/11	11/19/11 09:14	JMC	GC-V1	1	BUK0962



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Water Analysis (General Chemistry)

BCL Sample ID:	1118646-03	Client Sampl	e Name:	1871, MW-8-V	V-111110, 11/10/2011	9:27:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Nitrate as NO3		3.0	mg/L	0.44	EPA-300.0	ND		1
Sulfate		54	mg/L	1.0	EPA-300.0	ND		1
Iron (II) Species		ND	ug/L	200	SM-3500-FeD	ND	A10	2

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-300.0	11/11/11	11/11/11 23:09	AKB	IC2	1	BUK0924	
2	SM-3500-FeD	11/11/11	11/11/11 22:30	MSA	SPEC05	2	BUK0946	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/2011 10:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1118646-	04 Client Sampl	e Name:	1871, MW-7-W-111	110, 11/10/2011	9:37:00AM		
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	2.9	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
t-Butyl alcohol	ND	ug/L	10	EPA-8260	ND		1
Ethanol	ND	ug/L	250	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	98.6	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	104	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	97.9	%	86 - 115 (LCL - UCL)	EPA-8260			1

				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8260	11/14/11	11/14/11 23:15	JMC	MS-V12	1	BUK1008



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Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Gas Testing in Water

BCL Sample ID:	1118646-04	Client Sample	e Name:	1871, MW-7-	W-111110, 11/10/2011	9:37:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane		0.0041	mg/L	0.0010	RSK-175M	ND		1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	RSK-175M	11/19/11	11/19/11 09:10	JMC	GC-V1	1	BUK0962	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/2011 10:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Water Analysis (General Chemistry)

BCL Sample ID:	1118646-04	Client Sampl	e Name:	1871, MW-7-V	V-111110, 11/10/2011	9:37:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Nitrate as NO3		ND	mg/L	0.44	EPA-300.0	ND		1
Sulfate		9.0	mg/L	1.0	EPA-300.0	ND		1
Iron (II) Species		140	ug/L	100	SM-3500-FeD	ND		2

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-300.0	11/11/11	11/11/11 23:22	AKB	IC2	1	BUK0924	
2	SM-3500-FeD	11/11/11	11/11/11 22:30	MSA	SPEC05	1	BUK0946	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/2011 10:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1	118646-05	Client Sampl	e Name:	1871, MW-6-W-111	110, 11/10/2011	10:06:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		2.2	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		ND	ug/L	1.0	EPA-8260	ND		1
t-Butyl alcohol		ND	ug/L	10	EPA-8260	ND		1
Ethanol		ND	ug/L	250	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		ND	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surr	ogate)	101	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		89.2	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Sur	rogate)	93.0	%	86 - 115 (LCL - UCL)	EPA-8260			1

	Run						QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8260	11/14/11	11/14/11 22:57	JMC	MS-V12	1	BUK1008



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Gas Testing in Water

BCL Sample ID:	1118646-05	Client Sample	e Name:	1871, MW-6-	W-111110, 11/10/2011	10:06:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane		ND	mg/L	0.0010	RSK-175M	ND		1

			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	RSK-175M	11/19/11	11/19/11 08:58	JMC	GC-V1	1	BUK0962



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Water Analysis (General Chemistry)

BCL Sample ID:	1118646-05	Client Sampl	e Name:	1871, MW-6-V	V-111110, 11/10/2011	10:06:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Nitrate as NO3		ND	mg/L	0.44	EPA-300.0	ND		1
Sulfate		24	mg/L	1.0	EPA-300.0	ND		1
Iron (II) Species		ND	ug/L	100	SM-3500-FeD	ND		2

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-300.0	11/11/11	11/11/11 23:36	AKB	IC2	1	BUK0924	
2	SM-3500-FeD	11/11/11	11/11/11 22:30	MSA	SPEC05	1	BUK0946	



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Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 11	18646-06	Client Sampl	e Name:	1871, MW-9-W-111	110, 11/10/2011	10:17:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		63	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		ND	ug/L	1.0	EPA-8260	ND		1
t-Butyl alcohol		ND	ug/L	10	EPA-8260	ND		1
Ethanol		ND	ug/L	250	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		51	ug/L	50	Luft-GC/MS	ND	A90	1
1,2-Dichloroethane-d4 (Surrog	gate)	98.3	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		98.6	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surro	gate)	95.3	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run	QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8260	11/14/11	11/14/11 22:38	JMC	MS-V12	1	BUK1008



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Gas Testing in Water

BCL Sample ID:	1118646-06	Client Sample	e Name:	1871, MW-9-	W-111110, 11/10/2011	10:17:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane		ND	mg/L	0.0010	RSK-175M	ND		1

			Run		QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	RSK-175M	11/19/11	11/19/11 08:54	JMC	GC-V1	1	BUK0961



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/2011 10:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Water Analysis (General Chemistry)

BCL Sample ID:	1118646-06	Client Sampl	e Name:	1871, MW-9-\	W-111110, 11/10/2011	10:17:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Nitrate as NO3		1.3	mg/L	0.44	EPA-300.0	ND		1
Sulfate		30	mg/L	1.0	EPA-300.0	ND		1
Iron (II) Species		270	ug/L	100	SM-3500-FeD	ND		2

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-300.0	11/11/11	11/11/11 23:50	AKB	IC2	1	BUK0924	
2	SM-3500-FeD	11/11/11	11/11/11 22:30	MSA	SPEC05	1	BUK0946	





Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/2011 10:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 1	118646-07	Client Sampl	e Name:	1871, MW-1-W-111	110, 11/10/2011	10:31:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene		0.72	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene		7.1	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether		2.4	ug/L	0.50	EPA-8260	ND		1
Toluene		ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes		1.4	ug/L	1.0	EPA-8260	ND		1
t-Butyl alcohol		60	ug/L	10	EPA-8260	ND		1
Ethanol		ND	ug/L	250	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons		410	ug/L	50	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surr	ogate)	99.9	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)		100	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Sur	rogate)	98.1	%	86 - 115 (LCL - UCL)	EPA-8260			1

			Run	QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8260	11/14/11	11/14/11 22:20	JMC	MS-V12	1	BUK1008



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Gas Testing in Water

BCL Sample ID:	1118646-07	Client Sample	e Name:	1871, MW-1-	W-111110, 11/10/2011	10:31:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Methane		0.032	mg/L	0.0010	RSK-175M	ND		1

			Run		QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	RSK-175M	11/19/11	11/19/11 08:51	JMC	GC-V1	1	BUK0961	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Water Analysis (General Chemistry)

BCL Sample ID:	1118646-07	Client Sampl	e Name:	1871, MW-1-V	W-111110, 11/10/2011	10:31:00AM		
Constituent		Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Nitrate as NO3		1.2	mg/L	0.44	EPA-300.0	ND		1
Sulfate		19	mg/L	1.0	EPA-300.0	ND		1
Iron (II) Species		360	ug/L	100	SM-3500-FeD	ND		2

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-300.0	11/11/11	11/12/11 00:03	AKB	IC2	1	BUK0924
2	SM-3500-FeD	11/11/11	11/11/11 22:30	MSA	SPEC05	1	BUK0946

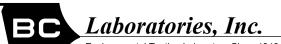


Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUK1008						
Benzene	BUK1008-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BUK1008-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BUK1008-BLK1	ND	ug/L	0.50		
Ethylbenzene	BUK1008-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BUK1008-BLK1	ND	ug/L	0.50		
Toluene	BUK1008-BLK1	ND	ug/L	0.50		
Total Xylenes	BUK1008-BLK1	ND	ug/L	1.0		
t-Butyl alcohol	BUK1008-BLK1	ND	ug/L	10		
Ethanol	BUK1008-BLK1	ND	ug/L	250		
Total Purgeable Petroleum Hydrocarbons	BUK1008-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BUK1008-BLK1	103	%	76 - 114	(LCL - UCL)	
Toluene-d8 (Surrogate)	BUK1008-BLK1	101	%	88 - 110	(LCL - UCL)	
4-Bromofluorobenzene (Surrogate)	BUK1008-BLK1	93.0	%	86 - 115	(LCL - UCL)	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608

Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

								Control I	imits		
Constituent	QC Sample ID	Tuno	Result	Spike Level	Units	Percent Recoverv	RPD	Percent	RPD	Lab Quals	
		Туре	Result	Level	Units	Recovery	κ۳υ	Recovery	RPD.	Quais	
QC Batch ID: BUK1008											
Benzene	BUK1008-BS1	LCS	25.830	25.000	ug/L	103		70 - 130			
Toluene	BUK1008-BS1	LCS	28.590	25.000	ug/L	114		70 - 130			
1,2-Dichloroethane-d4 (Surrogate)	BUK1008-BS1	LCS	9.5500	10.000	ug/L	95.5		76 - 114			
Toluene-d8 (Surrogate)	BUK1008-BS1	LCS	10.140	10.000	ug/L	101		88 - 110			
4-Bromofluorobenzene (Surrogate)	BUK1008-BS1	LCS	10.290	10.000	ug/L	103		86 - 115			
4-Bromofluorobenzene (Surrogate)	BUK1008-BS1	LCS	10.290	10.000	ug/L	103		86 - 115			

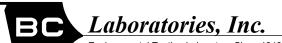


Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

ļ									Cont	trol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: BUK1008	Use	d client samp	le: N								
Benzene	MS	1118296-02	ND	27.130	25.000	ug/L		109		70 - 130	
	MSD	1118296-02	ND	23.630	25.000	ug/L	13.8	94.5	20	70 - 130	
Toluene	MS	1118296-02	ND	27.030	25.000	ug/L		108		70 - 130	
	MSD	1118296-02	ND	27.250	25.000	ug/L	0.8	109	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1118296-02	ND	11.090	10.000	ug/L		111		76 - 114	
	MSD	1118296-02	ND	10.040	10.000	ug/L	9.9	100		76 - 114	
Toluene-d8 (Surrogate)	MS	1118296-02	ND	10.130	10.000	ug/L		101		88 - 110	
	MSD	1118296-02	ND	10.910	10.000	ug/L	7.4	109		88 - 110	
4-Bromofluorobenzene (Surrogate)	MS	1118296-02	ND	10.350	10.000	ug/L		104		86 - 115	
	MSD	1118296-02	ND	9.2900	10.000	ug/L	10.8	92.9		86 - 115	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Gas Testing in Water

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BUK0961						
Methane	BUK0961-BLK1	ND	mg/L	0.0010		
QC Batch ID: BUK0962						
Methane	BUK0962-BLK1	ND	mg/L	0.0010		



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported: 11/21/2011 10:17 Project: 1871 Project Number: 351644 Project Manager: Kiersten Hoey

Gas Testing in Water

Quality Control Report - Laboratory Control Sample

								Control I	imits	
				Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: BUK0961										
Methane	BUK0961-BS1	LCS	0.0092531	0.010843	mg/L	85.3		80 - 120		
	BUK0961-BSD1	LCSD	0.0094679	0.010843	mg/L	87.3	2.3	80 - 120	20	
QC Batch ID: BUK0962										
Methane	BUK0962-BS1	LCS	0.0095447	0.010843	mg/L	88.0		80 - 120		
	BUK0962-BSD1	LCSD	0.0093515	0.010843	mg/L	86.2	2.0	80 - 120	20	



Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608 Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL Lab Quals	
QC Batch ID: BUK0924						
Nitrate as NO3	BUK0924-BLK1	ND	mg/L	0.44		
Sulfate	BUK0924-BLK1	ND	mg/L	1.0		
QC Batch ID: BUK0946						
Iron (II) Species	BUK0946-BLK1	ND	ug/L	100		



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Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

								Control L	imits	
		_		Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: BUK0924										
Nitrate as NO3	BUK0924-BS1	LCS	21.399	22.134	mg/L	96.7		90 - 110		
Sulfate	BUK0924-BS1	LCS	97.820	100.00	mg/L	97.8		90 - 110		
QC Batch ID: BUK0946										
Iron (II) Species	BUK0946-BS1	LCS	1995.4	2000.0	ug/L	99.8		90 - 110		



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Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

									Con	trol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: BUK0924	Use	d client samp	le: Y - Des	cription: MV	V-11-W-111	110, 11/10	/2011 ()8:54			
Nitrate as NO3	DUP	1118646-01	5.1351	5.3122		mg/L	3.4		10		
	MS	1118646-01	5.1351	117.65	111.79	mg/L		101		80 - 120	
	MSD	1118646-01	5.1351	117.18	111.79	mg/L	0.4	100	10	80 - 120	
Sulfate	DUP	1118646-01	57.330	56.870		mg/L	0.8		10		
	MS	1118646-01	57.330	579.18	505.05	mg/L		103		80 - 120	
	MSD	1118646-01	57.330	577.95	505.05	mg/L	0.2	103	10	80 - 120	
QC Batch ID: BUK0946	Use	d client samp	ole: Y - Des	cription: MV	V-11-W-111	110, 11/10	/2011 (08:54			
Iron (II) Species	DUP	1118646-01	69.231	ND		ug/L			10		A02

Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Conestoga-Rovers & Associates 5900 Hollis St. Suite A Emeryville, CA 94608

Reported:11/21/201110:17Project:1871Project Number:351644Project Manager:Kiersten Hoey

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.

A02 The difference between duplicate readings is less than the PQL.

A10 PQL's and MDL's were raised due to matrix interference.

A90 TPPH does not exhibit a "gasoline" pattern. TPPH is entirely due to MTBE.

ATTACHMENT C

HISTORICAL GROUNDWATER MONITORING AND SAMPLING DATA

TABLE KEY

STANDARD ABBREVIATIONS

	=	not analyzed, measured, or collected
LPH		liquid-phase hydrocarbons
μg/l	=	micrograms per liter (approx. equivalent to parts per billion, ppb)
mg/l	=	milligrams per liter (approx. equivalent to parts per million, ppm)
ND<		not detected at or above laboratory detection limit
TOC		top of casing (surveyed reference elevation)
D	=	duplicate
Р	=	no-purge sample

ANALYTES

ANALY 1ES		
DIPE	=	di-isopropyl ether
ETBE	=	ethyl tertiary butyl ether
MTBE	=	methyl tertiary butyl ether
PCB	=	polychlorinated biphenyls
PCE	=	tetrachloroethene
TBA	=	tertiary butyl alcohol
TCA	=	trichloroethane
TCE	=	trichloroethene
TPH-G	=	total petroleum hydrocarbons with gasoline distinction
TPH-G (GC/MS)	=	total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B
TPH-D	=	total petroleum hydrocarbons with diesel distinction
TRPH	=	total recoverable petroleum hydrocarbons
TAME	=	tertiary amyl methyl ether
1,2-DCA	=	1,2-dichloroethane (same as EDC, ethylene dichloride)

<u>NOTES</u>

- 1. Elevations are in feet above mean sea level. Depths are in feet below surveyed top-of-casing.
- 2. Groundwater elevations for wells with LPH are calculated as: <u>Surface Elevation Measured Depth to Water + (Dp x LPH Thickness</u>), where Dp is the density of the LPH, if known. A value of 0.75 is used for gasoline and when the density is not known. A value of 0.83 is used for diesel.
- 3. Wells with LPH are generally not sampled for laboratory analysis (see General Field Procedures).
- 4. Comments shown on tables are general. Additional explanations may be included in field notes and laboratory reports, both of which are included as part of this report.
- 5. A "J" flag indicates that a reported analytical result is an estimated concentration value between the method detection limit (MDL) and the practical quantification limit (PQL) specified by the laboratory.
- 6. Other laboratory flags (qualifiers) may have been reported. See the official laboratory report (attached) for a complete list of laboratory flags.
- 7. Concentration graphs based on tables (presented following Figures) show non-detect results prior to the Second Quarter 2000 plotted at fixed values for graphical display. Non-detect results reported since that time are plotted at reporting limits stated in the official laboratory report.
- Prior to the 1st quarter 2010, the word "monitor" was used in table comments interchangeably with the word "gauge". Starting in the 1st quarter 2010, the word "monitor" is used to include both "gauge" and "sample".

REFERENCE

TRC began groundwater monitoring and sampling for 76 Station 1871 in October 2003. Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

Contents of Tables 1 and 2 Site: 76 Station 1871

Current Event

Table 1	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
Table 1a	Well/ Date	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	Post-purge Dissolved Oxygen	Post-purge ORP						
Historic Data													
Table 2	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
Table 2a	Well/ Date	TPH-D	ТВА	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	pH (lab)	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP
Table 2b	Well/ Date	Post-purge											

ORP

Table 1 CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS May 27, 2011 76 Station 1871

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness		Change in Elevation	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE	Comments
				Elevation	i .	8015	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	<u> </u>
MW-1			(Scree	en Interva	l in feet: 9.5	5-24.5)		*						
5/27/201	1 90.21	13.75	0.00	76.46	1.08		1500	3.2	ND<2.5	86	14		10	
MW-6			(Scree	en Interva	l in feet: 5.0	-25.0)								
5/27/201	1 82.51	8.76	0.00	73.75	1.12	 ***	52	ND<0.50	ND<0.50	ND<0.50	ND<1.0		6.0	
MW-7			(Scree	en Interva	l in feet: 5.0	-25.0)								
5/27/201	1 83.80	8.73	0.00	75.07	4.53		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.2	
MW-8			(Scree	en Interva	l in feet: 5.0	-25.0)								
5/27/201	1 84.86	8.12	0.00	76.74	2.67		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		1.1	
MW-9			(Scree	en Interva	l in feet:)									
5/27/201	1 85.18	15.37	0.00	69.81	1.43		59	ND<0.50	ND<0.50	ND<0.50	ND<1.0		70	
MW-10			(Scree	en Interva	l in feet:)									
5/27/201	1 78.18	6.62	0.00	71.56	1.02	'	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-11			(Scree	en Interva	l in feet:)									
5/27/201	1 80.44	15.60	0.00	64.84	-0.45		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	

Table 1 a										
ADDITIONAL CURRENT ANALYTICAL RESULTS										
76 Station 1871										

Date			Ethylene-		Post-purge					
Sampled		Ethanol	dibromide	1,2-DCA	Dissolved	Post-purge				
	TBA	(8260B)	(EDB)	(EDC)	Oxygen	ORP				
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(mg/l)	(mV)	 	 	 	
MW-1									,	
5/27/2011	ND<50	ND<1200	ND<2.5	ND<2.5	0.37	-19				
MW-6										
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	0.61	199				
MW-7										
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	0.48	145				
MW-8			NTD -0.60	ND 40 50	A 40	200				
5/27/2011	ND<10	ND<250	ND<0.50	ND<0.50	0.48	209				
MW-9	ND 40	NID -250	ND<0.50	ND<0.50	1.51	95				
5/27/2011	ND<10	ND<250	ND~0.50	ND~0.50	1.51	93				
MW-10	ND -10	NID -250	ND<0.50	ND<0.50	1.50	192				
5/27/2011	ND<10	ND<250	140<0.50	ND ~0.50	1.52	192				
MW-11	ND-10	NID-250	ND<0.50	ND<0.50	3.11	205				
5/27/2011	ND<10	ND<250	112 -0.50	1.2 40.50	5.11	205				

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Table 2 HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS November 1992 Through May 2011 76 Station 1871

	Date Sampled	TOC Elevation	Depth to Water	LPH Thickness		Change in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	(Comments
		(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	 	·
N	/W-1			(Scre	en Interva	l in feet: 9.5	5-24.5)									
	11/3/19	92			:	· ·	260000		2300	4600	3700	17000				
	1/25/19	93 81.1	8	0.00	·	·	120000		2100	4600	4900	22000				
	4/29/19	93 81.1	8 13.71	0.00	67.47	·	100000		850	2000	4300	19000				
•	7/16/19	93 81.1	8 14.51	0.00	66.67	-0.80	29000		590	560	980	4200	· ·			
	10/19/19	93 81.1	8 15.20	0.00	65.98	-0.69	67000		1400	2600	2900	5000		'		
	1/20/19	94 81.1	8 15.17	0.00	66.01	0.03	92000		1200	3000	3400	17000			1. A. A.	
	4/13/19	94 81.1	8 14.44	0.00	66.74	0.73	51000		1000	2600	3200	15000				
	7/13/19	94 81.1	8 14.88	0.00	66.30	-0.44	35000		550	150	1400	5700				
	10/10/19	94 81.1	8 15.55	0.00	65.63	-0.67	52000		1000	810	3300	12000				
	1/10/19	95 81.1	8 12.44	0.00	68.74	3.11	810		16	18	59	250				
	4/17/19	95 81.1	8 12.68	0.00	68.50	-0.24	48000		880	530	2500	11000				
	7/24/19	95 81.1	8 13.97	0.00	67.21	-1.29	48000		1500	420	2700	9700				
	10/23/19	95 81.1	8 14.85	0.00	66.33	-0.88	47000		780	210	2100	11000	270			
	1/18/19	96 81.1	8 14.21	0.00	66.97	0.64	30000		1500	500	3500	13000	2400			
	4/18/19	96 86.2	4 13.40	0.00	72.84	5.87	66000	·	2700	2200	3100	13000	57000	'		
	7/24/19	96 86.2	4 14.15	0.00	72.09	-0.75	5600		2100	ND	160	160	24000			
	10/24/19	96 86.2	4 14.85	0.00	71.39	-0.70	110000		7500	8000	3300	14000	58000			
	1/28/19	97 86.2	4 11.25	0.00	74.99	3.60	94000		7700	19000	3100	15000	120000	,		
	7/29/19	97 86.2	4 14.67	0.00	71.57	-3.42	ND		ND	ND	ND	ND	70000			
	1/14/19	98 86.2	4 12.27	0.00	73.97	2.40	85000		6100	10000	3000	17000	110000			
	7/1/199	8 86.2	4 14.32	0.00	71.92	-2.05	110000		8700	12000	2700	15000	110000			
	6/18/19	99 86.2	4 13.93	0.00	72.31	0.39	49000		6900	6500	380	12000	72000	47000		

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Table 2 HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS November 1992 Through May 2011 76 Station 1871

Comments TOC Depth to LPH Ground-Change Date Sampled Elevation Water Thickness water in Total MTBE MTBE Ethyl-TPH-G TPH-G Elevation Elevation (8260B) (8021B) **Xylenes** Toluene benzene 8015 (GC/MS) Benzene $(\mu g/l)$ (µg/l) (µg/l) $(\mu g/l)$ (µg/l) $(\mu g/l)$ (feet) $(\mu g/l)$ $(\mu g/l)$ (feet) (feet) (feet) (feet) MW-1 continued 13100 57100 2000 2640 --0.00 71.19 -1.12 63700 5520 1/21/2000 86.24 15.05 --67400 54000 4120 3330 16100 ·9910 86.24 13.97 0.00 72.27 1.08 67800 ---7/10/2000 38100 784 2670 12900 ---6270 14.92 0.00 71.32 -0.95 63900 1/4/2001 86.24 ---41000 330 2300 9800 36000 7100 0.00 71.92 0.60 66000 7/16/2001 86.24 14.32 ---26000 26000 5800 1800 2000 8200 0.00 73.45 1.53 42000 1/31/2002 86.99 13.54 --19000 1200 1800 10000 ---0.00 73.35 -0.10 58000 2900 4/11/2002 86.99 13.64 ---3400 230 600 ---ND<10 86.99 13.96 0.00 73.03 -0.32 5900 330 7/11/2002 ---390 ND<2.5 14 16 0.00 -0.75 470 16 --10/15/2002 86.99 14.71 72.28 --ND<0.50 ND<0.50 ND<0.50 ND<1.0 49 ---12.77 0.00 74.22 1.94 ND<50 1/14/2003 86.99 ---0.62 29 61 160 57 0.00 73.81 -0.41510 ---4/16/2003 86.99 13.18 -+ 1200 23 730 3200 0.00 72.73 27000 260 ----1.087/16/2003 86.99 14.26 ---3200 7600 45000 1400 32 2900 ---0.00 10/2/2003 86.99 14.95 72.04 -0.69 --5200 2600 1600 34000 690 41 86.99 12.30 0.00 74.69 2.65 1/7/2004 --19 30 1.8 ND<0.50 6.2 ---86.99 13.18 0.00 73.81 -0.88350 4/2/2004 --6100 1200 2000 41000 550 ND<20 ---7/29/2004 86.99 14.61 0.00 72.38 -1.43---1600 3100 11000 55000 910 28 ---0.00 72.01 -0.3711/24/2004 86.99 14.98 --1800 3600 ND<20 1100 --24000 240 0.00 74.01 2.00 1/24/2005 86.99 12.98 ---600 1100 2900 24000 140 ND<25 ---0.00 86.99 13.39 73.60 -0.41 --6/23/2005 320 290 660 0.97 8200 22 ---86.99 14.63 0.00 72.36 -1.249/28/2005 --2400 840 180 17 29 0.00 75.57 3.21 10000 12/20/2005 86.99 11.42 ---960 470 1300 ND<5.0 10000 35 10.98 0.00 76.01 0.44 3/10/2006 86.99 ---780 610 1600 110 ND<5.0 11000 0.00 75.14 -0.87 6/23/2006 86.99 11.85 ---460 22 ND<10 270 740 8500 0.00 72.88 -2.26 ---9/27/2006 86.99 14.11

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Table 2 HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS November 1992 Through May 2011 76 Station 1871

Comments TOC Depth to LPH Ground-Change Date Sampled Elevation Water Thickness water in MTBE MTBE Ethyl-Total TPH-G TPH-G Elevation Elevation (8260B) (8021B) 8015 Toluene benzene Xylenes (GC/MS) Benzene (µg/l) (µg/l) (µg/l) $(\mu g/l)$ $(\mu g/l)$ $(\mu g/l)$ (µg/l) (µg/l) (feet) (feet) (feet) (feet) (feet) MW-1 continued 850 210 ND<5.0 370 12/22/2006 86.99 13.66 0.00 73.33 0.45 7300 35 -----170 8800 28 ND<2.5 440 910 0.00 3/23/2007 86.99 13.25 73.74 0.41 ------50 6300 16 ND<2.5 300 650 0.00 -0.22 6/29/2007 86.99 13.47 73.52 ___ --ND<0.50 ND<0.50 ND<0.50 ND<0.50 1.2 0.00 ND<50 9/28/2007 86.99 13.92 73.07 -0.45 -----18 0.00 -0.65 4700 ND<5.0 ND<5.0 71 160 12/17/2007 86.99 14.57 72.42 ------ND<2.5 430 540 170 3/25/2008 86.99 13.56 0.00 73.43 1.01 7400 28 -----ND<2.5 170 280 16 6/12/2008 86.99 14.07 0.00 72.92 -0.51 4900 6.4 -----72 110 11 ND<0.50 0.00 72.44 -0.48 2200 2.1 9/25/2008 86.99 14.55 ------100 8.3 150 2.5 ND<0.50 12/30/2008 86.99 0.00 72.83 0.39 3200 ---14.16 ---140 28 ND<0.50 140 86.99 12.76 0.00 74.23 1.40 3500 6.8 ----3/24/2009 --ND<2.5 17 12 7.5 0.00 73.11 -1.12740 ND<2.5 ___ 86.99 6/23/2009 13.88 --52 0.00 4600 10 ND<1.0 270 140 72.67 -0.44 12/16/2009 86.99 14.32 --20 100 36 0.00 74.87 2.20 1500 4.8 ND<1.0 --4/14/2010 86.99 12.12 --5.6 180 73 0.00 0.51 4600 3.0 ND<0.50 ---10/13/2010 90.21 14.83 75.38 ---10 ND<2.5 86 14 0.00 1500 3.2 76.46 1.08 5/27/2011 90.21 13.75 --**MW-2** (Screen Interval in feet: --) 2.0 2.2 ND ND 11/3/1992 140 ------76.61 -------90 140 56 1.1 2100 ----1/25/1993 76.61 ------------ND 33 11 0.00 66.88 1500 290 ------9.73 4/29/1993 76.61 ----3.2 2.5 0.00 510 17 0.60 ---66.44 -0.44 7/16/1993 76.61 10.17 --23 7.7 0.00 -1.01 670 24 1.1 ---10/19/1993 76.61 11.18 65.43 ---12 ND ND 820 97 -------1/20/1994 76.61 11.12 0.00 65.49 0.06 ---1.3 71 ND 5.1 4/13/1994 76.61 10.12 0.00 66.49 1.00 550 ---Page 3 of 16

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	Date Sampled	TOC Elevation	Depth to Water	LPH Thickness		Change in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
		(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
-	MW-2	continue			-										
	7/13/19			0.00	65.75	-0.74	2000		490	ND	17	13			
	10/10/19	994 76.6	1 11.48	0.00	65.13	-0.62	2300		340	ND	25	ND			
	1/10/19	95 76.6	1 8.71	0.00	67.90	2.77	850		3.8	ND	8.5	1.3	·		
	4/17/19	95 76.6	1 8.90	0.00	67.71	-0.19	1300		4.7	ND	8.3	1.2			
	7/24/19	95 76.6	1 9.94	0.00	66.67	-1.04	960		20	ND	4.2	6.2			
	10/23/19	995 76.6	1 10.70	0.00	65.91	-0.76	ND		ND	ND	ND	ND	19		
	1/18/19	96 76.6	1 10.11	0.00	66.50	0.59	900		300	86	7.6	18	4300		
	4/18/19	96 81.6	6 9.27	0.00	72.39	5.89	18000		3600	680	890	4100	19000		6
	7/24/19	96 81.6	6 10.02	0.00	71.64	-0.75	100000		13000	21000	2700	16000	120000		
	10/24/19	996 81.6	6 10.78	0.00	70.88	-0.76	800		110	17	11	20	20000		
	1/28/19	97 81.6	6 7.70	0.00	73.96	3.08	45000		2400	2900	2000	7600	29000	- .	
	7/29/19		6 10.28	0.00	71.38	-2.58	ND		1.2	0.72	0.63	0.62	17000		
	1/14/19			0.00	73.03	1.65	14000		1000	150	790	3300	23000		
	7/1/199		6 9.53	0.00	72.13	-0.90	2700		100	ND	180	78	7100		
	6/18/19							. 							Well was destroyed
	MW-3			(Sere	en Interva	l in feet:)									
	11/3/19	92 77.4	8				2100		120	15	38	200			
	1/25/19						2300		80	1	55	52			
	4/29/19			0.00	66.11		4500		1700	ND	200	140			
	7/16/19			0.00	65.39	-0.72	4000		1100	28	52	70			
	10/19/19			0.00	64.79	-0.60	3800		42	ND	50	56			
	1/20/19		-		64.83	0.04	4200		11	ND	21	15			
	4/13/19				65.46	0.63	4200		210	ND	36	53			
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	Date	тос	Depth to	LPH	Ground-	Change								·		Comments
	Sampled E	Elevation	Water	Thickness	water Elevation	in Elevation	TPH-G	TPH-G	_	-	Ethyl-	Total	MTBE	MTBE		
		· .					8015	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)		5
_		(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)		
	MW-3 (200	21				
	7/13/1994				65.02	-0.44	1800		16	16	ND	21				
	10/10/199				64.50	-0.52	4300	,	11	ND	12	ND		·		
	1/10/199:				67.06	2.56	310		4.6	ND	3.5	2.1				
,	4/17/1993				67.06	0.00	7800	'	ND	4.6	300	450				
	7/24/1995		11.76		65.72	-1.34	3200		170	ND	22	16				
	10/23/199	5 77.48	12.50	0.00	64.98	-0.74	3900	 '	55	ND	19	11	4500			
	1/18/199	6 77.48	11.79	0.00	65.69	0.71	2200		270	33	26	18	5500			
	4/18/1990	6 82.55	11.30	0.00	71.25	5.56	6000	-	1800	ND	100	230	48000			
	7/24/1990	6 82.55	12.17	0.00	70.38	-0.87	ND		2500	ND	ND	ND	71000			
	10/24/199	6 82.55	12.65	0.00	69.90	-0.48	3800	· · · •	660	ND	15	ND	65000			
	1/28/199′	7 82.55	9.50	0.00	73.05	3.15	4400		250	13	87	47	54000			
	7/29/199	7 82.55	11.99	0.00	70.56	-2.49	ND	. 	3500	ND	220	ND	75000			
	1/14/199	8 82.55	10.30	0.00	72.25	1.69	ND	,	430	ND	100	380	37000			
	7/1/1998	82.55	11.70	0.00	70.85	-1.40	ND	·	430	ND	ND	ND	45000			
	6/18/1999	9														Well was destroyed
	MW-4			(Scre	en Interva	l in feet:)									•	
	4/18/1990	6 82.04	9.83	0.00	72.21	,	ND		630	ND	ND	ND	18000			
	7/24/1990	6 82.04	10.47	0.00	71.57	-0.64	ND		ND	ND	ND	5.2	3900			
	10/24/199		11.14	0.00	70.90	-0.67	ND		ND	ND	ND	ND	6300			
	1/28/199			0.00	74.10	3.20	1200		490	ND	17	6.8	16000			
	7/29/199		10.86	0.00	71.18	-2.92	50	·	1.5	0.61	0.73	0.78	15000			
	1/14/199			0.00	73.31	2.13	ND		ND	ND	ND	ND	5200			
	7/1/1998			0.00	71.53	-1.78	ND		ND	ND	ND	ND	640			•
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	Data	TOC	Depth to	LPH	Ground-	Change									Comments
5	Date Sampled	Elevation		Thickness		in	TPH-G	TPH-G	* 		Ethyl-	Total	MTBE	MTBE	
-	F				Elevation	Elevation	8015	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
		(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)								
		continue	· · · · · ·												
	6/18/19			 .		 1									Well was destroyed
N	IW-5			(Scre	en Interva	ıl in feet: –)									
	4/18/19	96 81.8	9.65	0.00	72.15		31000		5500	1400	1700	8100	66000		
	7/24/19	96 81.8	0 10.80	0.00	71.00	-1.15	32000		6400	ND	1600	6100	120000		
	10/24/19	96 81.8	0 11.40	0.00	70.40	-0.60	17000		6900	ND	970	130	84000		
	1/28/19		0 7.76	0.00	74.04	3.64	19000		6100	62	82	310	160000		
	7/29/19		0 11.58	0.00	70.22	-3.82	ND		ND	ND	ND	ND	71000		
	1/14/19		9.08	0.00	72.72	2.50	ND		3600	ND	ND	ND	80000		
	7/1/199		0 11.25	0.00	70.55	-2.17	6400		2100	21	120	330	61000		
	6/18/19		0				·								Well was destroyed
N	1W-6			(Scre	en Interva	al in feet: 5.0)-25.0)								· · · · · ·
14	6/18/19	99 78.9	1 9.30	0.00	69.61		2100	· ••	21	29	ND	47	97000	71000	
	1/21/20	00 78.9	1 9.37	0.00	69.54	-0.07	1880		143	31.2	106	196	41200	48800	
	7/10/20	00 78.9	1 8.94	0.00	69.97	0.43	5710		869	209	301	1430	22200	19500	
	1/4/200	01 78.9	1 9.21	0.00	69.70	-0.27	ND		ND	ND	ND	ND		9510	
	7/16/20		1 9.42	0.00	69.49	-0.21	4800		200	21	150	440	29000	34000	
	1/31/20			0.00	70.41	0.92	12000		250	92	500	1500	26000	31000	•
	4/11/20			0.00	70.59	0.18	3600		42	32	39	280	120000		
	7/11/20		7 9.70	0.00	69.97	-0.62		12000	ND<100	ND<100	ND<100	ND<200		15000	
	10/15/20		7 9.96	0.00	69.71	-0.26		1300	ND<10	ND<10	ND<10	ND<20		3200	
	1/14/20			0.00	71.36	1.65		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		120	
	4/16/20			0.00	71.46	0.10		270	ND<0.50	ND<0.50	ND<0.50	1.3		15	
	7/16/20			0.00	70.24	-1.22		290	39	0.60	ND<0.50	15		150	
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Date Sampled		Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments	
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	 	
 MW-6 10/2/200	continued 03 79.67	9.92	0.00	69.75	-0.49	· ·	200	ND<1.0	ND<1.0	ND<1.0	ND<2.0		220		
1/7/200		8.08	0.00	71.59	1.84		140	2.4	ND<1.0	8.6	13		86	· · · · ·	
4/2/200		8.63	0.00	71.04	-0.55		3200	ND<20	ND<20	ND<20	ND<40		5900		
7/29/200		9.75	0.00	69.92	-1.12		170	ND<1.0	ND<1.0	ND<1.0	ND<2.0	·	160		
11/24/20		9.59	0.00	70.08	0.16		80	ND<0.50			ND<1.0	·	45		
1/24/20		8.33	0.00	71.34	1.26		100	1.1	ND<0.50	0.60	1.1		40		
6/23/20		8.33	0.00	71.34	0.00		230	0.52	ND<0.50	3.6	9.6		200		
9/28/20		9.56	0.00	70.11	-1.23		500	ND<0.50	ND<0.50	ND<0.50	1.2	· ·	980	$(A_{i}) = (A_{i}) + (A_{i})$	
12/20/20		7.82	0.00	71.85	1.74		640	0.79	ND<0.50	0.68	2.3		2400		
3/10/20		6.83	0.00	72.84	0.99		. 970	1.2	ND<0.50	1.3	5.0		3600		
6/23/20		8.13	0.00	71.54	-1.30		1700	ND<12	ND<12	ND<12	ND<25	,	1100	· · · ·	
9/27/20		9.44	0.00	70.23	-1.31		ND<1200	ND<12	ND<12	ND<12	ND<12	'	620		
12/22/20		8.60	0.00	71.07	0.84		9100	ND<10	ND<10	ND<10	ND<10		600		
3/23/20		8.39	0.00	71.28	0.21	· ·	330	ND<0.50	ND<0.50	0.82	ND<0.50		680	£	
6/29/20		9.02	0.00	70.65	-0.63		180	ND<0.50	ND<0.50	ND<0.50	ND<0.50		290		
9/28/20		.9.65	0.00	70.02	-0.63		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50		
12/17/20		9.62	0.00	70.05	0.03		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		21		
3/25/20		8.63	0.00	71.04	0.99		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		12		
6/12/20	08 79.67	9.47	0.00	70.20	-0.84		84	ND<0.50	ND<0.50	ND<0.50	ND<1.0		17		
9/25/20	08 79.67	9.95	0.00	69.72	-0.48		66	ND<0.50	ND<0.50	ND<0.50	ND<1.0		15		
12/30/20	08 79.67	8.96	0.00	70.71	0.99		55	ND<0.50	ND<0.50	ND<0.50	ND<1.0		12		
3/24/20		8.02	0.00	71.65	0.94		73	ND<0.50	ND<0.50	ND<0.50	ND<1.0		10		
6/23/20		9.33	0.00	70.34	-1.31		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		9.0		
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Comments LPH Change TOC Depth to Ground-Date water in Total MTBE MTBE Sampled Elevation Thickness Ethyl-Water TPH-G TPH-G Elevation Elevation (8260B) (8021B) **Xylenes** benzene 8015 (GC/MS) Benzene Toluene (µg/l) (µg/l) $(\mu g/l)$ (µg/l) (µg/l) $(\mu g/l)$ (µg/l) (feet) (feet) (feet) (feet) (µg/l) (feet) MW-6 continued 2.7 ND<1.0 ND<0.50 ND<0.50 ND<0.50 ---0.00 -0.06 ND<50 9.39 70.28 12/16/2009 79.67 ---2.1 ND<1.0 ND<0.50 ND<0.50 ND<0.50 0.00 71.54 1.26 ND<50 --8.13 4/14/2010 79.67 --2.0ND<0.50 ND<0.50 ND<0.50 ND<1.0 ND<50 ----82.51 9.88 0.00 72.63 1.09 10/13/2010 ---ND<0.50 ND<0.50 ND<0.50 ND<1.0 6.0 ---52 0.00 73.75 1.12 5/27/2011 82.51 8.76 --(Screen Interval in feet: 5.0-25.0) **MW-7** ND 16000 13000 ND ND ND 0.00 71.22 ND 6/18/1999 79.92 8.70 -----ND 12300 18200 ND ND ND 0.00 70.62 -0.60 ND 79.92 9.30 1/21/2000 --16900 13800 ND ND ND ND ND 79.92 8.72 0.00 71.20 0.58 7/10/2000 ---37.3 0.719 ND ND ND --0.00 70.75 -0.45 ND 1/4/2001 79.92 9.17 7200 4700 ND ND ND ND 79.92 9.02 0.00 70.90 0.15 ND 7/16/2001 --8900 9900 ND<0.50 ND<0.50 ND<0.50 ND<0.50 0.00 1.11 ND<50 1/31/2002 79.92 7.91 72.01 ---Inaccessible -------4/11/2002 80.67 --------------------Inaccessible ----------7/11/2002 ---80.67 ---------------12000 ND<50 ND<100 ND<5000 ND<50 ND<50 ---0.00 70.86 10/15/2002 80.67 9.81 ------33000 ND<250 ND<500 ND<250 0.00 72.78 1.92 ND<25000 ND<250 --1/14/2003 80.67 7.89 --37000 ND<250 ND<250 ND<250 ND<500 ND<25000 ---0.00 72.63 -0.15 4/16/2003 80.67 8.04 ---38000 ND<250 ND<500 ND<250 ND<250 -----1.15 25000 7/16/2003 80.67 9.19 0.00 71.48 --22000 ND<100 ND<100 ND<200 --ND<100 -0.70 17000 0.00 70.78 10/2/2003 80.67 9.89 ---19000 540 ND<20000 ND<200 460 ND<200 ---2.62 0.00 73.40 1/7/2004 80.67 7.27 --5100 ND<40 ND<20 ND<20 -0.82 3400 ND<20 ---0.00 8.09 72.58 4/2/2004 80.67 ---11000 ND<50 ND<100 ND<50 7400 ND<50 ---0.00 71.27 -1.31 7/29/2004 80.67 9.40 --6800 ND<50 ND<100 ND<50 6200 ND<50 ---0.00 71.02 -0.25 80.67 9.65 ___ 11/24/2004 13000 ND<0.50 ND<1.0 ND<5000 ND<0.50 ND<0.50 --80.67 7.92 0.00 72.75 1.73 --1/24/2005

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Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water	Change in	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE	Comments
oumprou	210 . 0000				Elevation	8015	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
	continued			. 										
6/23/20			0.00	72.11	-0.64		8700	ND<25	ND<25	ND<25	ND<50		12000	
9/28/20	05 80.67	9.37	0.00	71.30	-0.81		1200	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5700	★ 14
12/20/20	05 80.67	6.31	0.00	74.36	3.06		1100	0.90	ND<0.50	24	37	'	8200	
3/10/20	06 80.67	5.84	0.00	74.83	0.47		1200	24	ND<0.50	3.6	ND<1.0		4700	
6/23/20	06 80.67	6.83	0.00	73.84	-0.99		1800	21	ND<12	ND<12	ND<25		1500	,
9/27/20	06 80.67	8.95	0.00	71.72	-2.12		ND<1200	ND<12	ND<12	ND<12	ND<12		350	
12/22/20	06 80.67	8.35	0.00	72.32	0.60		24000	ND<50	ND<50	ND<50	ND<50		190	
3/23/20	07 80.67	8.01	0.00	72.66	0.34		85	ND<0.50	ND<0.50	ND<0.50	ND<0.50		92	
6/29/20	07 80.67	·		, 									,	Car parked over well
9/28/20	07 80.67	9.05	0.00	71.62			50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		37	
12/19/20	07 80.67	9.23	0.00	71.44	-0.18		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.2	
3/25/20	08 80.67	8.45	0.00	72.22	0.78		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		7.3	
6/12/20	08 80.67	8.92	0.00	71.75	-0.47		52	ND<0.50	ND<0.50	ND<0.50	ND<1.0		9.4	
9/25/20		9.55	0.00	71.12	-0.63		65	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.6	
12/30/20		8.99	0.00	71.68	0.56		130	ND<0.50	ND<0.50	ND<0.50	1.1	'	5.7	
3/24/20		7.73	0.00	72.94	1.26		98	0.50	ND<0.50	ND<0.50	ND<1.0		9.2	
6/23/20	09 80.67	9.05	0.00	71.62	-1.32		290	1.2	ND<0.50	ND<0.50	ND<1.0		6.7	· · · · ·
12/16/20	09 80.67	9.42	0.00	71.25	-0.37		150	ND<0.50	ND<0.50	ND<0.50	ND<1.0		3.7	
4/14/20	10 80.67	7.87	0.00	72.80	1.55	·	60	ND<0.50	ND<0.50	ND<0.50	ND<1.0		6.7	
10/13/20		10.13	0.00	70.54	-2.26		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		3.6	
5/27/20		8.73	0.00	75.07	4.53		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.2	
MW-8			(Sore	en Interva	l in feet: 5.0)-25 ())								
6/18/19	99 80.96	9.10	0.00	71.86		ND	,	ND	ND	ND	ND	290	160	
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	Date	TOC	Depth to	LPH	Ground-	Change						m . 1			Comm	ents
	Sampled	Elevation	Water	Thickness	water Elevation	in Elevation	TPH-G	TPH-G	D	Taluana	Ethyl-	Total Xylenes	MTBE (8021B)	MTBE (8260B)		
		(54)	(feat)	(feet)	(feet)	(feet)	8015 (μg/l)	(GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	benzene (μg/l)	xylelles (μg/l)	(8021B) (µg/l)	(8200B) (µg/l)		
_		(feet)	(feet)	(leet)	(leet)	(leet)	(μg))	(μg/1)	(µg/1)	(µg/1)	(194)	(#8-1)	(#8/1)	(18-)		
	MW-8	continued 00 80.90		0.00	70.96	-0.90	ND		ND	ND	ND	1.09	224	221		
	7/10/20			0.00	73.02	2.06	ND		ND	ND	ND	ND	234	223		
	1/4/200			0.00	71.20	-1.82	3790		141	8.92	128	375		34200		
	7/16/20			0.00	71.81	0.61	ND		ND	ND	ND	ND	66	70		
	1/31/20			0.00	72.97	1.16	5900		86	ND<10	630	390	670	700		
	4/11/20			0.00	72.71	-0.26	250		2.0	ND<0.50	38	2.2	410	· ·		
	7/11/20		9.60	0.00	72.11	-0.60		110	ND<0.50	ND<0.50	ND<0.50	ND<1.0		120		
	10/15/20		1 10.60	0.00	71.11	-1.00		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		21		
	1/14/20		8.63	0.00	73.08	1.97	'	ND<250	2.6	ND<2.5	18	ND<5.0		430		
	4/16/20		8.98	0.00	72.73	-0.35		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		18		
	7/16/20	03 81.7	9.63	0.00	72.08	-0.65		110	ND<0.50	ND<0.50	ND<0.50	ND<1.0	 ,	140		
	10/2/20	03 81.7	1 10.41	0.00	71.30	-0.78	·	75	ND<0.50	ND<0.50	ND<0.50	ND<1.0		78		
	1/7/200	04 81.7	8.21	0.00	73.50	2.20		ND<5000	ND<50	ND<50	ND<50	340	·	3700		
	4/2/200)4 81.7	1 8.51	0.00	73.20	-0.30		3000	ND<20	ND<20	ND<20	ND<40		5200		
	7/29/20	04 81.7	9.78	0.00	71.93	-1.27		3200	ND<25	ND<25	ND<25	ND<50		5500		
	11/24/20	004 81.7	1 10.19	0.00	71.52	-0.41		2100	ND<10	ND<10	ND<10	ND<20		2400		
	1/24/20	05 81.7	1 8.49	0.00	73.22	1.70		ND<2500	4.0	0.52	ND<0.50	29		1800		
	6/23/20	05 81.7	1 8.34	0.00	73.37	0.15		490	ND<0.50	ND<0.50	1.5	ND<1.0	·	980		
	9/28/20	05 81.7	1 9.61	0.00	72.10	-1.27	··	270	ND<0.50	ND<0.50	ND<0.50	ND<1.0		520		
	12/20/20	005 81.7	1 7.35	0.00	74.36	2.26		2700	ND<0.50	ND<0.50	78	82		86		
	3/10/20	06 81.7	1 6.63	0.00	75.08	0.72		190	ND<0.50	ND<0.50	ND<0.50	ND<1.0		51		
	6/23/20	06 81.7	1 6.56	0.00	75.15	0.07		3600		ND<0.50	100	57		ND<0.50		
	9/27/20	06 81.7	9.64	0.00	72.07	-3.08		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		18		
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Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water	Change in					Ethyl-	Total	MTBE	MTBE		Comments	
oumpied	Lievation	W alos	THOMAS		Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)			
	(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(μg/l)	(µg/l)	(μg/l)	(µg/l)	(µg/l)	(μg/l)	(µg/l)			
	continued													 •		
	06 81.71	9.42	0.00	72.29	0.22		ND<50	ND<0.50	ND<0.50	ND<0.50	0.50		16			
3/23/20	07 81.71	8.68	0.00	73.03	0.74		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		12			
6/29/20	07 81.71	9.10	0.00	72.61	-0.42		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	'	17			
9/28/20	07 81.71	9.89	0.00	71.82	-0.79		99	ND<0.50	ND<0.50	ND<0.50	ND<0.50		21			
12/17/20	07 81.71	9.81	0.00	71.90	0.08		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		16			
3/25/20	08 81.71	8.40	0.00	73.31	1.41		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		14			
6/12/20	08 81.71	9.53	0.00	72.18	-1.13		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		14			
9/25/20	08 81.71	10.24	0.00	71.47	-0.71	'	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.6			
12/30/20	08 81.71	9.72	0.00	71.99	0.52		50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.7			
3/24/20	09 81.71	8.43	0.00	73.28	1.29		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		4.4			
6/23/20	09 81.71	9.63	0.00	72.08	-1.20		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		4.7			
12/16/20	009 81.71	10.08	0.00	71.63	-0.45		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2.4			
4/14/20	10 81.71	8.28	0.00	73.43	1.80		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2.4			
10/13/20	010 84.86	10.79	0.00	74.07	0.64		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		3.0			
5/27/20	11 84.86	8.12	0.00	76.74	2.67	'	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		1.1			
MW-9			(Scre	en Interva	l in feet:)											
1/31/20	02 82.07	14.72	•	67.35		ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	680	910			
4/11/20	02 82.07	14.85	0.00	67.22	-0.13	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	620				
7/11/20	02 82.07	15.39	0.00	66.68	-0.54		580	ND<5.0	ND<5.0	ND<5.0	ND<10		580			
10/15/20	02 82.07	16.16	0.00	65.91	-0.77		570	ND<5.0	ND<5.0	ND<5.0	ND<10		1400			
1/14/20	03 82.07	14.75	0.00	67.32	1.41		ND<200	ND<2.0	ND<2.0	ND<2.0	ND<4.0		220		• • *	
4/16/20	03 82.07	14.51	0.00	67.56	0.24		ND<500	ND<5.0	ND<5.0	ND<5.0	ND<10		860			
7/16/20	03 82.07	15.54	0.00	66.53	-1.03		ND<2500	ND<25	ND<25	ND<25	ND<50	·	1300			
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Date	TOC	Depth to	LPH	Ground-	Change								• 1		Comments
	Elevation	+	Thickness		in	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE		
			·	Elevation	Elevation	8015	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)		
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	 	
 MW-9	continue	d							2						
10/2/20	03 82.0	16.28	3 0.00	65.79	-0.74	'	820	ND<5.0	ND<5.0	ND<5.0	ND<10		990		
1/7/20	04 82.0	07 14.65	5 0.00	67.42	1.63		ND<1000	ND<10	ND<10	ND<10	ND<20		1200		
4/2/20	04 82.0	15.08	0.00	66.99	-0.43	·	510	ND<5.0	ND<5.0	ND<5.0	ND<10		850		
7/29/20	04 82.0	15.8	1 0.00	66.26	-0.73		ND<1000	ND<10	ND<10	ND<10	ND<20		1300		
11/24/2	004 82.0	16.2	5 0.00	65.82	-0.44		1100	ND<5.0	ND<5.0	ND<5.0	ND<10	· ` .	1300		
1/24/20	05 82.0)7 14.90	6 0.00	67.11	1.29		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2300		
6/23/20	05 82.0)7 14.40	0.00	67.67	0.56		1500	ND<5.0	ND<5.0	ND<5.0	ND<10		2000		
9/28/20)7 15.6	7 0.00	66.40	-1.27	· 	ND<2500	ND<25	ND<25	ND<25	ND<50		2400		
12/20/2		07 14.6	1 0.00	67.46	1.06	'	560	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2800		
3/10/20		07 13.3	9 0.00	68.68	1.22		1100	ND<5.0	ND<5.0	ND<5.0	ND<10		2100		
6/23/20)7 13.6	8 0.00	68.39	-0.29		1700	ND<12	ND<12	ND<12	ND<25		1700		
9/27/20)7 14.8	3 0.00	67.24	-1.15	· 	ND<1200	ND<12	ND<12	ND<12	ND<12		1400		
12/22/2				67.32	0.08	` <u></u> `	680	ND<0.50	ND<0.50	ND<0.50	ND<0.50		1100		
3/23/20							240	ND<0.50	ND<0.50	ND<0.50	ND<0.50		660		
6/29/20							210	ND<0.50	ND<0.50	ND<0.50	0.52		410		
9/28/20						*	390	ND<2.5	ND<2.5	ND<2.5	ND<2.5		430		
12/17/2							190	ND<0.50	ND<0.50	ND<0.50	ND<1.0		480		
3/25/20							250	ND<2.5	ND<2.5	ND<2.5	ND<5.0		340		
6/12/20			-				180	ND<0.50	ND<0.50	ND<0.50	ND<1.0		270		
			-			· · ·	170		ND<0.50				320		
9/25/20							160		ND<0.50				230		
12/30/2							120	-	ND<0.50				180		
3/24/2							120		ND<0.50				190		
6/23/2	009 82.	J/ 13.9	J 0.00	00.12	0.72					-					<u> </u>

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Date	<u>-</u> т	OC	Depth to	LPH	Ground-	Change									Comment	S
	led Ele		Water	Thickness	water	in Elevation	TPH-G 8015	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)		
	(f	feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(μg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	 	
			<u> </u>													
	7-9 cor 6/2009	82.07	16.47	0.00	65.60	-0.52	 -	86	ND<0.50	ND<0.50	ND<0.50	ND<1.0		130		
	4/2010	82.07	14.68	0.00	67.39	1.79		100	ND<0.50	ND<0.50	ND<0.50	ND<1.0		160		
	3/2010	85.18	16.80	0.00	68.38	0.99		63	ND<0.50	ND<0.50	ND<0.50	ND<1.0	'	160		
	7/2011	85.18	15.37	0.00	69.81	1.43		59	ND<0.50	ND<0.50	ND<0.50	ND<1.0	·	70		
MW-1	0			(Sere	on Interva	l in feet: —)	1					-				
	1/2002	74.98	8.02	0.00	66.96	in militerer	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	1.2		
	1/2002	74.98	7.60	0.00	67.38	0.42	ND<50	·	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		• • • • • • • •	
7/1	1/2002	74.98	8.91	0.00	66.07	-1.31	'	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	 * *	1.1		
10/1	15/2002	74.98	11.49	0.00	63.49	-2.58	· ·	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0		
1/1	4/2003	74.98	8.47	0.00	66.51	3.02	''	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0		
4/1	6/2003	74.98	7.92	0.00	67.06	0.55		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0		
7/1	6/2003	74.98	7.03	0.00	67.95	0.89	 [*]	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0		
10/	2/2003	74.98	7.63	0.00	67.35	-0.60		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	1	
1/2	7/2004	74.98	6.22	0.00	68.76	1.41		54	ND<0.50	ND<0.50	1.3	4.5		ND<2.0		
4/2	2/2004	74.98	7.49	0.00	67.49	-1.27		ND<50	ND<0.50	ND<0.50	ND<0.50	' ND<1.0	· . –	1.0		
7/2	9/2004	74.98	7.41	0.00	67.57	0.08		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50		
11/2	24/2004	74.98	7.55	0.00	67.43	-0.14		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		3.5		
1/2	4/2005	74.98	6.40	0.00	68.58	1.15		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		0.71	-	
6/2	3/2005	74.98	6.46	0.00	68.52	-0.06	 '	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50		
9/2	8/2005	74.98	7.52	0.00	67.46	-1.06		ND<50		ND<0.50				ND<0.50		
12/2	20/2005	74.98	6.04	0.00	68.94	1.48		ND<50		ND<0.50				0.57	•	
3/1	0/2006	74.98	5.86	0.00	69.12	0.18		ND<50		ND<0.50				ND<0.50		
6/2	3/2006	74.98	6.42	0.00	68.56	-0.56	<u></u>	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		0.50	- 	
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Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

November 1992 Through May 2011

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Date Sampl	T ed Ele		Depth to Water	LPH Thickness	Ground- water	Change in	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE	Comments
					Elevation	Elevation	8015	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
· · · ·	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	<u></u>
MW	-10 0	ontinued													
9/27	/2006	74.98	6.92	0.00	68.06	-0.50		ND<50			ND<0.50		'	48	
12/2	2/2006	74.98	5.90	0.00	69.08	1.02	*	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		8.5	
3/23	/2007	74.98	6.48	0.00	68.50	-0.58		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	÷	0.54	
6/29	/2007	74.98	6.78	0.00	68.20	-0.30	*	ND<50		ND<0.50	0.76	1.6		5.6	
9/28	/2007	74.98	7.24	0.00	67.74	-0.46		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		15	
12/1	7/2007	74.98	6.92	0.00	68.06	0.32	'	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.6	
3/25	/2008	74.98	6.74	0.00	68.24	0.18		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		1.3	
6/12	2/2008	74.98	7.11	0.00	67.87	-0.37	'	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2.6	
9/25	/2008	74.98	7.70	0.00	67.28	-0.59		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		1.8	
12/3	0/2008	74.98	6.73	0.00	68.25	0.97		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		0.80	
3/24	/2009	74.98	6.41	0.00	68.57	0.32	"	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
6/23	/2009	74.98	7.07	0.00	67.91	-0.66		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		0.60	
12/1	6/2009	74.98	6.59	0.00	68.39	0.48		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
4/14	/2010	74.98	6.16	0.00	68.82	0.43		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
10/1	3/2010	78.18	7.64	0.00	70.54	1.72		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		0.58	
5/27	/2011	78.18	6.62	0.00	71.56	1.02		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	1 ¹
MW-1	r			(Sere	en Interva	l in feet:)	· ·								
	/2002	77.31	11.71	<u> </u>	65.60		ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	•
	/2002	77.31	11.95	0.00	65.36	-0.24	ND<50	·	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		1
	/2002	77.31	12.79	0.00	64.52	-0.84		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
	5/2002	77.31	13.67	0.00	63.64	-0.88		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
	/2003	77.31	13.31		64.00	0.36		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
	5/2003	77.31	14.08		63.23	-0.77	'	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
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Date Sampled		Depth to Water	LPH Thickness	Ground- water	Change in	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE		Comments	
				Elevation	Elevation	8015	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)			
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	 		
MW-11	continued	L ···														
7/16/200	3 77.31	12.98	0.00	64.33	1.10		65		ND<0.50		ND<1.0		ND<2.0			
10/2/200	3 77.31	12.96	0.00	64.35	0.02		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0			
1/7/2004	4 77.31	16.20	0.00	61.11	-3.24		63		ND<0.50	0.68	2.2		ND<2.0			
4/2/2004	4 77.31	18.01	0.00	59.30	-1.81		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
7/29/200	4 77.31	14.39	0.00	62.92	3.62		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
11/24/20	04 77.31	16.72	0.00	60.59	-2.33		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
1/24/200	5 77.31	17.44	0.00	59.87	-0.72		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
6/23/200	5 77.31	12.37	0.00	64.94	5.07		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
9/28/200	5 77.31	16.78	0.00	60.53	-4.41	·	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
12/20/20	05 77.31	17.06	0.00	60.25	-0.28	· 	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
3/10/200	6 77.31	16.20	0.00	61.11	0.86		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
6/23/200	6 77.31	12.65	0.00	64.66	3.55		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
9/27/200	6 77.31	14.78	0.00	62.53	-2.13		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50			
12/22/20	06 77.31	13.48	0.00	63.83	1.30		55	ND<0.50	ND<0.50	2.1	5.4		ND<0.50			
3/23/200		13.78	0.00	63.53	-0.30		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50			
6/29/200		15.58	0.00	61.73	-1.80	:	ND<50	ND<0.50	ND<0.50	ND<0.50	0.62		ND<0.50			
9/28/200		16.02	0.00	61.29	-0.44		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50			
12/17/20		15.75	0.00	61.56	0.27		ND<50	ND<0.50	ND<0.50	ND<0.50	1.0		ND<0.50			
3/25/200		15.74	0.00	61.57	0.01		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
6/12/200	-	13.87	0.00	63.44	1.87		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
9/25/200		16.30	0.00	61.01	-2.43		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
12/30/20		15.82		61.49	0.48		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
3/24/200		15.58		61.73	0.24		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50			
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Date	TOC	Depth to	LPH	Ground-	Change									Comments
Sample	l Elevation	Water	Thickness		in	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE	
				Elevation	Elevation	8015	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
MW-1	1 continue	ď				•					·			
6/23/2	2009 77.31	13.98	0.00	63.33	1.60		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
12/16/	2009 77.31	15.03	0.00	62.28	-1.05		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
4/14/	2010 77.31	15.48	0.00	61.83	-0.45	'	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
10/13/	2010 80.44	15.15	0.00	65.29	3.46		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
5/27/2	2011 80.44	15.60	0.00	64.84	-0.45		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	

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·.					/0	Station 18/1						
Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (μg/l)	1,2-DCA (EDC) (μg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
 MW-1												
6/18/1999	 .	ND	ND	ND	'	ND	ND	ND				
7/16/2001		ND	ND	ND	·	ND	ND	ND			·	
1/14/2003	'	ND<100	ND<500	ND<2.0		ND<2.0	ND<2.0	ND<2.0				
7/16/2003			ND<10000		· ·					-		
10/2/2003		·	ND<25000			· ·		·		25.1	45.7	80.1
1/7/2004			ND<20000		·					12.12	12.31	142
4/2/2004			ND<50	:				 .		11.33	13.42	36
7/29/2004		·	ND<2000					·		5.37	5.51	-2
11/24/2004		·	ND<2000						6.58	3.08	4.73	-43
1/24/2005			ND<2000							14.3	17.0	100
6/23/2005			ND<50000				· ,				4.79	-103
9/28/2005			ND<1000							3.45	4.73	-91
12/20/2005			ND<250							4.16	2.76	-210
3/10/2006			ND<2500							1.45	1.64	-511
6/23/2006			ND<2500						 .		4.31	-030
9/27/2006	·		ND<5000			·				4.50	4.72	-32
12/22/2006			ND<2500							6.80	2.35	-121
3/23/2007		· · ·	ND<1200					·		3.22	3.45	-135
6/29/2007	'		ND<1200				, . <u></u> .			6.64	7.11	-131
9/28/2007			ND<250								7.84	-167
12/17/2007			ND<2500							9.74	6.51	-63
3/25/2008			ND<1200						<u></u>	6.70	6.50	-60
6/12/2008		330	ND<1200					·			4.33	65
9/25/2008		740	ND<250				·	, 	'		1.16	105
12/30/2008		400	ND<250							2.44	0.91	0
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Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
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					/0	Station 10/1						
Date Sampled	TPH-D (µg/l)	ΤΒΑ (μg/l)	Ethanol (8260B) (µg/l)	Ethylene- dibromide (EDB) (µg/l)	1,2-DCA (EDC) (μg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (μg/l)	pH (lab) (pH)	Post-purge Dissolved Oxygen (mg/l)	Pre-purge Dissolved Oxygen (mg/l)	Pre-purge ORP (mV)
MW-1 co							-					
3/24/2009	'	390	ND<250							1.60	1.31	-29
6/23/2009	·	500	ND<1200								0.86	-28
12/16/2009		ND<20	ND<500							0.66		
4/14/2010	'	500	ND<500							2.48		
10/13/2010		73	ND<250	ND<0.50	ND<0.50					2.00		
5/27/2011		ND<50	ND<1200	ND<2.5	ND<2.5					0.37		,
MW-4												
4/18/1996	110											
7/24/1996	ND											
10/24/1996	ND									··		
1/28/1997	210											
7/29/1997	ND											
1/14/1998	ND					·						
7/1/1998	ND						'					
MW-6												
6/18/1999		ND	ND	ND	ND	ND	ND	ND				
7/16/2001		ND	ND	ND	ND	ND	ND	ND				
7/11/2002		ND<1000	ND<5000	ND<100	ND<100	ND<200	ND<100	ND<100				
1/14/2003		ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0				
7/16/2003		·	ND<500			 -						
10/2/2003		'	ND<1000							15.5	26.2	139
1/7/2004			ND<1000				. 			12.63	14.29	-12
4/2/2004			ND<2000							12.63	12.72	9
7/29/2004		·	ND<100		·					4.74	4.79	-19
11/24/2004			ND<50						6.99	2.81	5.54	-29
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					76	Station 18/1	•					
Date Sampled		TD 4	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	pH (lab)	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP
	TPH-D	TBA (µg/l)	(8260B) (µg/l)	(EDB) (μg/l)	(μg/l)	(μg/l)	(μg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)
	(µg/l)	(μg/I)	(µg/I)	(µ8/1)	(*81)							
MW-6 at 1/24/2005	ontinued		ND<50							14.5	15.3	72
6/23/2005			ND<1000	·				-		1.86	1.73	70
9/28/2005			ND<1000					·		2.63	· 2.57	-74
12/20/2005			ND<250						·	1.52	2.30	-280
3/10/2006			ND<250			· · ·				5.25	0.80	173
6/23/2006			ND<6200								3.39	-105
9/27/2006			ND<6200			·	 *			2.54	3.01	-109
12/22/2006		· ·	ND<5000							1.22	4.03	-46
3/23/2007			ND<250							3.64	3.62	-101
6/29/2007			ND<250							8.49	6.78	171
9/28/2007	. 		ND<250	'		·				8.36	8.40	167
12/17/2007			ND<250							10.19	9.38	-23
3/25/2008			ND<250			·			·	10.03	10.10	-20
6/12/2008		ND<10	ND<250								0.80	30
9/25/2008		ND<10	ND<250				·				1.05	118
12/30/2008		ND<10	ND<250							4.50	1.62	14
3/24/2009		ND<10	ND<250							1.79	1.87	104
6/23/2009		ND<10	ND<250							1.96	2.12	64
12/16/2009		ND<10	ND<250							1.55		
4/14/2010		ND<10	ND<250		 ¹					3.19		
10/13/2010)	ND<10	ND<250	ND<0.50	ND<0.50					6.40		
5/27/2011		ND<10	ND<250	ND<0.50	ND<0.50					0.61		
NAXV 7						•						
MW-7 6/18/1999		ND	ND	ND	ND	ND	ND	ND	·			
7/16/2001		ND	ND	ND	ND	ND	ND	ND				
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					/0	Station 10/1		*				
Date Sampled	··· ·		Ethanol	Ethylene- dibromide	1,2-DCA				pH	Post-purge Dissolved	Pre-purge Dissolved	Pre-purge
•	TPH-D	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME	(lab)	Oxygen	Oxygen	ORP
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)
MW-7 co												
1/14/2003		ND<50000	ND<250000	ND<1000	ND<1000	ND<1000	ND<1000	ND<1000				
7/16/2003		 .	ND<250000	·								
10/2/2003		· 	ND<100000							24.3	28.2	109
1/7/2004			ND<200000							10.79	10.85	23
4/2/2004	. ,		ND<2000							12.41	11.32	24
7/29/2004			ND<5000							4.10	3.96	17
11/24/2004			ND<5000				 `	·	6.60	1.99	3.29	-43
1/24/2005			ND<5000							17.2	14.5	71
6/23/2005			ND<50000	 *					· ••• .	2.84	2.18	-37
9/28/2005		 , ¹	ND<1000							3.45	3.63	-81
12/20/2005			ND<250	·						2.04	2.03	-263
3/10/2006			ND<250							1.28	0.95	164
6/23/2006			ND<6200				1				3.95	-119
9/27/2006			ND<6200				 . '		. 	3.16	3.98	-107
12/22/2006			ND<25000				- 1 - 1	 1		2.25	2.03	-86
3/23/2007		·	ND<250		1					3.38	3.75	-49
9/28/2007		•	ND<250		·		'			8.16	7.96	30
12/19/2007			ND<250						'	6.70	6.72	-17
3/25/2008		·	ND<250	'	·		 . '	<u></u>		4.77	4.81	-30
6/12/2008		30	ND<250								3.96	55
9/25/2008		ND<10	ND<250				·				1.11	115
12/30/2008		ND<10	ND<250							4.13	1.81	-14
3/24/2009		ND<10	ND<250							2.70	2.39	159
6/23/2009		16	ND<250							0.42	0.84	-8
12/16/2009		ND<10	ND<250							1.08		
12, 10, 2007												

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	76 Station 1871											
Date Sampled	TPH-D	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	pH (lab)	Post-purge Dissolved Oxygen	Pre-purge Dissolved Oxygen	Pre-purge ORP
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)
MW-7 co	ntinued				· · ·							
4/14/2010		ND<10	ND<250							0.78		
10/13/2010		ND<10	ND<250	ND<0.50	ND<0.50					6.50		
5/27/2011		ND<10	ND<250	ND<0.50	ND<0.50					0.48		
MW-8					,							
6/18/1999		ND	ND	ND	ND	ND	ND	ND				
7/16/2001		ND	ND	ND	ND	ND	ND	ND				
1/14/2003	·	ND<500	ND<2500	ND<10	ND<10	ND<10	ND<10	ND<10				
7/16/2003	'		· ND<500	<u> </u>								
10/2/2003			ND<500			·				23.6	28.5	188
1/7/2004			ND<50000			'				9.94	13.13	-15
4/2/2004		·	ND<2000							13.37	12.82	-10
7/29/2004			ND<2500							3.68	3.73	18
11/24/2004			ND<1000						6.67	3.97	2.71	-36
1/24/2005		·	ND<2500							41.6	41.2	56
6/23/2005			ND<1000							2.05	2.13	58
9/28/2005			ND<1000							2.12	1.98	-40
12/20/2005	·		ND<250							2.02	3.72	-402
3/10/2006		. · · ·	ND<250	·			·			1.51	0.99	-182
6/23/2006		· ·	ND<250								2.81	-135
9/27/2006			ND<250	·						4.87	4.91	-155
12/22/2006			ND<250							1.80	2.40	16
3/23/2007	'		ND<250					·		3.52	3.90	25
6/29/2007	 `		ND<250							5.35	5.29	98
9/28/2007			ND<250						·	7.18	7.24	16
12/17/2007		·	ND<250							6.95	5.26	26

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					7	6 Station 1871						
Date Sampled			Ethanol	Ethylene- dibromide	1,2-DCA				pН	Post-purge Dissolved	Pre-purge Dissolved	Pre-purge
	TPH-D	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME	(lab)	Oxygen	Oxygen	ORP
·	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)
MW-8 co	ntinued									5 33	5.15	70
3/25/2008			ND<250							5.22	9.40	38
6/12/2008		ND<10	ND<250								9.40 1.33	98
9/25/2008		ND<10	ND<250									
12/30/2008	<u></u>	ND<10	ND<250	·					`	1.78	2.19	11
3/24/2009		ND<10	ND<250							2.07	1.87	103
6/23/2009		ND<10	ND<250							0.55	0.90	73
12/16/2009		ND<10	ND<250							1.24		
4/14/2010		ND<10	ND<250							0.92		
10/13/2010		ND<10	ND<250	ND<0.50	ND<0.50		 · · ,		·	0.70	·	
5/27/2011		ND<10	ND<250	ND<0.50	ND<0.50		 ',		'	0.48		
MW-9			x					•				
1/31/2002		ND<140	ND<3600	ND<7.1	ND<7.1	ND<7.1	ND<7.1	ND<7.1				·
1/14/2003		ND<400	ND<2000	ND<8.0	ND<8.0	ND<8.0	ND<8.0	ND<8.0				
7/16/2003			ND<25000									
10/2/2003			ND<5000					·		29.5	28.4	201
1/7/2004			ND<10000							10.45	12.00	9
4/2/2004			ND<500				 · .			16.37	13.21	12
7/29/2004			ND<1000		· · · ·		/				· ·	
11/24/2004		· 	ND<500			·	·		6.47	3.24	1.71	-68
1/24/2005			ND<1000							26.0	22.5	-45
6/23/2005		·	ND<10000							1.50	1.44	-136
9/28/2005			ND<50000					^		2.51	1.67	-94
12/20/2005			ND<250		·					5.05	4.67	-102
3/10/2006	-		ND<2500		. 					2.82	2.13	160
6/23/2006			ND<6200					. 			0.84	-65
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Table 2 a	
ADDITIONAL HISTORIC ANALYTICAL RESULTS	
76 Station 1871	

					76	Station 1871						
Date Sampled			Ethanol	Ethylene- dibromide	1,2-DCA				pН	Post-purge Dissolved	Pre-purge Dissolved	Pre-purge
•	TPH-D	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME	(lab)	Oxygen	Oxygen	ORP
	(µg/l)	(µg/l)	(µg/l)	(μg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)
MW-9 co 9/27/2006	ntinued 		ND<6200	·	 1		·	, 		0.68	0.75	-61
12/22/2006			ND<250				. ·	·		9.00	4.89	-44
3/23/2007			ND<250	<u></u>					"	6.85	5.33	-114
6/29/2007			ND<250		. <u></u> .		·	'		6.87	6.25	23
9/28/2007			ND<1200							7.17	7.04	30
12/17/2007		<u> </u>	ND<250		 '					5.05	4.81	-27
3/25/2008			ND<1200		·	·				6.55	6.67	-10
6/12/2008		250	ND<250			*		·		·	2.55	86
9/25/2008		ND<10	ND<250					·		· . 	1.44	26
12/30/2008		21	ND<250			·	 , ''		 '	5.47	5.43	52
3/24/2009	·	24	ND<250		<u> </u>					2.80	2.69	66
6/23/2009	. —	14	ND<250		_ _					1.88	1.42	-20
12/16/2009		22	ND<250		^					0.99		
4/14/2010		ND<10	ND<250		·	· ·			·	1.41	,	
10/13/2010		11	ND<250	ND<0.50	ND<0.50					1.08		 ".
5/27/2011		ND<10	ND<250	ND<0.50	ND<0.50			. 		1.51	·	
MW-10 1/31/2002	· ·	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0		,		
1/14/2003		ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0		. -	·	/ .
7/16/2003			ND<500	~ =								·
10/2/2003			ND<500	. ' 						24.8	25.7	192
1/7/2004			ND<500		 .					10.04	11.62	35
4/2/2004	·		ND<50	·						11.91	12.02	42
7/29/2004			ND<50						·	4.81	4.83	83
11/24/2004			ND<50						6.89	2.59	3.07	-39
11/27/2004												

Table 2 a										
ADDITIONAL HISTORIC ANALYTICAL RESULTS										
76 Station 1871										

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					7	6 Station 1871						
Date Sampled			Ethanol	Ethylene- dibromide	1,2-DCA				pH	Post-purge Dissolved	Pre-purge Dissolved	Pre-purge ORP
	TPH-D	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME	(lab)	Oxygen	Oxygen	(mV)
•	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(ШV)
MW-10 c	ontinued								¹	27.5	25.5	87
1/24/2005			ND<50				-			7.83	176	40
6/23/2005			ND<1000							6.95	2.37	-66
9/28/2005			ND<1000							3.85	3.45	59
12/20/2005			ND<250		·					2.52	4.48	87
3/10/2006			ND<250								1.49	-68
6/23/2006	'		ND<250							1.79	1.55	-85
9/27/2006			ND<250	,						3.20	3.00	107
12/22/2006			ND<250							5.09	5.01	-60
3/23/2007	'		ND<250	 *						9.12	6.27	165
6/29/2007	·		ND<250							9.12 8.34	8.21	105
9/28/2007			ND<250					*		8.54 4.97	8.21 4.46	-15
12/17/2007			ND<250						·		4.40 4.40	-10
3/25/2008	'		ND<250			· · ·				4.35	4.40 1.42	75
6/12/2008	'	ND<10	ND<250	· · ·							1.42 52.15	7 <i>3</i> 94
9/25/2008		ND<10	ND<250				·					181
12/30/2008	·	ND<10	ND<250			·				5.89	3.18	
3/24/2009		ND<10	ND<250					*		4.37	4.07	144
6/23/2009	·	ND<10	ND<250						'	3.17	1.64	57
12/16/2009		ND<10	ND<250						·	3.31	·	
4/14/2010		ND<10	ND<250							1.61		
10/13/2010		ND<10	ND<250	ND<0.50	ND<0.50					6.67		
5/27/2011		ND<10	ND<250	ND<0.50	ND<0.50		·	·		1.52		
MW-11 1/31/2002	·	ND<20	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	<u></u>			¹
1/14/2003		ND<100	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0				
1871						Page 8 of 10					C	TRC

					/	o Station 10/1						
Date Sampled			Ethanol	Ethylene- dibromide	1,2-DCA				pH	Post-purge Dissolved	Pre-purge Dissolved	Pre-purge
	TPH-D	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME	(lab)	Oxygen	Oxygen	ORP
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)
MW-11	continued											
7/16/2003	·		ND<500	"			·					
10/2/2003			ND<500							33.7	23.2	202
1/7/2004	·		ND<500							11.69	13.82	99
4/2/2004	·		ND<50							11.94	14.08	-1
7/29/2004			ND<50	· ·				. .				
11/24/2004			ND<50						6.75	3.85	4.32	82
1/24/2005			ND<50						`	30.01	32.6	79
6/23/2005			ND<1000					·		2.17	2.16	76
9/28/2005			ND<1000							4.97	4.59	-4
12/20/2005	5	· · ·	ND<250				'		'	5.16	4.77	35
3/10/2006	·		ND<250	· ·		 .	· ·			5.11	9.99	68
6/23/2006			ND<250	'	·						7.74	-26
9/27/2006			ND<250		·					5.72	5.98	32
12/22/2006	õ		ND<250							3.81	4.35	46
3/23/2007			ND<250	- '	-*			 .		5.47	5.85	38
6/29/2007			ND<250			· ·				7.87	7.80	[*] 242
9/28/2007			ND<250				 .			7.24	7.30	280
12/17/2007	7 1		ND<250	*					<u> </u>	8.71	8.01	47
3/25/2008		·	ND<250				··			8.41	8.40	45
6/12/2008		ND<10	ND<250					·			3.33	160
9/25/2008		ND<10	ND<250			'					4.28	115
12/30/2008		ND<10	ND<250						'	2.74	2.67	195
3/24/2009		ND<10	ND<250					**	 '	2.27	2.20	185
6/23/2009		ND<10	ND<250							3.62	4.14	67
12/16/2009		ND<10	ND<250							4.62		
12. 10. 2009		•										

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Date Samp			Ethanol	Ethylene- dibromide	1,2-DCA				pH	Post-purge Dissolved	Pre-purge Dissolved	Pre-purge
	TPH-D	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME	(lab)	Oxygen	Oxygen	ORP
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(pH)	(mg/l)	(mg/l)	(mV)
MW	-11 continued											
4/14	/2010	ND<10	ND<250	 '		. 				4.15		
10/13	3/2010	ND<10	ND<250	ND<0.50	ND<0.50					2.21		
5/27	/2011	ND<10	ND<250	ND<0.50	ND<0.50					3.11		

CTRC

Date						
Sampled	Post-purge					
	ORP					
	(mV)		 ····	 	 	
MW-1						
10/2/2003	21.0					
1/7/2004	24					
4/2/2004	34					
7/29/2004	-4					
11/24/2004	-39					
1/24/2005	96					
9/28/2005	-94					
12/20/2005	-328					
3/10/2006	-615					
9/27/2006	-25					
12/22/2006	5 -72					
3/23/2007	-141			-		
6/29/2007	-65					
12/17/2007	-46			-		
3/25/2008	-64	•				
12/30/2008	3 -2					
3/24/2009	-32					
12/16/2009	38					
4/14/2010	55					
10/13/2010) -48					
5/27/2011	-19					
MW-6						
10/2/2003	175					
1/7/2004	· 24					
4/2/2004	23					
1871			Page 1 of 7			©TRC

Date Sampled	Post-purge					
	ORP					
	(mV)		 	· · · · · · · · · · · · · · · · · · ·	 · · · · · · · · · · · · · · · · · · ·	 ······································
MW-6 c						
7/29/2004						
11/24/2004						
1/24/2005						
6/23/2005	71					
9/28/2005	-80					
12/20/2005	-217					
3/10/2006	224					
9/27/2006	-104					
12/22/2006	-67					
3/23/2007	-92					
6/29/2007	84					-
9/28/2007	154					
12/17/2007	-14					
3/25/2008	-18					
12/30/2008	8					
3/24/2009	91					
6/23/2009	79					
12/16/2009	116					
4/14/2010	108					
10/13/2010) 129					
5/27/2011	199					
MW-7						
MW-7 10/2/2003	153					
1/7/2004	5	λ.				
4/2/2004	10					
	**					

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Date Sampled	Post-purge ORP					
	(mV)					·
MW-7	continued			** *		
7/29/200						
11/24/200						
1/24/200						
6/23/200						
9/28/200						
12/20/200						
, 3/10/200						
9/27/200						
12/22/200						
3/23/200						
9/28/200						
12/19/200						
3/25/200						
12/30/200						
. 3/24/200						
6/23/200						
12/16/200						
4/14/201						
10/13/201						
5/27/201	1 145					
MW-8						
10/2/200	3 197	با				
1/7/2004	4 21					
4/2/2004	4 16					
7/29/200)4 30					
1871			Page	3 of 7	· · ·	©TRC

Date				
Sampled	Post-purge			
	ORP (mV)			
MW-8 c				
11/24/2004	4 -20			
1/24/2005				
6/23/2005	56			
9/28/2005	-26			
12/20/2005	5 -326			
3/10/2006	ō -181			
9/27/2006	-139			
12/22/2006	6 12			
3/23/2007	22			
6/29/2007	92			
9/28/2007	22			
12/17/200	7 24			
3/25/2008	3 77			
12/30/200	8 14		•	
3/24/2009	9 109			
6/23/2009	9 55			
12/16/2009	9 75			
4/14/2010	0 120			
10/13/201	0 92			
5/27/2011	1 209			
MW-9				· · ·
10/2/2003	3 203			
1/7/2004				
4/2/2004	32			
11/24/200				
1871		Page 4	of 7	OTRC
1071				

Date Sampled	Post-purge		· · · · ·
oumpiou	ORP		
	(mV)		
MW-9 c			
1/24/2005	-45		
6/23/2005			
9/28/2005			
12/20/2005			
3/10/2006	161		
9/27/2006	-43		
12/22/2006	-70		
3/23/2007	-82		
6/29/2007	22		
9/28/2007	30		
12/17/2007	-35		
3/25/2008	-14		
12/30/2008	38		
3/24/2009	58		
6/23/2009	-30		
12/16/2009	102		
4/14/2010	49		
10/13/2010	114		
5/27/2011	95		
MW-10			
10/2/2003	213		
1/7/2004	59		
4/2/2004	45		
7/29/2004	102		
11/24/2004	-29		
1871		Page 5 of 7	©TRC

Date Sampled	Р. (•											
Sampled	Post-purge ORP														
•	(mV)		•												
MW-10	continued	. <u></u> .	· · ·											. *	
1/24/2005															
6/23/2005															
9/28/2005															
12/20/2005															
3/10/2006	83														
9/27/2006	-65					*						•			
12/22/2006	5 85														
6/29/2007	172										•			•	
9/28/2007	126														
12/17/2007	7 -2														
3/25/2008	-12														
12/30/2008	3 184														
3/24/2009															
6/23/2009															
12/16/2009															
4/14/2010															
10/13/2010															
5/27/2011			·		2										
MW-11 10/2/2003	255									·					
1/7/2004			·												
4/2/2004															
11/24/2004															
1/24/2005															
6/23/2005	82						_						وي الم		
1871						Page 6 of	7		• •				C	TR	2

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1871

Date Sampled	Post-purge ORP (mV)	· ·				
MW-11 9/28/2005	continued -1					
12/20/2005						
3/10/2006						
9/27/2006	40		• •			
12/22/2006	5 44					
3/23/2007	34					
6/29/2007	223					
9/28/2007	244					
12/17/2007	7 46					
3/25/2008	44					
12/30/2008	3 195					
3/24/2009	190					
6/23/2009	67					
12/16/2009	9 160					
4/14/2010	143				· .	
10/13/2010) 133					
5/27/2011	205					

ATTACHMENT D

OZONE INJECTION SYSTEM O & M REPORT

environ strategy consultants, inc.

1036 W. Taft Avenue Orange, Californina 92865 Tel 714-919-6500 Fax 714-919-6501 www.environstrategy.com

December 19, 2011

Kiersten Hoey Conestoga-Rovers & Associates (CRA) 5900 Hollis Street, Suite A Emeryville, CA 94608

Project No. 696-A

<u>Fourth Quarter 2011</u> <u>Ozone Injection System O&M Report</u> 76 Service Station No. 1871 96 MacArthur Boulevard Oakland, California

Dear Mr. Hoey:

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), Environ Strategy Consultants Inc. (Environ Strategy) is pleased to submit this ozone injection system operation and maintenance (O&M) report for 76 Service Station No. 1871, located at 96 MacArthur Boulevard, Oakland, California (Figure 1). An ozone injection system was started on June 23, 2003 to remediate hydrocarbon-impacted groundwater (Table 1).

Environ Strategy appreciates the opportunity to be of service. If you have any questions or require additional information regarding this report, please do not hesitate to contact us at (714) 919-6525, or by email at dnygaard@environstrategy.com.

Respectfully submitted,

Dane Nygaard Project Manager

Jinghui Niu, P.E. Principal Engineer



Fourth Quarter 2011 O&M Report

76 Service Station No. 1871

December 19, 2011

Ozone Injection System

KVA Ozone Injection System	
Reporting Period:	September 1, 2011 – November 30, 2011
Days of Operation:	Operated 91 days during the period
Hours of Operation:	2,059
System Operation Data Since Startup on Jun	ne 23, 2003:
Total Hours of Operation:	48,170

Notes: Fourth Quarter 2011 – Period hours includes dates August 30, 2011 to November 24, 2011.

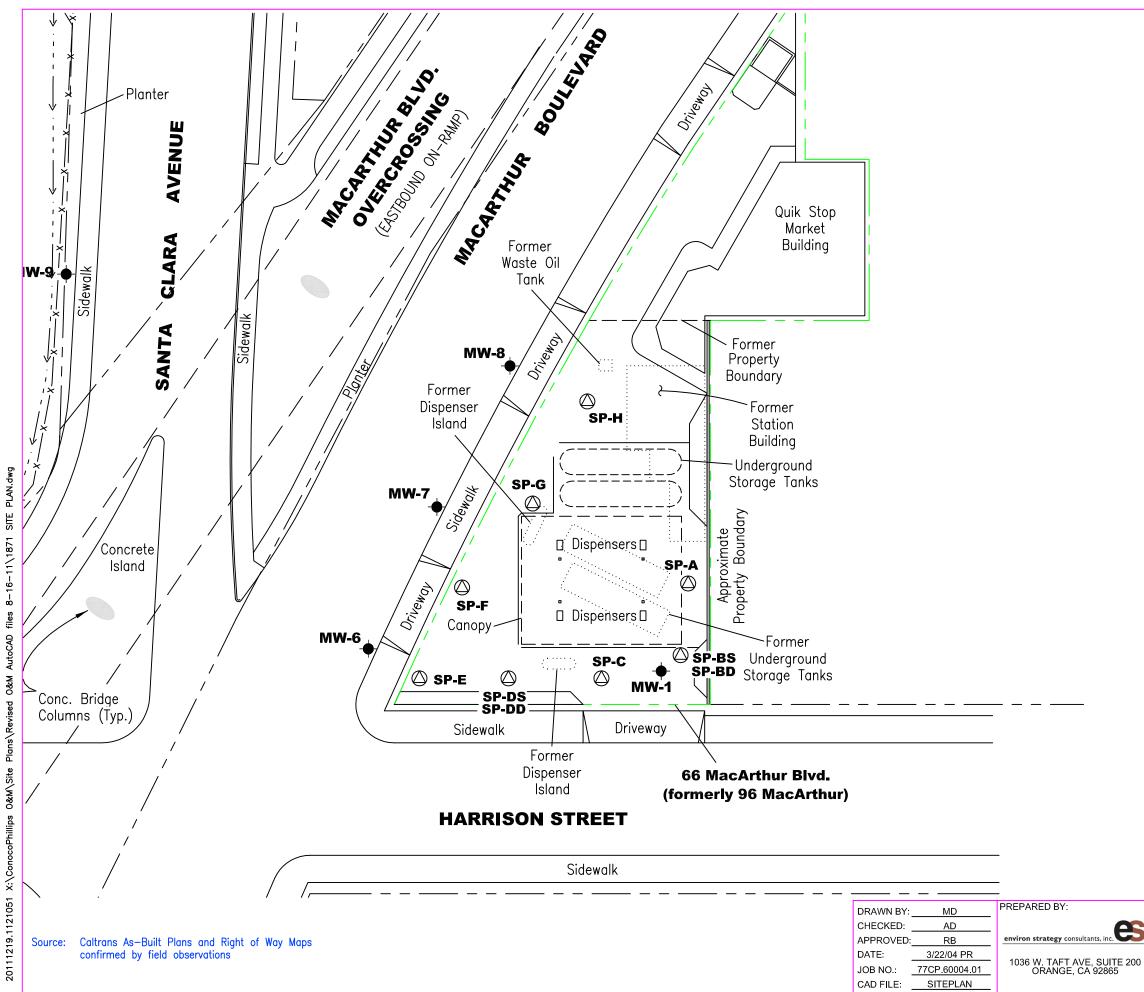
Attachments: Figure - Site Plan

Table 1 - Ozone Injection - System Operation Data Table 2 - Ozone Injection - Groundwater Monitoring Data

Graph 1 - MW-1 TPHg, Benzene, and MTBE Groundwater Concentrations Graph 2 - MW-7 TPHg, Benzene, and MTBE Groundwater Concentrations

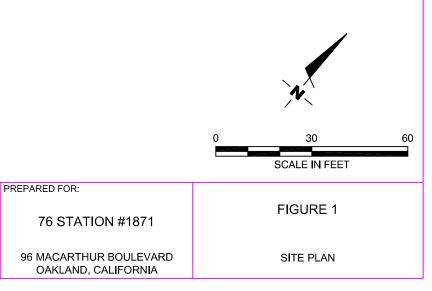
Appendix A - Field Notes

Figure



EXPLANATION

Groundwater monitoring well



Tables

Table 1 Ozone Injection - System Operation Data 76 Service Station No. 1871 96 MacArthur Blvd., Oakland, California Page 1 of 4

		OZONE SPARGE SYSTEM							SP-BS	SP-BD	SP-C	SP-DS	SP-DD	SP-E	SP-F	SP-G	SP-H
Date	Notes	System Sta Arrival	tus (On/Off) Departure	Hourmeter Reading	Period Online Factor	Cumulative Online Factor	Ozone Injected (Ibs)	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)	(psi)	Pressure (psi)	Pressure (psi)	Pressure (psi)
6/23/03		On	On	8807.26		0.95		20	18	19	20	21	23	20	26	14	26
7/16/03		Off	On	8850.46	0.09	0.91	0.39	27	18	31	40	28	29	31	38	24	25
8/30/03		On	On	9180.61	0.35	0.86	2.97	17	15	17	19	19	19	20	26	19	26
9/18/03		On	On	9327.43	0.37	0.84	1.32	13.5	14.7	17.0	16.3	16.0	19.7	16.8	19.8	15.7	20
10/16/03		On	On			0.84		27.0	19.5	40.8	39.0	40.8	38.5	34.2	46.4	24.2	39.8
11/17/03		On	On	9696.55	0.29	0.81		11.0	20.0	17.0	18.0	17.5	17.0	16.0	21.0	51.0	22.0
12/5/03		On	On	9804.98	0.29	0.80	0.98	33.0	21.0	44.0	40.0	43.0	39.0	33.5	44.0	26.0	33.0
1/16/04		On	On	10471.28	0.76	0.79	6.00	12.5	11.0	18.5	16.5	17.5	17.0	16.0	20.0	16.0	20.0
2/3/04		On	On	10727.69	0.68	0.79	2.31	12.3	11.5	18.2	16.5	18.2	17.3	16.0	19.0	16.0	18.2
3/24/04		On	On	11424.95	0.66	0.78	6.28	31.0	18.3	37.5	26.0	34.0	33.2	32.3	41.5	23.0	31.0
4/14/04		On	On	11676.10	0.57	0.77	2.26	32.0	19.0	38.7	26.0	37.7	37.1	32.8	41.8	23.8	29.5
4/15/04	а	On	On	11685.29	0.44	0.77	0.08										
4/16/04	a	On	On	11693.80	0.41	0.77	0.08										
4/19/04	a	On	On	11742.90	0.78	0.77	0.44										
4/23/04	a	On	On	11773.10	0.36	0.77	0.27										
5/4/04	ű	Off	On	11837.70	0.28	0.76	0.58	32.2	20.5	39.4	36.2	38.1	32.0	33.5	60.0	25.8	33.1
5/11/04		On	On	11950.51	0.77	0.76	1.02	32.5	20.0	38.5	29.8	38.8	39.5	34.8	60.0	23.5	35.9
6/14/04	b.c	On	On	12464.64	0.72	0.76	4.63	20.0	21.0	38.8	27.2	37.0	38.2	35.2	60.0	24.0	32.1
7/29/04	d d	On	On	844.62	0.99	0.77	7.60	20.0	15		26	35	34	35		24.0	33
8/12/04	e	On	On	1075.97	0.98	0.78	2.08										
9/10/04		On	On	1490.23	0.85	0.78	3.73	32	32	33	33	21	24	30	20	26	30
10/5/04		On	On	1868.83	0.90	0.78	3.41	31	32	33	31	22	23	31	21	26	28
11/5/04		On	On	2360.90	0.93	0.79	4.43	22	26	12	18	12	22	30	32	26	22
12/2/04	f	Off	Off	2802.02	0.97	0.79	3.97								-		
1/13/05		Off	On	2802.07	0.00	0.76	0.00	23	27	15	20	15	23	31	34	28	25
2/25/05	g	Off	Off	2802.42	0.00	0.73	0.00										
3/8/05	h,i	Off	Off	2802.42	0.00	0.72	0.00										
4/5/05	1	Off Off	Off	2802.42	0.00	0.70	0.00										
5/4/05 6/2/05	J k	On	On On	2802.49 3407.97	0.00	0.69 0.69	0.00 5.45	14 35	11 25	16 Off	12 40	20 41	27 36	25 35	29 34	25 27	31 25
7/7/05	k,l,m	On	On	4067.42	1.00	0.89	5.94	35	23	Off	30	Off	26	33	28	27	Off
8/26/05	n	On	On	4665.98	0.81	0.72	5.39	13	13	Off	14	Off	13	12	12	13	Off
9/23/05	0	On	On	4947.97	0.69	0.71	2.54	16	15	Off	Off	Off	16	16	16	16	Off
10/23/05	p	On	On	5264.28	0.72	0.71	2.85	16	16	Off	Off	Off	16	16	16	16	Off
11/11/05	q,r	On	Off	0.90		0.71											
11/15/05	S	Off	On	0.90	0.00	0.71	0.00	35	16	16	22	23	18	23	23	23	24
12/6/05	t	Off	On	2.49	0.00	0.70	0.01	22	20	19	24	24	22	26	23	24	25
1/4/06	u	Off	On	6	0.01	0.69	0.03	20	20	18	17	23	20	25	19	22	20
1/18/06	u	Off	On	203	0.67	0.69	1.77	22	19	19	20	19	18	21	22	22	23
2/1/06	V	Off	On	316	0.38	0.68	1.02	20	20	18	22	22	18	23	23	22	25
2/15/06	V	Off	On	344	0.10	0.68	0.25	20	19	18	17	19	20	23	19	22	20
3/1/06	V	Off	On	417	0.25	0.67	0.66	21	20	19	19	21	17	24	23	21	21

Table 1 Ozone Injection - System Operation Data 76 Service Station No. 1871 96 MacArthur Blvd., Oakland, California Page 2 of 4

		OZONE SPARGE SYSTEM							SP-BS	SP-BD	SP-C	SP-DS	SP-DD	SP-E	SP-F	SP-G	SP-H
Date	Notes	Arrival	tus (On/Off) Departure	Hourmeter Reading	Period Online Factor	Cumulative Online Factor	Ozone Injected (lbs)	Pressure (psi)	Pressure (psi)	(psi)	Pressure (psi)	(psi)	(psi)	(psi)	Pressure (psi)	Pressure (psi)	(psi)
3/16/06	u	Off	On	501	0.27	0.67	0.76	20	19	18	17	19	20	23	20	22	20
3/29/06	u	Off	On	560	0.22	0.67	0.53	20	20	19	19	20	21	25	21	22	21
4/16/06	u	Off	On	624	0.17	0.66	0.58	20	19	18	17	19	20	23	20	23	21
4/25/06	u	Off	On	718	0.50	0.66	0.85	20	20	19	18	20	22	24	21	22	20
5/9/06	u	Off	On	776	0.20	0.65	0.52	20	19	19	17	19	21	22	20	22	20
5/23/06	u	Off	On	834	0.20	0.65	0.52	19	20	18	18	20	20	23	20	23	21
6/6/06	u	Off	On	1,042	0.71	0.65	1.87	20	19	18	17	19	20	23	20	22	20
6/20/06	w	Off	On	1,206	0.56	0.65	1.48	19	20	18	18	19	20	25	21	23	21
7/7/06	х	Off	Off	1,313	0.30	0.65	0.96										
7/28/06	у	Off	On	1,313	0.00	0.64	0.00	19	17	16	19	24	17	22	19	21	23
8/15/06	u	Off	On	1,616	0.80	0.64	2.73	19	17	17	16	19	19	23	19	21	21
8/29/06	u	Off	On	1,801	0.63	0.64	1.67	19	19	17	17	21	18	21	19	22	23
9/12/06	u	Off	On	2,022	0.75	0.64	1.99	23	19	17	16	19	19	25	19	22	21
9/22/06	u	Off	On	2,204	0.87	0.64	1.64	21	21	19	20	23	21	26	23	25	27
10/4/06	u	Off	On	2,313	0.43	0.64	0.98	18	18	17	18	18	18	25	23	22	21
10/18/06	u	Off	On	2,401	0.30	0.64	0.79	20	19	17	16	18	19	20	20	21	27
10/31/06	W	Off	On	2,516	0.42	0.63	1.04	22	20	19	20	19	19	23	21	25	23
11/14/06	u	Off	On	2,636	0.41	0.63	1.08	18	18	17	17	18	18	22	24	22	24
11/28/06	u	Off	On	2,744	0.37	0.63	0.97	20	20	19	20	22	21	25	25	22	23
12/14/06	u	Off	On	2,801	0.17	0.63	0.51	19	19	18	18	19	19	22	22	23	22
12/26/06 1/15/07	u	Off Off	On On	2,906	0.42	0.62	0.95 0.69	20 19	20 20	19	20 18	21	20 19	25 22	25 23	20 22	24
1/15/07	u	Off	On	2,983 3,076	0.18	0.62	0.69	20	20	18 19	20	19 20	20	22	23	22	22 24
2/6/07	V	Off	On	3,076	0.32	0.62	0.84	20 19	20	19	17	19	20 19	24	21	23	24 23
2/0/07	u u	Off	On	3,303	0.48	0.62	1.32	20	20	20	20	19	21	21	24	21	23
3/5/07	u u	Off	On	3,303	0.47	0.62	0.68	19	21	18	18	18	20	23	23	23	23
3/19/07	u u	Off	On	3,376	0.30	0.61	0.88	20	20	20	18	18	20	21	23	22	22
4/4/07	u u	Off	On	3,476	0.33	0.61	0.88	19	21	18	19	18	19	23	24	23	24
4/18/07	u	Off	On	3,606	0.12	0.60	0.33	21	20	20	20	18	21	24	24	24	22
5/10/07	u	Off	On	3,676	0.15	0.60	0.63	19	20	19	17	18	19	24	23	20	21
5/25/07	u	Off	On	3,758	0.15	0.60	0.03	22	20	20	19	10	21	20	23	20	23
6/4/07	u	Off	On	3,801	0.18	0.59	0.39	18	20	18	18	17	19	19	20	21	20
6/18/07	u	On	On	4,137	1.00	0.60	3.02	20	20	19	10	19	20	22	20	20	20
7/2/07		On	On	4,373	0.70	0.60	2.12	15	20	19	18	20	19	24	21	20	23
7/16/07		On	On	4,409	0.11	0.59	0.32	18	20	20	10	20	20	24	23	22	25
8/8/07		On	On	4,961	1.00	0.60	4.97	13	20	20	18	20	18	29	22	20	24
8/27/07		On	On	5,411	0.99	0.60	4.05	14	20	19	20	20	10	30	20	20	24
9/13/07		On	On	5,822	1.00	0.61	3.70	22	21	21	23	21	22	30	20	21	21
9/27/07		On	On	6,155	0.99	0.61	3.00	28	25	25	27	25	26	32	21	26	25
10/29/07		On	On	6,917	0.99	0.62	6.86	28	25	24	25	33	32	32	21	30	30
11/26/07		On	On	7,591	1.00	0.62	6.07	26	22	24	25	31	30	32	22	30	30
12/31/07		On	On	8,425	0.99	0.63	7.51	26	20	24	24	30	32	32	30	28	30
1/28/08		On	On	9,103	1.01	0.63	6.10	26	21	22	21	26	30	28	26	27	27
2/25/08		On	On	9,778	1.01	0.64	6.08	23	19	22	20	25	30	30	28	27	28

Table 1Ozone Injection - System Operation Data76 Service Station No. 187196 MacArthur Blvd., Oakland, CaliforniaPage 3 of 4

			(OZONE SPAI	RGE SYST	SP-A	SP-BS	SP-BD	SP-C	SP-DS	SP-DD	SP-E	SP-F	SP-G	SP-H		
					Period		Ozone	_	-			_				-	_
Date	Notes	System Sta Arrival	atus (On/Off)		Online	Cumulative	Injected (lbs)	Pressure									
	notes		Departure	Reading	Factor	Online Factor		(psi)									
3/24/08		On	On	10,475	1.00	0.64	6.27	25	20	21	20	24	30	28	27	26	27
4/28/08 5/26/08		On On	On On	11,317 11,992	1.00	0.65 0.65	7.58 6.08	24 23	22 20	20 22	22 22	22 23	30 30	29 30	24 25	26 27	26 28
6/30/08		On	On	12,828	1.00	0.66	7.52	25	20	22	22	23	30	29	25	27	20
7/28/08		On	On	13,498	1.00	0.66	6.03	22	26	24	28	23	30	22	27	29	20
8/25/08		On	On	14,261	1.00	0.66	6.87	18	15	25	14	19	22	23	25	24	20
9/29/08		On	On	15,100	1.00	0.67	7.55	20	14	15	16	18	28	28	20	19	22
10/27/08	Z	On	On	15,358	0.38	0.67	2.32	20	16	16	17	20	28	28	18	19	21
11/24/08		On	On	16,028	1.00	0.67	6.03	20	15	15	15	18	25	25	18	16	20
12/29/08		On	On	16,869	1.00	0.67	7.57	20	15	17	16	20	24	22	19	14	20
1/26/09		On	On	17,542	1.00	0.68	6.06	22	17	16	16	21	25	20	18	15	22
2/23/09		On	On	18,214	1.00	0.68	6.05	21	18	19	18	20	23	21	19	16	20
3/30/09		On	On	19,005	0.94	0.69	7.12	20	19	17	17	22	22	21	18	16	21
4/27/09		On	On	19,727	1.00	0.69	6.50	21	21	18	18	21	22	20	19	18	20
5/25/09		On	On	20,400	1.00	0.69	6.06	22	20	17	16	20	21	21	20	19	19
6/22/09		On	On	21,072	1.00	0.70	6.05	20	20	17	18	17	20	21	19	20	20
7/27/09		On	On Off	21,912	1.00	0.70	7.56	22	21	18	19	16	22	22	21	19	18
8/3/09 11/4/09		On Off	Off On	22,080 22,080	1.00	0.70 0.68	1.51 0.00	21 20	20 19	20 19	21 20	18 17	21 20	20 19	20 18	21 19	19 17
12/30/09		On	On	22,080	1.00	0.68	12.10	20	19 21	19 21	20	20	20	23	21	22	21
1/27/10		On	On	23,424 24,096	1.00	0.69	6.05	23	20	20	23	20	22	23	20	22	21
2/24/10		On	On	24,090	1.00	0.69	6.04	21	20	20	21	22	24	23	20	24	23
3/30/10		On	On	25,607	1.00	0.69	7.56	20	21	22	23	19	23	22	22	25	23
4/27/10		On	On	26,280	1.00	0.70	6.06	21	22	21	22	20	21	20	20	24	21
5/25/10		On	On	26,953	1.00	0.70	6.06	22	24	23	21	21	22	21	22	23	22
6/29/10		On	On	27,795	1.00	0.70	7.58	24	21	22	24	22	20	21	22	24	23
7/27/10		On	On	28,467	1.00	0.71	6.05	21	18	20	22	20	17	19	18	21	20
8/31/10		On	On	29,308	1.00	0.71	7.57	12	18	24	15	13	14	16	10	17	8
9/28/10		On	On	29,980	1.00	0.71	6.05	11	18	15	19	20	17	23	16	15	20
10/26/10		On	On	30,652	1.00	0.71	6.05	9	18	18	20	21	17	21	10	19	17
11/30/10		On	On	31,492	1.00	0.72	7.56	13	22	19	18	28	20	19	15	17	19
12/28/10		On	On	32,163	1.00	0.72	6.04	14	19	18	18	26	21	20	18	18	18
1/25/11		On	On	32,834	1.00	0.72	6.04	18	17	15	21	24	17	19	21	20	15
2/22/11		On	On	33,506	1.00	0.72	6.05	20	21 20	18	25	21	23	28 25	25 24	22 23	20
3/29/11 4/26/11		On On	On On	34,342	1.00	0.73	7.52 6.03	19 22	20 21	18 19	22 20	23 21	22 21	25	24 24	23	20 22
4/26/11 5/31/11		On	On	35,012 35,851	1.00	0.73	6.03 7.55	22	21	20	20	21	21	23	24	23	22
6/28/11		On	On	36,523	1.00	0.73	6.05	20	20	20	19	20	20	19	22	23	21
7/26/11		On	On	37,196	1.00	0.73	6.06	19	20	20	21	18	20	16	20	23	22
8/30/11		On	On	38,034	1.00	0.74	7.54	25	31	26	-	30	34	27	28	22	24
9/27/11		On	On	38,705	1.00	0.74	6.04	21	30	27	20	29	31	22	26	20	23
10/27/11		On	On	39,417	0.99	0.74	6.41	18	22	17	26	19	24	18	19	15	19
11/24/11		On	On	40,093	1.00	0.75	6.08	21	20	17	24	16	21	19	17	16	18
				(6/23/2003	-present) S	parge time per	cycle (min)	7	7	7	7	7	7	7	7	7	7
						Number of Cycl	es per Day	20	20	20	20	20	20	20	20	20	20
Total Hours	Period:Four Operational Is Ozone Inje	: 48,170	2011 (09/01/2	2011 to 11/30	/2011)												

Period Hours Operational: 2059

Period Percent Operational: 100% Period Pounds Ozone Injected: 19

Definitions	
psi	- Pounds per square inch
	Data not available
NA	Not applicable
lbs	Pounds
Notes:	
	Hour Meter Formula adjusted 12/19/07
	June 4, 2007 - Control Panel retrofit installed.
	August 3, 2009 - Ozone down by request of COP PM
	November 4, 2009 - System restarted
	System cycles through program 18 times per day, for 53% utilization
а	Troubleshooting time counter
b	Hourmeter replaced
С	Solenoid 8 has high pressure, taken offline
d	Solenoid 3 leaking, taken off line
е	Pressures not properly recorded
f	Ozone generator hose ruptured on effluent side to solenoid manifold. No Readings.
g	System down due to bad GFI
h	New GFI was installed.
i	Fan in compressor broken and tubing from compressor to manifold needs to be replaced. System left off until repairs made.
j	Installed new motor fan and manifold fittings, restarted system.
k	OZ-3 turned off due to high pressure of over 60 psi.
I	OZ-5 too brittle. Left off until lines are replaced.
m	OZ-10 turned off due to leak in secondary containment
n	Hourmeter reading not correct, will check next visit
0	Hourmeter not working properly.
р	Pressure gauge stuck at 16 psi.
q	New hourmeter, panel fan, and GFCI installed
r	Fuse blown in ozone generator, system left off
S	Replaced tubing to all wells and replaced ozone generator circuit board and pressure gauge
t	System down due to tripped GFI; foam on door may have been pressing reset button. Foam removed.
u	Ozone sensor tripped; system restarted.
V	Rainbird meter malfunction.
W	System down time due to tripped GFI; system restarted.
х	System off due to bad compressor.
У	Compressor repaired; system restarted.

y Compressor repaired; system restarted.z September 10-27,2008 - System down for well repair.

Table 2 **Ozone Injection - Groundwater Monitoring Data** 76 Service Station No. 1871 96 MacArthur Blvd., Oakland, California

Page 1 of 1

			Monitoring Well: MW-1								Monitoring Well: MW-7									
	Notes	ORP	DO	TPHg	Benzene	Toluene	Ethyl-benzene	Xvlenes (total)	MtBE	ORP	DO	TPHg	Benzene	Toluene	Ethvl-benzene	Xylenes (total)	MtBE			
Date		(mV)	(mg/l)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(mV)	(mg/l)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)			
4/16/03	а	NM	NM	510	57	0.62	29	61	160	NM	NM	<25,000	<250	<250	<250	<500	37,000			
6/23/03	а	NM	NM	75	<0.50	< 0.50	<0.50	5.3	12	NM	NM	20,000	260	<0.50	<0.50	<1.0	20,000			
8/29/03	а	NM	NM	11,000	64	<10	330	1,400	440	NM	NM	<10,000	<100	<100	<100	<200	24,000			
9/18/03		NM	NM	390	2.3	< 0.50	3.6	31	30	NM	NM									
10/16/03		NM	NM	2,100	6.0	<0.50	24.0	120	110	NM	NM									
11/17/03		NM	NM	130	0.51	<0.50	2.1	7.9	43	NM	NM	16,000	<130	<130	<130	<250	17,000			
12/5/03		NM	NM	<50	< 0.50	< 0.50	< 0.50	<1.0	36	NM	NM	12,000	<100	<100	<100	<200	19,000			
1/16/04	b	NM	NM	<50	< 0.50	< 0.50	<0.50	<1.0	<2.0	NM	NM	17,000	160	270	<130	<250	19,000			
2/3/04 3/24/04	6	238	NM NM	<50 55	<0.50 <0.50	< 0.50	<0.50 0.80	<1.0 2.9	<2.0 7.8	72 56	NM NM	10,000	<25 <100	<25 <100	<25 <100	<50 <200	15,000			
3/24/04	b b	169	NM	23,000	<0.50 310	<0.50 10	590	2.9	1700	56 42	NM	13,000 9,000	<100	<100	<100	<200	15,000 11,000			
4/14/04 5/11/04	D	0.4 c	NM	7,800	160	<10	170	700	720	-3	NM	8,300	<50	<50	<50	<100	11,000			
6/14/04		20	5.25	110	<0.50	<0.50	1.0	6.4	3.4	-3	1.45	<5,000	<50	<50	<50	<100	6,500			
7/26/04		NM	NM	<50	<0.50	< 0.50	<0.50	<1.0	3.4	NM	NM	<5,000	<50	<50	<50	<100	3,100			
8/12/04		171	0.07	<50	<0.50	< 0.50	<0.50	<1.0	0.80	117	0.06	2,100	<10	<10	<10	<20	2,700			
9/10/04		180	0.08	<50	<0.50	< 0.50	<0.50	<1.0	5.7	122	0.07	3,100	<13	<13	<13	<25	4,400			
10/5/04		175	0.09	<50	< 0.50	< 0.50	<0.50	<1.0	<0.50	117	0.08	<50	< 0.50	<0.50	<0.50	<1.0	7.1			
11/5/04	d	117	0.05	<50	<0.50	< 0.50	<0.50	<1.0	0.89	210	0.06	50	<0.50	< 0.50	<0.50	<1.0	1.1			
12/2/04		109	0.03	83	0.83	< 0.50	<0.50	1.2	44	214	0.03	180	1.6	< 0.50	66	4.5	51			
1/13/05		105	0.04	1,100	26	1.2	2.10	70	630	201	0.05	1,000	25	1	1.9	68	460			
2/25/05	c,f		2.67	24,000	350	10	820	2,200	1,300	21	2.05	680	<2.0	<2.0	2.3	58	2,500			
3/8/05	g	-35	4.43	23,000	410	<10	1,100	2,300	1,300	NR	NR									
4/5/05		-30	4.56	34,000	300	<10	910	2,000	1,100	135	6.53	<5,000	<.50	<.50	<.50	<1.00	19,000			
5/4/05		-59	2.40	26,000	220	7.4	790	2,100	860	-24	1.13	<2,000	<0.50	<0.50	<0.50	<1.0	7,100			
6/2/05		-20	7.34	<50	< 0.50	< 0.50	< 0.50	<1.0	3.5	-12	1.01	3500	< 0.50	< 0.50	<0.50	<1.0	4,000			
7/7/05	i,j	142	7.42	<50	< 0.50	< 0.50	< 0.50	<1.0	0.61	154	1.40	5000	< 0.50	< 0.50	<0.50	<1.0	8,900			
9/23/05		16 154	7.77	<50 <50	<0.50 <0.50	< 0.50	<0.50 <0.50	<1.0	<0.50	56 191	1.39	<500 <250	<5.0	<5.0 <2.5	<5.0	<10	1,900			
10/23/05 11/1/05	k	154	7.13	<50	<0.50	<0.50	<0.50	<1.0	0.56		1.59	<250	<2.5	<2.5	<2.5	<5	680			
12/20/05	k			10000	17	29	180	840	2400			1100	0.90	< 0.50	24	37	8200			
3/10/06				10000	35	< 0.50	470	1300	960			1200	24	<0.50	3.6	<1.0	4700			
6/23/06				11000	110	< 0.50	610	1600	780			1800	21	<0.50	<0.50	<1.0	1500			
9/27/06				8500	22	<0.50	270	740	460			<2,000	< 0.50	<0.50	<0.50	<1.0	350			
12/22/06				7300	35	< 0.50	370	850	210			24000	<0.50	< 0.50	<0.50	<1.0	190			
3/23/07				8800	28	< 0.50	440	910	170			85	< 0.50	<0.50	<0.50	<1.0	92			
6/26/07				6300	16	< 0.50	300	650	50											
9/28/07				<50	<0.50	< 0.50	<0.50	<1.0	1.2			50	<0.50	<0.50	<0.50	<1.0	37			
12/17/07				4700	<0.50	<0.50	71	160	18											
3/25/08				7400	28	<0.50	430	540	170			<50	<0.50	<0.50	<0.50	<1.0	7.3			
6/12/08				4900	6.4	<0.50	170	280	16			52	<0.50	<0.50	<0.50	<1.0	9.4			
9/25/08				2200	2.1	<0.50	72	110	11			65	<0.50	<0.50	<0.50	<1.0	5.6			
12/30/08				3200	2.5	<0.50	100	150	8.3			130	<0.50	< 0.50	<0.50	1.1	5.7			
3/24/09				3500	6.8	< 0.50	140	140	28			98	0.50	< 0.50	<0.50	<1.0	9.2			
6/23/09				740	< 0.50	< 0.50	17	12	8			290	1.2	< 0.50	<0.50	<1.0	6.7			
12/16/09				4600	10	< 0.50	270	140	52			150	< 0.50	< 0.50	<0.50	<1.0	3.7			
4/14/10 10/13/10		54	1.88	1500 4600	5	<1.00 <0.50	100 180	36 73	20 6	110	0.97	60 <50	<0.50 <0.50	<0.50 <0.50	<0.50 <0.50	<1.0 <1.0	2.1 3.6			
10/13/10					-				-											
5/27/11				1500	3	<2.50	86	14	10			<50	<0.50	< 0.50	<0.50	<1.0	5.2			

E)	e	fi	ir	٦	it	i	o	n	IS	;

TPHg = Total petroleum hydrocarbons as gasoline MtBE = Methyl tert-butyl ether

 $\mu g/L = Micrograms per liter$

ORP = Oxidation Reduction Potential DO = Dissolved Oxygen

mV = Millivoltsmg/I = Milligrams per liter Notes:

NM

а

b

с

е

f

i

j

Data not available

Not Measured Sampled by Gettler-Ryan, Inc.

Hydrocarbon in gasoline range does not match laboratory gasoline standard.

ORP reading under the range

Quantity of unknown hydrocarbon(s) in sample based on gasoline.

d Data not available at time of reporting

MW-7 Estimated value of MtBE; concentration exceeded the calibration of analysis

Car parked on MW-7.

g h Data not available at time of reporting

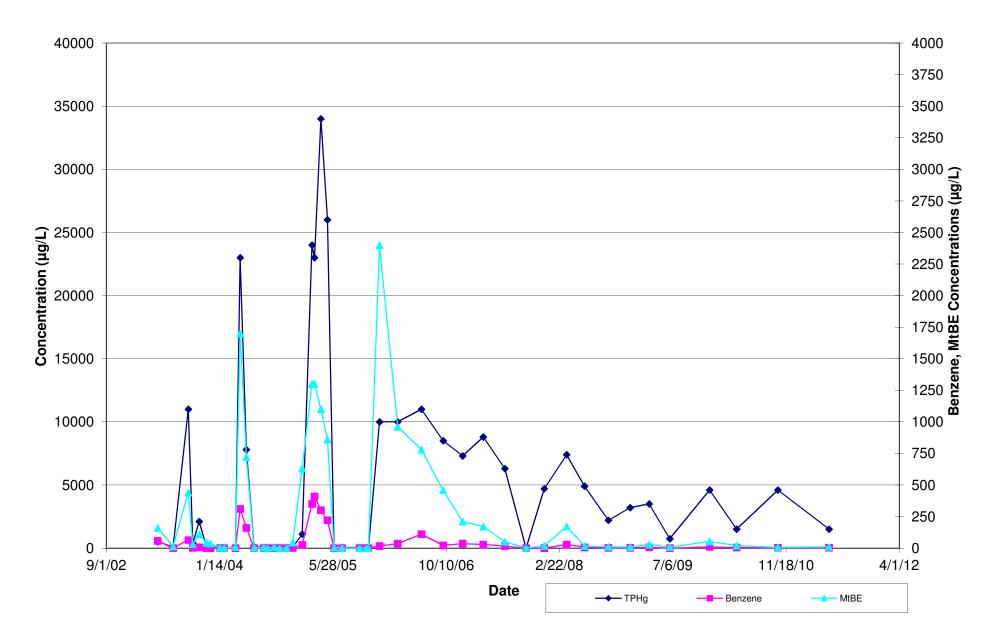
Siloxane peaks were found in the sample which are not believed to be gasoline related. If

they were to be quantified as gasoline, the concentration would be 58 ug/L. (MW-1).

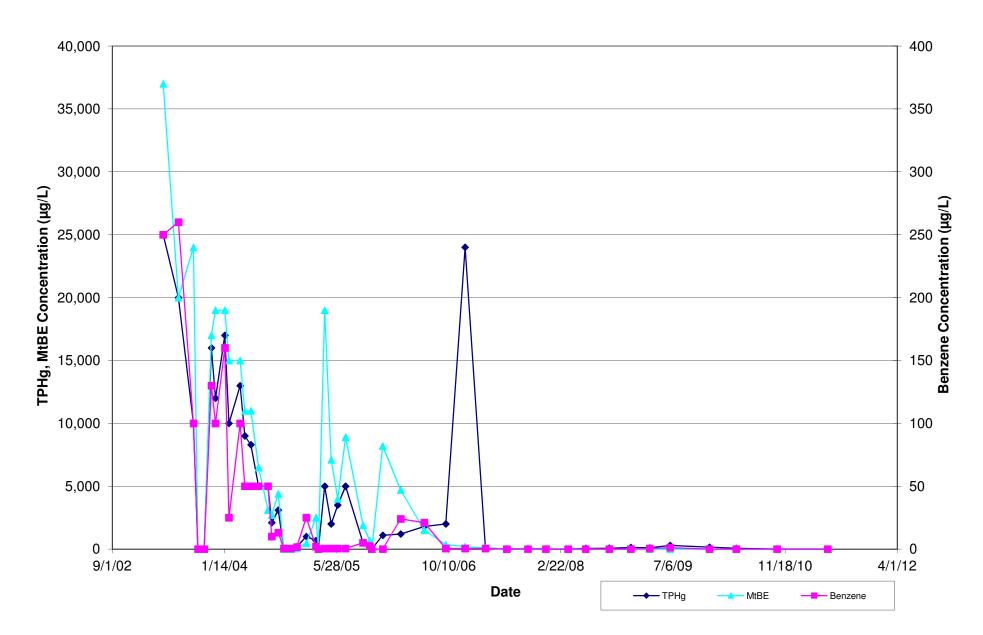
The concentration reported reflect(s) individual or discrete unidentified peaks not matching a typical fuel pattern. (MW-1)

k Monthly sampling discontinued at the request of ConocoPhillips Graphs

Graph 1 MW-1 TPHg, Benzene, and MtBE Groundwater Concentrations 76 Service Station No. 1871 96 MacArthur Blvd., Oakland, California



Graph 2 MW-7 TPHg, Benzene, and MtBE Groundwater Concentrations 76 Service Station No. 1871 96 MacArthur Blvd., Oakland, California



Appendix A Field Notes

Ozone Injection System Data Sheet

Station No.: 1871

					Well I.D. 02-	-1			Well I.D. 02-	2			Well I.D. 02	-3		
			Cycles/		Pressure	Temp.	Run Time	Flow Rate	Pressure	Temp.	Run Time	Flow Rate	Pressure	Temp.	Run Time	Flow Rate
Date	Notes	Status ON/OFF	Day	Hour Meter	(psi)	(°F)	(min)	(acfm)	(psi)	(°F)	(min)	(acfm)	(psi)	(°F)	(min)	(acfm)
15enfil		onton	τυ	38705	71		7		30		7		-27 17		7	
Totll		M/un	20	39417	18		7		25		7				7	
70 +11 11/2011		ontun	70	40093			7		20		7		17		7	
	Well I.D. 02	-4			Well I.D. 02-	5			Well I.D. 02-	6	, 7	. <u> </u>	Well I.D. 02		r	
Date	Pressure	Temp.	Run Time	Flow Rate	Pressure	Temp.	Run Time	Flow Rate	Pressure	Temp.	Run Time	Flow Rate	Pressure	Temp.	Run Time	Flow Rate
	(psi)	(°F)	(min)	(acfm)	(psi)	(°F)	(min)	(acfm)	(psi)	(°F)	(min)	(acfm)	(psi)	(°F)	(min)	(acfm)
TSept11	20		7		29		7		31		7		22		7	
70cf 11	76		7		19		7		24		7		16			
Tsent-11 Toot-11 INJUII	74		7		16		7		21		7		19			
	Well I.D. 02				Well I.D. 02-	9			Well I.D. 02-	.10			Well I.D.			
	Pressure	Temp.	Run Time	Flow Rate	Pressure	Temp.	Run Time	Flow Rate	Pressure	Temp.	Run Time	Flow Rate	Pressure	Temp.	Run Time	Flow Rate
Date	(psi)	(°F)	(min)	(acfm)	(psi)	(°F)	(min)	(acfm)	(psi)	(°F)	(min)	(acím)	(psi)	(°F)	(min)	(acfm)
7 Sept 11	26		7		20		7		22		7					
75ent 11 70ct 11	19		7		15		7		19		7					
(NUJI)	17		7		16		7		18		7					
						1										

Ozone System Maintenance and Inspection Log

Date	Check/ Repair Leaks	Check Hoses Fittings & Pipes	Check Air Filter (Document Date Replaced)	Check & Test Safety Interlock	Check Sparge Blower V-Belt Tension & Conditions	Check Controller Program	Change Blower Oil	Sparge Blower Grease Bearings	Sparge Blower Repair/Replace	Comments
Z7Sedf11	a	4	dy	ay .	MA	eg.	MA	MA	cy	
770.411	a	1	ch	in	NIA	cn	MA	NA	dy	
ZUNWI	an	ch	an .	en	NIA	m	NIA	NIA	dy	
	ŧ.	1 1								

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