October 2016

Groundwater Monitoring Report

River Terrace RV Park

Soldotna, AK

FINAL
February 2017

ADEC NTP: 160000989

Reviewed By: 

Tim McDougall
Hydrologist Engineer, PE.

ERM Alaska, Inc.
825 West 8th Avenue
Anchorage, Alaska 99501
T: (907) 258-4880
F: (907) 258-4033

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ACRONYMS AND ABBREVIATIONS

°C ..... degree Celsius
µS/cm..... microsiemen per centimeter
µg/L..... micrograms per liter
AAC..... Alaska Administrative Code
ADEC ..... Alaska Department of Environmental Conservation
ADOT&PF…...Alaska Department of Transportation and Public Facilities
bgs..... below ground surface
BTOC..... below top of casing
cm..... centimeter
COC…….contaminant of concern
CSM ..... conceptual site model
DCE..... dichloroethene
Dhc..... *Dehalococcoides*
DO……dissolved oxygen
ERM ..... ERM Alaska, Inc.
HRC ..... hydrogen release compound
IDW ..... investigative derived waste
KRBO……..Kenai River Bridge Outfall
mg/L ..... milligrams per liter
MS/MSD..... matrix spike/matrix spike duplicate
mS/cm..... millisiemen per centimeter
OASIS ..... OASIS Environmental, Inc.
ORP..... oxidation-reduction potential
PCE……..tetrachloroethene
qPCR…….quantitative polymerase chain reaction
PPE..... personal protective equipment
ROD…….record of decision
RPD…….relative percent difference
RTRVP…….River Terrace Recreational Vehicle Park
RI/FS…….remedial investigation/feasibility study
SGS..... SGS Environmental Services, Inc.
TOC..... total organic carbon
VFA..... Volatile Fatty Acids
VOC ..... volatile organic compound
WQC ..... Water quality criteria

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1. INTRODUCTION

This document was prepared under Contract No. 18-8036-02 and NTP No. 160000989 by ERM Alaska, Inc. (ERM) on behalf of the Alaska Department of Environmental Conservation (ADEC). This groundwater monitoring report serves to summarize a groundwater monitoring event conducted in October 2016 at the River Terrace Recreational Vehicle Park (RTRVP) site in Soldotna, Alaska. The monitoring was performed in compliance with the 31 August 2000 RTRVP Record of Decision (ROD).

Soil and groundwater at the RTRVP has been impacted by the dry cleaning solvent tetrachloroethene (PCE) and its degradation products. RTRVP is located adjacent to the Kenai River (Figure 1).

1.1. Monitoring Objectives and Scope

The primary purpose of work conducted during October 2016 was continued annual groundwater monitoring of the chlorinated solvent plume at the RTRVP for compliance purposes.

The scope of work for 2016 included the following activities:

- Measure water quality parameters of dissolved oxygen (DO), pH, specific conductivity, temperature, and oxidation-reduction potential (ORP) at all groundwater sampling locations.
- Collect groundwater samples from 14 groundwater monitoring wells for compliance monitoring purposes.
- Resurvey top of casing elevations for all monitoring wells included in the 2016 groundwater monitoring program at RTRVP.
- Manage and dispose of investigation derived waste (IDW) as a F002 hazardous waste as required for this site.
- Check the integrity of monitoring wells and well monuments and repair monitoring wells that are damaged.

1.2. Site Background

The RTRVP site comprises three parcels on approximately 10 acres adjacent to the Kenai River in Soldotna (Figure 1). The eastern portion of the site is a residential trailer court. The western portion is used as a recreational vehicle camping site, and it contains a building housing a coin-operated laundry and fish packing service for recreational fishermen. A dry cleaning business operated in this existing laundromat building from the 1960s until about 1988.

Environmental studies began at the site with the discovery of 22 drums and indications of stained soils in 1992. Several soil and groundwater investigations occurred between 1995 and 1999 and a detailed remedial investigation/feasibility study (RI/FS) was

performed in 1999-2000 (OASIS/Bristol, 2000a). The current monitoring program continues to provide information regarding the fate and transport of contamination present at the site.

The drycleaning solvent, PCE, and its degradation compounds trichloroethene (TCE); trans-1,2-dichloroethene (trans-1,2-DCE); cis-1,2-dichloroethene (cis-1,2-DCE); 1,1-dichloroethene (1,1-DCE), and vinyl chloride have been documented in RTRVP soil. PCE and its degradation compounds have also been detected in groundwater on the RTRVP property and adjacent Alaska Department of Transportation and Public Facilities (ADOT&PF) Sterling Highway Right-of-Way. Appendix A contains a summary of historical PCE, TCE, DCE, and vinyl chloride concentrations detected in RTRVP monitoring wells. During sediment and water quality investigations and a stormwater system investigation, PCE and its degradation compounds were detected in water discharging from the stormwater system outfall (Kenai River Bridge Outfall [KRBO]) located beneath the Kenai River Sterling Highway Bridge, in the Kenai River itself, and in river sediments adjacent to the site. The following groundwater contaminant plumes have been identified at the site:

- The upper contaminant plume located near the former dry cleaners building and migrating toward the Sterling Highway,
- The lower contaminant plume located south of the former dry cleaners building and migrating toward the Kenai River, and
- The semi-confined water-bearing zones located below the lower contaminant plume in the vicinity of MW-44 and MW-47 (note that the semi-confined water-bearing zones are believed to be a series of disconnected or partially connected sand stringers within the till).

Since 2000, multiple reports documenting the history of the RTRVP site and detailed explanations of remediation operations have been submitted to ADEC. To expedite review of this document and prevent excessive redundancy, relevant documentation will be referenced as appropriate.

1.2.1. Record of Decision

The August 31, 2000 RTRVP ROD (ADEC 2000) outlines the cleanup levels applicable to the RTRVP site. The site cleanup levels are provided in Table 1-1. Guidance for the application of the surface water cleanup levels provided in the ROD is summarized below.

- Some or all of the current line of monitoring wells adjacent to the Kenai River (MW-27A[1], MW-20, MW-13[1], MW-12, MW-8, MW-7, MW-6A, MW-5, and MW-35) will be designated as sentry wells to be used to determine compliance with surface water cleanup levels (Table 1-1).

[1] Monitoring wells MW-27A and MW-13 were subsequently decommissioned.

- Modeling was used to determine that a concentration of 15 micrograms per liter (µg/L) PCE in the sentry wells should achieve the 5 µg/L surface water cleanup level at the groundwater/surface water interface. Based on the modeling, a value of 3 times the water quality criteria are used as cleanup levels for the sentry wells (referred to as modeled cleanup levels in this document).

In addition to cleanup levels, the ROD presents action levels for treatment. Action levels are contaminant concentrations that trigger the need for additional treatment after Phase I of active remediation. For groundwater, the action levels are the same as the cleanup levels (e.g., exceedances of on-RTRVP cleanup levels in groundwater on-RTRVP or exceedances of off-RTRVP cleanup levels in groundwater off-RTRVP trigger the need for additional treatment). For surface water, the ROD states that "further treatment may not be needed if ADEC determines that the three-times the water quality criteria (WQC) levels will be achieved in a reasonable timeframe after contaminant levels in the sentry wells have decreased below the aquatic organisms screening levels (as cited in "Ecotox Thresholds; Eco Update 3(2;1-12)" by EPA OSWER (1996)). The Ecotox threshold level for RTRVP chemicals of concern (COCs) are 120 µg/L PCE and 350 µg/L TCE. The other PCE degradation products do not have Ecotox values; therefore the action levels for DCE and vinyl chloride are three times the water quality criteria level (e.g., 210 µg/L for cis-1,2-DCE, 300 µg/L for trans-1,2-DCE, 21 µg/L for 1,1-DCE, and 6 µg/L for vinyl chloride).

The ROD further states that actual monitoring data from the Kenai River surface water, surface water/groundwater interface, groundwater, sediments, and the sentry wells will all be evaluated together for cleanup decisions. The ROD stipulates that groundwater sampling events initially will occur on a quarterly basis and may be determined by ADEC to be required less frequently, based upon review of the data. The ROD also stipulates monitoring requirements for site closure.

The ROD also outlines ADEC's approach to site remediation and monitoring. ADEC selected a phased approach to site remediation using HRC to enhance biological treatment of the groundwater contaminant plumes.

1.2.2. Remediation Implemented To-Date

The Phase I remediation system was installed between October 12 and October 20, 2000 by an ADEC remediation contractor (Shannon & Wilson, Inc.). Details of the Phase I remediation system installation are provided in (Shannon & Wilson, 2001a). Phase I used HRC™ treatment barriers to intercept the most highly contaminated areas in both the upper contaminant plume and the lower contaminant plume (Figure 1). The HRC™ barriers were designed to treat groundwater to applicable cleanup levels prior to the contamination migrating off the RTRVP property.

Phase II of HRC™ remediation was designed and implemented in May and June 2001 after reviewing the results of the Phase I treatment system. Details regarding the Phase II remediation system are provided in (Shannon & Wilson, 2001b). Between June 19 and

25, 2001, additional HRC™ borings were installed in "hot spots" in both the upper and lower plumes to reduce the overall timeframe necessary to complete remediation. HRC™ was injected into the Phase II injection points on June 26, 2001. HRC™ was reinjected into most of the Phase I injection points on July 5 and 6, 2001. Figure 1 depicts both the Phase I and Phase II HRC™ injection point locations. A comprehensive report discussing the effectiveness of the Phase I and Phase II remediation efforts and recommendations for future phases of remediation was produced by OASIS/Bristol in June 2002 (OASIS/Bristol, 2002b).

On October 25, 2002, a bioaugmentation pilot test was initiated in the Lower Plume at RTRVP. During the pilot test, a consortium of microorganisms that are known to degrade DCE (KB-1 Dechlorinator [KB-1]) were injected into selected HRC™ injection points near MW-9 in the lower plume of RTRVP. The goal of the pilot test was to evaluate whether bioaugmentation could facilitate degradation of cis-1,2-DCE at the RTRVP site. Prior to implementing the pilot test, site remediation using HRC™ had mediated the dechlorination of PCE and TCE to cis-1,2-DCE, but cis-1,2-DCE bioremediation was apparently stalled as there were no indications of further reduction to vinyl chloride or ethene.

Between November 17 and November 20, 2003, Phase III of HRC™ injection was implemented. Details regarding the Phase III remediation are provided in an OASIS letter report dated January 6, 2004 (OASIS, 2004a). The overall objective of the Phase III treatment was to continue mediating reductive dechlorination in the RTRVP lower plume groundwater. Performance monitoring results indicated insufficient quantities of HRC™ in the lower plume but that the HRC™ remaining in the upper plume was likely to be adequate until spring or summer 2004. To meet the Phase III objective, HRC™ was injected into most of the lower plume Phase I and Phase II injection points.

Between August 25 and 28, 2005, Phase IV of HRC™ injection was implemented. Details regarding the Phase IV remediation are provided in an OASIS letter report dated 10 February, 2006 (OASIS, 2006a). The overall objective of the Phase IV treatment was to continue mediating reductive dechlorination in the RTRVP upper and lower groundwater plumes and to begin treatment of known remaining source (soil) contamination in the till near MW-44. To help guide treatment of the source contamination, seven exploratory soil borings (L67 through L73) were driven into the till near MW-44 and assessed for chlorinated ethenes using a Membrane Interface Probe (MIP). Based on the MIP responses, HRC™ was injected into six new deep (temporary) Phase IV injection points near MW-44 (L67D-HRC, L68D-HRC, L70D-HRC, L71D-HRC, L72D-HRC-E, and L72-HRC-W). Because monitoring data showed that the HRC™ was nearly depleted within the unconfined aquifer, HRC™ was also injected into all of the upper plume Phase I and Phase II injection points and selected Phase I and Phase II lower plume injection points (injection points L42 through L51 north of MW-39/44; L2, L4, and L6 south of MW-39/44, L24 through L28 south of MW-19, and L52 through L58 near MW-10). The injection points near MW-4A could not be injected during Phase IV, because the temporary Kenai River Bridge obstructed access to this area.

On October 4 and 5, 2006, Phase V of HRC™ injection was implemented. Details regarding the Phase V remediation are provided in an OASIS letter report dated December 4, 2007 (OASIS, 2007a). The objective of the Phase V treatment was to better assess and treat known remaining source (soil) contamination in the areas of known historical PCE contamination (in the till) and to continue mediating reductive dechlorination in the RTRVP lower plume groundwater. To help guide treatment of the source contamination, four exploratory soil borings (L74 through L77) were driven into the till and assessed for chlorinated ethenes using MIP and soil sampling, and one new monitoring well (MW-47) was installed near location L72 (Figure 1). Based on the MIP responses, HRC™ was injected into four permanent deep injection points (L78 to L81) and ten new deep (temporary) Phase V HRC™ injection points (L82 to L91). During Phase V, HRC™ was also reinjected into ten of the existing Phase I and II lower plume injection points (L7 to L16 and L30 to L35) where monitoring data indicated that HRC was nearly depleted.

During August 2009, Phase VI of HRC™ injection was implemented. Details regarding the Phase VI remediation are provided in an OASIS letter report (OASIS, 2010b). The overall objective of the Phase VI treatment was to further characterize and treat remaining source contamination in the areas of historical PCE contamination and to continue mediating reductive dechlorination in the RTRVP unconfined groundwater lower plume. To guide treatment of the source contamination, five exploratory soil borings (L92 through L96) were driven into the till and assessed for chlorinated ethenes using a MIP and soil sampling, and three new monitoring wells (MW-48, MW-49, and MW-50) were installed. Based on the MIP responses, HRC™ was injected into five permanent deep injection points (L97 to L101) and eight new deep (temporary) injection points (L102 to L109). HRC™ was also reinjected into five of the existing Phase II lower plume injection points (L42 to L46).

During June 2010, Phase VI also included reinjecting HRC™ into 6 of the 38 pre-existing Upper Plume injection points and 4 of the 9 pre-existing Deep Lower Plume Phase V and Phase VI permanent injection points.

During October 2010, additional soil and groundwater characterization activities were performed to further delineate any remaining source contamination in the till. Four soil borings were installed to maximum depths between 32 feet bgs and 37 feet bgs (L-112, L-113, L-114, and L-115), and three new monitoring wells were installed (i.e., MW-6A as a replacement for MW-6, MW-51 and MW-52). Analytical results from MW-51 and MW-52 showed additional areas of source contamination (e.g., MW-51 contained 59,000 µg/L of PCE).

On September 28, 2011, 600 pounds of HRC PRIMER™ was injected into four of the deep lower plume injection points (L-79, L-99, L-100, and L-101) in an attempt to promote further reductive dechlorination bioremediation within the till materials. HRC PRIMER™ was chosen due to its lower viscosity and ability to more easily migrate in tight soils.

On October 9-11, 2012, three additional HRC injection points (L-80A, L-102, and L-103) were installed in the vicinity of MW-50, MW-51, and MW-48, respectively. A total of 300 pounds of HRC PRIMER™ was injected into five injection points in the upper plume area to replenish HRC in areas where it had been depleted. A total of 1,200 pounds of HRC PRIMER™ was injected into seven of the deep lower plume injection points (L-80A, L-81, L-97, L-98, L-100, L-102, and L-103) in an attempt to promote further reductive dechlorination bioremediation within the till materials. HRC PRIMER™ was chosen due to its lower viscosity and ability to more easily migrate in tight soils.

1.2.3. Joint USGS/ADEC Project Evaluating Biodegradation Potential

In fall of 2003, the USGS and ADEC initiated a joint project to evaluate the biodegradation potential at RTRVP. The goal of the project was to determine the best way to accelerate bioremediation (specifically of cis-1,2-dichloroethene (DCE)) at the RTRVP site. The USGS measured in situ hydrogen concentrations and other geochemical parameters in selected RTRVP monitoring wells and constructed microcosms using RTRVP soil and Kenai River sediments. Results of the geochemical parameter measurements and soil and sediment sample collection are provided in the Final Interim Status Report Alternatives to Accelerate Bioremediation at River Terrace RV Park, Soldotna, Alaska, dated March 15, 2004 (OASIS, 2004b).

The final report of the microcosm study results, Chloroethene Biodegradation Potential in the "Lower" Contaminant Plume, River Terrace RV Park, Soldotna, Alaska (Bradley and Chapelle, 2005) was received by ADEC on February 14, 2005.

In the report, USGS reached the following conclusions:

- The RTRVP background sediments were predominantly oxic. Within the lower contaminant plume, sediment redox conditions were dominated by manganese (Mn [IV])-reduction and iron (Fe [III])-reduction with significant methanogenic conditions observed only in HRC™-treated areas.
- The addition of HRC™ or another suitable electron donor appears to be necessary to stimulate reductive dechlorination of PCE and TCE at RTRVP. However, adding electron donor to microcosm samples with a history of electron donor addition in the field did not enhance reductive dechlorination.
- Due to interspecies hydrogen competition, only limited respiratory reductive dechlorination of cis-1,2,-DCE and vinyl chloride is occurring at RTRVP. However, aerobic and anaerobic oxidation of cis-1,2-DCE and vinyl chloride to carbon dioxide occurs in both RTRVP aquifer soils and Kenai River sediments. Therefore, a remediation assessment based only on the presence of reduced daughter products (vinyl chloride and ethene) may underestimate the potential for DCE and vinyl chloride degradation at RTRVP and the total chlorinated ethene concentration should also be monitored to determine if it is declining.

- The effectiveness of KB-1 at increasing reductive dechlorination of cis-1,2-DCE was inconclusive.
- Future electron donor addition should be restricted to upgradient, predominantly PCE/TCE contaminated areas (including source areas), allowing the cis-1,2-DCE and vinyl chloride to mineralize to carbon dioxide in the downgradient areas of the site.

1.3. Long-Term Monitoring Scope

The initial post-ROD RTRVP monitoring work plan (OASIS/Bristol, 2000b) more extensively details the overall long-term monitoring requirements for the RTRVP site. In summary, two types of monitoring programs have been selected for the site.

- Long-term compliance monitoring, which is foreseen for the duration of the RTRVP remediation program, will be used to evaluate compliance with cleanup levels and the long-term performance of the remedial system (or natural attenuation, after active remediation has ceased). Beginning with the 2008-2009 fiscal year, compliance monitoring has been performed on an annual basis.
- Long –term performance monitoring has been used to determine the efficacy of the HRC injections as a remediation option at RTRVP.
    - During the 2000-2003 fiscal years, short-term remedial system performance monitoring was used to evaluate the effectiveness of the Phase I and later on Phase II remedial injections. The performance monitoring was also used to evaluate the timing for reinjecting HRC™ at the site (i.e., Phase III of remediation).
    - Under a separate Notice to Proceed during the 2002-2003 fiscal year, performance monitoring was revised to include microbial analysis testing for evaluation of the bioaugmentation pilot test. Results of the bioaugmentation pilot test performance monitoring were reported in the quarterly performance/compliance monitoring reports.
    - In the 2005-2006 fiscal year, performance monitoring was used to evaluate the continued performance of the historical Phase I, II, III, and IV remedial injections and the bioaugmentation pilot test but now also included monitoring of the deep HRC™ injections performed as part of Phase IV.
    - During the 2006-2007, through 2010-2011 fiscal years, the performance monitoring was changed from quarterly monitoring to semi-annual monitoring that was generally performed in May and September/October of each year. The larger monitoring program that included compliance and performance monitoring was performed during the September/October event.
    - For the fiscal years; 2011-2012, 2012-2013, and 2013-2014; the frequency for performance monitoring was reduced to annually and was performed in the spring timeframe (April/May).

- For the most recent sampling event the groundwater monitoring was for compliance monitoring only and was performed in the fall timeframe (September/October). This report details the results of the October 2016 groundwater monitoring event.

Parameters included in the performance monitoring analytical suite are listed and described in Table 1-2. Since a baseline has been established for some of the geochemical parameters listed in Table 1-2 (i.e., nitrate/nitrite and sulfate), and historical data has shown little variability or usefulness for these parameters in evaluating the remediation progress, regular analysis for these parameters has been discontinued. Other performance monitoring parameters of sulfide, alkalinity, chloride, total Kjeldahl nitrogen, ammonia, and phosphorus were also discontinued after the initial (2000-2001) performance monitoring results showed them to be unnecessary for evaluating bioremediation at RTRVP.

TABLE 1-1: CLEANUP LEVELS FOR RTRVP

Media	Contaminant	Maximum Concentration Detected in June 2000	Maximum Detected Concentration 1999-2014	Cleanup Levels		
				Concen-tration	Point of Compliance	Basis
On-RTRVP Property Soil (mg/kg)	PCE	NA	* 20	11.5	Throughout RTRVP Property	ACL for chlorinated com pounds, 18 AAC 75 by application of the 10 times rule (18 AAC 75.75.345(b)(2) for benzene
	TCE	NA	* 0.21	300		
	cis-DCE	NA	* 0.62	72.1		
	trans-DCE	NA	ND	87.3		
	1,1 DCE	NA	ND	7.1		
	Vinyl Chloride	NA	ND	2.1		
	Benzene	NA		0.2		
Off-RTRVP Property Soil (mg/kg)	PCE	NA	0.19	0.3	Anywhere off-RTRVP Property	18 AAC 75 by application of the 10 times rule (18 AAC 75.75.345(b)(2)
	TCE	NA	0.009	0.27		
	cis-DCE	NA	0.006	2		
	trans-DCE	NA	ND	4		
	1,1 DCE	NA	ND	0.3		
	Vinyl Chloride	NA	ND	0.09		
	Benzene	NA	ND	0.2		
On-RTRVP Property Shallow (Unconfined) Aquifer (µg/L)	PCE	1,300	MW-16 - 5,500	840	Throughout RTRVP Property	ACL for chlorinated com pounds, 18 AAC 75 by application of the 10 times rule (18 AAC 75.75.345(b)(2) for benzene
	TCE	540	MW-36 – 1,710	21,900		
	cis-DCE	3,000	MW-20 - 4,600	11,600		
	trans-DCE	26	MW-36 - 87.5	11,600		
	1,1 DCE	2.6	MW-9 - 5.41	7		
	Vinyl Chloride	4.5	MW-39 - 651	2		
	Benzene	3.9	MW-20 – 55.5	50		

Media	Contaminant	Maximum Concentration Detected in June 2000	Maximum Detected Concentration 1999-2014	Cleanup Levels		
				Concen-tration	Point of Compliance	Basis
Off-RTRVP Property Shallow (Unconfined) Aquifer (µg/L)	PCE	280	MW-38 – 1,210	50	RTRVP Property boundary	18 AAC 75 by application of the 10 times rule (18 AAC 75.75.345(b)(2)
	TCE	83	MW-12 - 180	50		
	Cis-DCE	480	MW-12 - 1,500	700		
	Trans-DCE	ND	MW-12 - 24	1,000		
	1,1 DCE	ND	MW-25 – 1.59	70		
	Vinyl Chloride	ND	MW-25 - 48.5	20		
	Benzene	ND	MW-25 - 1.3	50		
Confined Aquifer (µg/L)	PCE	ND	MW-48 - 120,000	5	Throughout property	MCL
	TCE	ND	MW-50 - 26,900	5		
	Cis-DCE	ND	MW-49 – 92,900	70		
	Trans-DCE	ND	MW-47 – 1,330	100		
	1,1 DCE	ND	MW-50 - 261	7		
	Vinyl Chloride	ND	MW-51 – 11,400	2		
	Benzene	ND	MW-47 – 86.6	5		
Surface Water (µg/L) (Note that TAH and TAqH concentrations of 10 and 15 µg/L respectively must also be met in the water column	PCE	2.5	2.5	5	Surface-Water/Ground-Water Interface	WQC
	TCE	0.6	1.9	5		
	Cis-DCE	0.18	15	70		
	Trans-DCE	ND	0.081	100		
	1,1 DCE	ND	ND	7		
	Vinyl Chloride	ND	ND	2		
	Benzene	ND	ND	5		

* Areas of highest soil contamination have been removed and treated. The maximum detections remaining in RTRVP property soil are listed in this table.
ACL: Alternative cleanup levels established for the site in an August 1997 letter from the DEC
18 AAC 75: Alaska Oil and Hazardous Substance Pollution Control Regulations
MCL: Maximum contaminant level; from Alaska Drinking Water Regulations (18 AAC 80)
WQC: Water Quality Criteria (18 AAC 70)

TABLE 1-2: PERFORMANCE MONITORING PARAMETER SUMMARY

Parameter	Description	Threshold Level (Wiedemeier et al., 1996)	Significance of Threshold Level
Geochemical Indicators of Natural Attenuation			
pH	pH is a measure of the acidity or alkalinity of the groundwater.	5 < pH < 9	Optimal range for reductive pathway
Temperature	Groundwater temperature affects the metabolic rate of bacteria. Groundwater temperatures less than 5°C tend to inhibit biodegradation. Biodegradation rates typically double for every 10°C increase in water temperature.	> 20°C	Biochemical process accelerated
DO	Depressed DO levels indicate that the reductive pathway is possible	< 0.5 mg/L	Reductive pathway is not suppressed.
ORP	ORP is an indicator of oxidation potential (aerobic) or reductive potential (anaerobic) of the groundwater system.	< 50 mV < -100 mV	Reductive pathway possible Reductive pathway likely
Nitrate	After DO has been depleted, nitrate may be used as an electron acceptor for anaerobic biodegradation.	< 1 mg/L	At higher concentrations nitrate may compete with reductive pathway
Sulfate	After DO and nitrate have been depleted in the treatment zone, sulfate may be used as an electron acceptor for anaerobic biodegradation (sulfate reduction).	< 20 mg/L	At higher concentrations may compete with reductive pathway
Dissolved iron (ferrous iron)	Ferrous iron (iron II) is produced when ferric iron (iron III) is used as an electron acceptor during anaerobic biodegradation.	>1 mg/L	Indicative that reductive pathway is possible
Methane	The presence of methane in groundwater is indicative of strongly reducing conditions. Methanogenesis generally occurs after the oxygen, nitrate, and sulfate have been depleted in the treatment zone.	> 0.5 mg/L	Indicative that reductive pathway is likely but may also compete with reductive dechlorination process
Ethane, ethene	Produced during reductive dechlorination	> 0.01 mg/L	Indicative that reductive pathway is likely
TOC	Carbon is the energy source that drives reductive dechlorination.	> 20 mg/L	Energy source needed to drive reductive dechlorination
Volatile Organic Acids			
Lactic acid	Nutrient and hydrogen ion source for dechlorinating microbes. Lactic acid is released during biodegradation of HRC™.	Not applicable	Presence indicates biodegradation of HRC™

Parameter	Description	Threshold Level (Wiedemeier et al., 1996)	Significance of Threshold Level
Pyruvic acid	As lactic acid is metabolized by anaerobic microbes, it is degraded to pyruvic acid.	Not applicable	Presence indicates presence and degradation of lactic acid
Acetic acid	As pyruvic acid is metabolized by microbes, it is degraded to acetic acid.	Not applicable	Presence indicates presence and degradation of pyruvic acid
Butyric acid	In a secondary reaction, lactic acid also degrades to butyric acid and propionic acid.	Not applicable	Presence indicates presence and degradation of lactic acid
Propionic acid	In a secondary reaction, lactic acid also degrades to butyric acid and propionic acid.	Not applicable	Presence indicates presence and degradation of lactic acid
Contaminants/Degradation Products (VOCs)			
PCE	Primary contaminant	Not applicable	Compare levels among upgradient/ downgradient wells over time
TCE	PCE daughter product; presence indicates PCE degradation has occurred	Not applicable	Compare levels among upgradient/ downgradient wells over time
Cis-1,2-DCE	TCE daughter product; presence indicates TCE degradation has occurred	Not applicable	Compare levels among upgradient/ downgradient wells over time
Trans-1,2-DCE	TCE daughter product; presence indicates TCE degradation has occurred	Not applicable	Compare levels among upgradient/ downgradient wells over time
1,2-DCA	A possible (although uncommon) cis-1,2-DCE daughter product. 1,2-DCA is a less common daughter product than vinyl chloride.	Not applicable	Compare levels among upgradient/ downgradient wells over time
Vinyl chloride	DCE daughter product; presence indicates DCE degradation has occurred	Not applicable	Compare levels among upgradient/ downgradient wells over time

Notes:
DO – dissolved oxygen
ORP – oxidation/reduction potential
TOC – total organic carbon
PCE – tetrachloroethene
TCE – trichloroethene
DCE – dichloroethene
DCA – dichloroethane
VOC – volatile organic compound

2. SUMMARY OF FIELD PROCEDURES

2.1. Summary of Field Procedures - Groundwater Monitoring

In October of 2016 a groundwater monitoring event was performed in accordance with the work plan (ERM 2016). Work was performed on October 26-27, 2016.

2.1.1. Site Access

One week prior to conducting the following field activities, ERM notified ADEC (Mr. Robert Weimer – 269-7525) and Mr. Gary Hinkle (RTRVP owner 262-5593 or 283-9231) to coordinate site access and ensure that no work conflicts existed.

2.1.2. Condition of Monitoring Wells

ERM located all selected monitoring wells to be sampled. All monitoring wells were found to be in good condition and suitable for sampling with the exception of MW-36 which was located underneath a large freezer and could not be accessed. MW-16 was sampled instead as a replacement for MW-36.

One monitoring well monument (MW-35) is in need of a new monument cover and is currently being covered with a sheet of metal.

2.1.3. Water Level Measurements

During the October 2016 groundwater sampling event, water levels were measured in the monitoring wells scheduled for sampling. Table 2-2 provides a summary of October 2016 groundwater depths and the 2006 through 2016 groundwater elevations. The information provided in Table 2-2 is discussed in Section 3.0.

The top of casing elevation was surveyed for all of the monitoring wells sampled during this event. McLane Consulting Group performed the well elevation survey on October 27, 2016, and the newly surveyed top of casing elevations were used to update Table 2-2.

2.1.4. Groundwater Sampling and Analysis

Groundwater samples were collected from 14 monitoring wells in the upper and lower plume areas Figures 1 and 3.

Analytical laboratory services were provided by an ADEC-approved laboratory, SGS, of Anchorage, Alaska. Groundwater samples were collected in accordance with the ADEC approved work plan (ERM 2016) using a low-flow sampling technique. Sample procedures are summarized below.

- Water was purged from the wells using a low-flow technique. A stainless steel submersible pump (Proactive SS-Monsoon) was used to slowly purge the well water while measuring water quality parameters (see below). When the parameters had stabilized to within the criteria outlined in the work plan (ERM 2016), the sample was collected.

- A YSI 556 water quality meter with a flow-through cell was used to measure pH, conductivity, temperature, ORP, and dissolved oxygen in the groundwater after every purge volume. Once the parameters were stable, the final measurements were recorded on the sample data sheets available in Appendix B. The instruments and field screening methods were calibrated and operated in accordance with the manufacturer's recommendations.
- When transferring water from the pump tubing outlet to sample containers, a purge water bucket (5-gallon capacity) was positioned beneath the transfer point to catch any incidental spillage of water. The incidental spillage was transferred to the purge water containers.
- All observable physical characteristics of the groundwater (e.g., color, turbidity) were recorded on the sample data sheets or field logbook.
- Weather conditions at the time of sampling were recorded (e.g., air temperature, wind direction, recent heavy rainfall, drought condition) in a field logbook (provided in Appendix B2).
- Groundwater samples were placed in an iced cooler immediately upon collection.
- The samples were transported back to Anchorage and submitted to the project laboratory (SGS) under standard chain-of-custody procedures for analysis.

The analytical results for the October 2016 monitoring event are presented in the following sections of this report. Analytical results are discussed in Section 4 with respect to compliance aspects and in Section 5 with respect to bioremediation progress at the site. Analytical results for the RTRVP contaminants of concern (COC) (benzene, PCE, TCE, DCE, and vinyl chloride) are summarized in Table 2-3, and Appendix A provides a summary of historical analytical results for the RTRVP COCs.

2.1.5. Deviation from the Work Plan

Deviations from the work plan are described below:

- No sample was collected from one of the planned sampling locations. Due to inability to access MW-36 the alternate monitoring well MW-16 was sampled instead.

2.1.6. Waste Management

Investigation-derived waste (IDW) waste from RTRVP having any detectable concentration of PCE (or PCE degradation products) is considered F002 listed waste. In addition, waste having a PCE concentration greater than 500 µg/L is considered toxic characteristic hazardous waste D039, waste with a TCE concentration greater than 500 µg/L is considered toxic characteristic hazardous waste D040, waste with a DCE concentration greater than 700 µg/L is considered toxic characteristic hazardous waste D029, and waste with vinyl chloride concentrations above 200 µg/L is considered toxic characteristic hazardous waste D043.

The IDW generated from monitoring activities at the RTRVP site included the following waste streams:

- Water used in the decontamination process,
- Purge water from well sampling, and
- PPE, disposable sampling supplies (filters and tubing), and general debris.

Purge water from groundwater sampling activities was contained in a 55-gallon drum. Purge water was staged at the southwest corner of the site adjacent to the Sterling Highway bridge abutment. A hazardous waste label was placed on the drum pending transport by NRC Alaska, Inc. to their approved TSD facility.

PPE, filters, tubing and other disposable sampling wastes were managed as hazardous solid wastes. These wastes were collected in a plastic garbage bag and placed in an open-top drum. This drum was also labeled with a hazardous waste label and staged at the southwest corner of the site similar to the purge water drum.

Weekly inspections were performed until such time that waste was picked up and transported by NRC Alaska Inc., and taken to their approved TSD for disposal. Waste manifests and inspection forms have been included in Appendix D.

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Table 2-2: Groundwater Elevation Data (9/07- 10/16)
River Terrace RV Park, Soldotna, Alaska

Well ID	Northing	Easting	Water-bearing Zone Well Screened In	Elev. At Top of Casing (Oct 2016)	Depth to Water (feet) April 2014	Depth to Water (feet) October 2016	Water Elevation (feet) 9/17/07	Water Elevation (feet) 5/12-13/08	Water Elevation (feet) 9/16/08	Water Elevation (feet) 5/5/09	Water Elevation (feet) 10/5/09	Water Elevation (feet) 5/11/10	Water Elevation (feet) 10/18/10	Water Elevation (feet) 5/17/11	Water Elevation (feet) 5/7/12	Water Elevation (feet) April 2013	Water Elevation (feet) April 2014	Water Elevation (feet) October 2016
MW-4A	4967.98	5033.67	Unconfined	NS	NM	NM	51.08	51.15	51.78	NM	50.29	NM	*50.60*	NM	51.44	52.99	NM	NM
MW-05	4852.12	5065.04	Unconfined	NS	4.71	NM	44.1	NM	45.58	NM	42.72	NM	*42.93*	NM	42.69	42.87	42.80	NM
MW-06	4879.44	5023.52	Unconfined	NS	NM	NM	44.21	41.43	45.54	41.27	42.67	41.66	*dec*	dec	dec	NM	NM	NM
MW-06A	4877.88	5025.13	Unconfined	47.43	6.03	5.45							*42.59*	NM	41.60	43.22	41.39	41.98
MW-07	4865.63	5044.1	Unconfined	NS	NM	NM	44.17	NM	45.58	NM	42.69	NM	*42.86*	NM	41.71	NM	NM	NM
MW-08	4917.93	4984.69	Unconfined	NS	NM	NM	44.34	NM	45.85	NM	43.11	NM	*43.15*	NM	41.86	NM	NM	NM
MW-09	4908.14	5056.35	Unconfined	59.17	16.90	15.50	44.67	43.05	46.09	42.75	43.97	43	*43.86*	NM	43.28	43.98	42.28	43.67
MW-10	4936.99	5002.44	Unconfined	NS	NM	NM	44.93	NM	47.11	NM	43.87	NM	*43.72*	NM	42.79	NM	NM	NM
MW-12	4928.98	4975.81	Unconfined	NS	6.22	NM	NM	NM	45.91	NM	43.11	NM	*43.21*	NM	42	43.91	41.90	NM
MW-16	5089.26	5176.11	Unconfined	74.79	17.48	17.05	57.92	57.98	57.91	58.05	57.85	58.19	*57.91*	58.11	58.38	57.80	57.31	57.74
MW-19	4945.84	5039.04	Unconfined	NS	NM	NM	NM	NM	50.59	NM	NM	NM	*51.07*	NM	52.16	NM	NM	NM
MW-20	4898.66	5004.25	Unconfined	NS	5.25	NM	44.36	41.84	45.75	41.63	42.83	42.26	*43.08*	NM	42.03	43.57	41.79	NM
MW-21	5074.04	5133.12	Unconfined	NS	NM	NM	58.02	NM	57.91	NM	NM	NM	*57.93*	NM	58.46	NM	NM	NM
MW-23	5083.65	5259.97	Unconfined	75.32	17.16	17.57	57.95	NM	57.91	NM	NM	58.08	*NM*	NM	58.41	58.07	58.16	57.75
MW-24	5034.89	5157.88	Perched	NS	NM	NM	NM	NM	60.2	NM	NM	NM	*59.84*	NM	50.17	NM	NM	NM
MW-25	5141.08	5159.59	Unconfined	70.97	12.86	13.13	57.87	57.96	57.85	57.97	57.83	58.06	*57.9*	NM	58.34	58.04	58.10	57.84
MW-26	4959.26	5128.52	Unconfined	59.53	6.12	5.95	53.52	NM	53.17	NM	NM	NM	*53.38*	NM	54.41	51.2	53.40	53.58
MW-29	5030.81	5240.38	Perched	NS	NM	NM	NM	NM	58.93	NM	NM	59.57	*NM*	NM	59.55	NM	NM	NM
MW-35	4824.43	5105.73	Unconfined	47.78	6.35	5.68	43.37	NM	45.59	NM	42.69	42.69	*42.87*	NM	41.54	43.15	41.43	42.10
MW-36	5069.4	5183.1	Unconfined	75.37	17.21	NM	57.97	58.04	57.9	58.05	57.84	58.1	*57.94*	NM	58.45	58.13	58.16	NM
MW-37	5084.4	5177.1	Unconfined	NS	NM	NM	57.96	NM	57.9	NM	NM	NM	*NM*	NM	NM	NM	NM	NM
MW-38	5102.2	5172.3	Unconfined	NS	16.04	NM	57.73	NM	57.87	NM	57.85	NM	*57.91*	NM	58.36	57.99	58.14	NM
MW-39	4922.6	5070.5	Unconfined	59.28	16.06	14.98	45.35	44.48	46.73	43.79	44.69	44.43	*44.47*	43.60	44.84	44.59	43.22	44.3
MW-40	4903.3	5048.9	Unconfined	NS	16.91	NM	44.58	43.08	46.03	42.69	43.88	42.91	*43.82*	NM	43.14	43.62	42.21	NM
MW-41	5,016.83	5,204.10	Perched	NS	NM	NM	NM	NM	60.53	NM	NM	NM	*NM*	NM	60.6	NM	NM	NM
MW-42	5,074.86	5,221.50	Unconfined	NS	17.48	NM	57.97	58	57.89	58.02	57.86	58.11	*57.95*	NM	58.43	58.07	58.17	NM
MW-43	5097.27	5147.62	Unconfined	NS	NM	NM	57.94	NM	57.86	NM	NM	NM	*NM*	NM	58.38	NM	NM	NM
MW-44	4918.79	5073.1	Semi-Confined	59.11	15.30	13.95	45.92	44.35	47.32	43.83	45.24	44.7	*45.91*	44.11	44.69	45.21	43.81	45.16
MW-45	4905.6	5059.71	Semi-Confined	NS	NM	NM	45.22	NM	46.73	NM	44.86	NM	*NM*	NM	43.66	45.27	NM	NM
MW-46	4893.51	5088.11	Semi-Confined	NS	NM	NM	44.85	NM	46.14	NM	NM	NM	*NM*	NM	43.86	NM	NM	NM
MW-47	4935.983	5086.1429	Semi-Confined	NS	6.95	NM	51.45	52.48	51.43	51.51	51.09	52.94	*52.63*	52.07	53.35	50.73	51.76	NM
MW-48	4947.75	5090.77	Semi-Confined	58.78	7.00	6.50	ni	ni	ni	ni	51.68	52.64	*51.57*	52.09	53.44	46.15	51.79	52.28
MW-49	4937.13	5072.73	Semi-Confined	58.50	8.96	6.90	ni	ni	ni	ni	49.4	50.36	*50.28*	50.06	51.92	49.23	49.54	51.6
MW-50	4929.93	5094.23	Semi-Confined	58.67	8.68	7.70	ni	ni	ni	ni	49.95	50.91	*50.39*	50.18	51.3	53.02	49.99	50.97
MW-51	4940.15	5097.93	Semi-Confined	58.75	7.01	7.76	ni	ni	ni	ni	ni	ni	*47.71*	51.32	52.69	51.85	51.73	50.99
MW-52	4921.69	5092.02	Semi-Confined	58.68	10.57	10.27	ni	ni	ni	ni	ni	ni	*45.63*	48.44	49.3	48.22	48.11	48.41
L-78			Semi-Confined	NS	15.69	NM	ni	ni	ni	ni	ni	ni	*ni*	ni	ni	NM	42.46	NM
L-80A	4930.246	5091.345	Semi-Confined	NS	10.69	NM	ni	ni	ni	ni	ni	ni	*ni*	ni	ni	NM	48.08	NM
L-100	4956.42	5095.63	Semi-Confined	NS	6.30	NM	ni	ni	ni	ni	51.66	54.01	*NM*	54.65	53.97	51.71	52.70	NM
L-101	4922.07	5099.1	Semi-Confined	NS	7.80	NM	ni	ni	ni	ni	49.01	NM	*NM*	49.51	48.09	46.05	50.86	NM
L-102	4944.353	5098.878	Semi-Confined	NS	8.59	NM	ni	ni	ni	ni	ni	ni	*ni*	ni	ni	NM	49.71	NM
L-103	4945.044	5088.265	Semi-Confined	NS	6.39	NM	ni	ni	ni	ni	ni	ni	ni	ni	ni	NM	52.23	NM

Notes: NM = Not Measured

Horizontal survey coordinates based on local grid system.

All vertical survey elevation referenced to benchmark "Soldotna" on North side Kenai River Bridge; elevation is relative to mean sea level.

[1] The groundwater depth for MW-4A (6.6' bgs) was measured at 1545 on 9-17-08. The depth measured on 9-16-08 (10.78' bgs) appears to be in error .

[2] The depth for MW-16 (16.76' bgs) was measured at 1845 on 5-5-09. The depth measured at 1030 on 5-5 (16.6' bgs) appears in error, because it does not correlate with datalogger elev.

[3] Elevations for all monitoring wells except MW-23, MW-29, MW-37, MW-41, MW-43, and MW-45 were surveyed on 11/10/10 where historical survey elevations were used.

Table 2-3: October 2016 Groundwater VOC Analytical Data (ug/L)
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride	Benzene
				MCL = 5	MCL = 5	MCL = 70	MCL = 100	MCL = 7	MCL = 2	MCL = 5
				on-RTRVP= 840	on-RTRVP= 21,900	on-RTRVP= 11,600	on-RTRVP= 11,600	on-RTRVP= 70	on-RTRVP= 2	on-RTRVP= 50
				off-RTRVP = 50	off-RTRVP = 50	off-RTRVP = 700	off-RTRVP = 1000	off-RTRVP = 70	off-RTRVP = 20	off-RTRVP = 50
				modeled level =15	modeled level=15	modeled level=210	modeled level=300	modeled level=21	modeled level = 6	
				eco action level = 120	eco action level = 350	eco action level = 210	eco action level = 300	eco action level = 21	eco action level = 6	
Upper Plume										
MW-16	16-RT-003-GW	Project Sample	27-Oct-16	1.07	2.21	13.6	1.67	< 1.0	< 1.0	0.47
MW-23	16-RT-001-GW	Project Sample	27-Oct-16	5.02	< 1.0	1.60	< 1.0	< 1.0	< 1.0	< 0.4
MW-25	16-RT-002-GW	Project Sample	27-Oct-16	16.7	22.0	113 VE	1.54	< 1.0	12.3[A]	< 0.4
Lower Plume										
MW-6A	16-RT-006-GW	Project Sample	27-Oct-16	< 1.0	< 1.0	7.82	4.99	< 1.0	7.02[A]	0.85
MW-9	16-RT-007-GW	Project Sample	27-Oct-16	2.72	< 1.0	68.5	6.36	< 1.0	10.7[A]	1.31
MW-26	16-RT-004-GW	Project Sample	27-Oct-16	133 VE	18.9	100 VE	1.85	< 1.0	< 1.0	< 0.4
MW-35	16-RT-005-GW	Project Sample	27-Oct-16	< 1.0	1.88	49.3	< 1.0	< 1.0	2.58[A]	< 0.4
MW-39	16-RT-008-GW	Project Sample	27-Oct-16	< 1.0	< 1.0	12.2 VJ	21.2	< 1.0	9.16 VJ[A]	2.38
MW-39	16-RT-018-GW	QC Duplicate	27-Oct-16	< 1.0	< 1.0	6.47 VJ	16.6	< 1.0	4.76 VJ[A]	1.97
Lower Plume - Semi-Confined Water-Bearing Zones Within the Till										
MW-44	16-RT-009-GW	Project Sample	27-Oct-16	10.9	< 1.0	231	1.82	< 1.0	137[A]	< 0.4
MW-48	16-RT-010-GW	Project Sample	26-Oct-16	< 100	350	97,400 VE	196	133	364[A]	< 40
MW-49	16-RT-011-GW	Project Sample	26-Oct-16	< 20	< 20	50,500	120	34.4	9,720[A]	< 8.0
MW-50	16-RT-012-GW	Project Sample	26-Oct-16	< 20	< 20	47,000	135	41.8	15,800[A]	< 8.0
MW-51	16-RT-013-GW	Project Sample	26-Oct-16	14.2	< 1.0	22,200 VE,VJ	394 VE,VJ	21.1	11,800 VE[A]	0.41
MW-51	16-RT-017-GW	QC Duplicate	26-Oct-16	< 100	< 100	11,200 VJ	146 VJ	< 100	9,120[A]	< 40
MW-52	16-RT-014-GW	Project Sample	26-Oct-16	1.15	< 1.0	24.8	3.78	< 1.0	20.8[A]	< 0.4

Cleanup level exceedences are shaded to match highest cleanup criteria exceeded. Cleanup level exceedences are coded as follows:

A: on-RTRVP property cleanup level;

B: off-RTRVP property cleanup level (Note: B is only applicable to wells near RTRVP property boundary)

C: modeled cleanup level (3 times water quality criteria) for groundwater connected to surface water

D: ecological screening action level for groundwater connected to surface water; this is one component of action levels stated in the ROD (exceedences of A, B, and C also require active treatment)

(Note: C and D are only applicable to sentry wells which have been color coded with a green background color)

Wells located off-RTRVP property or within approximately 10 feet of the property boundary are shown in blue font. MW-4A is located approximately 18 feet from the property boundary.

All analytical results where the reporting limit exceeds the cleanup level are shown in red text.

Data Qualifiers: J - Estimated value

E - Result was over calibration range

V - Data qualifier assigned by ERM during data review

3. SITE HYDROLOGY

This section of the report presents a summary of the hydrogeological conditions observed at RTRVP based on over ten years of hydrogeology data (1997 through 2016) that has been collected at the site. The tables, maps, and graphs representing site hydrogeology based on manual water level measurements and piezometer/datalogger data plus detailed written descriptions of the hydrogeology interpretations can be found in previous reports up through the May 2012 groundwater monitoring report (OASIS, 2013). The RI/FS report (OASIS/Bristol, 2000) presents the first detailed hydrogeology interpretation; the interpretation was updated in every subsequent monitoring report. Monitoring reports with the most significant updates are listed below.

- The September 2000 quarterly monitoring report (OASIS/Bristol, 2001a) and the first performance monitoring letter report (OASIS/Bristol, 2001b) incorporate datalogger information, monitoring well groundwater levels, and boring log and drilling information from Shannon & Wilson, Inc.'s installation of five new monitoring wells and 56 HRC™ injection borings in September and October 2000 (Shannon & Wilson, 2001a).
- The March 2003 quarterly monitoring report (OASIS, 2003b) includes three cross-sections (Figures 5, 6, and 7) that provide the most updated, detailed illustration available for the upper contaminant plume hydrogeology.
- The Phase IV HRC™ injection report (OASIS, 2006a) includes three updated cross-sections (Figures 5, 6, and 7) through the lower plume (focusing on the deeper contamination in the vicinity of MW-44).
- The October 2005 monitoring report (OASIS, 2006b) contains an updated, detailed discussion about groundwater flow patterns in the upper contaminant plume, including an elevation map of the top of the till surface (Figure 5).

The current and recent historical site groundwater conditions are provided in Table 2-2 and April 2013 groundwater contours illustrated on Figure 2. Since the groundwater contours and flow patterns have remained consistent over several annual groundwater monitoring events the contours were not recreated for the 2016 data.

3.1. Historical Datalogger Water Level Measurements

In November 1999, dataloggers were installed in five RTRVP monitoring wells (MW-15, MW-16, MW-19, MW-20, and MW-24) to record the water level twice per day (at 8 am and 8 pm). Since then, the dataloggers have been moved several times, and new dataloggers have been added. Table 3-1 shows the most recent and past datalogger locations at RTRVP.

In consultation with the ADEC project manager it was agreed that sufficient data had been collected to adequately characterize the hydrogeological conditions at RTRVP;

thereby agreeing to terminate collection of water level elevations using dataloggers. ERM removed all the dataloggers from the site in October 2012.

TABLE 3-1: DATALOGGER LOCATIONS

	11/99 - 10/01	10/01- 01/02	01/02 - 9/02	09/02- 11/02	11/02- 12/02	12/02- 10/03	10/03 - 09/06	09/06 - 10/09	10/09 - 10/10	10/10 – 10/12
Datalogger 1	MW-15[4]	MW-36							MW-48	
Datalogger 2	MW-16									
Datalogger 3	MW-19[4]		MW-	*Not* used[1]						
Datalogger 4	MW-20						MW-	MW-20		MW-
Datalogger 5	MW-24[4]	MW-25		*Not* used[1]						
Datalogger 6	Purchased 9/02			MW-38				Removed		
BaroLogger™	Purchased 9/02			MW-38			MW-44			
Datalogger 7[2]	Purchased 9/02			MW-40		MW-39	MW-	MW-39	MW-47	
Datalogger 8	Purchased 11/02				MW-42				MW-50	
Datalogger 9	Purchased 12/02					MW-44[3]	MW-	MW-	MW-44	
Datalogger 10	Purchased 6/08							MW-47	MW-39	

Notes:
[1]: Dataloggers belonged to Bristol Environmental and Engineering Services, Inc. (BEESC) and were returned to them.
[2]: Datalogger measures water level and dissolved oxygen (DO) content.
[3]: Datalogger measurements recorded from February 27, 2003 to present (datalogger was positioned incorrectly prior to 2/27/03).
[4]: Historical data from dataloggers in MW-15, MW-19, and MW-24 can be found in the October 2001 quarterly monitoring report (OASIS/Bristol, 2002a); data from these dataloggers are not presented or discussed in subsequent reports.
[5]: After the May 2008 monitoring event, it was determined that the datalogger in MW-44 was malfunctioning. In June 2008, this datalogger was replaced with a new "gold" series datalogger. Note that the gold series dataloggers require a different downloading device (Leveloader gold) than all of the other dataloggers at the site.

3.2. Hydrogeologic Conditions

Most of the groundwater on the Kenai Peninsula is located within unconsolidated deposits of glacial outwash, fluvial, and eolian (wind-blown) sediments. At the RTRVP site three aquifers (water-bearing) zones are present: 1) upper aquifer, which is unconfined and the shallowest hydrogeologic unit, 2) semi-confined water-bearing zones lying below the upper aquifer; and 3) lower confined aquifer.

The upper confined aquifer at the RTRVP site is separated from the lower confined aquifer by a dense silty till that acts as a confining unit. The semi-confined water-bearing zone consists of glaciofluvial sand lens within the silty till unit. The upper aquifer consists of fill or alluvium (consisting of silty sand and gravel material) overlying the till unit. The upper aquifer is recharged during precipitation events and snowmelt where it then discharges to the Kenai River. The confined aquifer also provides a component of recharge through flow of groundwater up through the confining unit. An elevated ridge in the top of the till surface runs east-west across the site passing through the former Dry Cleaner Building and divides the unconfined aquifer into two separate units.

The confining unit underlies the upper aquifer at varying depths across the site from less than 5 feet bgs to greater than 20 feet bgs. ADOT Kenai River bridge foundation

investigations adjacent to the RTRVP site indicate that this confining layer extends to depths ranging from 81 feet bgs (ADOT, 1997) to 95 feet bgs (ADOT, 1963) where the lower confined aquifer is encountered.

The lower confined aquifer serves as a drinking water source for the RTRVP property's water wells as well as other private entities. Two test wells drilled at the site of the Kenai River Bridge by ADOT in 1963 tapped into the confined aquifer exhibiting flowing artesian groundwater at a rate of approximately 50 gpm out of a three inch pipe and a static hydraulic head of 18 feet above ground surface (ADOT, 1963). This data demonstrates an upward vertical hydraulic gradient between the confined aquifer and the shallow upper unconfined aquifer. Communication between the lower confined aquifer and shallower aquifers has not been evaluated due to insufficient data.

3.3. Upper Contaminant Plume

Groundwater flow patterns in the upper contaminant plume area are complex; being controlled by the contours of the underlying till formation. As previously mentioned this till formation creates a groundwater divide between the upper and lower contaminant plumes.

The till surface undulations create a bowl at the northwest corner of the former Dry Cleaner Building (Figure 5 in OASIS, 2006b) and during periods of recharge groundwater flows north-northwest toward the Sterling Highway but during dryer periods a gradient reversal is sometimes observed with the groundwater flowing back toward the building.

Flow direction in the upper contaminant plume water table aquifer is generally toward the north-northwest, with a very flat gradient near the former dry cleaner building and an increased gradient closer to the Sterling Highway. Once groundwater reaches the Sterling Highway it is intercepted by a storm drain system that diverts the flow back in a southerly direction toward the Kenai River where it then discharges to the Kenai River at the Kenai River Bridge Outfall.

During typical groundwater conditions (recharge and north-northwest groundwater flow) the groundwater flow rate in the upper plume is estimated to be between 0.1 and 0.2 feet per day (ft/day).

Upper plume water table elevation data collected historically from the datalogger in monitoring well MW-16 revealed that the groundwater elevation increased by approximately one foot between September and December 2006 and has remained elevated relative to the historical record from October 2002 through September 2006. Telephone conversations with DOT personnel have suggested that there was a possible water line break at RTRVP (not caused by DOT activities during the bridge upgrade of the Sterling Highway). However, in the fall 2009 the property owner tested this water line for leaks and found none, so it appears that the water source is somewhere else. One possibility is a leak from the onsite artesian water supply well and/or connected

distribution piping located near the northwest corner of the Former Dry Cleaner Building.

3.4. Unconfined Lower Contaminant Plume

Groundwater flow direction in the lower contaminant plume is generally southerly toward the Kenai River, although periodic groundwater flow reversals occur close to the river.

In general, the lowest groundwater gradient between MW-39 and the Kenai River occurs when the Kenai River level is relatively high (e.g., during the summer months (June or July to September) and during fall seasonal high precipitation period before winter freeze up. Conversely, the highest groundwater gradient between MW-39 and the Kenai River occurs when the Kenai River level is relatively low, which occurs during the winter and early spring months before breakup. The groundwater flow rate in the lower plume is estimated between 4 and 6 ft/day.

3.5. Semi-Confined Water Bearing Zones

Several monitoring wells (MW-44 through MW-52) were completed at depths greater than 20 feet bgs and all are located within the silty till unit (confining layer); except MW-48 which is located within the 1997 soil excavation removal area and is thus completed in the backfilled material (Figure 4, Appendix E). This confining layer (also referred to as a semi-confined water-bearing zone) includes glaciofluvial sand lenses within the silty till unit.

Static groundwater elevations vary between these monitoring wells with the monitoring wells (MW-47, MW-48, MW-51, L-100, and L-103) completed in or near the 1997 soil excavation removal area (Figure 4 shows excavation contours) having static elevations approximately 8 feet higher (Table 2-2) than monitoring wells completed farther away from the excavation area within the till unit (MW-44, MW-45, and MW-46). This data indicates that the 1997 soil excavation removal has weakened the confining unit layer; creating an area of increased upward flow from the underlying confined aquifer.

4. ANALYTICAL RESULTS

4.1. Quality Assurance Review Summary

A quality assurance review (QAR) of the groundwater analytical results is presented in Appendix F. The QAR discusses the data quality assurance/quality control (QA/QC) procedures and presents the results of the QA/QC analysis. This data quality assurance review conforms to the requirements of the ADEC Technical Memo -06-2002, dated March 2009. ADEC Laboratory Data Review Checklists have been completed for each laboratory work order that is a part of this project and they are provided in Appendix F.

The QA/QC data evaluated during this review process indicate that the sample results are acceptable for their intended project use. Unless otherwise indicated, the analytical results meet the precision and accuracy requirements for the associated analytical methods. The QA/QC data indicate that the quality control mechanisms were generally effective in ensuring measurement data reliability within the expected limits of sampling and analytical error. Data qualified by the review process have been appropriately flagged before being presented in the report. The overall calculated completeness of the October 2016 groundwater sampling data set is 100%.

4.1.1. VOC Groundwater Analysis (SGS)

Groundwater samples collected from fourteen groundwater monitoring wells, and two field duplicate samples (MW-39 and MW-51) were analyzed for VOCs by SGS Environmental Services, using EPA method SW8260B. The SGS results, provided in one work order 1166514, were reviewed and only the following minor anomalies were noted in the data.

The samples were received in good condition and with the proper preservation, with the following exceptions:

- Several samples had one or more VOC vials with headspace. The VOC analyses were performed on vials that did not have headspace present.
- The analyses were performed within the recommended hold times. Re-analysis of four samples outside instrument calibration was performed using diluted samples that were analyzed past the hold time. These results were only used for confirmation of the sample results that exceeded the calibration range. Since the original sample was within hold time no data qualification is needed.

All associated field and laboratory QA/QC results met established criteria with the following exceptions:

- The following results exceeded the calibration range and were flagged VE, as estimated values: cis-1,2-dichloroethene in 16-RT-010-GW; vinyl chloride, trans-1,2-dichloroethene, and cis-1,2-dichloroethane in 16-RT-013-GW; cis-1,2-dichloroethene and tetrachloroethene in 16-RT-004-GW; and cis-1,2-dichloroethene in 16-RT-002-GW.

- The project required reporting limits for tetrachloroethene, trichloroethene, 1,1-dichloroethene and/or benzene were not met for in four samples due to dilutions. The affected samples include 16-RT-010-GW, 16-RT-011-GW, 16-RT-012-GW, and 16-RT-013-GW. The usability of the results for affected compounds in these samples may be limited for this project.

- A CCV recovery for vinyl chloride did not meet control limits (biased high). The vinyl chloride result for associated project sample 16-RT-018-GW was qualified as estimated (VJ) and may be biased high.

Two field duplicate samples were collected from MW-39 and MW-51, to evaluate intra-laboratory precision. Relative percent difference (RPD) values were calculated for all analytes with concentrations above the analytical reporting limit. The analytical results above the reporting limit were agreeable, with several exceptions.

- The RPD for cis-1,2-DCE and trans-DCE were greater than 30% for sample MW-51. Results for these compounds in sample MW-51 were qualified as estimated (VJ) with a higher imprecision.
- The RPD for cis-1,2-DCE and vinyl chloride were greater than 30% for sample MW-39. Results for these compounds in sample MW-39 were qualified as estimated (VJ) with a higher imprecision.

The total overall calculated completeness of the October 2016 compliance monitoring data set is 100%, which meets the established 85% completeness data quality objective.

4.2. Groundwater Sample Results for Target Analytes

All 14 sample locations were analyzed for VOC analysis using method EPA 8260B. The October 2016 groundwater sampling results (provided in Table 2-3) show that cis-1,2-DCE and vinyl chloride are present at concentrations above applicable cleanup levels in one or more RTRVP monitoring wells. The following sub-sections summarize cleanup level exceedances from the October 2016 monitoring event.

4.2.1. PCE

Upper Plume

PCE concentrations were below the 840 µg/L on-RTRVP property cleanup level in all upper plume samples.

PCE concentrations were below the 50 µg/L off-RTRVP property cleanup level in all samples from upper plume monitoring wells located off-RTRVP property or within approximately 10 feet of the property boundary (MW-12, MW-16, MW-25, and MW-38).

Lower Plume

PCE concentrations were below the 840 µg/L on-RTRVP property cleanup level in all lower plume samples.

Semi-Confined Water-Bearing Zones within the Till

PCE concentrations were below the 840 µg/L on-RTRVP property cleanup level in the lower plume semi-confined water-bearing zone wells that were sampled.

4.2.2. TCE

Upper Plume

TCE concentrations were below the 21,900µg/L on-RTRVP property cleanup level in all upper plume samples.

TCE concentrations were below the 50µg/L off-property cleanup level in all samples from the upper plume monitoring wells located off-RTRVP property or within approximately 10 feet of the property boundary (MW-12, MW-16, MW-25, and MW-38).

Lower Plume and Semi-Confined Water-Bearing Zone within the Till

TCE concentrations were below the 21,900 µg/L on-RTRVP property cleanup level in all lower plume and semi-confined till monitoring well samples.

4.2.3. Cis-1,2-DCE

Upper Plume

Cis-1,2-DCE concentrations were below the 11,600 µg/L on-RTRVP property cleanup level in all upper plume samples.

Cis-1,2-DCE concentrations were below the 700 µg/L off-RTRVP property cleanup level in all samples from upper plume monitoring wells located off-RTRVP property or within approximately 10 feet of the property boundary (MW-12, MW-16, MW-25, and MW-38).

Lower Plume

Cis-1,2-DCE concentrations were below the 11,600 µg/L on-RTRVP property cleanup level in all lower plume samples.

Semi-Confined Water-Bearing Zone within the Till

Cis-1,2-DCE concentrations exceeded the 11,600 µg/L on-RTRVP property cleanup level in the lower plume semi-confined water-bearing zones within the till at four locations. Detected Cis-1,2-DCE concentrations and associated locations are listed below:

- 97,400µg/L at MW-48
- 50,500µg/L at MW-49
- 47,000µg/L at MW-50
- 22,200µg/L at MW-51.

4.2.4. Trans-1,2-DCE and 1,1-DCE

Trans-1,2-DCE and 1,1-DCE concentrations were below the 11,600 or 70 µg/L on-RTRVP property cleanup levels in all upper plume samples. Trans-1,2-DCE and 1,1-DCE concentrations were below the 1,000 or 70 µg/L off-RTRVP property cleanup level in all samples from upper plume monitoring wells located off-RTRVP property or within approximately 10 feet of the property boundary (MW-12, MW-16, MW-25, and MW-38).

Lower Plumes and Semi-Confined Water-Bearing Zone within the Till

Trans-1,2-DCE and 1,1-DCE concentrations were below the 11,600 or 70 µg/L, respectively, on-RTRVP property cleanup level in all lower plume samples except for one location. Monitoring well MW-48 had a 1,1-DCE concentration of 133 µg/L.

4.2.5. Vinyl Chloride

Upper Plume

Concentrations for vinyl chloride exceeded the on-RTRVP property cleanup level of 2 µg/L in one of three upper plume well locations. Monitoring well MW-25 had a vinyl chloride concentration of 12.3 µg/L.

Lower Plume

Concentrations for vinyl chloride exceeded the on-RTRVP property cleanup level (2 µg/L) in four of five lower-plume well locations with concentrations ranging from 2.58 to 10.7 µg/L.

Semi-Confined Water-Bearing Zone within the Till

Concentrations for vinyl chloride exceeded the on-RTRVP property cleanup level in all six well locations from the semi-confined water-bearing zone within the till. Concentrations ranged from 20.8 µg/L in MW-52 to 15,800 µg/L in MW-50.

4.2.6. Benzene

Upper and Lower Plumes

Concentrations for benzene were reported below the on-RTRVP property cleanup level of 50 µg/L for all samples.

4.3. Contaminant Plumes Discussion

Figure 4 shows the PCE concentrations in the October 2016 groundwater samples and depicts the inferred extend of groundwater exceeding PCE cleanup levels. As none of the monitoring wells sample in October 2016 exceeded the PCE cleanup level, the plume show on Figure 4 is based on April 2014 results encompassing five monitoring wells (L-78, L-80A, L-102, L-103, and MW-47) in the semi-confined water-bearing zones that

exceeded the on-RTRP cleanup level (840µg/L). Overall the 2016 PCE plume extent is the same as it was in 2014.

Figure 5 shows the cis-1,2-DCE concentrations in the October 2016 groundwater samples and depicts the inferred extent of groundwater exceeding cis-1,2-DCE cleanup levels. The groundwater plume shown on Figure 5 encompasses four of the six semi-confined monitoring wells (Table 2-3) where concentrations exceeded the on-RTRVP cleanup level (11,600 µg/L) from samples collected in 2016. It is estimated based on April 2014 data that an additional five wells (MW-47, L-78, L-80A, L-102, and L-103) would also exceed the on-RTRVP cleanup level if they had been sampled in 2016. Overall the 2016 cis-1,2-DCE plume extent is the same as it was in 2014.

Figure 6 shows the vinyl chloride concentrations in the October 2016 groundwater samples and depicts the inferred extent of the groundwater plumes that exceed vinyl chloride cleanup levels. The upper plume encompasses MW-25 on the west, and based on April 2014 vinyl chloride results MW-42 on the east, and MW-36 on the south. Overall the 2016 vinyl chloride plume extent for the upper plume area is the same as it was in 2014. The lower plume is inferred to encompass an area north of L-100 down-gradient to the Kenai River. Overall the 2016 vinyl chloride plume extent is larger than that observed in 2014 as it now includes MW-35.

4.4. Contaminant Migration to Kenai River

The RTRVP ROD provides guidance for the application of the surface water cleanup levels provided in the ROD. This guidance includes the use of sentry wells located adjacent to the Kenai River to be used to determine compliance with surface water cleanup levels. The list of sentry wells includes MW-12, MW-20, MW-8, MW-6A, MW-7, MW-5, and MW-35. Based on modeling a value of three times the water quality criteria is used as the cleanup level for the sentry well (see Table 2-3).

The remainder of this section discusses the current monitoring results in comparison to the cleanup levels defined in the ROD.

4.4.1. Kenai River Sentry Monitoring Wells

The sentry well monitoring results for 2016 showed that the MW-6A vinyl chloride concentration was above the ROD cleanup level for contaminant migration to the Kenai River (Table 2-3). No other results were above the ROD cleanup level for contaminant migration to the Kenai River.

Historically the sentry well monitoring results from 2008 through 2013 show that vinyl chloride was the only target analyte detected above its ROD cleanup level of 6 µg/L in the sentry monitoring wells. However during the April 2014 monitoring event none of the sentry wells sampled exceeded the ROD cleanup level. During the September 2008 monitoring event cis-1,2-DCE was also above its modeled cleanup level of 210 µg/L in MW-35.

4.4.2. Surface Water Column Sample Results

No surface water column samples were collected during the October 2016 sampling event in accordance with the ADEC approved work plan.

The historical sample events from 2003 through 2014, except for October 2009, show no target analytes were detected in the surface water column samples collected downslope of MW-5, MW-6, and MW-8 (Appendix A). Based on recent analytical results it appears that the October 2009 surface water analyte detections were due to anomalous site conditions at that time.

Prior to 2003, surface water column samples were collected in May 1997 and May 1999 (Appendix A). PCE, TCE, and cis-1,2-DCE were detected in two of the May 1999 samples. Downslope of MW-8 PCE, TCE, and cis-1,2-DCE were detected at 0.81 µg/L, 0.26 µg/L, and 2.8 µg/L, respectively. Downslope of MW-6 PCE, TCE, and cis-1,2-DCE were detected at 2.5 µg/L, 1.9 µg/L, and 15 µg/L, respectively. Groundwater remedial actions were initiated in 2000 and since that time no contaminants have been detected in the Kenai River water column samples except as discussed above.

5. PERFORMANCE MONITORING (BIOREMEDIATION ANALYSIS)

This section discusses the October 2016 analytical results for natural attenuation field parameters and target analytes for the fourteen monitoring wells sampled.

5.1. Field Screening Results

Field screening results are presented on the groundwater sample data sheets (Appendix B1) and in Appendix C, Table C-1. Groundwater from the monitoring wells was field-screened for pH, temperature, conductivity, DO, and ORP. The significance of the field screening parameters is summarized in Table 1-2, and points of interest are discussed below.

- The October 2016 pH readings ranged from 6.5 pH units (MW-48) to 7.7 pH units (MW-52). Most pH results were between pH 6.5 and pH 7.5.
- The October 2016 shallow groundwater temperatures ranged from 5.5°C in MW-6A (near the Kenai River) to 8.7°C in MW-26 and the three well temperatures from the upper plume area were between 8.0°C and 8.8°C. The deeper wells from the semi-confined water bearing zone had groundwater temperatures that ranged from 6.2°C in MW-44 and MW-52 to 7.4°C in MW-48.
- The October 2016 DO concentrations were considered to be outside the range normally observed for these monitoring wells during previous monitoring events. The abnormal DO measurements could be the result of a faulty probe or some other unknown reason. Due to the suspect nature of the DO measurements they were all rejected.
- The October 2016 ORP measurements ranged from -189 mV (MW-35) to -24.1 mV (MW-44). The ORP relative concentrations were fairly consistent with the DO relative concentrations, although a few inconsistencies are often observed. The two lowest ORP values of -189 mV measured in MW-35 and -131 mV measured in MW-25 (locations of strongest reduction potential), appear to be anomalies since both of these locations are outside the areas of past HRC treatments. ORP values within the till treatment area, excluding MW-44, ranged from -56.5 mV at MW-50 to -96.2 mV at MW-51.

5.2. VOC Results

October 2016 VOC results are presented in a variety of tables and graphs in this report, summarized below. This section of the report primarily references the Appendix G graphs to present a comprehensive discussion of VOC results with respect to the progress of bioremediation at the RTRVP site.

- Table 2-3 presents current VOC results, and Figures 4, 5, and 6 display current VOC results that exceed various site cleanup levels. Section 4.2 discusses the current VOC concentrations with respect to site cleanup levels.

- Table C-4 (Appendix C) presents current and historical VOC results for selected performance monitoring wells.
- Appendix G contains two series of charts constructed to help evaluate the biodegradation progress. Charts G-2a, G-3a, G-4a, and G-5a, etc. show VOC concentrations measured in MW-16, MW-36, MW-39, and MW-9, respectively. Charts G-2b, G-3b, G-4b, and G-5b etc. show molar percentages of PCE plus TCE, cis-1,2-DCE, and vinyl chloride plus ethene in the same monitoring wells. Both sets of charts also show the total chlorinated ethene concentrations as an indication of the overall biodegradation progress of the chlorinated contaminants.

5.2.1. Upper Plume

5.2.1.1. Relationship between Groundwater Flow and Contamination Levels

As discussed in previous monitoring reports, the upper plume groundwater flow direction appears to strongly affect the contaminant concentrations detected in the upper plume monitoring wells. However, a sustained rise in the upper plume groundwater elevation that began in December 2006/January 2007 has affected the historical relationships between groundwater elevation and contaminant concentrations in specific monitoring wells (e.g., historically there was a correlation between high groundwater elevations and relatively high contamination levels in MW-36; this relationship does not appear to hold true under the new groundwater conditions). At the time of the April 2013 and April 2014 sampling, the groundwater gradient was atypical, with groundwater flowing opposite of the typical northwest direction with an April 2014 groundwater gradient between MW-16 and MW-25 of -0.0146 ft/ft. However the groundwater flow direction and gradient between MW-36 and MW-38 of 0.0006 ft/ft towards the northwest direction are more typical. The negative gradient observed between MW-16 and MW-25 appears to be due the fact that MW-16 is located in a relatively low spot of the till surface and that a small ridge is present in the till surface between MW-16 and MW-25 (Figure 5 in OASIS, 2006b). When combined with periods of lower groundwater recharge these factors appear to cause the groundwater to follow a small trough in the till contours that directs the groundwater to flow in a more northeasterly direction through a low spot in the front of the former dry cleaner building. The October 2016 groundwater gradient between MW-16 and MW-25 of -0.0019 was similar to that observed in 2013 and 2014.

Chart G-1 shows total chlorinated ethene concentrations in upper plume monitoring wells MW-36, MW-42, MW-16, MW-38, and MW-25 over time. In October 2016 only monitoring wells MW-16 and MW-25 were sampled. Chart G-1 shows that the total chlorinated ethene concentration remained low showing an overall declining trend. The total chlorinated ethene concentration was highest in MW-25 (0.481 µmole/L) as compared to MW-16 (0.181 µmole/L).

5.2.1.2. Bioremediation Progress

The Appendix G Charts G-2a and G-3a, which show VOC concentrations measured in MW-16 and MW-36, and Charts G-2b and G-3b, which show molar percentages in MW-16 and MW-36, are useful to illustrate the progress of bioremediation over time in the upper plume. Note MW-36 was not sampled in October 2016 so only the historical chart data is being presented.

Both MW-16 and MW-36 have demonstrated a decreasing trend for total chloroethene concentrations and all individual chloroethene (i.e., PCE, TCE, cis-DCE, and VC) concentrations in MW-16 have been less than 100 µg/L since 2008 with a couple of exceptions. The decreasing contaminant concentrations coupled with consistent ethene detections suggest that groundwater contamination is being biologically remediated by reductive dechlorination of the cis-1,2-DCE and vinyl chloride to ethene. The concentration spike in May 2010 at MW-16 is believed to be the result of additional flushing of soil contaminants during a groundwater recharge event and higher water levels. The concentration spike in April 2013 is believed to be the result of additional dissolution of soil contaminant as a result of the October 2012 HRC injection.

Chart G-2b (MW-16) illustrates that VC+ethene has been the predominant form of chloroethenes at this location since May 2009 with a couple of exceptions whereas Chart G-3b (MW-36) illustrates that cis-DCE still remains the predominant form of chloroethenes at this location (i.e., adjacent to the former Dry Cleaner building where treatment is more difficult). Chart G-2b (MW-16) does show a rebound of the cis-DCE percentages between April 2014 and October 2016 suggesting a decline in the reductive dechlorination process but the total chlorinated ethene molar concentration has remained low indicating that the groundwater contamination in this well has been almost completely degraded.

Overall, the 2007-2016 data suggest that measurable complete reductive dechlorination (bioremediation) is occurring in the upper plume area.

5.2.2. Lower Plume Unconfined

Shallow lower plume monitoring wells (i.e., total depth less than 20 feet bgs) are completed in an unconfined (water table) aquifer. The monitoring wells included in this classification are MW-4A, MW-5, MW-6A, MW-7, MW-8, MW-9, MW-10, MW-12, MW-19, MW-20, MW-26, MW-35, MW-39, and MW-40 (Figure 1).

5.2.2.1. Bioremediation Progress

Beginning in approximately 2003 or 2004 (the exact time varies by monitoring well), the concentrations of total chlorinated ethenes in the lower plume monitoring wells shown on Chart G-1b began to decline. The Chart G-1b contamination levels reflect the monitoring well position, with the highest levels of contamination detected in MW-39 (first well encountered downgradient of the source area) and the lowest levels of contamination detected in the farthest downgradient sentry wells (MW-6 and MW-20).

Total chlorinated ethene concentrations in the sentry wells have been near zero for the past eleven monitoring events (May 2007 through October 2016). Contamination levels in MW-9 (located downgradient of MW-39) reached their lowest level in May 2006 before rebounding to a higher but slowly declining level between September 2006 and April 2014. MW-9 showed a slight increase in contaminant levels between April 2014 (0.216 µmoles/L) and October 2016 (0.96 µmoles/L). Contamination levels in MW-39 have been generally declining since May 2005. The October 2016 monitoring event represents some of the lowest or nearly lowest total chlorinated ethene concentrations ever observed for monitoring wells MW-39, MW-9, and MW-6.

Charts G-4a, G-5a, and G-7a show VOC concentrations measured in MW-39, MW-9, and MW-6. Charts G-4b, G-5b, and G-7b show molar percentages of PCE plus TCE, cis-1,2-DCE, and vinyl chloride plus ethene in the same monitoring wells. These charts are useful to illustrate the progress of bioremediation over time in the lower plume.

5.2.2.2. Bioaugmentation Pilot Test Area (i.e., MW-9 vicinity)

- HRC™ injection (September 2000 and June 2001) rapidly (within months) reduced PCE and TCE to cis-1,2-DCE, at which point the reductive dechlorination process stalled for over a year. Note that cis-1,2-DCE stall occurred at monitoring wells all across the site.
- On October 25, 2002, a bioaugmentation pilot test was performed in the vicinity of MW-9 in an attempt to mediate reductive dechlorination of the cis-1,2-DCE that appeared to be stalled due to a lack of significant quantities of Dhc bacteria. In December 2002, vinyl chloride was first detected above 10 µg/L in MW-9. Subsequently, vinyl chloride concentrations increased throughout the pilot test area (i.e., in MW-6, MW-7, MW-9, MW-20, MW-35, and MW-40), reaching maximum values in 2004 or 2005 before declining again. The highest vinyl chloride concentration detected in the unconfined lower plume was 651 µg/L measured in MW-39 in February 2005. These vinyl chloride results suggest that bioaugmentation was successful at mediating the reduction of cis-1,2-DCE to vinyl chloride or at least helped to speed up cis-1,2-DCE reduction in this area. In either case, beginning approximately two years after bioaugmentation, cis-1,2-DCE reduction to vinyl chloride became widespread in the bioaugmentation pilot test area.
- Ethene was first detected in the lower plume monitoring wells in September 2003 (100 µg/L in MW-9); since then the ethene detections have been gradually expanding (first detected in MW-40 in January 2004, in MW-39 in March 2004, in MW-6 in October 2004, in MW-20 in February 2005, and first sampled and detected in MW-7 in September 2006). These consistent ethene detections indicate that complete reductive dechlorination is occurring in a swath downgradient from MW-39 between MW-7 and MW-20. Ethene concentrations appear to have peaked in 2006 and have since declined somewhat but remained generally stable through 2007, 2008, and 2009. This decline in ethene concentrations may correlate with the decline in vinyl chloride concentrations discussed below.

- Vinyl chloride concentrations peaked around 2004 or 2005 in the unconfined lower plume bioaugmentation pilot test area and has since declined to lower, fairly stable concentrations. In MW-6, the vinyl chloride concentration declined to pre-bioaugmentation levels (less than 10 µg/L) from 2007 through 2009 and then spiked up in May 2010 after the August 2009 HRC injection and has since dropped back down to less than 5 µg/L. The declining concentration suggests that vinyl chloride is being reduced to ethene (and/or oxidized to carbon dioxide) faster than it is being generated from the reduction of cis-1,2-DCE. This decline is also attributable to the overall decline in total chlorinated ethene concentrations as a result of contaminant mass reduction.
- The downgradient locations (i.e., MW-6, MW-20, and MW-40) show a greater degree of complete reductive dechlorination (and decreasing molar concentrations of total chlorinated ethenes) than the upgradient locations (i.e., MW-9 and MW-39) that are closer to the source area (see Chart G-1b).
- As of October 2016 the total chlorinated ethene concentrations have declined to the following values 0.491 µmole/L (MW-39), 0.96 µmole/L (MW-9), and 0.244 µmole/L (MW-6A). In comparison during April 2014 the total chlorinated ethene concentrations were 0.493 µmole/L (MW-39), 0.216 µmole/L (MW-9), 0.236 µmole/L (MW-40), and 0.188 µmole/L (MW-6A).

5.2.2.3. MW-4A

No bioaugmentation has been performed in the area around MW-4A, and Dhc organisms and vinyl chloride were not detected in significant concentrations in MW-4A until approximately 2008. The 2008 to 2010 monitoring events showed vinyl chloride concentrations in the range of 3 to 5 µg/L before dropping below 1 µg/L in 2012. The molar concentrations of total chlorinated ethenes in MW-4A have remained fairly steady since about 2006 where previous to 2006 they had followed a long term declining trend. As of April 2013 the only chlorinated ethene detected at MW-4A is PCE (1.68 µg/L) or a total chlorinated ethene concentration of 0.01 µmole/L. MW-4A was not sampled during the April 2014 and October 2016 monitoring events.

5.2.3. Semi-Confined Water-Bearing Zones

Chart G-1c shows total chlorinated ethene concentrations in lower plume monitoring wells MW-9 and MW-6A and semi-confined source area wells MW-44, MW-47, MW-48, MW-49, and MW-50 over time. The most striking observation from Chart G-1c is that the contamination levels in the source area of the semi-confined aquifer are at least an order of magnitude higher than in the overlying unconfined aquifer contaminant plume. Chart G-1c also shows that the total chlorinated ethene concentrations in the semi-confined monitoring wells vary widely between sampling events and that at least three of the wells MW-48, MW-49, and MW-50 have shown increasing trends during the last couple of monitoring events.

5.2.3.1. Bioremediation Progress

Bioremediation progress in the locations sampled in October 2016 (MW-44, MW-48, MW-49, MW-50, MW-51, and MW-52) is discussed below. The following discussion is primarily based on the Appendix G graphs.

- In MW-44, most of the contamination was present as PCE prior to March 2006 (Charts G-9a and G-9b). Beginning in March 2006 and continuing through May 2009, the cis-1,2-DCE concentration increased above the PCE and TCE concentrations, indicating reductive dechlorination of the PCE and TCE to cis-1,2-DCE. Between September 2008 and May 2009, the concentration of total chlorinated ethenes decreased dramatically. The total chlorinated ethene concentration has remained below the ethene concentrations since then, suggesting that complete reductive dechlorination to ethene had become a dominant process at this location. Between the 2014 and 2016 monitoring events chart G-9b shows a decline in the percentage of vinyl chloride + ethene corresponding to an increase in cis-1,2-DCE percentage indicating a reversal in the reductive dechlorination process. However the total chlorinated ethene concentration has remained low suggesting most of the groundwater contamination has been biodegraded at this location.
- In the initial sampling event in MW-48 (August 2009), PCE + TCE comprised approximately 88% of the total chlorinated ethenes, with cis-1,2-DCE comprising the remaining 12% (Chart G-11b). However, between August and October 2009, the PCE and TCE concentrations dropped and cis-1,2-DCE concentration increased. Cis-1,2-DCE has since been the dominant chlorinated ethene with molar percentages consistently increasing to the current level of approximately 99% (Chart G-11b). Vinyl chloride and ethene have been consistently detected in MW-48 but at total molar percentages less than 5%. The molar concentration of total chlorinated ethenes decreased by over an order of magnitude between August 2009 and October 2010, before increasing during the May 2011, May 2012, and April 2014 monitoring events. The October 2016 molar concentration of total chlorinated ethenes shows that it has rebounded to the initial levels observed in 2009 thus showing no progress in the reductive dechlorination of chlorinated ethenes at MW-48.
- In MW-49, relatively low concentrations of PCE and relatively high concentrations of cis-1,2-DCE have been detected since its installation in August 2009 (Chart G-12a). These data suggest that most of the PCE in this area was already reduced to cis-1,2-DCE before monitoring began. Since then the cis-1,2-DCE and total chlorinated ethene concentrations have shown wide corresponding variations such as in April 2013 a dramatic change occurred where cis-1,2-DCE percentage dropped and vinyl choride+ethene increased, corresponding to a dramatic drop in total chlorinated ethene concentration. After April 2013 the cis-1,2-DCE and chlorinated ethene concentrations have rebounded to previous levels. Complete reductive dechlorination of cis-1,2-DCE to vinyl chloride plus ethene is present at MW-49 but has had widely varying results during the last three monitoring events. The total chlorinated ethene concentration dropped from 862 μmole/L in May 2012 to 5.73

μmole/L in April 2013 and then increased to 526 μmole/L in April 2014 and 678 μmole/L in October 2016. Overall little or no progress has been observed in the complete destruction of chlorinated ethenes in MW-49.

- Both MW-50 and MW-51 have shown a predominance of cis-1,2-DCE with lesser percentages of vinyl chloride + ethene. The molar concentration of total chlorinated ethenes has varied between monitoring events but showed an overall apparent decline in concentrations up through April 2014. However during October 2016 the total chlorinated ethene concentrations showed an increased concentration. Overall, the MW-50 and MW-51 data suggest moderate rates of reductive dechlorination with some decline in the total chlorinated ethene concentrations with a partial rebound during the October 2016 monitoring event.
- In the initial sampling event in MW-52 (October 2010), PCE + TCE comprised approximately 12% of the total chlorinated ethenes, with cis-1,2-DCE comprising most of the remaining 88%. Between May 2011 and April 2014, the molar percentage of cis-1,2 DCE has generally decreased while the molar percentage of vinyl chloride plus ethene has generally increased up to 98% in April 2014. Between April 2014 and October 2016 things reversed and the molar percentage of cis-1,2 DCE increased while the molar percentage of vinyl chloride plus ethene decreased. The April 2013 total chlorinated ethene concentration increased dramatically from 20.3 μmole/L to 491 μmole/L; this is attributed to additional release of contaminants from the soil due to the October 2012 HRC injection and is likely the cause for increased percentage of cis-1,2-DCE. Since then the total chlorinated ethene concentration were reduced to even lower levels at 0.27 μmole/L (April 2014) and 0.64 μmole/L (October 2016). Overall, the MW-52 data show high rates reductive dechlorination with an overall decline in total chlorinated ethene concentrations.

5.3. Statistical Trend Analysis

The statistical method chosen to assess chlorinated ethene concentration trends for the River Terrace RV Park site was the Mann-Kendall nonparametric test for trend (Gilbert 1987). The Mann-Kendall test is useful for identifying trends in time series data. Specifically, this test was used to analyze whether the cumulative total molar concentrations of chlorinated ethenes exhibited trends in selected monitoring wells. The test compares the relative magnitudes of sample data rather than absolute data values, which is why the test is nonparametric. One benefit of this test is that the data need not conform to any particular distribution. Results that were reported as NDs were generally assigned values of one half the method reporting limit (MRL) or one half the lowest MRL when the MRLs varied.

The Mann-Kendall trend analysis tables are presented in Appendix I and are grouped by monitoring well location: 1) Semi-confined water bearing zones (MW-44, MW-48, MW-49, MW-50, MW-51, and MW-52); 2) Lower contaminant plume (MW-39, MW-9, and MW-6A); and 3) Upper contaminant plume (MW-16, and MW-25).

The Mann-Kendall test assumes zero slope (or no trend) unless data indicates otherwise. In other words, the following hypothesis for each compound from each monitoring well is tested:

H_0: No trend for compound 'x' in monitoring well 'y'.

H_1: Trend for compound 'x' in monitoring well 'y' is present.

ERM selected a level of significance, or α, equal to 0.10 (confidence level = 90%), which indicates that if the probability of obtaining the computed Mann-Kendall statistic (S) is less than 0.10, then the null hypothesis is rejected for the conclusion that compound 'x' in monitoring well 'y' exhibits trend. If the probability of obtaining S is greater than or equal to 0.10, then the null hypothesis (no trend) holds. Although not explicitly tested for, it can be inferred that if the probability is less than 0.10 and S is negative, then a downward or decreasing trend is occurring. The opposite situation also exists: if the probability is less than 0.10 and S is positive, then an upward or increasing trend is occurring.

In addition, the coefficient of variation (CV) was calculated to provide a measure of scatter, or fluctuation in the data from year to year. The CV is useful in classifying data as "stable" vs. "no trend" when the null hypothesis holds. Generally, if no trend is present at the specified level of significance, but the CV is small (e.g. < 1), it can be concluded that plume concentrations remain "stable" over time. "No trend" indicates that no statistical increase or decrease is present at the specified level of significance, and the data fluctuates too dramatically from one event to another to be considered "stable."

5.3.1. Semi-Confined Water-Bearing Zones

The Mann-Kendall trend analysis results for the six lower plume semi-confined monitoring wells evaluated indicate that the total chlorinated ethene molar concentrations generally exhibit no trend except for one location, MW-44, where a decreasing trend was observed. Detailed presentations of the Mann-Kendall analysis for each monitoring well are provided in Appendix I.

5.3.2. Lower Plume Unconfined

The Mann-Kendall trend analysis results for the three lower plume unconfined monitoring wells evaluated indicate that the total chlorinated ethene molar concentrations all exhibit a decreasing trend. Detailed presentations of the Mann-Kendall analysis for each monitoring well are contained in Appendix I.

5.3.3. Upper Plume

The Mann-Kendall trend analysis results for the three upper plume monitoring wells evaluated (MW-16, and MW-25) indicate that the total chlorinated ethene molar concentrations also all exhibit a decreasing trend.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusions

6.1.1. Exceedences of Cleanup Levels

The October 2016 groundwater sampling results (provided in Table 2-3) show that 1,1-DCE, cis-1,2-DCE, and vinyl chloride are present at concentrations above the applicable cleanup levels (specified in Table 1-1) in one or more RTRVP monitoring wells. The following sub-sections summarize cleanup level exceedances from the October 2016 monitoring event.

- PCE concentrations were below the 840 µg/L on-RTRVP property cleanup level in all of the 14 monitoring locations sampled.
- Cis-1,2-DCE concentrations were above the 11,600 µg/L on-RTRVP property cleanup level in 4 of the 14 monitoring locations sampled, including MW-48 (97,400 µg/L), MW-49 (50,500 µg/L), MW-50 (47,000 µg/L), and MW-51 (22,200 µg/L).
- 1,1-DCE concentrations were above the 70 µg/L on-RTRVP property cleanup level in 1 of the 14 monitoring wells sampled, including MW-48 (133µg/L).
- Vinyl chloride concentrations ranged between 2.58 µg/L (MW-35) and 15,800 µg/L (MW-50) in wells where it was detected and exceeded the 2 µg/L on-RTRVP property cleanup level in 11 of the 14 monitoring locations sampled. Three monitoring well locations (MW-16, MW-23, and MW-26) had vinyl chloride results that were below the detection limit.

6.1.2. Contaminant Migration to Kenai River

The historical analytical data from 2003 through 2014 monitoring events, except for October 2009, showed that no target analytes were detected in the surface water column samples collected downslope of MW-5, MW-6, and MW-8 (Appendix A). Due to the unusual site conditions (water being left on at one of the RV Park faucets) it appears that the October 2009 surface water analyte detections were due to anomalous site conditions that occurred at that time. In accordance with the work plan no surface water column samples were collected in October 2016.

The sentry well monitoring results for 2014 showed, for the first time, that no target analytes were detected above the ROD cleanup levels for contaminant migration to the Kenai River (Table 2-3). However, two of the sentry wells (MW-5 and MW-6A) were above the onsite cleanup level for vinyl chloride.

The October 2016 sentry well monitoring results showed that vinyl chloride concentrations in MW-6A were above the ROD cleanup level of 6 µg/L but no other exceedances were observed.

6.1.3. Groundwater Flow Patterns in Semi-Confined Water-Bearing Till

There is generally an upward vertical gradient in the deep source area, although occasionally there have been short-term downward gradient between MW-39 and MW-44.

The groundwater elevations in MW-47 and MW-48 (both located within the main excavation area) are generally nearly identical and appear to be primarily influenced by the underlying confined aquifer that is upwelling through the weakened till layer within the excavation limits. Moving out from the excavation MW-50 and then MW-52 also mimic the water levels from MW-47 and MW-48 but to a lesser extent having slightly reduced groundwater elevation heads. While MW-44 shows some influence from the lower confined aquifer it is also influenced heavily by the Kenai River and shows the largest differences with regards to groundwater elevation patterns in MW-47 and MW-48.

Overall, the groundwater elevation patterns measured in the semi-confined water-bearing zone monitoring wells are quite different from those measured in the unconfined aquifer and Kenai River. This difference suggests that the semi-confined water-bearing zones are responding to influences that are not associated with surficial water table aquifer. One possibility for this difference is the influence of the lower confined aquifer hydrostatic pressures (particularly on wells within the former excavation area). Additional data on the hydrostatic pressure/water level variations from the confined aquifer are needed before this relationship can be confirmed.

6.1.4. Bioremediation Progress and Current Status

6.1.4.1. Upper Plume

Overall, the 2007-2016 data show that measurable complete reductive dechlorination (bioremediation) is occurring in the upper plume area except at MW-21 and MW-23. The April 2014 bioremediation progress continues to be favorable and observations are summarized below.

- Overall the bioremediation effectiveness charts for MW-16 (Charts G-2a and b) and MW-36 (Charts G-3a and b) show continued long-term progress for reductive dechlorination of the PCE contamination and overall declining trend in chlorinated ethene concentrations.
- The Mann-Kendall trend analysis results for the two upper plume monitoring wells that were evaluated indicate that the total chlorinated ethene molar concentrations exhibit a decreasing trend in MW-16 and MW-25.
- MW-23 which is located outside of the HRC treatment area exhibit aerobic conditions (i.e., DO over 2 mg/L) with the predominant chlorinated ethene being PCE. This location does not exceed the on-RTRVP cleanup levels at present.

6.1.4.2. Lower Plume (Unconfined Aquifer)

Overall, the data suggest that measurable complete reductive dechlorination (bioremediation) is occurring in the lower plume unconfined aquifer area. The October 2016 bioremediation progress continues to be favorable and observations are summarized below.

- Overall the bioremediation effectiveness charts for MW-39 (Charts G-4a,b); MW-9 (Charts G-5a,b); and MW-6 (Charts G-7a,b) show continued long-term effectiveness for reductive dechlorination of the PCE contamination. In fact, MW-40, MW-20 and MW-6 have shown nearly complete degradation of the total chlorinated ethenes (values less than 1 µMol/L) since 2007 and as of May 2012 this also includes monitoring wells MW-39 and MW-9 (Chart G-1b).
- The historical presence of chlorinated ethenes in MW-39 and MW-9 that are apparently primarily due to desorption and migration of contaminants from the till (semi confined water bearing zones discussed in Section 6.1.4.3) have shown a large decline in the May 2012 through October 2016 data with MW-39 and MW-9 now near their lowest levels ever observed since remediation was started in October 2000. This decline in total chlorinated ethenes is attributed to a reduction in the total amount of contamination present within the semi-confined till area and to partial bioremediation of the contamination that does dissolve into the groundwater, thereby leading to a reduction in the flux (concentration) of contamination that is flowing past MW-39 and MW-9.
- The Mann-Kendall trend analysis (Appendix I) results for the three lower plume monitoring wells that were evaluated indicate that the total chlorinated ethene molar concentrations all exhibit a decreasing trend. This includes MW-39, MW-9, and MW-6A.

6.1.4.3. Semi-Confined Water-Bearing Zones

Monitoring wells in the deeper till and predominant source area show extreme differences in groundwater geochemistry, contamination concentrations, and bioremediation progress. These differences are consistent with the interpretation that the semi-confined water-bearing zones are not a continuous permeable aquifer but rather a series of discontinuous water-bearing layers within the till, as discussed below.

- Chart G-1c shows that the total chlorinated ethene concentration in the semi-confined monitoring well MW-44 shows an overall declining trend. However, the total chlorinated ethene concentration in the other semi-confined monitoring wells (MW-48, MW-49, and MW-50) appears to be showing an increasing trend during the last couple of monitoring events.
- MW-44 monitoring results suggest that complete reductive dechlorination of PCE to ethene is predominant at this location (vinyl chloride + ethene percentage over 90% since 2009 with a couple of exceptions) (Chart G-9b). MW-44 is also the only semi-

confined water-bearing zone well to show a significant and consistent decrease in the total chlorinated ethene concentration with a value of 1.35 µMol/L in April 2014. A slight increase in the total chlorinated ethene concentration was observed in October 2016 with a value of 4.66 µMol/L. The overall declining trend is still intact as confirmed by the Mann-Kendall results.

- Monitoring wells MW-48, MW-49, MW-50, and MW-51 all have cis-1,2-DCE as their predominant form of total chlorinated ethenes at over 50% or in the case of MW-48 over 98%. As such complete reductive dechlorination of cis-1,2-DCE to ethene is not yet a dominant process at any of these wells.
- Correspondingly the total chlorinated ethene concentrations in monitoring wells MW-48, MW-49, MW-50, and MW-51 after showing an initial decline are all showing increasing levels over the last two or three monitoring events and are approaching there initial concentrations in MW-48, MW-49, and MW-50.
- Monitoring wells MW-52 is showing variable progress with regards to reductive dechlorination of chlorinated ethenes. The April 2014 and October 2016 results in MW-52 showed declining amounts of cis-1,2-DCE (less than 60%), and increasing amounts of vinyl chloride + ethene (over 90% in April 2014 before declining to approximately 50% in October 2016). During this time the total chlorinated ethene concentration showed a dramatic drop and has remained below a value of 1 µMol/L.
- The Mann-Kendall trend analysis results for the six semi-confined monitoring wells evaluated indicate that the total chlorinated ethene molar concentrations exhibit no trend at five locations that include MW-48, MW-49, MW-50, MW-51, and MW-52. The only decreasing trend was observed at monitoring wells MW-44.

Overall the River Terrace site is showing varying degrees of contaminant reduction through bioremediation via the reductive dechlorination process. Both the Upper Plume and Lower Plume areas are showing declining trends in the total chlorinated ethene concentrations as measured statistically using Mann-Kendall trend analysis. Both areas are showing early signs of a decline in the reductive dechlorination process as observed by decreasing vinyl chloride + ethene percentages and increasing cis-1,2-DCE percentages. This also corresponds to a slight increase in the total chlorinated ethene concentration at some monitoring well locations (i.e., MW-9).

Reductive dechlorination within the semi-confined water bearing till materials has varied considerably both spatially and temporally. Continuous and full reductive dechlorination has only been observed at MW-44; MW-44 is also the only semi-confined water-bearing zone well to show a significant and consistent decrease in the total chlorinated ethene concentration. Chart G-1c shows that the contamination levels in the remaining source area monitoring wells of the semi-confined aquifer are at least an order of magnitude higher than in the overlying unconfined aquifer contaminant plume. It also shows that the total chlorinated ethene concentrations in the semi-confined

monitoring wells vary widely between sampling events and that at least three of the wells MW-48, MW-49, and MW-50 have shown increasing trends during the last couple of monitoring events.

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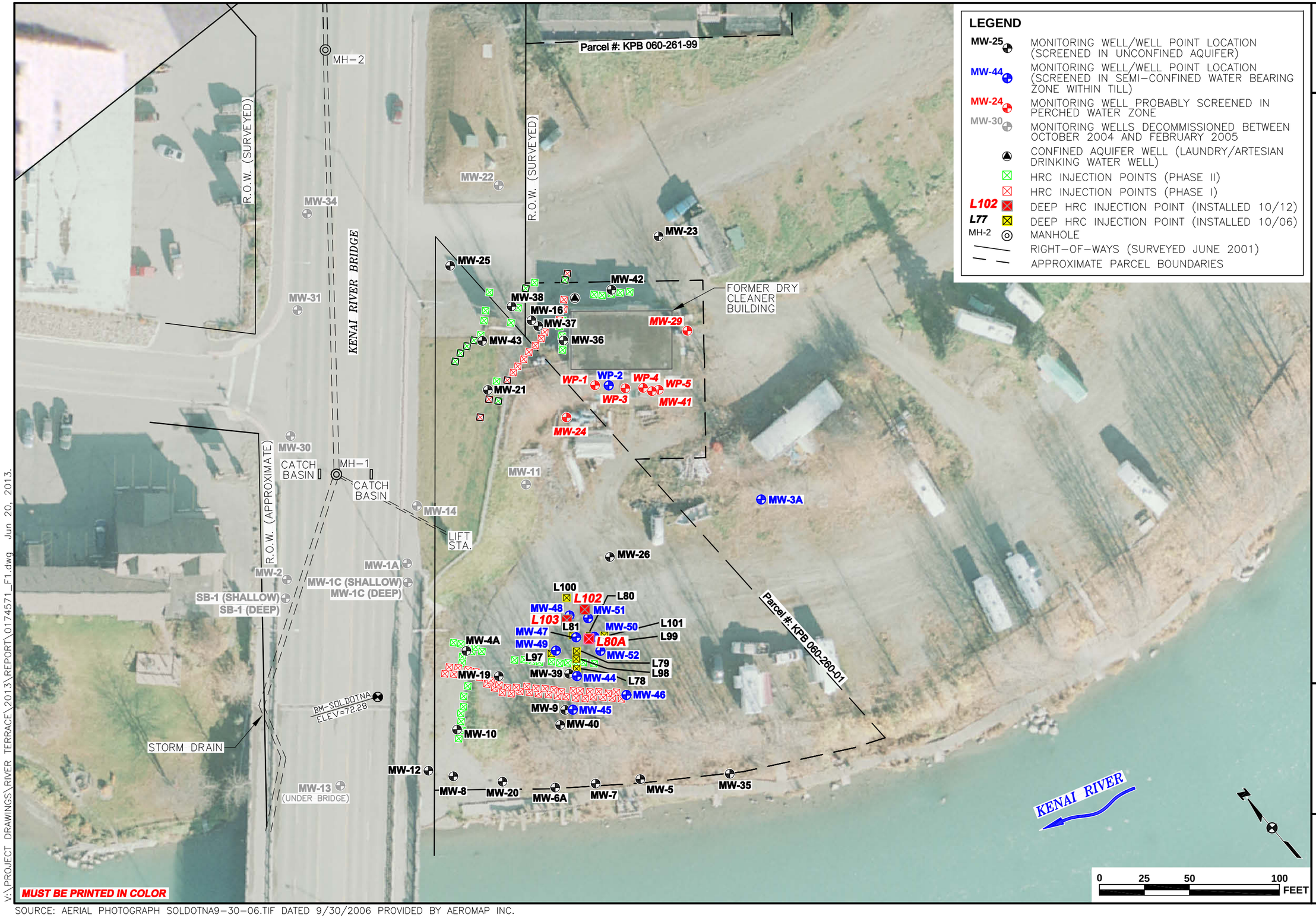
FIGURES



LEGEND

- MW-25 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN UNCONFINED AQUIFER)
- MW-44 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN SEMI-CONFINED WATER BEARING ZONE WITHIN TILL)
- MW-24 — MONITORING WELL PROBABLY SCREENED IN PERCHED WATER ZONE
- MW-30 — MONITORING WELLS DECOMMISSIONED BETWEEN OCTOBER 2004 AND FEBRUARY 2005
- CONFINED AQUIFER WELL (LAUNDRY/ARTESIAN DRINKING WATER WELL)
- HRC INJECTION POINTS (PHASE II)
- HRC INJECTION POINTS (PHASE I)
- L102 — DEEP HRC INJECTION POINT (INSTALLED 10/12)
- L77 — DEEP HRC INJECTION POINT (INSTALLED 10/06)
- MH-2 — MANHOLE
- RIGHT-OF-WAYS (SURVEYED JUNE 2001)
- APPROXIMATE PARCEL BOUNDARIES

FIGURE 1

SITE MAP

RIVER TERRACE RV PARK
Soldotna, Alaska

DATE: JUNE 2013
CHKD: T.M.
DRAWN: D.R.F.
PROJ. No.: 0174571

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

ERM

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SOURCE: AERIAL PHOTOGRAPH SOLDOTNA9-30-06.TIF DATED 9/30/2006 PROVIDED BY AEROMAP INC.

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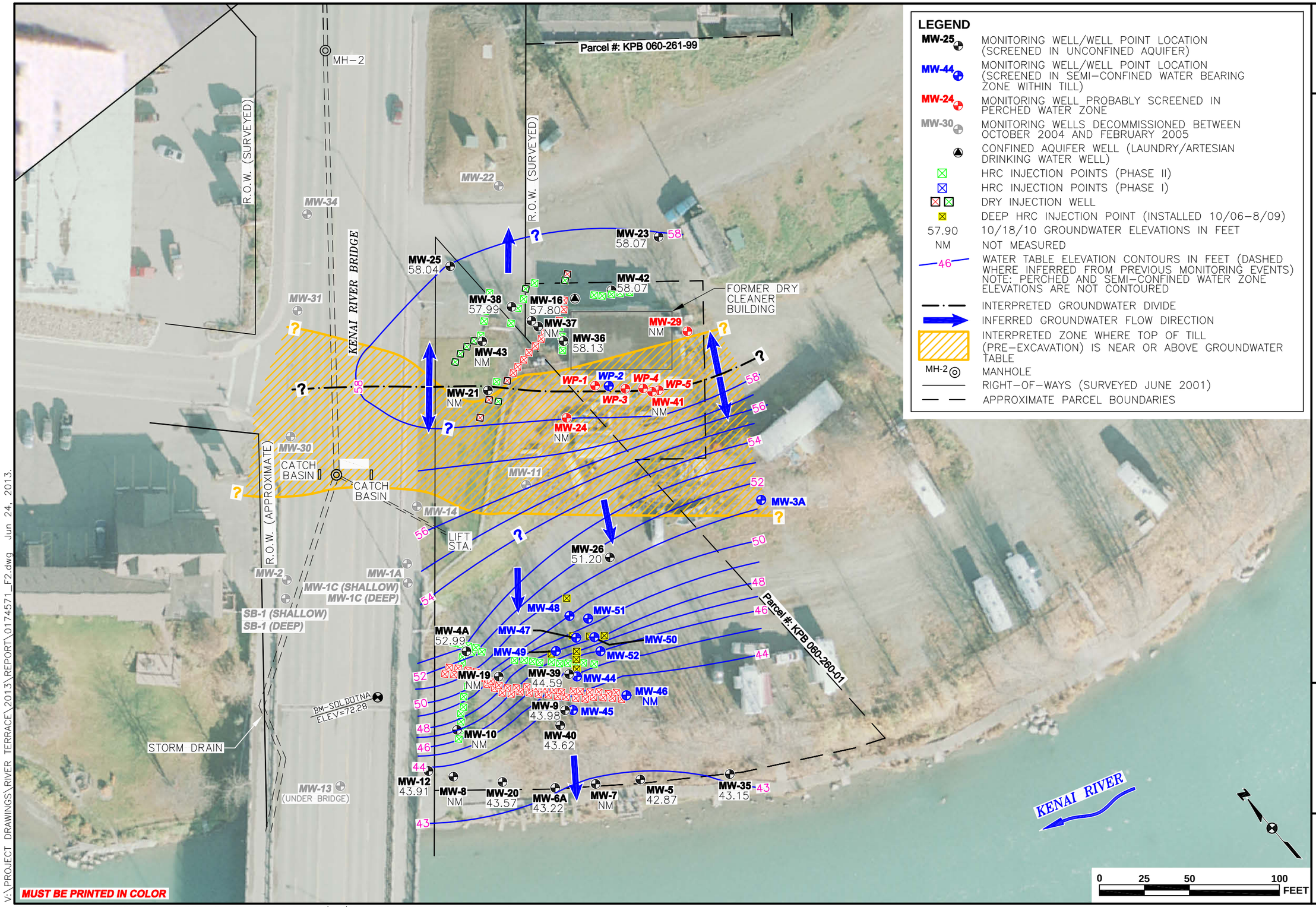

LEGEND

- MW-25 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN UNCONFINED AQUIFER)
- MW-44 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN SEMI-CONFINED WATER BEARING ZONE WITHIN TILL)
- MW-24 — MONITORING WELL PROBABLY SCREENED IN PERCHED WATER ZONE
- MW-30 — MONITORING WELLS DECOMMISSIONED BETWEEN OCTOBER 2004 AND FEBRUARY 2005
- CONFINED AQUIFER WELL (LAUNDRY/ARTESIAN DRINKING WATER WELL)
- HRC INJECTION POINTS (PHASE II)
- HRC INJECTION POINTS (PHASE I)
- DRY INJECTION WELL
- DEEP HRC INJECTION POINT (INSTALLED 10/06-8/09)
- 57.90 — 10/18/10 GROUNDWATER ELEVATIONS IN FEET
- NM — NOT MEASURED
- 46 — WATER TABLE ELEVATION CONTOURS IN FEET (DASHED WHERE INFERRED FROM PREVIOUS MONITORING EVENTS) NOTE: PERCHED AND SEMI-CONFINED WATER ZONE ELEVATIONS ARE NOT CONTOURED
- INTERPRETED GROUNDWATER DIVIDE
- INFERRED GROUNDWATER FLOW DIRECTION
- INTERPRETED ZONE WHERE TOP OF TILL (PRE-EXCAVATION) IS NEAR OR ABOVE GROUNDWATER TABLE
- MH-2 — MANHOLE
- RIGHT-OF-WAYS (SURVEYED JUNE 2001)
- APPROXIMATE PARCEL BOUNDARIES

FIGURE 2

APRIL, 2013 WATER TABLE CONTOURS

RIVER TERRACE RV PARK
2013 APRIL GROUNDWATER MONITORING REPORT
Soldotna, Alaska

DATE: JUNE 2013
CHKD: T.M.
DRAWN: D.R.F.
PROJ. No.: 0174571

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

ERM

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SOURCE: AERIAL PHOTOGRAPH SOLDOTNA9-30-06.TIF DATED 9/30/2006 PROVIDED BY AEROMAP INC.

NORTH

EXPLANATION

- MW-39 — MONITORING WELL LOCATIONS
- MW-52 — NEW MONITORING WELL LOCATIONS
- MW-14 — DECOMMISSIONED MONITORING WELLS
- SB-3A — SOIL BORING LOCATION
- L110 — NEW SOIL BORING LOCATION
- 235-EX-2150 7,300 (20') — APPROXIMATE SOIL SAMPLE LOCATIONS
  - DEPTH (FEET) BELOW GROUND SURFACE
  - PCE CONCENTRATION (ug/Kg)
- L78 — PREVIOUS MIP TEST LOCATIONS
- L93 — NEW MIP TEST LOCATION
- L2 — PERMANENT HRC INJECTION POINT
- L51 — CURRENT INJECTION ON EXISTING HRC POINT
- L99 — CURRENT HRC INJECTION POINT PHASE VI
- L86 — GEOPROBE HRC INJECTION LOCATIONS
- L104 — CURRENT GEOPROBE HRC INJECTION LOCATION
- MH-2 — MANHOLE
- CHLORINATED ETHENES CONCENTRATION >1,000 ug/kg
- CHLORINATED ETHENES CONCENTRATION >100,000 ug/kg

NOTE: ▲ SOIL SAMPLES TAKEN IN 1997 BY KENNARD ENVIRONMENTAL CONSULTANTS FROM EXCAVATION LIMITS.

APPROXIMATE SEWER LINE LOCATION

APPROXIMATE LOCATION OF FORMER 1997 EXCAVATION CONTOURS IN FEET BELOW GROUND SURFACE

CHLORINATED ETHENES CONCENTRATIONS >1,000 ug/kg

SECTION LINES A-A' THOROUGH (SEE FIGURES 4 THROUGH 7 OF THE PHASE VI HRC INJECTION REPORT [1/2010])

SECTION E-E' (SEE FIGURE 10 OF THIS REPORT)

MW-4A, MW-4, MW-10, MW-19, MW-9, MW-45, MW-40, MW-44, MW-39, MW-46, MW-47, MW-48, MW-49, MW-50, MW-51, MW-52, MW-26

SB-45, SB-2A/2B (APPROX), SB-3A/3B (APPROX), MH-1

225-EX-1708 18,900 (17')
188-EX-0903 10,800 (17')
231-EX-2101 12,200 (31.5')
237-EX-2155 15,500 (20')
235-EX-2150 7,300 (20')

FENCE, GATE

0 5 10
APPROX. SCALE IN FEET

FIGURE 3

SOURCE AREA CHARACTERIZATION

RIVER TERRACE RV PARK
GROUNDWATER MONITORING REPORT
2010 OCTOBER
Soldotna, Alaska

DATE: MARCH 2011
CHKD: J.H.P.
DRAWN: C.E.H.
PROJ. No.: 14-192

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

oasis ENVIRONMENTAL

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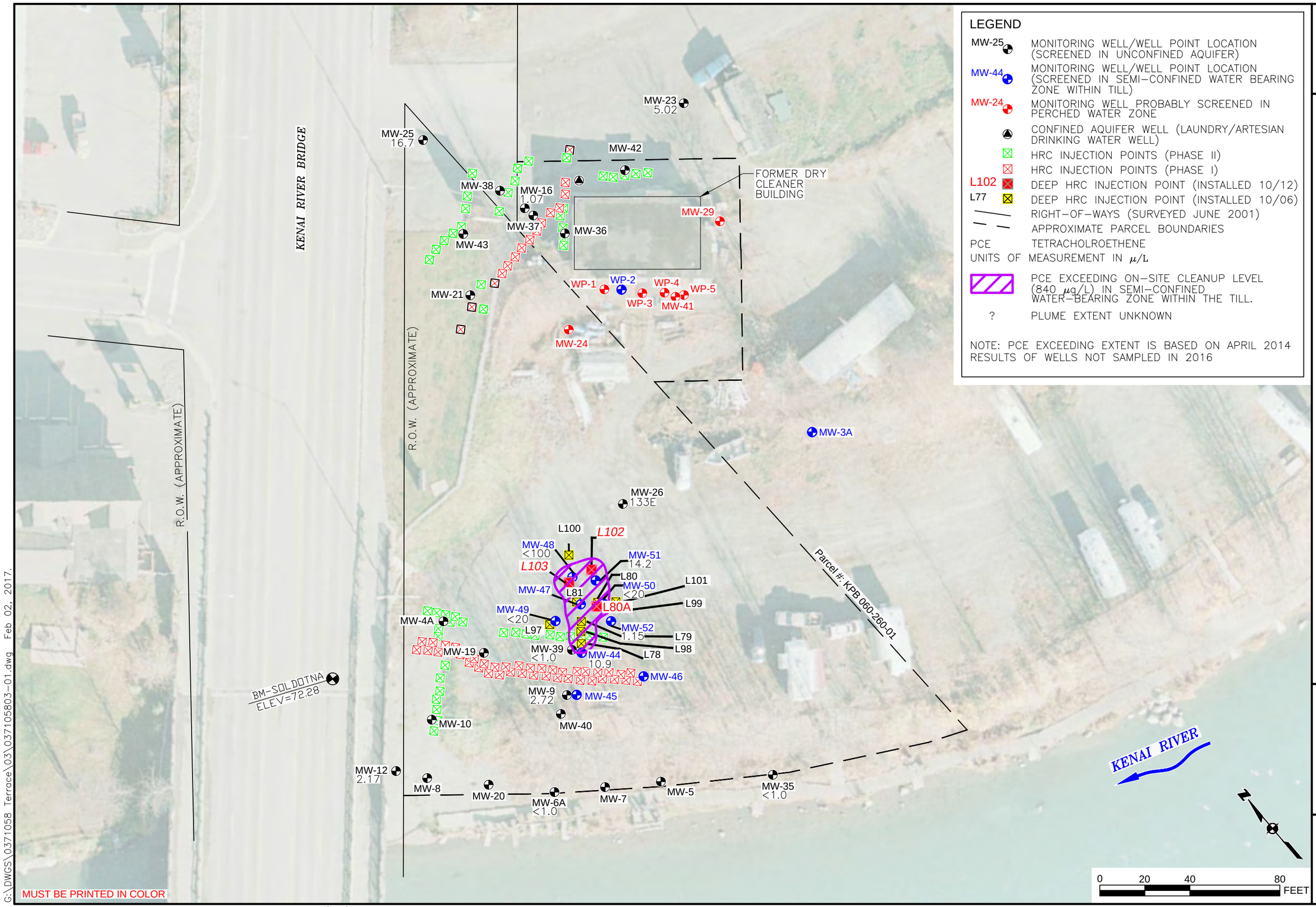

LEGEND

- MW-25 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN UNCONFINED AQUIFER)
- MW-44 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN SEMI-CONFINED WATER BEARING ZONE WITHIN TILL)
- MW-24 — MONITORING WELL PROBABLY SCREENED IN PERCHED WATER ZONE
- CONFINED AQUIFER WELL (LAUNDRY/ARTESIAN DRINKING WATER WELL)
- HRC INJECTION POINTS (PHASE II)
- HRC INJECTION POINTS (PHASE I)
- L102 — DEEP HRC INJECTION POINT (INSTALLED 10/12)
- L77 — DEEP HRC INJECTION POINT (INSTALLED 10/06)
- RIGHT-OF-WAYS (SURVEYED JUNE 2001)
- APPROXIMATE PARCEL BOUNDARIES
- PCE — TETRACHOLROETHENE
- UNITS OF MEASUREMENT IN μ/L
- PCE EXCEEDING ON-SITE CLEANUP LEVEL (840 $\mu g/L$) IN SEMI-CONFINED WATER-BEARING ZONE WITHIN THE TILL.
- ? — PLUME EXTENT UNKNOWN

NOTE: PCE EXCEEDING EXTENT IS BASED ON APRIL 2014 RESULTS OF WELLS NOT SAMPLED IN 2016

SOURCE: AERIAL PHOTOGRAPH SOLDOTNA9-30-06.TIF DATED 9/30/2006 PROVIDED BY AEROMAP INC.

FIGURE 4

PCE EXTENT AND CONCENTRATION MAP

RIVER TERRACE RV PARK
Soldotna, Alaska

DATE: MAY 2015
CHKD: T.M.
DRAWN: JSE
PROJ. No.: 0213930

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

ERM

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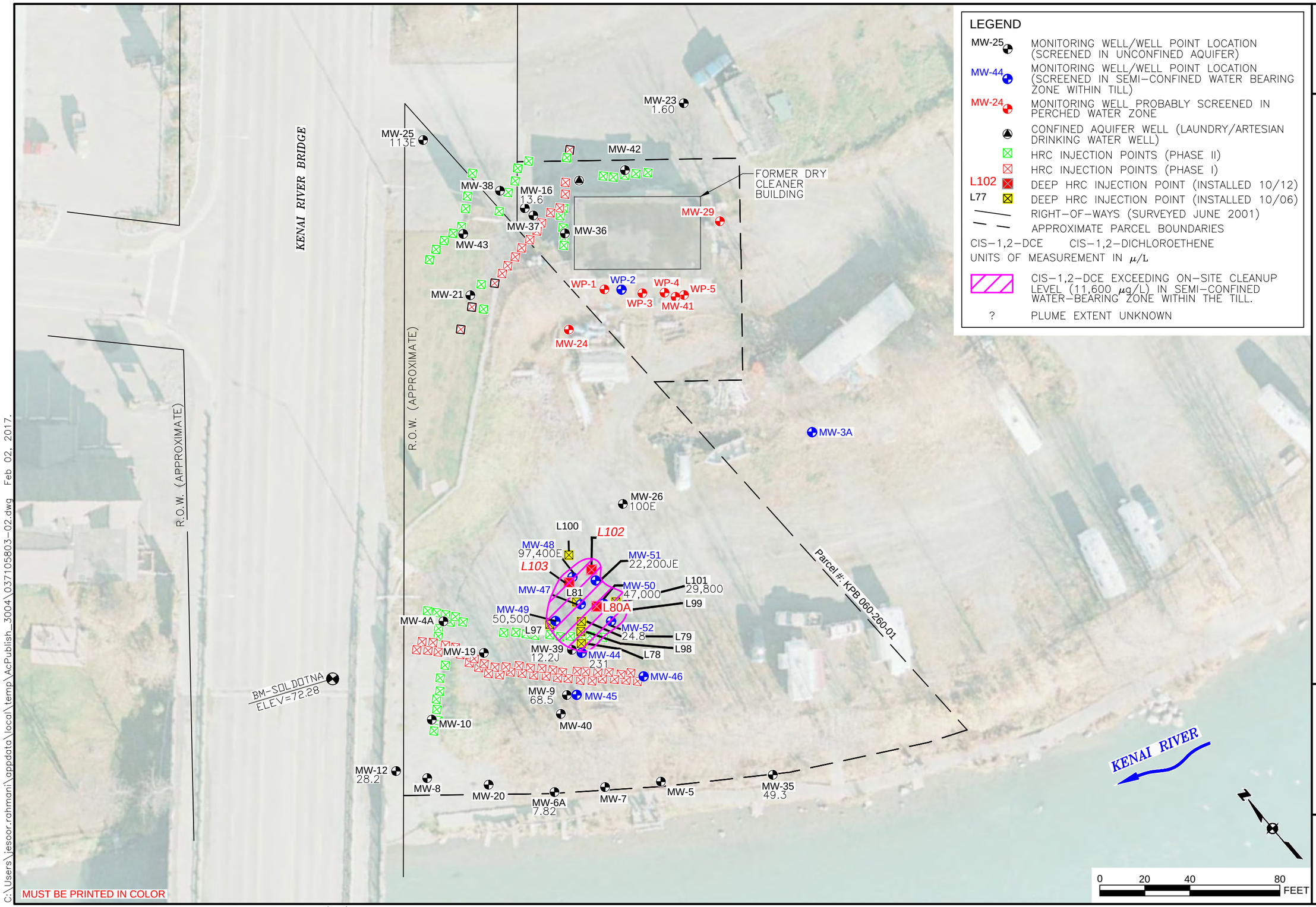

LEGEND

- MW-25 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN UNCONFINED AQUIFER)
- MW-44 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN SEMI-CONFINED WATER BEARING ZONE WITHIN TILL)
- MW-24 — MONITORING WELL PROBABLY SCREENED IN PERCHED WATER ZONE
- CONFINED AQUIFER WELL (LAUNDRY/ARTESIAN DRINKING WATER WELL)
- HRC INJECTION POINTS (PHASE II)
- HRC INJECTION POINTS (PHASE I)
- L102 — DEEP HRC INJECTION POINT (INSTALLED 10/12)
- L77 — DEEP HRC INJECTION POINT (INSTALLED 10/06)
- RIGHT-OF-WAYS (SURVEYED JUNE 2001)
- APPROXIMATE PARCEL BOUNDARIES

CIS-1,2-DCE CIS-1,2-DICHLOROETHENE

UNITS OF MEASUREMENT IN μ/L

- CIS-1,2-DCE EXCEEDING ON-SITE CLEANUP LEVEL (11,600 μg/L) IN SEMI-CONFINED WATER-BEARING ZONE WITHIN THE TILL.
- ? — PLUME EXTENT UNKNOWN

FIGURE 5

CIS-1,2-DCE EXTENT AND CONCENTRATION MAP

RIVER TERRACE RV PARK
Soldotna, Alaska

DATE: MAY 2015
CHKD: T.M.
DRAWN: JSE
PROJ. No.: 0213930

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

ERM

MUST BE PRINTED IN COLOR

SOURCE: AERIAL PHOTOGRAPH SOLDOTNA9-30-06.TIF DATED 9/30/2006 PROVIDED BY AEROMAP INC.

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VINYL CHLORIDE EXTENT AND CONCENTRATION MAP

RIVER TERRACE RV PARK
Soldotna, Alaska

FIGURE 6

LEGEND

- MW-25 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN UNCONFINED AQUIFER)
- MW-44 — MONITORING WELL/WELL POINT LOCATION (SCREENED IN SEMI-CONFINED WATER BEARING ZONE WITHIN TILL)
- MW-24 — MONITORING WELL PROBABLY SCREENED IN PERCHED WATER ZONE
- CONFINED AQUIFER WELL (LAUNDRY/ARTESIAN DRINKING WATER WELL)
- HRC INJECTION POINTS (PHASE II)
- HRC INJECTION POINTS (PHASE I)
- DEEP HRC INJECTION POINT (INSTALLED 10/12)
- L77 — DEEP HRC INJECTION POINT (INSTALLED 10/06)
- RIGHT-OF-WAYS (SURVEYED JUNE 2001)
- APPROXIMATE PARCEL BOUNDARIES

UNITS OF MEASUREMENT IN μ/L

- VINYL CHLORIDE EXCEEDING ON-SITE CLEANUP LEVEL (2 μg/L) IN SEMI-CONFINED WATER-BEARING ZONE WITHIN THE TILL.
- ? PLUME EXTENT UNKNOWN

UPPER PLUME VINYL CHLORIDE EXTENT INCLUDES APRIL 2014 WELL RESULTS AS SEVERAL WELLS WERE NOT SAMPLED IN 2016

KENAI RIVER BRIDGE

R.O.W. (APPROXIMATE)

R.O.W. (APPROXIMATE)

FORMER DRY CLEANER BUILDING

Parcel #: KPB 060-260-01

MW-23 <1.0
MW-25 12.3
MW-42
MW-38
MW-16 <1.0
MW-37
MW-36
MW-43
MW-29
MW-21
WP-1
WP-2
WP-3
WP-4
WP-5
MW-41
MW-24
MW-3A

MW-26 <1.0
L100
L102
MW-48 364
L103
MW-51 11,800E
L80
MW-50 15,800
L101
MW-47
L81
L80A
L99
MW-49 9,720
MW-4A
L97
MW-52 20.8
L79
MW-39 9.16J
MW-44 137
L78 1,280
L98
MW-46
MW-9 10.7
MW-45
MW-40
MW-10
MW-12 1.72
MW-8
MW-20
MW-6A 7.02
MW-7
MW-5
MW-35 2.58

BM-SOLDOTNA
ELEV=72.28

KENAI RIVER

0 20 40 80 FEET

DATE: MAY 2015
CHKD: T.M.
DRAWN: JSE
PROJ. No.: 0213930

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

ERM

MUST BE PRINTED IN COLOR

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APPENDIX A

Summary of Groundwater Analytical Data

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-1A	97RTGW502GW	Project Sample	7/18/1997	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-1A	97RTGW503GW	QC Duplicate	7/18/1997	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-1A	MW-1A	Project Sample	10/29/1997	<1	<1	<1	<1	<1	<1	<1
MW-1A	MW-1A	Project Sample	12/31/1997	<1	<1	<1	0.94 J	<1	<1	<1
MW-1A	MW-1A	Project Sample	6/29/1998	<1	<1	<1	<1	<1	<1	<1
MW-1A	MW-1B	QC Duplicate	6/29/1998	<1	<1	<1	<1	<1	<1	<1
MW-1A	MW-1A	Project Sample	10/20/1998	<1	<1	<1	<1	<1	<1	<1
MW-1A	99-RT-006-GW	Project Sample	7/8/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-1A	03-RT-057-GW	Project Sample	6/19/2003	<0.4	<1	<1	1.11	<1	4.3	25.9
MW-1A	03-RT-102-GW	Project Sample	10/7/2003	<0.4	<1	<1	<1	<1	<1	<1
MW-1A	04-RT-065-GW	Project Sample	10/22/2004	<0.4	<1	<1	<1	<1	<1	<1
MW-1C(deep)	97RTGW504GW	Project Sample	7/18/1997	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-1C(deep)	MW-1C	Project Sample	4/23/1998	<1	<1	<1	<1	<1	<1	<1
MW-1C(deep)	MW-1C	Project Sample	6/29/1998	<1	<1	<1	<1	<1	<1	<1
MW-1C(deep)	MW-1C	Project Sample	10/20/1998	<1	<1	<1	<1	<1	<1	<1
MW-1C(deep)	MW-1C	Project Sample	4/16/1999	<1	<1	<	<1	<1	<1	<1
MW-1C(deep)	99-RT-007-GW	Project Sample	7/8/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-1C(deep)	03-RT-104-GW	Project Sample	10/8/2003	0.41	<1	<1	<1	<1	<1	<1
MW-1C (shallow)	03-RT-058-GW	Project Sample	6/19/2003	<0.4	<1	<1	<1	<1	<1	3.2
MW-2	97RTGW505GW	Project Sample	7/18/1997	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-2	MW-2	Project Sample	10/28/1997	<1	<1	<1	<1	<1	<1	<1
MW-2	MW-2	Project Sample	4/23/1998	<1	<1	<1	<1	<1	<1	<1
MW-2	MW-2	Project Sample	6/29/1998	<1	<1	<1	<1	<1	<1	<1
MW-2	MW-2	Project Sample	10/19/1998	<1	<1	<1	<1	<1	<1	<1
MW-2	99-RT-009-GW	Project Sample	7/8/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-2	03-RT-059-GW	Project Sample	6/19/2003	<0.4	<1	<1	<1	<1	<1	2.06
MW-2	03-RT-106-GW	Project Sample	10/8/2003	<0.4	<1	<1	<1	<1	<1	<1
MW-3	97RTGW509GW	Project Sample	7/18/1997	<2 C,H	<2 C,H	<2 C,H	140 C,H	6 C,H	<2 C,H	6 C,H
MW-3A	MW-3A	Project Sample	8/2/1998	<1	<1	<1	<1	<1	<1	<1
MW-3A	MW-3A	Project Sample	10/19/1998	<1	<1	<1	<1	<1	<1	<1

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-3A	MW-3A	Project Sample	4/16/1999	<1	<1	<1	<1	<1	<1	<1
MW-3A	99-RT-004-GW	Project Sample	7/7/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-3A	99-RT-041-GW	Project Sample	10/26/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1
MW-3A	99-RT-088-GW	Project Sample	12/14/1999	<1	<1	<1	<1	<1	<1	1.3
MW-3A	00-RT-028-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	1.4
MW-3A	00-RT-029-GW	QC Duplicate	3/25/2000	<1	<1	<1 J	<1	<1	<1	1.1
MW-3A	00-RT-030-GW	QA Duplicate	3/25/2000	<1	<2	<1	<1	<1	<1	<1
MW-3A	00-RT-060-GW	Project Sample	6/8/2000	<1	<2	<1	<1	<1	<1	3.6
MW-3A	01-RT-111-GW	Project Sample	10/17/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
MW-3A	02-RT-072-GW	Project Sample	9/26/2002	<1	<1	<1	<1	<1	<1	<1
MW-3A	04-RT-067-GW	Project Sample	10/23/2004	<0.4	<1	<1	<1	<1	<1	<1
MW-4	97RTGW513GW	Project Sample	7/22/1997	<50 C	<50 C	<50 C	87 C	<50 C	<50 C	1500 C
MW-4A	MW-4A	Project Sample	8/1/1998	7.56	<1	3.31	2380	23.6	432	3540
MW-4A	MW-14A	QC Duplicate	10/20/1998	5	<1	1	2300 D5,J,H	43	310 D5,J,H	2500 D5,J,H
MW-4A	MW-4A	Project Sample	10/20/1998	5	<1	<1	2300 D5,J,H	39	300 D5,J,H	2400 D5,J,H
MW-4A	MW-24	QC Duplicate	12/29/1998	7	<1	4	2500 D	44	350 D	2900 D
MW-4A	MW-4A	Project Sample	12/29/1998	6	<1	<1	2400 D	39	330 D	3000 D
MW-4A	MW-4A	Project Sample	4/15/1999	2.93	<1	<1	1120	12.3	235	1410
MW-4A	MW-4A replicate	QA Duplicate	4/15/1999	---	<	<	1300	14	280	2400
MW-4A	MW-4Aduplicate	QC Duplicate	4/15/1999	2.97	<1	<1	1140	11.9	238	1330
MW-4A	MW-4Aresample	Project Sample	5/10/1999	3.74	<1	1.04	1880	19.6	327	2300
MW-4A	99-RT-021-GW	Project Sample	7/9/1999	<5	<5	<5	1400	26	380	1900
MW-4A	99-RT-065-GW	Project Sample	10/28/1999	3.2	0.53	1.1	1600 J,H	33	250 J,H	1600 J,H
MW-4A	99-RT-100-GW	Project Sample	12/14/1999	<2	<2	<2	1000	<2	150	1200
MW-4A	00-RT-007-GW	Project Sample	3/24/2000	<1	<1 J	<1	300 J,H	13	71	510 J,H
MW-4A	00-RT-048-GW	Project Sample	6/7/2000	1	<2	<1	630	10	91	410
MW-4A	00-RT-049-GW	QC Duplicate	6/7/2000	<10	<20	<10	850	<10	160	1000
MW-4A	00-RT-050-GW	QA Duplicate	6/7/2000	1.2	<0.5	0.55	780	22	160	900
MW-4A	00-RT-119-GW	Project Sample	9/28/2000	<1	<2	<1	690 VJ	9.7	190	490
MW-4A	01-RT-017-GW	Project Sample	1/10/2001	<20	<20	<20	600	<20	140	530
MW-4A	01-RT-018-GW	QC Duplicate	1/10/2001	<20	<20	<20	600	<20	140	530
MW-4A	01-RT-019-GW	QA Split	1/10/2001	---	<10	---	856	10	188	799
MW-4A	01-RT-047-GW	Project Sample	3/22/2001	<2	<2	<2	649	33.6	114	969
MW-4A	01-RT-080-GW	Project Sample	6/25/2001	<2	<2	<2	638	8.43	102	623

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-4A	01-RT-097-GW	Project Sample	10/15/2001	---	<10	---	1310	<10	15.1	27.2
MW-4A	01-RT-098-GW	QC Duplicate	10/15/2001	---	<10	---	1270	<10	16.6	27.1
MW-4A	01-RT-099-GW	QA Split	10/15/2001	20 J,H	<10 J,H	<10 J,H	1370 J	<10 J,H	16.7 J,H	31 J,H
MW-4A	01-RT-139-GW	Project Sample	1/15/2002	---	<10	---	2290	16.6	68.9	54.6
MW-4A	02-RT-012-GW	Project Sample	3/13/2002	4.15	<2	4.31	3100	24	114	44.8
MW-4A	02-RT-048-GW	Project Sample	6/19/2002	<2 J	<2 J	<2 J	1180 J	9.32 J	59.4 J	38.3 J
MW-4A	02-RT-065-GW	Project Sample	9/27/2002	<1	<1	1.3	1300	10	180	100
MW-4A	02-RT-115-GW	Project Sample	12/19/2002	0.55	<1	<1	658	11.5	110	342
MW-4A	03-RT-015-GW	Project Sample	3/11/2003	<0.4	<1	<1	271	3.44	47.8	61.2
MW-4A	03-RT-034-GW	Project Sample	6/17/2003	---	<5	---	617	7.8	57.4	45
MW-4A	03RT-080-GW	Project Sample	9/18/2003	---	<5	---	950	8.2	139	116
MW-4A	04-RT-004-GW	Project Sample	1/20/2004	---	<1	---	1320	11.8	95.7	110
MW-4A	04-RT-015-GW	Project Sample	3/31/2004	---	<1	---	625	5.4	28.2	24.3
MW-4A	04-RT-030-GW	QC Duplicate	6/8/2004	---	<5	---	854	6.8	<5	<5
MW-4A	04-RT-036-GW	Project Sample	6/8/2004	---	<5	---	808	6.4	<5	<5
MW-4A	04-RT-051-GW	Project Sample	10/29/2004	---	1	---	798	7.1	22.3	8.1
MW-4A	05-RT-005-GW	Project Sample	2/23/2005	---	1.2	---	970	9	4.8 VJ	<1
MW-4A	05-RT-011-GW	QC Duplicate	2/23/2005	---	<5	---	979	7.3	21.8 VJ	<5
MW-4A	05-RT-012-GW	QA Split	2/23/2005	0.4	1.55	<1	879	9.81	7.63 VJ	<1
MW-4A	05-RT-019-GW	QA Duplicate	2/23/2005	0.53	1.58	<1	906	8.93	21.6 VJ	2.76
MW-4A	05-RT-048-GW	Project Sample	10/11/2005	---	<10	---	274 VM	<10	<10	<10
MW-4A	06-RT-011-GW	Project Sample	5/25/2006	---	2.1	---	395	4.8	2	<1
MW-4A	06-RT-044-GW	Project Sample	9/12/2006	<0.5	<0.5	<0.5	200	1.9	48	28
MW-4A	07-RT-027-GW	Project Sample	9/18/2007	---	<1	---	151	1.5	2.7	22.9
MW-4A	08-RT-016-GW	Project Sample	5/13/2008	<0.4	0.84	<1	98	1.63	50	41.2
MW-4A	08-RT-030-GW	Project Sample	9/17/2008	0.23	3.25 VJ	<1	312	2.92	25.5 VM	4.14
MW-4A	09-RT-084-GW	Project Sample	10/7/2009	<0.12	5.28	<0.31	243	3.32	3.78	7.9 VJ
MW-4A	10-RT-103-GW	Project Sample	10/21/2010	<0.12	4.17	<0.31	253	2.18	3.35	6.04
MW-4A	12-RT-020-GW	QA Split	5/9/2012	---	<1	---	21.6	<1	5.9	16.9
MW-4A	12-RT-027-GW	Project Sample	5/9/2012	<0.12 VH	0.61 VH	<0.31 VH	23.7 VH	0.41 VH	7.15 VH	15 VH
MW-4A	12-RT-041-GW	QC Duplicate	5/9/2012	<0.12	0.55	<0.31	18.1	<0.31	3.96 VJ	14.8
MW-4A	13-RT-032-GW	QC Duplicate	4/10/2013	<0.24	<0.62	<0.62	9.16 VR	<0.62	<0.62	2.1
MW-4A	13-RT-036-GW	Project Sample	4/10/2013	<0.24	<0.62	<0.62	<0.62	<0.62	<0.62	1.68
MW-5	97RTGW510GW	Project Sample	7/22/1997	<5 C,H	<5 C,H	<5 C,H	330 C,H	<5 C,H	26 C,H	18 C
MW-5	MW-5	Project Sample	10/28/1997	<1	<1	<1	74	1.11	3.8	4.15

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-5	MW-5	Project Sample	12/31/1997	<1	<1	<1	137	1.22	8.05	9.15
MW-5	MW-5	Project Sample	6/30/1998	<1	<1	<1	69.3	<1	6.48	10.4
MW-5	MW-5	Project Sample	12/28/1998	<1	<1	<1	73	2	5	18
MW-5	MW-5	Project Sample	4/15/1999	<1	<1	<1	58.9	<1	4.35	10.9
MW-5	99-RT-023-GW	Project Sample	7/10/1999	<0.5	<0.5	<0.5	120	4.2	14	31
MW-5	99-RT-102-GW	Project Sample	12/15/1999	<1	<1	<1	110	3.2	7.5	28
MW-5	00-RT-054-GW	Project Sample	6/7/2000	<1	<2	<1	37	<1	2.3	4.1 J
MW-5	00-RT-121-GW	Project Sample	9/29/2000	<1	<2	<1	100	<1	2.1	2.3
MW-5	01-RT-119-GW	Project Sample	10/18/2001	<2 J	<2 J	<2 J	84.3 J	<2 J	2.31 J	4.26 J
MW-5	02-RT-073-GW	Project Sample	9/26/2002	<2	<1	<2	210	<2	5	12
MW-5	03-RT-115-GW	Project Sample	10/8/2003	<0.4	<1	<1	290	<1	4.68	14.2
MW-5	04-RT-068-GW	Project Sample	10/23/2004	<0.4	2.2	<1	289	<1	3.1	4.06
MW-5	05-RT-056-GW	Project Sample	10/13/2005	<0.4	3.73	<1	205	<1	2.15	2.92
MW-5	06-RT-045-GW	Project Sample	9/13/2006	<0.5	0.68	<0.5	72	0.68	3.5	0.95
MW-5	07-RT-028-GW	Project Sample	9/20/2007	---	3.9 VH	---	57.7 VH	<1 VH	2.8 VH	2.8 VH
MW-5	08-RT-050-GW	Project Sample	9/20/2008	<0.4	<1	<1	22.4	<1	1.99	1.52
MW-5	13-RT-007-GW	Project Sample	4/10/2013	<0.24	<0.62	<0.62	9.64	<0.62	0.7	1.1
MW-6	97RTGW512GW	Project Sample	7/22/1997	<50 C	<50 C	<50 C	3400 C	<50 C	970 C	1900 C
MW-6	MW-15	QC Duplicate	10/28/1997	5.17	3.68	1.91	1400	34.4	246	198
MW-6	MW-6	Project Sample	10/28/1997	5.8	4.5	2.2	2500	36	450	380
MW-6	MW-15	QC Duplicate	12/31/1997	<10	<10	<10	851	19	303	179
MW-6	MW-6	Project Sample	12/31/1997	5.61	3.07	1.46	1820	22.5	305	183
MW-6	MW-15	QC Duplicate	4/23/1998	4.9	2.04	<1	792	20.1	250	165
MW-6	MW-6	Project Sample	4/23/1998	4.86	2.13	<1	792	20	238	139
MW-6	MW-6	Project Sample	6/29/1998	<1	<1	<1	536	14.8	195	87.5
MW-6	MW-6	Project Sample	10/21/1998	3	1	1	1700 D5,J,H	24	150	69
MW-6	MW-6	Project Sample	12/28/1998	2	2	1	1500 D	19	140	110
MW-6	MW-6	Project Sample	4/15/1999	3.37	2.85	1.62	1410	14.2	123	135
MW-6	99-RT-013-GW	Project Sample	7/8/1999	<25	3 J,H	<25	1200	<25	210	180
MW-6	99-RT-014-GW	QC Duplicate	7/8/1999	<25	<25	<25	1200	<25	210	190
MW-6	99-RT-015-GW	QA Duplicate	7/8/1999	<100	<200	<100	1700	<100	270	240
MW-6	99-RT-045-GW	Project Sample	10/26/1999	4	3.7	2.3	2200	22	400	980
MW-6	99-RT-104-GW	Project Sample	12/15/1999	<2	<2	<2	950	<10	180	560
MW-6	00-RT-035-GW	Project Sample	3/25/2000	2	1.5	<1 J	1300 J,H	22	180	660 J,H
MW-6	00-RT-045-GW	Project Sample	6/7/2000	1.8	<2	<1	930	9.7	180	330

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July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-6	00-RT-109-GW	Project Sample	9/27/2000	---	2.2	---	865	11.8	71.3	70.3
MW-6	00-RT-130-GW	Project Sample	11/28/2000	---	<5	---	2230	27.4	7.7	<5
MW-6	00-RT-131-GW	QC Duplicate	11/28/2000	---	<5	---	2440	24.9	7.8	<5
MW-6	00-RT-139-GW	QA Duplicate	11/28/2000	3	2 VJ	1.9	1900	14	4.1	2.5
MW-6	01-RT-001-GW	Project Sample	1/11/2001	---	3.1 VJ	---	1720	16.9	<10	14.9
MW-6	01-RT-030-GW	Project Sample	3/8/2001	---	<10	---	1330	13.9	<10	<10
MW-6	01-RT-031-GW	QC Duplicate	3/8/2001	---	<10	---	1280	14	<10	<10
MW-6	01-RT-039-GW	QA Split	3/8/2001	2.5 VJ	2.3 VJ	1.1 VJ	1100 VJ	15 VJ	0.83 VJ	1.3 VJ
MW-6	01-RT-076-GW	Project Sample	5/22/2001	---	<10	---	1390	12.1	<10	<10
MW-6	01-RT-089-GW	Project Sample	10/16/2001	---	<10	---	1710	<10	<10	<10
MW-6	01-RT-128-GW	Project Sample	1/15/2002	---	<10	---	1600	18.2	<10	<10
MW-6	02-RT-002-GW	Project Sample	3/13/2002	2.7	4.83	2.29	1770	15.8	2.33	<2
MW-6	02-RT-040-GW	Project Sample	6/19/2002	0.486 J	1.24 J	0.519 J	2010 J	3.89 J	<0.4 J	<0.4 J
MW-6	02-RT-061-GW	Project Sample	9/27/2002	2.7	6	2.3	2200	19	<1	<1
MW-6	02-RT-116-GW	Project Sample	12/18/2002	2.62	7.32	3.12	2280	25.3	<1	<1
MW-6	03-RT-004-GW	Project Sample	2/4/2003	---	<20	---	2750	22.6	<20	<20
MW-6	03-RT-016-GW	Project Sample	3/11/2003	3.33	15.5	3.9	2870	43.3	<1	<1
MW-6	03-RT-017-GW	QC Duplicate	3/11/2003	3.5	17	3.98	3030	36	<1	<1
MW-6	03-RT-018-GW	QA Split	3/11/2003	---	13.6	---	2940	30	<10	<10
MW-6	03-RT-032b-GW	Project Sample	6/17/2003	---	<25	---	1930	<25	<25	<25
MW-6	03RT-085-GW	Project Sample	9/19/2003	---	16.5	---	2230	24.4	<10	18.5
MW-6	04-RT-010-GW	Project Sample	1/20/2004	---	98.8	---	2740	28.6	<20	<20
MW-6	04-RT-021-GW	Project Sample	3/29/2004	---	148	---	2640	35.2	<1	<1
MW-6	04-RT-025-GW	Project Sample	6/7/2004	---	77.8	---	1440	15.7	<5	<5
MW-6	04-RT-052-GW	Project Sample	10/30/2004	---	439	---	1270	27.1	<1	<1
MW-6	05-RT-006-GW	Project Sample	2/24/2005	---	209	---	174	10.7	<1	<1
MW-6	05-RT-020-GW	Project Sample	6/2/2005	---	204	---	212	<1	<1	<1
MW-6	05-RT-049-GW	Project Sample	10/11/2005	---	25.4	---	58.4 VM	<5	<5	<5
MW-6	06-RT-012-GW	Project Sample	5/25/2006	---	98.8	---	68.9	3.6	<1	<1
MW-6	06-RT-019-GW	QA Split	5/25/2006	1.05	102	<1	62.1	3.04	<1	<1
MW-6	06-RT-033-GW	Project Sample	9/11/2006	---	16.6	---	32	2.9	<1	<1
MW-6	07-RT-004-GW	Project Sample	5/30/2007	---	12.9	---	10.1	3.3	<1	<1
MW-6	07-RT-031-GW	Project Sample	9/19/2007	---	9.2	---	20	2.6	1.3	<1
MW-6	08-RT-018-GW	Project Sample	5/13/2008	0.28	26.1	<1	22.1	3.72	0.32	<1
MW-6	08-RT-022-GW	QC Duplicate	5/13/2008	0.39	31.1	<1	24	3.78	0.37	<1
MW-6	08-RT-041-GW	QA Split	9/19/2008	---	5.5 VJ	---	8	1.9	<1	<1

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-6	08-RT-051-GW	Project Sample	9/19/2008	0.95	8.89	<1	9.7	2.35	0.52	<1
MW-6	08-RT-066-GW	QC Duplicate	9/19/2008	0.83	8.36	<1	8.74	2.29	0.46	<1
MW-6	09-RT-005-GW	Project Sample	5/6/2009	1.38	9.64	<1	8.63	2.46	0.32	<1
MW-6	09-RT-065-GW	Project Sample	10/7/2009	1.11	7.72	<0.31	6.27	2.18	<0.31	<0.31
MW-6	09-RT-099-GW	QC Duplicate	10/7/2009	1.19	8.02	<0.31	7.9	2.16	<0.31	<0.31
MW-6	10-RT-040-GW	Project Sample	5/13/2010	0.61	59.2 VJ	<0.31	39.9	4.27	0.59	<0.31
MW-6	10-RT-084-GW	Project Sample	10/20/2010	1.06	14	<0.31	9.89	4.27	0.67	0.41
MW-6	12-RT-004-GW	Project Sample	5/8/2012	0.39	14.9	<0.31	26.3	3.83	7.68	1.07
MW-6	13-RT-022-GW	Project Sample	4/11/2013	0.62	4.87	<0.62	13.3	3.9	3.11	3.17
MW-6	13-RT-033-GW	QC Duplicate	4/11/2013	0.54	4.09	<0.62	9.84	3.33	3.37	2.68
MW-6	14-RT-004-GW	Project Sample	4/24/2014	0.89	2.19	<0.5	9.61	5.21	<0.5	<0.5
MW-6	16-RT-006-GW	Project Sample	10/27/2016	0.85	7.02	<0.31	7.82	4.99	<0.31	<0.31
MW-7	97RTGW511GW	Project Sample	7/22/1997	<50 C	<50 C	<50 C	1700 C	<50 C	550 C	760 C
MW-7	MW-7	Project Sample	10/28/1997	1.9	1.2	1.11	693	11.1	350	770
MW-7	MW-7	Project Sample	12/31/1997	0.84 J	<1	<1	700	7.84	119	231
MW-7	MW-7	Project Sample	4/23/1998	1.82	<1	<1	591	10.9	132	169
MW-7	MW-7	Project Sample	6/30/1998	<1	<1	<1	625	<1	103	153
MW-7	MW-7	Project Sample	10/21/1998	2	<1	<1	1100 D5,J,H	15	73	230 D5,J,H
MW-7	MW-7	Project Sample	12/28/1998	1	<1	<1	820 D	10	62	120
MW-7	MW-7	Project Sample	4/16/1999	1.52	1.27	<1	869	6.6	51.7	166
MW-7	99-RT-016-GW	Project Sample	7/8/1999	<25	1 J,H	<25	630	<25	38	140
MW-7	99-RT-017-GW	QC Duplicate	7/8/1999	<25	<25	<25	600	<25	36	130
MW-7	99-RT-018-GW	QA Duplicate	7/8/1999	<25	<50	<25	900	<25	51	180
MW-7	99-RT-046-GW	Project Sample	10/26/1999	2.1	1.8	1.1	1100	11	90	440
MW-7	99-RT-103-GW	Project Sample	12/15/1999	<2	<2	<2	480	4.1	44	260
MW-7	00-RT-036-GW	Project Sample	3/25/2000	<1	<1	<1 J	670 J,H	14	57	450 J,H
MW-7	00-RT-046-GW	Project Sample	6/7/2000	<1	<2	<1	470	4.2	35	250
MW-7	00-RT-120-GW	Project Sample	9/28/2000	<1	<2	<1	430 VJ	3.9	18	88
MW-7	01-RT-016-GW	Project Sample	1/11/2001	1.3 J,H	2.3 H	1.2 J,H	390	8.5 H	2.5 H	6.2 H
MW-7	01-RT-056-GW	QA Split	3/7/2001	---	<5	---	364	5.4	<5	<5
MW-7	01-RT-055-GW	Project Sample	3/22/2001	<2	<2	<2	417	10.5	<2	1.49
MW-7	01-RT-088-GW	Project Sample	6/25/2001	<2	<2	<2	413	4.93	<2	<2
MW-7	01-RT-123-GW	Project Sample	10/18/2001	<4 J	<4 J	<4 J	613 J	6.41 J	<4 J	<4 J
MW-7	01-RT-144-GW	Project Sample	1/16/2002	<10 J	<10 J	<10 J	440 J	8.66 J	<10 J	4.34 J
MW-7	01-RT-145-GW	QC Duplicate	1/16/2002	<10 J	<10 J	<10 J	441 J	7.28 J	<10 J	4.56 J

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-7	01-RT-146-GW	QA Split	1/16/2002	---	<5 J,H	---	413 J,H	<5 J,H	<5 J,H	<5 J,H
MW-7	02-RT-011-GW	Project Sample	3/14/2002	<2	2.02	<2	644	6.35	<2	<2
MW-7	02-RT-053-GW	Project Sample	6/19/2002	<2 J	3.47 J	<2 J	1240 J	8.76 J	<2 J	<2 J
MW-7	02-RT-074-GW	Project Sample	9/26/2002	1.3	3.8	1.1	830	7.3	<1	<1
MW-7	02-RT-117-GW	Project Sample	12/18/2002	1.25	2.73	1.35	822	6.7	1.41	<1
MW-7	02-RT-118-GW	QA Split	12/18/2002	---	3.6	---	807	8.1	1.7	<1
MW-7	03-RT-019-GW	Project Sample	3/11/2003	2.06	6.33	1.4	1290	11.5	<1	<1
MW-7	03-RT-046-GW	Project Sample	6/18/2003	1.77	5.51	1.3	893	8.47	<1	<1
MW-7	03-RT-047-GW	QC Duplicate	6/18/2003	1.76	5.06	1.37	948	8.52	<1	<1
MW-7	03-RT-048-GW	QA Split	6/18/2003	---	<10	---	911	10.2	<10	<10
MW-7	03-RT-120-GW	Project Sample	10/9/2003	0.86	5.02	<1	972	5.83 J	<1	<1
MW-7	04-RT-037-GW	Project Sample	6/7/2004	2.61 VJ	108	1.1	1320	15.8	<1	<1
MW-7	04-RT-069-GW	Project Sample	10/23/2004	1.98	193	1.68	1140	10.7	1.03	<1
MW-7	05-RT-036-GW	Project Sample	6/2/2005	1.71	77.7	<1	367	6.74	<1	<1
MW-7	05-RT-057-GW	Project Sample	10/12/2005	1.77	76.7	<1	193	5.93	<1	<1
MW-7	06-RT-020-GW	Project Sample	5/25/2006	0.93	53.5	1.25	101	2.54	37	<1
MW-7	06-RT-028-GW	QC Duplicate	5/25/2006	0.99	62.8	1.36	99.3	2.66	36.7	<1
MW-7	06-RT-032-GW	Project Sample	9/11/2006	---	45	---	80.9	3.5	<1	<1
MW-7	07-RT-029-GW	Project Sample	9/19/2007	---	5.3	---	3.7	2	<1	<1
MW-7	08-RT-052-GW	Project Sample	9/19/2008	1.2	7.05	<1	10.1	3.03	<1	<1
MW-7	09-RT-086-GW	Project Sample	10/8/2009	1.23	3.87	<0.31	12.3	1.85	0.54	<0.31
MW-7	10-RT-105-GW	Project Sample	10/21/2010	1.3	9.22	<0.31	11.9	2.33	0.69	<0.31
MW-7	12-RT-029-GW	Project Sample	5/10/2012	0.84 VJ	8.51 VJ	<0.31	21.4 VJ	3.69 VJ	24.9 VJ	4.67
MW-8	MW-8	Project Sample	8/2/1998	1.58	<1	<1	675	4.56	175	523
MW-8	MW-8	Project Sample	10/21/1998	3	<1	1	1900 D5,J,H	21	350 D5,J,H	960 D5,J,H
MW-8	MW-8	Project Sample	12/28/1998	2	<1	<1	1500 D	19	290 D	720 D
MW-8	MW-8	Project Sample	4/15/1999	1.05	<1	<1	1010	3.84	140	257
MW-8	99-RT-024-GW	Project Sample	7/10/1999	<2	<2	<2	850	6.4	210	330
MW-8	99-RT-062-GW	Project Sample	10/27/1999	0.6	<0.5	<0.5	650 J,H	3.7	76	150 J,H
MW-8	99-RT-105-GW	Project Sample	12/15/1999	<2	<2	<2	700	5.5	110	250
MW-8	00-RT-033-GW	Project Sample	3/25/2000	<1	<1	<1 J	870 J,H	16	130	270 J,H
MW-8	00-RT-052-GW	Project Sample	6/7/2000	<10	<20	<10	970	<10	150	300
MW-8	00-RT-117-GW	Project Sample	9/28/2000	<1	<2	<1	940 VJ	6.5	170	230
MW-8	01-RT-014-GW	Project Sample	1/10/2001	1.7 J,H	3.7 H	1.8 J,H	1300	18 J	7.9 H	9.5 H
MW-8	01-RT-051-GW	Project Sample	3/22/2001	<2	<2	<2	772	25.7	<2	<2

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-8	01-RT-084-GW	Project Sample	6/25/2001	<2	<2	<2	832	4.76	<2	2.39
MW-8	01-RT-124-GW	Project Sample	10/18/2001	<4 J	<4 J	<4 J	1290 J	8.76 J	20.2 J	<4 J
MW-8	01-RT-147-GW	Project Sample	1/16/2002	<2 J,H	1.71 J,H	<2 J,H	1150 J	5 J,H	32.2 J	8.45 J,H
MW-8	02-RT-003-GW	Project Sample	3/13/2002	<2	3.47	2.05	1500	12.6	62.9	17.4
MW-8	02-RT-054-GW	Project Sample	6/19/2002	<2 J	<2 J	<2 J	717 J	5.01 J	29.2 J	13.3 J
MW-8	02-RT-075-GW	Project Sample	9/26/2002	<1	1.3	<1	580	3.9	9.8	5.8
MW-8	02-RT-119-GW	Project Sample	12/18/2002	0.64	<1	<1	658	4.86	7.16	5.04
MW-8	03-RT-020-GW	Project Sample	3/11/2003	0.73	2.51	<1	746	4.56	1.78	1.25
MW-8	03-RT-045-GW	Project Sample	6/18/2003	<0.4	1.18	<1	338	2.86	<1	<1
MW-8	03-RT-117-GW	Project Sample	10/8/2003	<0.4	1.11	<1	259	1.75 J	<1	<1
MW-8	04-RT-038-GW	Project Sample	6/7/2004	0.74 VJ	<1	<1	196 VR	1.57	<1	<1
MW-8	04-RT-070-GW	Project Sample	10/23/2004	<0.4	<1	<1	208	1.38	<1	<1
MW-8	05-RT-013-GW	Project Sample	2/22/2005	<0.4	<1	<1	168	1.86	<1	<1
MW-8	05-RT-058-GW	Project Sample	10/12/2005	<0.4	<1	<1	209	1.63	<1	<1
MW-8	06-RT-021-GW	Project Sample	5/25/2006	<0.4	4.04	<1	327	2.8	<1	<1
MW-8	06-RT-046-GW	Project Sample	9/13/2006	<0.5	1.2	<0.5	140	1.3	1.2	2.6
MW-8	07-RT-030-GW	Project Sample	9/19/2007	---	1	---	94.9	<1	<1	3.2
MW-8	08-RT-053-GW	Project Sample	9/19/2008	<0.4	1.77	<1	100	1.25	1.31	1.75
MW-8	09-RT-087-GW	Project Sample	10/8/2009	<0.12	3.55	<0.31	94.3	1.04	1.87	2.56 VJ
MW-8	10-RT-106-GW	Project Sample	10/21/2010	<0.12	6.66	<0.31	88.4	0.99	1.86	0.86
MW-8	12-RT-030-GW	Project Sample	5/10/2012	<0.12	1.7 VJ	<0.31	16.1 VJ	0.33	0.79	<0.31
MW-9	MW-9	Project Sample	8/1/1998	3.31	1.72	<1	1080	15.6	148	199
MW-9	MW-9	Project Sample	10/20/1998	3	1	2	2000 D5,J,H	14	180	260 D5,J,H
MW-9	MW-9	Project Sample	12/28/1998	6	6	4	3600 D	39	520 D	680 D
MW-9	MW-9	Project Sample	4/15/1999	4.48	2.49	1.65	1270	9.1	199	910
MW-9	99-RT-020-GW	Project Sample	7/9/1999	4.2	3	<2	1500	11	220	690
MW-9	99-RT-060-GW	Project Sample	10/27/1999	4.1	2.6	1.6	1400 J,H	13	140 J,H	940 J,H
MW-9	99-RT-099-GW	Project Sample	12/14/1999	5.5	<2	<2	1300	12	290	1800
MW-9	00-RT-006-GW	Project Sample	3/24/2000	5.1	2.3 J	1.8	1600 J,H	17	250 J,H	1400 J,H
MW-9	00-RT-051-GW	Project Sample	6/7/2000	<10	<20	<10	1000	<10	230	1200
MW-9	00-RT-107-GW	Project Sample	9/27/2000	---	2.8	---	1140	7	345	2320
MW-9	00-RT-133-GW	Project Sample	11/28/2000	---	<5	---	2900	25.9	150	113
MW-9	01-RT-003-GW	Project Sample	1/11/2001	---	<10	---	2260	15.6	99.1	95.3
MW-9	01-RT-004-GW	QC Duplicate	1/11/2001	---	<10	---	2130	15.2	92.1	90.6
MW-9	01-RT-010-GW	QA Split	1/11/2001	<50	<50	<50	1600	<50	<50	<50

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-9	01-RT-033-GW	Project Sample	3/8/2001	---	<25	---	1570	<25	103	86.2
MW-9	01-RT-067-GW	QA Duplicate	5/22/2001	2.1	2.6	1.45	1260	8.19	5.02	22.6
MW-9	01-RT-068-GW	Project Sample	5/22/2001	---	<10	---	1580	13.5	<10	24.5
MW-9	01-RT-069-GW	QC Duplicate	5/22/2001	---	<10	---	1910	15.5	<10	29.9
MW-9	01-RT-091-GW	Project Sample	10/16/2001	---	<10	---	2050	<10	58.9	63.2
MW-9	01-RT-129-GW	Project Sample	1/15/2002	---	<10	---	2210	21.7	125	129
MW-9	02-RT-001-GW	Project Sample	3/13/2002	5.72	8.19	5.41	3280	20.8	326	588
MW-9	02-RT-041-GW	Project Sample	6/19/2002	3.54 J	9.51 J	3.24 J	2830 J	<200 J	<200 J	<200 J
MW-9	02-RT-062-GW	Project Sample	9/27/2002	3.3	7.1	2.7	2300	18	68	190
MW-9	02-RT-102-GW	Project Sample	12/18/2002	---	42.5	---	2670	30.2	7.9	21.9
MW-9	03-RT-001-GW	Project Sample	2/4/2003	---	30	---	3030	18.4 J	<20	17 J
MW-9	03-RT-007-GW	Project Sample	3/10/2003	---	66.2	---	3460	28.1	13.2	27.8
MW-9	03-RT-036-GW	Project Sample	6/17/2003	---	171	---	2540	37.8	<20	40.8
MW-9	03RT-083-GW	Project Sample	9/19/2003	---	306	---	3150	38.3	<10	62.3
MW-9	03-RT-095-GW	Project Sample	10/8/2003	---	450	---	2980	28.3	<5	37.8
MW-9	04-RT-007-GW	Project Sample	1/21/2004	---	434	---	1460	34.8	4	160
MW-9	04-RT-011-GW	QC Duplicate	1/21/2004	---	441	---	1460	30.5	<10	139
MW-9	04-RT-018-GW	Project Sample	3/31/2004	---	413	---	2490	46.6	3.5	21.1
MW-9	04-RT-027-GW	Project Sample	6/8/2004	---	436	---	1260	24.8	<20	35.2
MW-9	04-RT-054-GW	Project Sample	10/29/2004	---	358	---	1600	40.6	<1	4.7
MW-9	04-RT-062-GW	QC Duplicate	10/29/2004	---	372	---	2070	38.6	10.3	15.9
MW-9	05-RT-008-GW	Project Sample	2/24/2005	---	176	---	844	<5	<5	<5
MW-9	05-RT-022-GW	Project Sample	6/2/2005	---	135	---	410	<1	<1	<1
MW-9	05-RT-025-GW	QC Duplicate	6/2/2005	---	140	---	361	<1	<1	<1
MW-9	05-RT-026-GW	QA Split	6/2/2005	3.18	103	<1	421	28.8 VJ	<1	<1
MW-9	05-RT-050-GW	Project Sample	10/11/2005	---	105	---	537 VM	18.9	<5	93.8
MW-9	05-RT-055-GW	QA Split	10/11/2005	2.54	113	<1	681	19.7	4.06	79.8
MW-9	06-RT-002-GW	Project Sample	3/8/2006	---	68.6	---	280	20	<1	<1
MW-9	06-RT-006-GW	QC Duplicate	3/8/2006	---	67.2	---	270	20.4	<1	<1
MW-9	06-RT-013-GW	Project Sample	5/25/2006	---	62.3	---	123	30.3	<1	<1
MW-9	06-RT-034-GW	Project Sample	9/11/2006	---	98.3	---	594	15.8	<5	<5
MW-9	07-RT-005-GW	Project Sample	5/30/2007	---	152	---	544	35.2	34.4	33
MW-9	07-RT-011-GW	QC Duplicate	5/30/2007	---	147	---	492	29.9	32.4	30.2
MW-9	07-RT-012-GW	QA Split	5/30/2007	3.38	97.9 VJ	<1	476 VH	23.7 VJ	33.7	38.5
MW-9	07-RT-032-GW	Project Sample	9/19/2007	---	85.5	---	536	16.7	<10	<10
MW-9	07-RT-041-GW	QC Duplicate	9/19/2007	---	108	---	529	21.2	9.2	8.3 VJ

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-9	07-RT-043-GW	QA Split	9/19/2007	0.73	88.4 VM	0.54	397 VM	11.9 VJ	8.23	5.29 VJ
MW-9	08-RT-005-GW	Project Sample	5/12/2008	---	84.2	---	408	18	27.3	24.4
MW-9	08-RT-014-GW	QC Duplicate	5/12/2008	---	80.4	---	453	17	26.6	24.7
MW-9	08-RT-015-GW	QA Split	5/12/2008	1.59	106	0.46	520	20.9	33.1	29.6
MW-9	08-RT-031-GW	Project Sample	9/16/2008	1.9	95	0.48	431	11.7	34.3 VM	39.1
MW-9	09-RT-007-GW	Project Sample	5/6/2009	2.52	47.1	0.48	240	15.7	16.7	13.8
MW-9	09-RT-014-GW	QA Split	5/6/2009	---	49.3	---	224	14.8	17	14.7
MW-9	09-RT-018-GW	QC Duplicate	5/6/2009	2.36	44.7	<1	259	14.6	15.2	15.2
MW-9	09-RT-066-GW	Project Sample	10/5/2009	2.07	38.7	<0.31	194	12.6	0.89	1.49 VJ
MW-9	09-RT-076-GW	QA Split	10/5/2009	---	25.4 VJ	---	149 VJ	9.3 VJ	<5	<5
MW-9	09-RT-097-GW	QC Duplicate	10/5/2009	2.19	38.2	<0.31	207	12.7	0.83	1.68 VJ
MW-9	10-RT-041-GW	Project Sample	5/11/2010	2.08	56.8 VJ	<0.31	202	15	0.68	1.12
MW-9	10-RT-058-GW	QA Split	5/11/2010	---	37.6 VJ	---	173	15.1	<1	1.2
MW-9	10-RT-066-GW	QC Duplicate	5/11/2010	2.11	52.7 VJ	<0.31	256	15.2	4.11 VR	29.6 VR
MW-9	10-RT-085-GW	Project Sample	10/20/2010	1.07	38.5	0.45	332	6.71	12.9	28.8
MW-9	12-RT-005-GW	Project Sample	5/8/2012	1.61	19.2	<0.31	19.7	10.1	0.72	0.91
MW-9	12-RT-018-GW	QC Duplicate	5/8/2012	1.58	18.7	<0.31	24.3	10.5	1	1.72
MW-9	13-RT-019-GW	Project Sample	4/9/2013	1.32	4.16	<0.62	17.2	6.25	<0.62	1.84
MW-9	14-RT-005-GW	Project Sample	4/23/2014	2.53	2.05	<0.5	7.47	8.52	<0.5	2.96
MW-9	16-RT-007-GW	Project Sample	10/27/2016	1.31	10.7	<0.31	68.5	6.36	<0.31	2.72
MW-10	MW-10	Project Sample	8/2/1998	1.19	<1	<1	275	<1	64	587
MW-10	MW-10D	QC Duplicate	8/2/1998	1.31	<1	<1	356	<1	95	958
MW-10	MW-10	Project Sample	10/21/1998	<1	<1	<1	510 D5,J,H	9	110	1200 D5,J,H
MW-10	MW-10	Project Sample	12/28/1998	<1	<1	<1	510 D	4	69	410 D
MW-10	MW-10	Project Sample	4/15/1999	<1	<1	<1	209	<1	21.3	18.2
MW-10	99-RT-022-GW	Project Sample	7/9/1999	1.3	0.7	<1	440	9.6	98	620
MW-10	99-RT-044-GW	Project Sample	10/26/1999	1	<0.5	<0.5	490	2.3	64	370
MW-10	99-RT-108-GW	Project Sample	12/15/1999	<2	<2	<2	470	3.4	85	970
MW-10	00-RT-032-GW	Project Sample	3/25/2000	1	<1	<1 J	590 J,H	22	88	420 J,H
MW-10	00-RT-053-GW	Project Sample	6/7/2000	<10	<20	<10	460	<10	82	610 J
MW-10	00-RT-118-GW	Project Sample	9/28/2000	1.1	<2	<1	460 VJ	<1	86	690
MW-10	01-RT-013-GW	Project Sample	1/10/2001	1.6 J,H	<2 H	1.3 J,H	780	4.9 H	24 H	31
MW-10	01-RT-050-GW	QA Split	3/7/2001	---	<10	---	1740	<10	13.9	<10
MW-10	01-RT-048-GW	Project Sample	3/22/2001	<2	<2	<2	1020	40.3	26.2	21.5
MW-10	01-RT-049-GW	QC Duplicate	3/22/2001	<2	<2	<2	974	25.3	21	12.5

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-10	01-RT-050-GW	QA Split	3/22/2001	---	<10	---	816	<10	20.1	12.2
MW-10	01-RT-081-GW	Project Sample	6/25/2001	<2	---	<2	801	2.46	11.7	17.6
MW-10	01-RT-100-GW	Project Sample	10/16/2001	---	<10	---	954	<10	116	95.5
MW-10	01-RT-140-GW	Project Sample	1/15/2002	---	<10	---	986	<10	135	144
MW-10	01-RT-141-GW	QC Duplicate	1/15/2002	---	<10	---	1110	<10	187	172
MW-10	01-RT-142-GW	QA Split	1/15/2002	1.5 J,H	2.22 J,H	1.16 J,H	858 J	<2 J,H	123 J	160 J
MW-10	02-RT-010-GW	Project Sample	3/13/2002	2.71	3.47	<2	994	5.89	127	180
MW-10	02-RT-051-GW	Project Sample	6/19/2002	<2 J	<2 J	<2 J	724 J	3.11 J	58.1 J	34.7 J
MW-10	02-RT-076-GW	Project Sample	9/26/2002	<1	<1	<1	330	1.2	15	20
MW-10	02-RT-120-GW	Project Sample	12/19/2002	<0.4	<1	<1	363	1.57	1.25	1.69
MW-10	03-RT-021-GW	Project Sample	3/11/2003	0.4	1.69	<1	489	2	<1	<1
MW-10	03-RT-044-GW	Project Sample	6/18/2003	0.54	1.9	<1	443	1.79	<1	1
MW-10	03-RT-118-GW	Project Sample	10/8/2003	<0.4	<1	<1	115	<1	1.74	9.42
MW-10	03-RT-119-GW	QC Duplicate	10/8/2003	<0.4	<1	<1	181	<1	1.54	7.72
MW-10	04-RT-005-GW	Project Sample	1/20/2004	---	3.3	---	820	15.1	2.2	1.6
MW-10	04-RT-016-GW	Project Sample	3/30/2004	---	1.3	---	286	<1	1.9	2.4
MW-10	04-RT-039-GW	Project Sample	6/8/2004	---	1	---	258	1.1	<1	<1
MW-10	04-RT-050-GW	Project Sample	10/29/2004	---	<5	---	258	<5	<5	<5
MW-10	05-RT-004-GW	Project Sample	2/24/2005	---	<5	---	269	<5	<5	<5
MW-10	05-RT-033-GW	Project Sample	6/2/2005	<0.4	1.59	<1	359	<1	<1	<1
MW-10	05-RT-047-GW	Project Sample	10/11/2005	---	<1	---	159 VM	<1	<1	<1
MW-10	06-RT-010-GW	Project Sample	5/25/2006	---	1.8	---	339	1.2	<1	<1
MW-10	06-RT-043-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	11	<0.5	2.6	9.9
MW-10	07-RT-037-GW	Project Sample	9/18/2007	---	<1	---	19.5	<1	<1	8.2
MW-10	08-RT-054-GW	Project Sample	9/19/2008	<0.4	<1	<1	1.18	<1	<1	10.5
MW-10	09-RT-088-GW	Project Sample	10/7/2009	<0.12	<0.31	<0.31	1.67	<0.31	0.36	7.2
MW-10	10-RT-107-GW	Project Sample	10/21/2010	<0.12	<0.31	<0.31	10.1	<0.31	0.85	6.69
MW-10	12-RT-031-GW	Project Sample	5/10/2012	<0.12	<0.31	<0.31	3.81 VJ	<0.31	0.42	9.23
MW-11	MW-11	Project Sample	12/29/1998	<1	<1	<1	<1	<1	<1	1
MW-11	MW-11	Project Sample	4/15/1999	<1	<1	<1	<1	<1	<1	23.7
MW-11	99-RT-005-GW	Project Sample	7/7/1999	<0.5	<0.5	<0.5	0.7	<0.5	1.4	26
MW-11	99-RT-042-GW	Project Sample	10/26/1999	<0.5	<0.5	<0.5	<0.5	<0.5	1.9	46
MW-11	99-RT-092-GW	Project Sample	12/14/1999	<1	<1	<1	<1	<1	<1	34
MW-11	00-RT-005-GW	Project Sample	3/24/2000	<1	<1 J	<1	<1	<1	2.8	44
MW-11	00-RT-058-GW	Project Sample	6/8/2000	<1	<2	<1	<1	<1	5	48

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-11	01-RT-112-GW	Project Sample	10/18/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	3.05 J	34.6 J
MW-11	02-RT-077-GW	Project Sample	9/26/2002	<1	<1	<1	16	<1	4.6	46
MW-11	04-RT-071-GW	Project Sample	10/23/2004	<0.4	<1	<1	31.7	<1	24	110
MW-12	MW-12	Project Sample	10/29/1998	<50	<100	<50	1500	<50	170	100
MW-12	MW-12	Project Sample	12/28/1998	<1	<1	<1	1100 D	9	89	110
MW-12	MW-12	Project Sample	4/15/1999	<1	<1	<1	575	1.92	99.2	78.9
MW-12	99-RT-025-GW	Project Sample	7/10/1999	<2	<2	<2	770	7.5	180	140
MW-12	99-RT-047-GW	Project Sample	10/26/1999	0.5	<0.5	<0.5	850	8.4	120	110
MW-12	99-RT-107-GW	Project Sample	12/15/1999	<2	<2	<2	460	3.6	79	98
MW-12	00-RT-034-GW	Project Sample	3/25/2000	<1	<1	<1 J	980 J,H	24	130	80
MW-12	00-RT-056-GW	Project Sample	6/8/2000	<10	<20	<10	480	<10	83	100 J
MW-12	00-RT-115-GW	Project Sample	9/28/2000	<1	<2	<1	750 VJ	<1	140	95
MW-12	00-RT-116-GW	QC Duplicate	9/28/2000	<1	<2	<1	780 VJ	<1	120	93
MW-12	00-RT-128-GW	QA Split	9/28/2000	<1	<1	<1	692	3.78	96.8 VJ	64.3 VJ
MW-12	01-RT-120-GW	Project Sample	10/18/2001	<4 J	<4 J	<4 J	489 J	<4 J	<4 J	<4 J
MW-12	01-RT-121-GW	QC Duplicate	10/18/2001	<4 J	<4 J	<4 J	531 J	<4 J	<4 J	<4 J
MW-12	01-RT-122-GW	QA Split	10/18/2001	---	<10	---	442	<10	<10	<10
MW-12	01-RT-143-GW	Project Sample	1/16/2002	<2 J	<2 J	<2 J	95 J	0.78 J	4.32 J	5.26 J
MW-12	02-RT-007-GW	Project Sample	3/13/2002	<1	<1	<1	71.4	<1	3.91	5.95
MW-12	02-RT-052-GW	Project Sample	6/19/2002	<2 J	<2 J	<2 J	298 J	<2 J	<2 J	<2 J
MW-12	02-RT-078-GW	Project Sample	9/26/2002	<1	<1	<1	550	2.3	2.3	<1
MW-12	02-RT-122-GW	QA Split	12/18/2002	---	<1	---	197	1.9	5.4	<1
MW-12	02-RT-121-GW	Project Sample	12/19/2002	<0.4	<1	<1	244	1.71	4.48	<1
MW-12	03-RT-022-GW	Project Sample	3/11/2003	<0.4	<1	<1	217	1.74	3.8	<1
MW-12	03-RT-049-GW	Project Sample	6/18/2003	<0.4	<1	<1	273 H	1.42	<1	<1
MW-12	03-RT-110-GW	Project Sample	10/8/2003	<0.4	<1	<1	248	<1	5.2	<4
MW-12	04-RT-032-GW	Project Sample	6/8/2004	<0.4	<1	<1	189	1.17	<1	<1
MW-12	04-RT-072-GW	Project Sample	10/23/2004	<0.4	<1	<1	246	1.53	1.7	<1
MW-12	05-RT-014-GW	Project Sample	2/22/2005	<0.4	<1	<1	220	1.96	<1	<1
MW-12	05-RT-059-GW	Project Sample	10/12/2005	<0.4	<1	<1	262	1.96	2.81	<1
MW-12	07-RT-038-GW	Project Sample	9/19/2007	---	<1	---	<1	<1	<1	5.2
MW-12	08-RT-055-GW	Project Sample	9/19/2008	<0.4	<1	<1	2.7	<1	<1	4.19
MW-12	09-RT-089-GW	Project Sample	10/7/2009	<0.12	<0.31	<0.31	82.4	<0.31	3.65 VJ	3 VJ
MW-12	10-RT-108-GW	Project Sample	10/21/2010	<0.12	2.01	<0.31	84	0.9	3.23	2.95
MW-12	12-RT-032-GW	Project Sample	5/10/2012	<0.12	0.56	<0.31	18.6 VJ	<0.31	1.31 VJ	4.16

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-12	13-RT-008-GW	Project Sample	4/9/2013	<0.24	3.09	<0.62	54.2	<0.62	1.99	1.62
MW-12	14-RT-026-GW	Project Sample	4/24/2014	<0.2	1.72	<0.5	28.2	0.36	1.91	2.17
MW-13	MW-13	Project Sample	10/29/1998	<1	<2	<1	<1	<1	1.2	2.1
MW-13	MW-13	Project Sample	12/29/1998	<1	<1	<1	<1	<1	<1	18
MW-13	MW-13	Project Sample	4/15/1999	<1	<1	<1	8.63	<1	1.98	50.8
MW-13	99-RT-008-GW	Project Sample	7/8/1999	<1	<1	<1	13	<1	1.9	66
MW-13	99-RT-049-GW	Project Sample	10/26/1999	<0.5	<0.5	<0.5	44	<0.5	5.9	77
MW-13	99-RT-106-GW	Project Sample	12/15/1999	<1	<1	<1	14	<1	3.9	90
MW-13	00-RT-014-GW	Project Sample	3/24/2000	<1	<1	<1 J	86	4.4	13	140
MW-13	00-RT-057-GW	Project Sample	6/8/2000	<10	<20	<10	74	<10	12	130 J
MW-13	01-RT-012-GW	Project Sample	1/11/2001	<2	<2	<2	83	<2	18	120
MW-13	01-RT-046-GW	Project Sample	3/22/2001	<1	<1	<1	44.9	<1	7.61	54.7
MW-13	01-RT-083-GW	Project Sample	6/25/2001	<2	<2	<2	39.9	<2	6.05	63.2
MW-13	01-RT-125-GW	Project Sample	10/17/2001	<1.4 J	<2 J	<2 J	57 J	<2 J	10.4 J	77.3 J
MW-13	01-RT-148-GW	Project Sample	1/17/2002	<1 J	<1 J	<1 J	26.1 J	<1 J	6.29 J	46.9 J
MW-13	02-RT-008-GW	Project Sample	3/13/2002	<1	<1	<1	52.5	<1	10.5	74.1
MW-13	02-RT-055-GW	Project Sample	6/19/2002	<1 J	<1 J	<1 J	46.1 J	<1 J	9.2 J	40.4 J
MW-13	02-RT-079-GW	Project Sample	9/26/2002	<1	<1	<1	24	<1	5.2	34
MW-13	02-RT-123-GW	Project Sample	12/19/2002	<0.4	<1	<1	42.9	<1	6.83	39.6
MW-13	03-RT-023-GW	Project Sample	3/11/2003	<0.4	<1	<1	28	<1	4.82	30.7
MW-13	03-RT-050-GW	Project Sample	6/19/2003	<0.4	<1	<1	12.8	<1	3.84	22.4
MW-13	03-RT-109-GW	Project Sample	10/8/2003	<0.4	<1	<1	20.3	<1	4.79	37.1
MW-13	04-RT-040-GW	Project Sample	6/8/2004	<0.4	<1	<1	16.4	<1	3.74	26.8
MW-13	04-RT-073-GW	Project Sample	10/23/2004	<0.4	<1	<1	15.7	<1	4.38	20.5
MW-13	05-RT-015-GW	Project Sample	2/22/2005	<0.4	<1	<1	20.7	<1	4.47	22.2
MW-14	MW-14	Project Sample	10/29/1998	<2	<4	<2	13	<2	13	88
MW-14	MW-14duplicate	QC Duplicate	10/29/1998	<2	<4	<2	13	<2	13	87
MW-14	MW-14	Project Sample	12/29/1998	<1	<1	<1	2	<1	2	21
MW-14	MW-14	Project Sample	4/16/1999	<1	<1	<1	1.05	<1	1.23	12.3
MW-14	99-RT-003-GW	Project Sample	7/7/1999	<1	<1	<1	9.2	<1	7.1	50
MW-14	99-RT-064-GW	Project Sample	10/28/1999	<0.5	<0.5	<0.5	5.6	<0.5	5.4	48
MW-14	99-RT-095-GW	Project Sample	12/14/1999	<1	<1	<1	2.6	<1	2.2	29
MW-14	00-RT-010-GW	Project Sample	3/24/2000	<1	<1	<1 J	1.2	<1	1	12
MW-14	00-RT-064-GW	Project Sample	6/9/2000	<1	<2	<1	1.1	<1	1.6	19

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-14	00-RT-065-GW	QC Duplicate	6/9/2000	<1	<2	<1	1.9	<1	1.6	20
MW-14	00-RT-066-GW	QA Duplicate	6/9/2000	<0.5	<0.5	<0.5	2.8	<0.5	2.4	24
MW-14	00-RT-124-GW	Project Sample	9/29/2000	<1	<2	<1	<1	<1	1.5	19
MW-14	01-RT-024-GW	Project Sample	1/10/2001	<2	<2	<2	2 VJ	<2	<2	21
MW-14	01-RT-040-GW	Project Sample	3/22/2001	<1	<1	<1	1.75	<1	2.32	23.1
MW-14	01-RT-079-GW	Project Sample	6/25/2001	<1	<1	<1	1.92	<1	1.63	17.7
MW-14	01-RT-108-GW	Project Sample	10/17/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
MW-14	02-RT-091-GW	Project Sample	9/27/2002	<1	<1	<1	5.1	<1	2.8	21
MW-14	03-RT-101-GW	Project Sample	10/7/2003	<0.4	<1	<1	2.23	<1	<1	9.44
MW-15	99-RT-002-GW	Project Sample	7/7/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-15	99-RT-039-GW	Project Sample	10/26/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-15	00-RT-008-GW	Project Sample	3/24/2000	<1	<1 J	<1	<1	<1	<1	<1
MW-16	99-RT-001-GW	Project Sample	7/7/1999	<25	<25	<25	<25	<25	36	1000
MW-16	99-RT-031-GW	Project Sample	9/2/1999	<20	<20	<20	24	<20	92	5500
MW-16	99-RT-053-GW	Project Sample	10/27/1999	0.7	<0.5	<0.5	9.3	0.7	37	2500
MW-16	99-RT-054-GW	QC Duplicate	10/27/1999	0.6	<0.5	<0.5	9.5	0.7	35	2200
MW-16	99-RT-093-GW	Project Sample	12/14/1999	<1	<1	<1	11	<1	53	2400
MW-16	99-RT-094-GW	QC Duplicate	12/14/1999	<1	<1	<1	11	<1	49	2700
MW-16	00-RT-012-GW	Project Sample	3/24/2000	1.2	<1 J	<1	41	1.5	99	3400 J,H
MW-16	00-RT-040-GW	Project Sample	6/7/2000	<1	<2	<1	8.5	<1	37	1300
MW-16	00-RT-101-GW	Project Sample	9/27/2000	---	<1	---	17.6	<1	73.7	2450
MW-16	00-RT-136-GW	Project Sample	11/28/2000	---	<5	---	113	<5	968	3110
MW-16	01-RT-008-GW	Project Sample	1/11/2001	---	<10	---	578	10.8	889	60.7
MW-16	01-RT-037-GW	Project Sample	3/8/2001	---	<5	---	1210	10.2	46	17.8
MW-16	01-RT-071-GW	Project Sample	5/22/2001	---	<10	---	2700	31.7	121	25.2
MW-16	01-RT-095-GW	Project Sample	10/16/2001	---	<5 J,H	---	476 J,H	<5 J,H	6 J,H	<5 J,H
MW-16	01-RT-135-GW	Project Sample	1/16/2002	---	<2 J,H	---	306 J,H	2.2 J,H	<2 J,H	3.9 J,H
MW-16	02-RT-014-GW	Project Sample	3/13/2002	<2	<2	<2	383	2.78	2.58	2.48
MW-16	02-RT-044-GW	Project Sample	6/18/2002	<2 J	<2 J	2.87 J	2410 J	15.7 J	25.3 J	12.8 J
MW-16	02-RT-067-GW	Project Sample	9/27/2002	1.2	1.1	1.6	1200	7	8.2	8.2
MW-16	02-RT-109-GW	Project Sample	12/19/2002	0.83	<1	1.22	864	<1	28.2	17.1
MW-16	03-RT-011-GW	Project Sample	3/10/2003	---	<10	---	681	<10	21.7	16.1
MW-16	03-RT-041-GW	Project Sample	6/18/2003	---	<10	---	635	<10	<10	<10
MW-16	03RT-078-GW	Project Sample	9/18/2003	---	<5	---	352	<5	<5	<5

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-16	04-RT-002-GW	Project Sample	1/21/2004	---	1	---	380	3.7	1.3	2
MW-16	04-RT-013-GW	Project Sample	3/31/2004	---	1.9	---	557	5.6	<1	2.2
MW-16	04-RT-024-GW	Project Sample	6/8/2004	---	<5	---	844	5.6	<5	<5
MW-16	04-RT-048-GW	Project Sample	10/30/2004	---	2.9	---	1040	7.9	<1	2.4
MW-16	04-RT-064-GW	QA Split	10/30/2004	1.06	2.11	<1	1080	5.17	5.36	16.5
MW-16	05-RT-028-GW	Project Sample	6/3/2005	0.86	<2	<2	920	4.28	<2	<2
MW-16	05-RT-045-GW	Project Sample	10/12/2005	---	1.7	---	509 VM	4.1	1.6	1
MW-16	06-RT-008-GW	Project Sample	5/24/2006	---	36.6	---	115	5.5	<1	<1
MW-16	06-RT-030-GW	Project Sample	9/12/2006	---	22.8	---	271	<5	<5	30.6
MW-16	07-RT-002-GW	Project Sample	5/29/2007	---	78.9	---	422	5.8	8	9.8
MW-16	07-RT-022-GW	Project Sample	9/20/2007	---	37.8 VH	---	158 VH	2.6 VH	9.8 VH	12.6 VH
MW-16	08-RT-002-GW	Project Sample	5/13/2008	---	11.2	---	58.8	1.4	7.6	14.5
MW-16	08-RT-043-GW	Project Sample	9/19/2008	0.31	21.7 VJ	<1	61.5	1.91	3.74	4.36
MW-16	08-RT-065-GW	QC Duplicate	9/19/2008	0.41	20.3	<1	58.7	1.84	4.59	5.19
MW-16	09-RT-002-GW	Project Sample	5/5/2009	1.04	16.7	<1	35.9	3.15	1.92	1.04
MW-16	09-RT-079-GW	Project Sample	10/8/2009	0.68	7.62	<0.31	22.6	1.54	7.52 VB	2.35
MW-16	10-RT-050-GW	Project Sample	5/14/2010	0.59	6.1 VJ	<0.31	960	1.26	13.3	10.1
MW-16	10-RT-081-GW	Project Sample	10/21/2010	1	10.7	<0.31	18.6	2.13	11.5	9.99
MW-16	10-RT-099-GW	QA Split	10/21/2010	---	8.1	---	18.7	2.2	12.2	9.7
MW-16	12-RT-002-GW	Project Sample	5/9/2012	<0.12 VH	3.73 VH	<0.31 VH	13.8 VH	0.42 VH	7.76 VH	30.4 VH
MW-16	13-RT-015-GW	Project Sample	4/11/2013	0.88	35.3	<0.62	297 VJM	3.93	13.4	47.7
MW-16	13-RT-034-GW	QC Duplicate	4/11/2013	0.86	31.7	<0.62	153 VJM	3.67	13.4	48
MW-16	14-RT-002-GW	Project Sample	4/22/2014	0.35	8.03	<0.5	26.5	0.83	5.02	6.61
MW-16	16-RT-003-GW	Project Sample	10/27/2016	0.47	<0.31	<0.31	13.6	1.67	2.21	1.07
MW-17	99-RT-026-GW	Project Sample	7/10/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-17	99-RT-052-GW	Project Sample	10/27/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-17	00-RT-009-GW	Project Sample	3/24/2000	<1	<1 J	<1	<1	<1	<1	<1
MW-18	99-RT-027-GW	Project Sample	7/10/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-18	99-RT-048-GW	Project Sample	10/26/1999	<0.5	<0.5	<0.5	<0.5 J,H	<0.5	<0.5	<0.5
MW-18	00-RT-031-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	<1
MW-18	03-RT-105-GW	Project Sample	10/8/2003	<0.4	<1	<1	<1	<1	<0.1	<1
MW-19	99-RT-019-GW	Project Sample	7/9/1999	<2	<2	<2	1200	8.9	210	57
MW-19	99-RT-043-GW	Project Sample	10/26/1999	0.8	0.8	<0.5	650 J,H	7	100 J,H	54

Appendix A
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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-19	99-RT-098-GW	Project Sample	12/14/1999	<2	<2	<2	530	4.8	73	120
MW-19	00-RT-043-GW	Project Sample	6/7/2000	<1	<2	<1	390	2.6	84	49
MW-19	01-RT-113-GW	Project Sample	10/18/2001	<2.8 J	<4 J	<4 J	633 J	6.13 J	<4 J	<4 J
MW-19	02-RT-080-GW	Project Sample	9/26/2002	2	2.7	<1	550	8.6	16	24
MW-19	03-RT-114-GW	Project Sample	10/8/2003	0.84	2.06	<1	419	5.23	<50	83.5
MW-19	04-RT-074-GW	Project Sample	10/23/2004	0.9	1.23	<1	281	3.18	2.62	1.19
MW-19	04-RT-089-GW	QC Duplicate	10/23/2004	0.91	<1	<1	256	3.17	2.55	1.1
MW-19	05-RT-060-GW	Project Sample	10/12/2005	1.4	1.13	<1	326	3.73	<1	1.37
MW-19	05-RT-071-GW	QC Duplicate	10/12/2005	1.45	1.3	<1	310	3.54	<1	1.25
MW-19	06-RT-048-GW	Project Sample	9/13/2006	1.1	1.5	<0.5	240	4.1	8.9	2.6
MW-19	08-RT-056-GW	Project Sample	9/18/2008	1.83	2.17 VJ	<1	179	4.13	1.32	20.5
MW-19	10-RT-111-GW	Project Sample	10/21/2010	0.38	1.01	<0.31	92	1.39	11.8	33.8
MW-20	99-RT-010-GW	Project Sample	7/8/1999	<50	7.6 J,H	<50	3400	<50	680	700
MW-20	99-RT-011-GW	QC Duplicate	7/8/1999	<50	<50	<50	3400	<50	710	630
MW-20	99-RT-012-GW	QA Duplicate	7/8/1999	<100	<200	<100	4600	<100	860	750
MW-20	99-RT-061-GW	Project Sample	10/27/1999	3.4	3.3	2.4	2800 J,H	33	500 J,H	700 J,H
MW-20	99-RT-096-GW	Project Sample	12/14/1999	2.3	<2	<2	2300	26	400	660
MW-20	99-RT-097-GW	QC Duplicate	12/14/1999	2.4	<2	<2	2300	25	400	670
MW-20	00-RT-003-GW	Project Sample	3/24/2000	3.4	4.1	2.9 J	3800	64	700	640
MW-20	00-RT-044-GW	Project Sample	6/7/2000	3.9	4.5	2.6	3000	26	540	420
MW-20	00-RT-110-GW	Project Sample	9/27/2000	3.2	<2	<1	3100 VJ	30	370	200
MW-20	01-RT-015-GW	Project Sample	1/11/2001	2.6 H	7.3 H	3.4 H	2600	35 H	7 H	6 H
MW-20	01-RT-052-GW	Project Sample	3/22/2001	1.72	<2	<2	2270	69.8	3.44	3.57
MW-20	01-RT-053-GW	QC Duplicate	3/22/2001	1.75	<2	<2	2630	43.5	2.69	2.66
MW-20	01-RT-054-GW	QA Split	3/22/2001	---	<10	---	2290	23.4	<10	<10
MW-20	01-RT-085-GW	Project Sample	6/25/2001	<2	5.3	2.36	2090	20.7	2.28	3.24
MW-20	01-RT-086-GW	QC Duplicate	6/25/2001	<2	5.09	2.53	2380	21.4	2.38	3.25
MW-20	01-RT-087-GW	QA Split	6/25/2001	1.83	4.57	2.31	2490	25.1	2.33	2.99
MW-20	01-RT-126-GW	Project Sample	10/18/2001	55.5 J,H	5.87 J,H	<10 J,H	2870 J	<10 J,H	<10 J,H	<10 J,H
MW-20	01-RT-149-GW	Project Sample	1/16/2002	0.836 J,H	1.32 J,H	<2 J,H	886 J	11.8 J	1.67 J,H	1.9 J,H
MW-20	02-RT-004-GW	Project Sample	3/13/2002	3	6.87	3.23	4420 E	32	<2	<2
MW-20	02-RT-005-GW	QC Duplicate	3/13/2002	3.49	8.23	4.26	3100	41.3	<2	<2
MW-20	02-RT-006-GW	QA Split	3/13/2002	1.76	<2	<1	2150	21.3	<1	<1
MW-20	02-RT-056-GW	Project Sample	6/18/2002	<2 J	3.85 J	<2 J	1770 J	12.7 J	<2 J	<2 J
MW-20	02-RT-057-GW	QC Duplicate	6/18/2002	<2 J	4.53 J	<2 J	2220 J	16.8 J	<2 J	<2 J

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-20	02-RT-058-GW	QA Split	6/18/2002	---	<10	---	1820	20.7	<10	<10
MW-20	02-RT-081-GW	Project Sample	9/26/2002	<1	3.2	<1	1300	12	<1	<1
MW-20	02-RT-082-GW	QC Duplicate	9/26/2002	1.1	3.6	1.1	1500	14	<1	<1
MW-20	02-RT-083-GW	QA Split	9/26/2002	---	<10	---	1060	<10	<10	<10
MW-20	02-RT-124-GW	Project Sample	12/18/2002	1.7	5.1	1.51	2000	22.5	<1	<1
MW-20	03-RT-024-GW	Project Sample	3/11/2003	1.15	4.39	<1	1090	16.4	<1	<1
MW-20	03-RT-025-GW	QC Duplicate	3/11/2003	1.17	4.58	<1	1210	18.3	<1	<1
MW-20	03-RT-026-GW	QA Split	3/11/2003	---	<10	---	1210	18.5	<10	<10
MW-20	03-RT-033-GW	Project Sample	6/17/2003	---	<5	---	1260	18.6	<5	<5
MW-20	03RT-090-GW	Project Sample	9/19/2003	---	3.6	---	1020	15.5	3.3	14.1
MW-20	04-RT-006v-GW	Project Sample	1/21/2004	---	4	---	1050	16	1.6	1.4
MW-20	04-RT-017-GW	Project Sample	3/30/2004	---	3.3	---	895	12.9	<1	<1
MW-20	04-RT-022-GW	QC Duplicate	3/30/2004	---	3.4	---	943	12.3	<1	<1
MW-20	04-RT-026-GW	Project Sample	6/8/2004	---	<10	---	857	11.4	<10	<10
MW-20	04-RT-053-GW	Project Sample	10/29/2004	---	59.4	---	1560	22	6.5	32
MW-20	05-RT-007-GW	Project Sample	2/24/2005	---	248	---	898	5.6	7.6	<5
MW-20	05-RT-021-GW	Project Sample	6/2/2005	---	211	---	582	<1	<1	<1
MW-20	05-RT-061-GW	Project Sample	10/11/2005	0.8	113	<1	231	8.5	<1	<1
MW-20	06-RT-016-GW	Project Sample	5/26/2006	---	15.5	---	39.1	4.9	<1	<1
MW-20	06-RT-049-GW	Project Sample	9/13/2006	<0.5	4.1	<0.5	22	3.5	1.1	<0.5
MW-20	06-RT-064-GW	QC Duplicate	9/13/2006	<0.5	4.3	<0.5	22	3.4	0.99	<0.5
MW-20	07-RT-039-GW	Project Sample	9/19/2007	---	<1	---	6.1	<1	1.4	3.6
MW-20	08-RT-017-GW	Project Sample	5/13/2008	<0.4	3.73	<1	8.66	2.5	2.23	4.28
MW-20	08-RT-057-GW	Project Sample	9/19/2008	<0.4	1.42	<1	10.1	0.77	1.32	3.49
MW-20	09-RT-006-GW	Project Sample	5/6/2009	0.24	2.43	<1	9.07	1.73	1.37	0.64
MW-20	09-RT-090-GW	Project Sample	10/8/2009	<0.12	6.21	<0.31	16.4	3.1	1.33	0.83 F
MW-20	10-RT-053-GW	Project Sample	5/13/2010	<0.12	5.73 VJ	<0.31	11.7	1.87	2.46	1.24
MW-20	10-RT-109-GW	Project Sample	10/21/2010	0.23	12.7	<0.31	24.6	2.85	1.65	0.91
MW-20	12-RT-033-GW	Project Sample	5/10/2012	0.21	12.3 VJ	<0.31	12.3 VJ	1.7 VJ	5.03 VJ	2.33
MW-20	13-RT-010-GW	Project Sample	4/9/2013	<0.24	<0.62	<0.62	2.12	<0.62	0.58	0.64
MW-21	99-RT-034-GW	Project Sample	9/3/1999	<1	<1	<1	220	2	79	350
MW-21	99-RT-035-GW	QC Duplicate	9/3/1999	<1	<1	<1	210	2	78	330
MW-21	99-RT-058-GW	Project Sample	10/27/1999	<0.5	<0.5	<0.5	160 H	2.3	50	170 J,H
MW-21	99-RT-085-GW	Project Sample	12/13/1999	<1	<1	<1	67	1.5	30	140
MW-21	00-RT-011-GW	Project Sample	3/24/2000	<1	<1 J	<1	57	<1	42	240 J,H

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-21	00-RT-067-GW	Project Sample	6/9/2000	<1	<2	<1	42	<1	25	130
MW-21	00-RT-125-GW	Project Sample	9/29/2000	<1	<2	<1	29	<1	19	130
MW-21	01-RT-023-GW	Project Sample	1/10/2001	<2	<2	<2	36	<2	16	53
MW-21	01-RT-041-GW	Project Sample	3/22/2001	<1	<1	<1	45.2	<1	16.9	53.8
MW-21	01-RT-078-GW	Project Sample	6/25/2001	<2	<2	<2	73	<2	11.2	28.4
MW-21	01-RT-107-GW	Project Sample	10/17/2001	<0.7 J	<1 J	<1 J	73.9 J	<1 J	3.13 J	11 J
MW-21	01-RT-151-GW	Project Sample	1/16/2002	<1 J	<1 J	<1 J	104 J	0.788 J	3.16 J	8.57 J
MW-21	02-RT-050-GW	Project Sample	6/18/2002	<1 J	<1 J	<1 J	84.3 J	<1 J	2.95 J	11.3 J
MW-21	02-RT-092-GW	Project Sample	9/27/2002	<2	<1	<2	99	<2	9.5	32
MW-21	03-RT-065-GW	Project Sample	6/18/2003	<0.4	<1	<1	177	<1	13	45.7
MW-21	03-RT-100-GW	Project Sample	10/7/2003	<0.4	<1	<1	72.7	<1	3.64	21.4
MW-21	04-RT-031-GW	Project Sample	6/8/2004	<0.4	<1	<1	89.8	<1	1.24	1.26
MW-21	04-RT-045-GW	QC Duplicate	6/8/2004	<0.4	<1	<1	97.5	<1	1.46	1.43
MW-21	04-RT-075-GW	Project Sample	10/22/2004	<0.4	<1	<1	91.7	<1	3.22	7.36
MW-21	05-RT-030-GW	Project Sample	6/3/2005	<0.4	<1	<1	144	<1	14.6	27.5
MW-21	05-RT-062-GW	Project Sample	10/12/2005	<0.4	<1	<1	116	<1	<1	1.27
MW-21	06-RT-050-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	170	<0.5	42	88
MW-21	07-RT-024-GW	Project Sample	9/20/2007	---	<1	---	121	<1	7.5	23.6
MW-21	08-RT-045-GW	Project Sample	9/20/2008	<0.4	<1	1.53	389	0.69	62.8	148
MW-21	09-RT-081-GW	Project Sample	10/8/2009	<0.12	0.34	1.1	341	0.54	6.95 VJ	9.2 F
MW-21	10-RT-101-GW	Project Sample	10/22/2010	<0.24	<0.62	0.86	549	1.44	23.9	47.7
MW-21	10-RT-119-GW	QC Duplicate	10/22/2010	0.17	0.31	1.01	575	1.5	27.7	55.5
MW-21	12-RT-021-GW	Project Sample	5/10/2012	<0.12	<0.31	<0.31	34.9 VJ	<0.31	18.6 VJ	38.1
MW-22	99-RT-033-GW	Project Sample	9/2/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.9
MW-22	99-RT-050-GW	Project Sample	10/26/1999	<0.5	<0.5	<0.5	<0.5	<0.5	0.84	18
MW-22	99-RT-084-GW	Project Sample	12/14/1999	<1	<1	<1	<1	<1	<1	6.4
MW-22	00-RT-021-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	4.7
MW-22	00-RT-022-GW	QC Duplicate	3/25/2000	<1	<1	<1 J	<1	<1	<1	4.3
MW-22	00-RT-023-GW	QA Duplicate	3/25/2000	<1	<2	<1	<1	<1	<1	5
MW-22	00-RT-071-GW	Project Sample	6/9/2000	<1	<2	<1	<1	<1	<1	4.6
MW-22	01-RT-101-GW	Project Sample	10/17/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	<1 J	2.61 J
MW-22	02-RT-093-GW	Project Sample	9/26/2002	<1	<1	<1	<1	<1	<1	2.6
MW-22	03-RT-066-GW	Project Sample	6/18/2003	<0.4	<1	<1	<1	<1	<1	1.3
MW-22	04-RT-076-GW	Project Sample	10/22/2004	<0.4	<1	<1	<1	<1	<1	<1

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July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-23	99-RT-032-GW	Project Sample	9/2/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	10
MW-23	99-RT-057-GW	Project Sample	10/27/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	20
MW-23	99-RT-083-GW	Project Sample	12/14/1999	<1	<1	<1	<1	<1	<1	12
MW-23	00-RT-016-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	<1
MW-23	00-RT-017-GW	QC Duplicate	3/25/2000	<1	<1	<1 J	<1	<1	<1	12
MW-23	00-RT-018-GW	QA Duplicate	3/25/2000	<1	<2	<1	<1	<1	<1	11
MW-23	00-RT-072-GW	Project Sample	6/9/2000	<1	<2	<1	<1	<1	<1	13
MW-23	01-RT-102-GW	Project Sample	10/17/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	<1 J	10.5 J
MW-23	01-RT-104-GW	QC Duplicate	10/17/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	<1 J	10.8 J
MW-23	01-RT-105-GW	QA Split	10/17/2001	---	<1 J,H	---	<1 J,H	<1 J,H	<1 J,H	10.6 J,H
MW-23	02-RT-094-GW	Project Sample	9/26/2002	<1	<1	<1	65	<1	3.2	28
MW-23	03-RT-103-GW	Project Sample	10/7/2003	<0.4	<1	<1	<1	<1	<1	7.94
MW-23	04-RT-077-GW	Project Sample	10/22/2004	<0.4	<1	<1	<1	<1	<1	5.35
MW-23	06-RT-051-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.9
MW-23	10-RT-060-GW	Project Sample	5/13/2010	<0.12	<0.31	<0.31	<0.31	<0.31	<0.31	4.19
MW-23	12-RT-022-GW	Project Sample	5/10/2012	<0.12	<0.31	<0.31	<0.31	<0.31	0.33 VJ	17.8
MW-23	13-RT-001-GW	Project Sample	4/11/2013	<0.24	<0.62	<0.62	5.15	<0.62	0.81	18
MW-23	14-RT-021-GW	Project Sample	4/22/2014	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	4.12
MW-23	16-RT-001-GW	Project Sample	10/27/2016	<0.12	<0.31	<0.31	1.6	<0.31	<0.31	5.02
MW-24	99-RT-036-GW	Project Sample	9/3/1999	<1	<1	<1	390	2	50	57
MW-24	99-RT-040-GW	Project Sample	10/26/1999	<0.5	0.6	0.8	450	1.5	51	73
MW-24	99-RT-090-GW	Project Sample	12/14/1999	<1	<1	<1	250	<1	41	79
MW-24	00-RT-004-GW	Project Sample	3/24/2000	<1	<1 J	<1	310 J,H	3.2	100	210 J,H
MW-24	00-RT-042-GW	Project Sample	6/7/2000	<1 J	<2 J	<1 J	250 J	<1 J	51 J	110 J
MW-24	01-RT-114-GW	Project Sample	10/18/2001	<2.8 J	<4 J	<4 J	319 J	<4 J	56.4 J	66.2 J
MW-24	02-RT-084-GW	Project Sample	9/26/2002	<1	<1	<1	260	<1	83	170
MW-24	03-RT-108-GW	Project Sample	10/9/2003	<0.4	<1	<1	222	<1	46.2	68.8
MW-24	05-RT-035-GW	Project Sample	6/3/2005	<0.4	<1	<1	360	<1	63.9	98.8
MW-24	05-RT-063-GW	Project Sample	10/12/2005	<0.4	<1	<1	288	<1	68.8	118
MW-24	06-RT-052-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	230	<0.5	68	130
MW-24	08-RT-058-GW	Project Sample	9/18/2008	<0.4	<1	<1	69	0.56	49.4	192
MW-24	10-RT-112-GW	Project Sample	10/21/2010	<0.12	0.38	<0.31	153	<0.31	63	151
MW-25	99-RT-037-GW	Project Sample	9/3/1999	<2	<2	<2	16	<2	26	920
MW-25	99-RT-055-GW	Project Sample	10/27/1999	<0.5	<0.5	<0.5	4.4	<0.5	8.3	300 J,H

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-25	99-RT-056-GW	QC Duplicate	10/27/1999	<0.5	<0.5	<0.5	4.6	<0.5	8.8	290 J,H
MW-25	99-RT-086-GW	Project Sample	12/14/1999	<1	<1	<1	8.4	<1	13	500
MW-25	99-RT-087-GW	QC Duplicate	12/14/1999	<1	<1	<1	7.9	<1	12	460
MW-25	00-RT-013-GW	Project Sample	3/24/2000	<1	<1 J	<1	11	<1	17	610 J,H
MW-25	00-RT-068-GW	Project Sample	6/9/2000	<1	<2	<1	7.1	<1	11	310
MW-25	00-RT-069-GW	QC Duplicate	6/9/2000	<1	<2	<1	6.7	<1	11	280
MW-25	00-RT-070-GW	QA Duplicate	6/9/2000	<0.5	<0.5	<0.5	6.4	<0.5	10	290
MW-25	00-RT-126-GW	Project Sample	9/29/2000	<1	<2	<1	11	<1	18	540
MW-25	00-RT-127-GW	QC Duplicate	9/29/2000	<1	<2	<1	7.4	<1	16	500
MW-25	00-RT-129-GW	QA Split	9/29/2000	<1	<1	<1	10	<1	14.9	395
MW-25	01-RT-020-GW	Project Sample	1/10/2001	<20	<20	<20	58	<20	120	480
MW-25	01-RT-021-GW	QC Duplicate	1/10/2001	<20	<20	<20	57	<20	130	510
MW-25	01-RT-022-GW	QA Split	1/10/2001	---	<10	---	72.8	<10	171	792
MW-25	01-RT-042-GW	Project Sample	3/22/2001	<2	<2	<2	284	7.93	84	425
MW-25	01-RT-077-GW	Project Sample	6/25/2001	<2	<2	<2	142	2.3	25.6	156
MW-25	01-RT-109-GW	Project Sample	10/17/2001	<1.4 J	<2 J	<2 J	801 J	4.23 J	10 J	17.9 J
MW-25	01-RT-133-GW	Project Sample	1/16/2002	---	<5 J,H	---	752 J,H	<5 J,H	<5 J,H	5.4 J,H
MW-25	02-RT-016-GW	Project Sample	3/13/2002	<2	<2	<2	956	<2	2.28	3.22
MW-25	02-RT-017-GW	QC Duplicate	3/13/2002	<2	<2	<2	933	<2	2.49	4.07
MW-25	02-RT-018-GW	QA Split	3/13/2002	1.15	<2	<1	804	4.12	2.21	3.7
MW-25	02-RT-049-GW	Project Sample	6/18/2002	<2 J	<2 J	<2 J	721 J	4.12 J	<2 J	2.89 J
MW-25	02-RT-071-GW	Project Sample	9/27/2002	1.3	1.3	1.5	980	6.2	<1	2.5
MW-25	02-RT-108-GW	Project Sample	12/19/2002	0.66	<1	<1	796	<1	1.61	3.28
MW-25	03-RT-013-GW	Project Sample	3/11/2003	1.13	1.2	1.59	1320	9.82	<1	1.4
MW-25	03-RT-042-GW	Project Sample	6/18/2003	---	<10	---	563	<10	<10	<10
MW-25	03-RT-088-GW	Project Sample	9/18/2003	0.99 J	<1 J	1.19 J	765 J	13.9 J	<1 J	<1 J
MW-25	04-RT-003-GW	Project Sample	1/21/2004	---	1	---	867	7.9	4.1	<1
MW-25	04-RT-014-GW	Project Sample	3/31/2004	---	1.3	---	932	6.5	1.3	<1
MW-25	04-RT-033-GW	Project Sample	6/8/2004	<0.4	<1	<1	301	1.73	<1	<1
MW-25	04-RT-046-GW	QC Duplicate	6/8/2004	0.4	<1	<1	325	1.93	<1	<1
MW-25	04-RT-049-GW	Project Sample	10/30/2004	---	<1	---	1020	7	5	<1
MW-25	05-RT-003-GW	Project Sample	2/23/2005	---	<1	---	566	4.2	6.9	<1
MW-25	05-RT-029-GW	Project Sample	6/3/2005	<0.4	<1	<1	358	2.69	6.49	<1
MW-25	05-RT-046-GW	Project Sample	10/12/2005	---	1.8	---	1030 VM	9.2	<1	<1
MW-25	06-RT-009-GW	Project Sample	5/24/2006	---	48.5	---	949	<10	<10	<10
MW-25	06-RT-031-GW	Project Sample	9/12/2006	---	34.7	---	451	<5	<5	<5

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-25	07-RT-003-GW	Project Sample	5/29/2007	---	12.4	---	137	1.1	5	7.9
MW-25	07-RT-023-GW	Project Sample	9/18/2007	---	14.2 VM	---	141	1.4	5.9	7
MW-25	08-RT-003-GW	Project Sample	5/13/2008	---	29.2	---	126	1.9	2.8	3.5
MW-25	08-RT-044-GW	Project Sample	9/19/2008	<0.4	26.8	<1	127	2.03	3.34	4.41
MW-25	09-RT-003-GW	Project Sample	5/5/2009	<0.4	0.42	<1	15.8	<1	1.9	9.66
MW-25	09-RT-080-GW	Project Sample	10/8/2009	0.32	11	<0.31	58.8	0.95	1.98 VB	8.94
MW-25	10-RT-051-GW	Project Sample	5/14/2010	0.18	10.1 VJ	<0.31	49.7	1.3	5.22	3.35
MW-25	10-RT-082-GW	Project Sample	10/21/2010	0.29	9.5 VJ	<0.31	84.8	1.26	8.46	8.76
MW-25	10-RT-100-GW	QA Split	10/21/2010	---	6.8 VJ	---	83.5	1.4	8.2	8.8
MW-25	12-RT-023-GW	Project Sample	5/10/2012	0.23	5	<0.31	43.4 VJM	0.93 VJ	11.8 VJ	11.1
MW-25	12-RT-042-GW	QC Duplicate	5/10/2012	0.25	6.52	<0.31	49.4 VM	1.25	13.4	10.8
MW-25	13-RT-003-GW	Project Sample	4/11/2013	<0.24	1.48	<0.62	37.2	0.53	6.61	6
MW-25	14-RT-022-GW	Project Sample	4/24/2014	0.268	3.2	<0.5	44	0.905	13.7	3.73
MW-25	16-RT-002-GW	Project Sample	10/27/2016	<0.12	12.3	<0.31	113 E	1.54	22	16.7
MW-26	99-RT-038-GW	Project Sample	9/3/1999	<0.5	<0.5	<0.5	160	4.4	19	93
MW-26	99-RT-059-GW	Project Sample	10/27/1999	<0.5	<0.5	<0.5	80	2.8	11	51
MW-26	99-RT-089-GW	Project Sample	12/14/1999	<1	<1	<1	710	22	40	200
MW-26	00-RT-059-GW	Project Sample	6/8/2000	<10	<20	<10	710 E	13	52	170
MW-26	01-RT-115-GW	Project Sample	10/17/2001	<8 J	<8 J	<8 J	297 J	<8 J	59.8 J	73 J
MW-26	01-RT-116-GW	QC Duplicate	10/17/2001	<4 J	<4 J	<4 J	344 J	9.72 J	31.4 J	107 J
MW-26	01-RT-117-GW	QA Split	10/17/2001	---	<2 J,H	---	265 J,H	7.8 J,H	28.2 J,H	112 J,H
MW-26	02-RT-085-GW	Project Sample	9/26/2002	<1	<1	<1	53	2	11	68
MW-26	02-RT-086-GW	QC Duplicate	9/26/2002	<1	<1	<1	53	1.9	11	68
MW-26	02-RT-087-GW	QA Split	9/26/2002	---	<1	---	52.3	<1	13.2	86.4
MW-26	03-RT-087-GW	Project Sample	9/18/2003	<0.4 J	<1 J	---	231 J	10.4 J	31.3 J	124 J
MW-26	04-RT-057-GW	Project Sample	10/30/2004	---	<1	---	44.2	2	9.3	72.3
MW-26	05-RT-064-GW	Project Sample	10/12/2005	<0.4	<1	<1	44.8	1.85	8.84	56.9
MW-26	06-RT-053-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	56	2.5	13	78
MW-26	08-RT-059-GW	Project Sample	9/18/2008	<0.4	<1	<1	148	5.48	23.7	135
MW-26	10-RT-113-GW	Project Sample	10/21/2010	<0.12	<0.31	<0.31	192	5.8	31.5	148
MW-26	13-RT-005-GW	Project Sample	4/10/2013	<0.24	0.86	<0.62	262	<6.2	24.4	146
MW-26	14-RT-024-GW	Project Sample	4/22/2014	<0.2	<0.5	<0.5	175	3.51	26	134
MW-26	14-RT-032-GW	QC Duplicate	4/22/2014	<20	<50	<50	75.7	<50	<50	<50
MW-26	16-RT-004-GW	Project Sample	10/27/2016	<0.12	<0.31	<0.31	100 E	1.85	18.9	133 E

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-27	99-RT-077-GW	Project Sample	11/8/1999	<0.5	<0.5	<0.5	1.7	<0.5	0.8	1.1
MW-27	99-RT-091-GW	Project Sample	12/14/1999	<1	<1	<1	1.3	<1	<1	<1
MW-27	00-RT-027-GW	Project Sample	3/25/2000	<1	<1	<1 J	3.2	<1	1.3	<1
MW-27A	00-RT-075-GW	Project Sample	6/9/2000	<1	<2	<1	11	<1	7.4	2.5
MW-27A	00-RT-113-GW	Project Sample	9/28/2000	<1	<2	<1	22	<1	6.4	<1
MW-27A	01-RT-011-GW	Project Sample	1/11/2001	<2	<2	<2	55	<2	38	26
MW-27A	01-RT-045-GW	Project Sample	3/22/2001	<1	<1	<1	31.1	<1	19.6	15
MW-27A	01-RT-082-GW	Project Sample	6/25/2001	<1	<1	<1	28.9	<1	18.6	4.39
MW-27A	01-RT-127-GW	Project Sample	10/17/2001	<0.7 J	<1 J	<1 J	19.3 J	<1 J	4.43 J	<1 J
MW-27A	01-RT-150-GW	Project Sample	1/17/2002	<1 J	<1 J	<1 J	17.7 J	<1 J	2.46 J	0.696 J
MW-27A	02-RT-009-GW	Project Sample	3/13/2002	<1	<1	<1	8.46	<1	3.64	<1
MW-27A	02-RT-059-GW	Project Sample	6/19/2002	<2 J	<0.2 J	<0.2 J	20.4 J	<0.2 J	8.78 J	1.6 J
MW-27A	02-RT-088-GW	Project Sample	9/26/2002	<1	<1	<1	16	<1	2.1	<1
MW-27A	03-RT-051-GW	Project Sample	6/19/2003	<0.4	<1	<1	10.7	<1	8.03	1.77
MW-28	99-RT-069-GW	Project Sample	11/2/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-29	99-RT-074-GW	Project Sample	11/8/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.6
MW-29	99-RT-075-GW	QC Duplicate	11/8/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	11
MW-29	99-RT-081-GW	Project Sample	12/14/1999	<1	<1	<1	<1	<1	<1	12
MW-29	00-RT-019-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	9.6
MW-29	00-RT-041-GW	Project Sample	6/7/2000	<1	<2	<1	<1	<1	<1	12
MW-29	01-RT-103-GW	Project Sample	10/17/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	<1 J	7.83 J
MW-29	02-RT-097-GW	Project Sample	9/26/2002	<1	<1	<1	<1	<1	<1	14
MW-29	04-RT-079-GW	Project Sample	10/22/2004	<0.4	<1	<1	<1	<1	<1	8.68
MW-29	06-RT-054-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	8.9
MW-29	10-RT-061-GW	Project Sample	5/14/2010	<0.12	<0.31	<0.31	1.07	<0.31	0.47	6.87
MW-30	99-RT-076-GW	Project Sample	11/8/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-30	99-RT-079-GW	Project Sample	12/14/1999	<1	<1	<1	<1	<1	<1	<1
MW-30	00-RT-026-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	<1
MW-30	00-RT-063-GW	Project Sample	6/9/2000	<1	---	<1	<1	<1	<1	<1
MW-30	03-RT-062-GW	Project Sample	6/19/2003	<0.4	<1	<1	<1	<1	<1	<1
MW-31	99-RT-073-GW	Project Sample	11/8/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-31	99-RT-080-GW	Project Sample	12/14/1999	<1	<1	<1	<1	<1	<1	2
MW-31	00-RT-025-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	1.6
MW-31	00-RT-062-GW	Project Sample	6/9/2000	<1	<2	<1	<1	<1	<1	2.5
MW-31	00-RT-123-GW	Project Sample	9/28/2000	<1	<2	<1	<1	<1	<1	3
MW-31	01-RT-106-GW	Project Sample	10/17/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	<1 J	2.12 J
MW-31	02-RT-098-GW	Project Sample	9/27/2002	<1	<1	<1	<1	<1	<1	1.1
MW-31	03-RT-063-GW	Project Sample	6/19/2003	<0.4	<1	<1	<1	<1	<1	1.27
MW-31	04-RT-080-GW	Project Sample	10/22/2004	<0.4	<1	<1	<1	<1	<1	<1
MW-32	99-RT-072-GW	Project Sample	11/8/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-32	99-RT-082-GW	Project Sample	12/13/1999	<1	<1	<1	<1	<1	<1	<1
MW-32	00-RT-020-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	<1
MW-32	00-RT-073-GW	Project Sample	6/9/2000	<10	<2	<1	<1	<1	<1	<1
MW-34	00-RT-001-GW	Project Sample	1/14/2000	<1	<1	<1	<1	<1	<1	<1
MW-34	00-RT-002-GW	QC Duplicate	1/14/2000	<1	<1	<1	<1	<1	<1	<1
MW-34	00-RT-024-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	<1
MW-34	00-RT-061-GW	Project Sample	6/9/2000	<1	---	<1	<1	<1	<1	<1
MW-34	03-RT-064-GW	Project Sample	6/19/2003	<0.4	<1	<1	<1	<1	<1	<1
MW-34	03-RT-086-GW	Project Sample	9/18/2003	<0.4 J	<1 J	---	<1 J	<1 J	<1 J	<1 J
MW-35	00-RT-074-GW	Project Sample	6/9/2000	<1	<2	<1	210 E	2.8	2.2	1.6
MW-35	00-RT-122-GW	Project Sample	9/28/2000	<1	<2	<1	210 VJ	1.9	1.7	<1
MW-35	01-RT-118-GW	Project Sample	10/18/2001	<4 J	<4 J	<4 J	197 J	<4 J	<4 J	<4 J
MW-35	02-RT-089-GW	Project Sample	9/26/2002	<2	<1	<2	160	<2	3.3	<2
MW-35	03-RT-113-GW	Project Sample	10/8/2003	<0.4	<1	<1	86.9	1.47	---	2.55
MW-35	04-RT-081-GW	Project Sample	10/23/2004	<0.4	2.42	<1	403	2.31	2.79	<1
MW-35	05-RT-065-GW	Project Sample	10/12/2005	<0.4	<1	<1	247	1.75	3.16	1.1
MW-35	06-RT-022-GW	Project Sample	5/25/2006	<0.4	17	<1	306	6.27	1.81	1.18
MW-35	06-RT-055-GW	Project Sample	9/13/2006	<0.5	12	<0.5	290	3.4	2.2	1.1
MW-35	07-RT-014-GW	Project Sample	5/31/2007	<0.4	14.3	<1	189 J,H	6.35 VJ	1.2	0.68 F
MW-35	07-RT-020-GW	QC Duplicate	5/31/2007	<0.4	11.2	<1	328 VJ	3.75 VJ	1.27	0.97 F
MW-35	07-RT-040-GW	Project Sample	9/20/2007	---	3.5	---	208	2.5	2	1.2
MW-35	08-RT-060-GW	Project Sample	9/20/2008	<0.4	6.41	0.32	294	3.07	1.51	1.65
MW-35	09-RT-091-GW	Project Sample	10/8/2009	<0.12	2.8	<0.31	203	2.23	2.23	1.51 VJ
MW-35	10-RT-110-GW	Project Sample	10/21/2010	<0.12	3.48	<0.31	208	2.5	2.16	1.92

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-35	12-RT-034-GW	Project Sample	5/10/2012	0.3	11.8 VJ	<0.31	67.9	3.5 VJ	1.17 VJ	0.66
MW-35	13-RT-006-GW	Project Sample	4/9/2013	<0.24	8.94	<0.62	142	2.59	1.38	0.92
MW-35	14-RT-028-GW	Project Sample	4/24/2014	<0.2	<0.5	<0.5	73.3	1.53	0.7	0.7
MW-35	16-RT-005-GW	Project Sample	10/27/2016	<0.12	2.58	<0.31	49.3	<0.31	1.88	<0.31
MW-36	00-RT-103-GW	Project Sample	9/27/2000	---	<1	---	27.2	<1	209 VJ	3420
MW-36	00-RT-104-GW	QC Duplicate	9/27/2000	---	<1	---	28	<1	205 VJ	3230
MW-36	00-RT-105-GW	QA Duplicate	9/27/2000	2	<2	<1	25	<1	170	3600
MW-36	00-RT-138-GW	Project Sample	11/28/2000	---	<5	---	842	30.8	1710	2880
MW-36	01-RT-009-GW	Project Sample	1/11/2001	---	<10	---	1480	28.5	604	198
MW-36	01-RT-035-GW	Project Sample	3/8/2001	---	<50	---	3990	87.5	1000	628
MW-36	01-RT-073-GW	Project Sample	5/22/2001	---	<25	---	1640	28.5	390	3090
MW-36	01-RT-096-GW	Project Sample	10/16/2001	---	<10	---	1170	<10	26.3	<10
MW-36	01-RT-136-GW	Project Sample	1/16/2002	---	<10	---	1330	<10	36.5	18.9
MW-36	01-RT-137-GW	QC Duplicate	1/16/2002	---	<10	---	1330	<10	39	16.6
MW-36	01-RT-138-GW	QA Split	1/16/2002	<2 J,H	<2 J,H	2.29 J,H	1420 J	14.6 J	41.5 J	24.4 J
MW-36	02-RT-015-GW	Project Sample	3/13/2002	<2	<2	2.53	1170	<2	7.76	5.25
MW-36	02-RT-045-GW	Project Sample	6/18/2002	<2 J	<2 J	2.92 J	3340 J	28 J	23.9 J	7.38 J
MW-36	02-RT-046-GW	QC Duplicate	6/18/2002	<2 J	<2 J	2.37 J	2650 J	23.8 J	27 J	7.32 J
MW-36	02-RT-047-GW	QA Split	6/18/2002	---	<10	---	2610	24.9	21.2	<10
MW-36	02-RT-068-GW	Project Sample	9/27/2002	<1	<1	<1	810	5.4	370	320
MW-36	02-RT-069-GW	QC Duplicate	9/27/2002	<1	<1	<1	800	5.4	380	310
MW-36	02-RT-070-GW	QA Split	9/27/2002	---	<10	---	727	<10	415	346
MW-36	02-RT-110-GW	Project Sample	12/19/2002	<0.4	<1	<1	716	<1	4.43	2.81
MW-36	03-RT-012-GW	Project Sample	3/10/2003	---	<10	---	969	<10	<10	<10
MW-36	03-RT-040-GW	Project Sample	6/17/2003	---	<10	---	2220	27.3	21.7	26
MW-36	03-RT-092-GW	Project Sample	10/7/2003	---	<1	---	901	8.2	68.6	41
MW-36	04-RT-001-GW	Project Sample	1/21/2004	---	1.3	---	717	5.8	<1	1.3
MW-36	04-RT-012-GW	Project Sample	3/31/2004	---	<1	---	484	4.7	<1	1.9
MW-36	04-RT-023-GW	Project Sample	6/8/2004	---	<5	---	1620	17.4	7.3	10.1
MW-36	04-RT-047-GW	Project Sample	10/30/2004	---	<1	---	1330	13.6	9.8	6
MW-36	05-RT-001-GW	Project Sample	2/23/2005	---	<5	---	914	8.2	<5	8.9
MW-36	05-RT-027-GW	Project Sample	6/3/2005	<0.8	<2	<2	1850	13.7	82.2	8.28
MW-36	05-RT-043-GW	QC Duplicate	6/3/2005	<0.8	<2	<2	1970	14.7	61.6	8.14
MW-36	05-RT-044-GW	Project Sample	10/11/2005	---	6.6	---	636 VM	5.9	<1	<1
MW-36	06-RT-007-GW	Project Sample	5/24/2006	---	93.6	---	547	7.6	<1	<1

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-36	06-RT-029-GW	Project Sample	9/12/2006	---	<10	---	139	<10	110	414
MW-36	07-RT-001-GW	Project Sample	5/30/2007	---	29.1	---	257	<5	23.1	8.3
MW-36	07-RT-021-GW	Project Sample	9/20/2007	---	18	---	339	<5	62.7	54.3
MW-36	07-RT-042-GW	QC Duplicate	9/20/2007	---	18.8	---	337	<5	64.1	62.6
MW-36	07-RT-044-GW	QA Split	9/20/2007	<0.4	12.6 VJ	<1	251	0.69 VM	50	33.5 VJ
MW-36	08-RT-001-GW	Project Sample	5/13/2008	---	64.1	---	202	4.4	24.4	25.4
MW-36	08-RT-040-GW	QA Split	9/18/2008	---	1.5	---	32.5	<1	<1 VJ	95.6 VJ
MW-36	08-RT-042-GW	Project Sample	9/18/2008	<0.4	0.77 VJ	<1	27.2 VM	<1	26.9 VM	71.7
MW-36	08-RT-064-GW	QC Duplicate	9/18/2008	<0.4	1.7 VJ	<1	30.4	<1	26.8	70
MW-36	09-RT-001-GW	Project Sample	5/5/2009	0.35	34.3	<1	221	1.71	37.7	98.9
MW-36	09-RT-078-GW	Project Sample	10/8/2009	0.94	55.8	<0.31	192	3.04	77.2	125
MW-36	10-RT-049-GW	Project Sample	5/14/2010	0.13	32.3 VJ	<0.31	207	1.82	61.9	175
MW-36	10-RT-080-GW	Project Sample	10/20/2010	0.22	17.4	<0.31	168	1.2	42.6	51.6
MW-36	12-RT-001-GW	Project Sample	5/9/2012	<0.12	4.38	<0.31	85.5	0.46	9.35	1.81
MW-36	13-RT-016-GW	Project Sample	4/11/2013	<0.24	4.97	<0.62	41	<0.62	8.69	11.3
MW-36	14-RT-001-GW	Project Sample	4/22/2014	0.19	10.8	<0.5	355	<0.5	64.1	7.09
MW-37	00-RT-102-GW	Project Sample	9/27/2000	---	<1	---	19.1	<1	55.3	1910
MW-37	00-RT-137-GW	Project Sample	11/28/2000	---	<5	---	655	<5	1280	982
MW-37	01-RT-007-GW	Project Sample	1/11/2001	---	<10	---	1240	<10	462	314
MW-37	01-RT-036-GW	Project Sample	3/8/2001	---	<10	---	1430	<10	219	209
MW-37	01-RT-072-GW	Project Sample	5/22/2001	---	<10	---	1530	16.2	144	53.3
MW-37	01-RT-094-GW	Project Sample	10/16/2001	---	<5 J,H	---	544 J,H	<5 J,H	8.6 J,H	7.5 J,H
MW-37	01-RT-134-GW	Project Sample	1/16/2002	---	<2 J,H	---	384 J,H	2.5 J,H	2.4 J,H	5.3 J,H
MW-38	00-RT-100-GW	Project Sample	9/27/2000	---	<1	---	3.3	<1	19.7	804
MW-38	00-RT-135-GW	Project Sample	11/28/2000	---	<5	---	16.3	<5	37.4	1210
MW-38	01-RT-006-GW	Project Sample	1/11/2001	---	<10	---	18.9	<10	54.1	226
MW-38	01-RT-038-GW	Project Sample	3/8/2001	---	<1	---	1.5	<1	17.9	178
MW-38	01-RT-070-GW	Project Sample	5/22/2001	---	<1	---	535	4.8	53.4	84.7
MW-38	01-RT-093-GW	Project Sample	10/16/2001	---	<1 J,H	---	117 J,H	<1 J,H	9.5 J,H	52.7 J,H
MW-38	01-RT-132-GW	Project Sample	1/16/2002	---	<1	---	82	<1	4.6	12.2
MW-38	02-RT-013-GW	Project Sample	3/13/2002	<2	<2	<2	91.1	<2	4.1	9.19
MW-38	02-RT-043-GW	Project Sample	6/18/2002	<2 J	<2 J	<2 J	635 J	3.19 J	2.18 J	2.52 J
MW-38	02-RT-066-GW	Project Sample	9/27/2002	<1	<1	<1	150	<1	14	53
MW-38	02-RT-111-GW	Project Sample	12/19/2002	<0.4	<1	<1	376	<1	4.94	5.69

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-38	03-RT-014-GW	Project Sample	3/11/2003	<0.4	<1	<1	279	2.31	3.8	5.77
MW-38	03-RT-067-GW	Project Sample	6/18/2003	<0.4	<1	<1	182	1.05	3.67	3.49
MW-38	03RT-079-GW	Project Sample	9/18/2003	---	<1	---	159	1	4.6	6.3
MW-38	04-RT-034-GW	Project Sample	6/9/2004	<0.4	<1	<1	326	1	<1	1.05
MW-38	04-RT-082-GW	Project Sample	10/22/2004	<0.4	<1	<1	72.6	<1	1.6	2.12
MW-38	05-RT-031-GW	Project Sample	6/3/2005	<0.4	<1	<1	240	<1	1.86	1.83 VB
MW-38	05-RT-066-GW	Project Sample	10/12/2005	<0.4	<1	<1	141	<1	1.73	2.22
MW-38	06-RT-023-GW	Project Sample	5/26/2006	<0.4	1.69	<1	122	1.35	1.72	<1
MW-38	06-RT-056-GW	Project Sample	9/12/2006	<0.5	23	<0.5	260	2.2	5.5	14
MW-38	06-RT-063-GW	QC Duplicate	9/12/2006	<0.5	24	<0.5	250	2.3	5.7	14
MW-38	07-RT-015-GW	Project Sample	5/30/2007	<0.4	43.1	<1	89	3.22	3.28	6.05
MW-38	07-RT-025-GW	Project Sample	9/20/2007	---	4.5	---	35.2	1.3	1.2	1.4
MW-38	08-RT-046-GW	Project Sample	9/19/2008	<0.4	1.59	<1	4.77	<1	1.02	12.9
MW-38	09-RT-082-GW	Project Sample	10/8/2009	0.27	7.67	<0.31	21.8	1.72	<0.31	<0.31
MW-38	10-RT-102-GW	Project Sample	10/22/2010	<0.12	2.79	<0.31	3.61	<0.31	<0.31	<0.31
MW-38	12-RT-024-GW	Project Sample	5/10/2012	<0.12 VJ	12.4 VJ	<0.31	93.1	1.21 VJ	2.23 VJ	1.39
MW-38	13-RT-004-GW	Project Sample	4/11/2013	0.16	7.47	<0.62	27.4	1.39	5.97	1.14
MW-38	14-RT-023-GW	Project Sample	4/22/2014	0.193	16.5	<0.5	29	2.32	0.986	0.373
MW-38	14-RT-033-GW	QC Duplicate	4/22/2014	<20	<50	<50	61.6	<50	<50	<50
MW-39	00-RT-106-GW	Project Sample	9/27/2000	---	2.5	---	726	9	93.5	62.9
MW-39	00-RT-134-GW	Project Sample	11/28/2000	---	<5	---	594	5.2	81	36.4
MW-39	01-RT-005-GW	Project Sample	1/11/2001	---	<10	---	625	<10	74.4	27.6
MW-39	01-RT-034-GW	Project Sample	3/8/2001	---	<5	---	394	<5	41	30.6
MW-39	01-RT-074-GW	Project Sample	5/22/2001	---	<5	---	622	6	62.2	29.4
MW-39	01-RT-092-GW	Project Sample	10/16/2001	---	<20 J,H	---	2500 J,H	<20 J,H	31.8 J,H	<20 J,H
MW-39	01-RT-131-GW	Project Sample	1/15/2002	---	<20	---	1860	23.4	<20	<20
MW-39	02-RT-063-GW	Project Sample	9/27/2002	4.2	9.1	2.4	3400	36	7.4	6.3
MW-39	02-RT-104-GW	Project Sample	12/18/2002	---	6.5	---	2530	25.9	<5	16.4
MW-39	02-RT-107-GW	QA Split	12/18/2002	3.07	5.85	1.99	2950	28.5	1.78	18.7
MW-39	03-RT-003-GW	Project Sample	2/4/2003	---	<50	---	11400	39.5 J	<50	<50
MW-39	03-RT-006-GW	Pre-purge Sample	2/4/2003	---	<50	---	6720	50.5	<50	<50
MW-39	03-RT-027-GW	Project Sample	3/11/2003	4.58	12.7	4.06	4720	36.4	2.54	<1
MW-39	03-RT-039-GW	Project Sample	6/17/2003	---	<25	---	3830	39.5	<10	<10
MW-39	03RT-081-GW	Project Sample	9/18/2003	---	19.4	---	2360	22.4	<5	25
MW-39	04-RT-008-GW	Project Sample	1/21/2004	---	214	---	6370	74	<50	<50

Appendix A
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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-39	04-RT-019-GW	Project Sample	3/31/2004	---	456	---	3100	44.6	<1	<1
MW-39	04-RT-028-GW	Project Sample	6/8/2004	---	65.4	---	4230	56.5	<5	9.4
MW-39	04-RT-055-GW	Project Sample	10/29/2004	---	116	---	3590	81.8	<1	<1
MW-39	04-RT-061-GW	QC Duplicate	10/29/2004	---	120	---	3530	82.4	2.3	11.5
MW-39	05-RT-009-GW	Project Sample	2/23/2005	---	651	---	3550	61	<20	<20
MW-39	05-RT-023-GW	Project Sample	6/2/2005	---	460	---	1620	<1	<1	<1
MW-39	05-RT-051-GW	Project Sample	10/11/2005	---	226	---	2160 VM	53.2	<5	<5
MW-39	06-RT-003-GW	Project Sample	3/8/2006	---	255	---	3090	67.9	<5	11.4
MW-39	06-RT-014-GW	Project Sample	5/24/2006	---	435	---	1160 VH	55	<1	<1
MW-39	06-RT-035-GW	Project Sample	9/11/2006	---	158	---	1500	48.9	<10	<10
MW-39	07-RT-006-GW	Project Sample	5/30/2007	---	300	---	660	40	<1	<1
MW-39	07-RT-033-GW	Project Sample	9/18/2007	---	134	---	1820	64.1	<1	<1
MW-39	08-RT-006-GW	Project Sample	5/12/2008	---	174	---	888	45.5	<1	<1
MW-39	08-RT-032-GW	Project Sample	9/17/2008	4.39	216	0.71	1140	47.4	<1 VM	0.34
MW-39	09-RT-008-GW	Project Sample	5/6/2009	1.79	41.1	<1	330	14.4	0.32	2.11
MW-39	09-RT-067-GW	Project Sample	10/6/2009	4.19	187	0.39	902	43.8	0.81	1.55 VJ
MW-39	10-RT-042-GW	Project Sample	5/12/2010	4.92	132	<0.31	518	47.4	3.08	0.94
MW-39	10-RT-086-GW	Project Sample	10/20/2010	5.54	115	0.32	585	52.2	1.84	3.59
MW-39	10-RT-117-GW	QC Duplicate	10/20/2010	4.82	114	<0.62	589	46	1.64	3.64
MW-39	12-RT-006-GW	Project Sample	5/8/2012	2.22	53.7	<0.31	<3.1	18.9	<0.31	<0.31
MW-39	13-RT-020-GW	Project Sample	4/9/2013	3.31	14.1	<0.62	25	34.1	<0.62	<0.62
MW-39	14-RT-006-GW	Project Sample	4/23/2014	2.56	4.55	<0.5	13.1	27.6	<0.5	<0.5
MW-39	16-RT-008-GW	Project Sample	10/27/2016	2.38	9.16 J	<0.31	12.2 J	21.2	<0.31	<0.31
MW-39	16-RT-018-GW	QC Duplicate	10/27/2016	1.97	4.76 J	<0.31	6.47 J	16.6	<0.31	<0.31
MW-40	00-RT-108-GW	Project Sample	9/27/2000	---	2.6	---	1120	10.2	158	641
MW-40	00-RT-132-GW	Project Sample	11/28/2000	---	<5	---	1940	19.4	43	76.9
MW-40	01-RT-002-GW	Project Sample	1/11/2001	---	<10	---	2440	15.9	<10	52.9
MW-40	01-RT-032-GW	Project Sample	3/8/2001	---	<25	---	1270	<25	<25	30.5
MW-40	01-RT-075-GW	Project Sample	5/22/2001	---	<10	---	1540	13.4	<10	28.6
MW-40	01-RT-090-GW	Project Sample	10/16/2001	---	<10	---	1930	<10	64.1	39.4
MW-40	01-RT-130-GW	Project Sample	1/15/2002	---	<10	---	2330	22.1	75.2	43.3
MW-40	02-RT-042-GW	Project Sample	6/19/2002	0.993 J	2.41 J	0.999 J	2720 J	8.23 J	<0.4 J	<0.4 J
MW-40	02-RT-064-GW	Project Sample	9/27/2002	2	3.9	1.9	1600	11	100	470
MW-40	02-RT-103-GW	Project Sample	12/18/2002	---	24.3	---	2350	28.4	25.6	29.9
MW-40	03-RT-002-GW	Project Sample	2/4/2003	---	33.4	---	2860	24.6	68	27.6

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-40	03-RT-028-GW	Project Sample	3/11/2003	4.95	53.4	4.41	3810	36.4	55.8	48.8
MW-40	03-RT-035-GW	Project Sample	6/17/2003	---	96.6	---	2690	33.9	70.9	35.8
MW-40	03RT-084-GW	Project Sample	9/19/2003	---	144	---	2760	30.5	45.6	31.1
MW-40	04-RT-009-GW	Project Sample	1/21/2004	---	363	---	2030	39.8	27	<20
MW-40	04-RT-020-GW	Project Sample	3/30/2004	---	173	---	2620	39.8	145	13.5
MW-40	04-RT-029-GW	Project Sample	6/8/2004	---	341	---	1810	36.8	12	26.8
MW-40	04-RT-056-GW	Project Sample	10/29/2004	---	235	---	1220	37.6	22.1	5.1
MW-40	05-RT-010-GW	Project Sample	2/24/2005	---	101	---	507	21.4	<5	<5
MW-40	05-RT-024-GW	Project Sample	6/2/2005	---	201	---	521	1.1	21.4	2.2
MW-40	05-RT-052-GW	Project Sample	10/12/2005	---	78.5	---	468 VM	15.7	<10	<10
MW-40	06-RT-004-GW	Project Sample	3/8/2006	---	57.2	---	118	13.1	<1	<1
MW-40	06-RT-015-GW	Project Sample	5/25/2006	---	43.5	---	144	13	<1	7.7
MW-40	06-RT-018-GW	QC Duplicate	5/25/2006	---	36	---	144	11	<10	<10
MW-40	06-RT-036-GW	Project Sample	9/12/2006	---	38.7	---	180	15.2	52.1	108
MW-40	06-RT-041-GW	QC Duplicate	9/12/2006	---	38.8	---	174	15.1	44.4	96.3
MW-40	06-RT-042-GW	QA Split	9/12/2006	1.5	28 VJ	<0.5	170	12	49	81
MW-40	07-RT-007-GW	Project Sample	5/30/2007	---	43.1	---	72.4	15.3	<1	<1
MW-40	07-RT-034-GW	Project Sample	9/19/2007	---	13.3	---	28.5	7.9	<1	3.2
MW-40	08-RT-007-GW	Project Sample	5/12/2008	---	<1	---	3	<1	<1	<1
MW-40	08-RT-033-GW	Project Sample	9/17/2008	1.51	20.7 VJ	<1	44.4 VM	10	1.29 VM	12
MW-40	09-RT-009-GW	Project Sample	5/6/2009	1.9	9.4	<1	17.8	9.76	7.79	4.45
MW-40	09-RT-068-GW	Project Sample	10/7/2009	1.13	9.39	<0.31	33.2	6.52	1.27	12.1 VJ
MW-40	09-RT-077-GW	QA Split	10/7/2009	---	5.3 VJ	---	23 VJ	<5	<5	7.6
MW-40	09-RT-098-GW	QC Duplicate	10/7/2009	0.99	9.1	<0.31	35.9	5.07	1.3	7.45
MW-40	10-RT-043-GW	Project Sample	5/13/2010	1.28	17.6 VJ	<0.31	21.9	10.5	1.99	5.54
MW-40	10-RT-087-GW	Project Sample	10/20/2010	0.58	8.95	0.34	103	3.78	3.72	7.26
MW-40	10-RT-118-GW	QC Duplicate	10/20/2010	0.56	10.4	0.36	108	3.52	3.66	7
MW-40	12-RT-007-GW	Project Sample	5/7/2012	0.95	6.65	<0.31	12.2	7.06	11.5	41.4
MW-40	13-RT-021-GW	Project Sample	4/9/2013	1.08	2.48	<0.62	10.8	6.95	0.82	2.3
MW-40	14-RT-007-GW	Project Sample	4/23/2014	1.72	1.99	<0.5	3.99	15.4	<0.5	0.61
MW-41	02-RT-106-GW	Project Sample	12/18/2002	---	<1	---	1.4	<1	1.2	94.3
MW-41	03-RT-068-GW	Project Sample	6/18/2003	<0.4	<1	<1	<1	<1	<1	21.5
MW-41	03-RT-111-GW	Project Sample	10/8/2003	<0.4	<1	<1	1.61	<1	1.75	157
MW-41	03-RT-112-GW	QC Duplicate	10/8/2003	<0.4	<1	<1	1.5	<1	1.44	149
MW-41	04-RT-083-GW	Project Sample	10/22/2004	<0.4	<1	<1	<1	<1	<1	28.8

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-41	06-RT-057-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	30	<0.5	12	160
MW-41	08-RT-047-GW	Project Sample	9/19/2008	<0.4	<1	<1	15.3	<1	9.18	94
MW-41	12-RT-025-GW	Project Sample	5/10/2012	<0.12	<0.31	<0.31 VJ	7.64 VJ	<0.31	4.64 VJ	137
MW-42	02-RT-099-GW	Project Sample	11/2/2002	---	<1	---	129	1.3	17.7	39.7
MW-42	02-RT-112-GW	Project Sample	12/19/2002	0.72	<1	<1	976	9.76	19.2	44.5
MW-42	03-RT-030-GW	Project Sample	3/11/2003	0.79	<1	1.51	940	12.9	43.8	69.4
MW-42	03-RT-069-GW	Project Sample	6/18/2003	0.81	<1	<1	355	3.67	11.6	23.1
MW-42	03-RT-070-GW	QC Duplicate	6/18/2003	0.87	<1	<1	387	3.75	10.8	20.5
MW-42	03-RT-071-GW	QA Split	6/18/2003	---	<1	---	373	5.1	18.5	32.9
MW-42	03-RT-097-GW	Project Sample	10/7/2003	2.57	<1	4.84	<1	<1	309	298
MW-42	04-RT-035-GW	Project Sample	6/9/2004	0.41	<1	<1	181	1.84	9.69	31.6
MW-42	04-RT-084-GW	Project Sample	10/22/2004	0.6	<1	<1	400	<1	35.5	15.6
MW-42	05-RT-032-GW	Project Sample	6/3/2005	0.41	<1	<1	93	1.37	21.3	23.1
MW-42	05-RT-067-GW	Project Sample	10/12/2005	0.49	<1	<1	634	7.39	21.3	127
MW-42	06-RT-024-GW	Project Sample	5/26/2006	0.63	23	<1	472	5.53	14.9	41.9
MW-42	06-RT-058-GW	Project Sample	9/12/2006	<0.5	1.3	<0.5	140	1.3	5.8	13
MW-42	07-RT-016-GW	Project Sample	5/30/2007	0.14	18.3	<1	259 VH	3.06	10.9	27.9
MW-42	07-RT-026-GW	Project Sample	9/20/2007	---	1.1 VH	---	18 VH	<1 VH	7.3 VH	16.8 VH
MW-42	08-RT-004-GW	Project Sample	5/13/2008	---	59.4	---	241	2.4	11.2	1.7
MW-42	08-RT-048-GW	Project Sample	9/18/2008	<0.4	11.1 VJ	<1	48.5	0.69	57	194
MW-42	09-RT-004-GW	Project Sample	5/5/2009	0.92	52.5	<1	234	3.74	176	409
MW-42	09-RT-083-GW	Project Sample	10/8/2009	0.8	9.45	<0.31	25.3	1.57	11.1	27.7
MW-42	10-RT-052-GW	Project Sample	5/14/2010	<0.12	1.55 VJ	<0.31	12.6	<0.31	8.07	40.8
MW-42	10-RT-083-GW	Project Sample	10/18/2010	<0.12	6.63	<0.31	17.5	<0.31	2.84	17.3
MW-42	12-RT-003-GW	Project Sample	5/9/2012	<0.12 VJ	7.01 VJH	<0.31 VJH	60.7 VJH	0.62 VJH	16.1 VJH	48 VJH
MW-42	13-RT-017-GW	Project Sample	4/11/2013	0.46	18.3	<0.62	256	2.17	25.5	11.3
MW-42	14-RT-003-GW	Project Sample	4/22/2014	<0.2	7.95	<0.5	58.5	1.66	4.8	7
MW-42	14-RT-034-GW	QC Duplicate	4/22/2014	<20	<50	<50	180	<50	<50	141
MW-43	02-RT-101-GW	Project Sample	11/2/2002	---	<1	---	164	<1	24.6	48.2
MW-43	02-RT-113-GW	Project Sample	12/19/2002	<0.4	<1	<1	39.1	<1	7.38	57.4
MW-43	03-RT-031-GW	Project Sample	3/11/2003	<0.4	<1	<1	19.5	<1	5.18	65.8
MW-43	03-RT-072-GW	Project Sample	6/18/2003	<0.4	<1	<1	142	<1	11.9	36.8
MW-43	03-RT-098-GW	Project Sample	10/7/2003	<0.4	<1	<1	120	<1	16.2	45.6
MW-43	03-RT-099-GW	QC Duplicate	10/7/2003	<0.4	<1	<1	101	<1	15.7	41.1

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-43	04-RT-085-GW	Project Sample	10/22/2004	<0.4	<1	<1	6.77	<1	5.28	69.4
MW-43	04-RT-088-GW	QC Duplicate	10/22/2004	<0.4	<1	<1	8.21	<1	6.05	71.2
MW-43	06-RT-059-GW	Project Sample	9/12/2006	<0.5	<0.5	<0.5	4.3	<0.5	4.4	58
MW-43	08-RT-049-GW	Project Sample	9/20/2008	<0.4	<1	<1	19.5	<1	5.89	20.2
MW-43	12-RT-026-GW	Project Sample	5/10/2012	<0.12	5.91 VJ	<0.31	42.2 VJ	<0.31	18.6 VJ	34.8
MW-44	02-RT-100-GW	Project Sample	11/2/2002	---	<10	---	556	<10	1480	31300
MW-44	02-RT-105-GW	Project Sample	12/18/2002	---	10.6	---	326	2.4	3170	19800
MW-44	03-RT-029-GW	Project Sample	3/11/2003	<2	9	15.5	147	<5	2390	29500
MW-44	03-RT-054-GW	QA Split	6/18/2003	---	<5	---	1750	9.6	5730	26300
MW-44	03-RT-052-GW	Project Sample	6/19/2003	0.68	10.5	19	2180	9.01	5390	20600
MW-44	03-RT-053-GW	QC Duplicate	6/19/2003	0.61	9.86	17.4	1840	8.61	5440	23100
MW-44	03RT-082-GW	Project Sample	9/18/2003	---	11.6	---	894	3.6	4970	18900
MW-44	04-RT-042-GW	Project Sample	6/8/2004	0.69	8.3	10.1	1050	6.01	3740	15800
MW-44	04-RT-058-GW	Project Sample	10/29/2004	---	49.7	---	1760	9.9	4460	13500
MW-44	04-RT-063-GW	QA Split	10/29/2004	0.4	31.3	13.8	1510	7	3310	8160
MW-44	05-RT-037-GW	Project Sample	6/3/2005	<0.4	9.16	11	1160	2.56	3990	9250
MW-44	05-RT-053-GW	Project Sample	10/12/2005	---	14.7	---	1890 VM	<10	4570	11500
MW-44	06-RT-005-GW	Project Sample	3/7/2006	---	187	---	8080	104	3220	3530
MW-44	06-RT-017-GW	Project Sample	5/24/2006	---	45.6	---	6170 VH	28	720	416
MW-44	06-RT-037-GW	Project Sample	9/12/2006	---	<25	---	3990	<25	<25	26.5
MW-44	07-RT-009-GW	Project Sample	5/30/2007	---	1630	---	7500	84.4	34.8	26.2
MW-44	07-RT-035-GW	Project Sample	9/18/2007	---	5910	---	18600	88.5	3.6	1.8
MW-44	08-RT-008-GW	Project Sample	5/12/2008	---	393	---	1020	10.4	15.2	67.5
MW-44	08-RT-034-GW	Project Sample	9/17/2008	0.27	4340	11.1	6220	43.7	0.57 VM	0.88
MW-44	09-RT-010-GW	Project Sample	5/6/2009	<0.4	72.7 VJ	<1	104	8	1.61	5.04
MW-44	09-RT-069-GW	Project Sample	10/6/2009	<0.12	171 VJ	0.35	188	6.03	0.69	1.98 VJ
MW-44	10-RT-044-GW	Project Sample	5/12/2010	<0.12 VH	204 VH	0.67 VH	482 VH	5.16 VH	4.55 VH	11.8 VH
MW-44	10-RT-088-GW	Project Sample	10/20/2010	<0.12	609	0.8	380	4.37	0.46	0.85
MW-44	12-RT-008-GW	Project Sample	5/8/2012	<0.12	109	<0.31	131	11	<0.31	0.58
MW-44	13-RT-018-GW	Project Sample	4/9/2013	<0.24	<6.2	<0.62	87	1.4	0.73	1.1
MW-44	14-RT-008-GW	Project Sample	4/23/2014	<0.2	52.7	<0.5	41.9	5.78	0.91	1.78
MW-44	16-RT-009-GW	Project Sample	10/27/2016	<0.12	137	<0.31	231	1.82	<0.31	10.9
MW-45	03-RT-093-GW	Project Sample	10/9/2003	---	<1	---	6.1	<1	2.5	<1
MW-45	04-RT-043-GW	Project Sample	6/8/2004	<0.4	<1	<1	2.32	<1	10.7	8.41

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-45	04-RT-059-GW	Project Sample	10/29/2004	---	<1	---	1.7	<1	3.7	2.2
MW-45	05-RT-038-GW	Project Sample	6/3/2005	<0.4	<1	<1	4.89	<1	7.62	2.76
MW-45	06-RT-039-GW	Project Sample	9/12/2006	---	<1	---	2.4	<1	1.9	<1
MW-45	12-RT-035-GW	Project Sample	5/9/2012	<0.12 VH	8.04 VH	<0.31 VH	18.7 VH	0.72 VH	9.43 VH	0.58 VH
MW-45	13-RT-011-GW	Project Sample	4/9/2013	<0.24	0.92	<0.62	2.61	<0.62	2.52	0.47
MW-46	03-RT-094-GW	Project Sample	10/9/2003	---	<1	---	51.4	<1	<1	<1
MW-46	04-RT-044-GW	Project Sample	6/8/2004	<0.4	<1	<1	9.95 VH	<1	13.4 VH	73.6 VH
MW-46	04-RT-060-GW	Project Sample	10/29/2004	---	<1	---	10.1	<1	<1	3.9
MW-46	05-RT-039-GW	Project Sample	6/3/2005	<0.4	<1	<1	1.45	<1	<1	40.1
MW-46	06-RT-040-GW	Project Sample	9/12/2006	---	1.9	---	10.1	<1	<1	<1
MW-46	12-RT-036-GW	Project Sample	5/9/2012	<0.12 VH	1.32 VH	<0.31 VH	3.48 VH	<0.31 VH	<0.31 VH	0.59 VH
MW-47	06-RT-038-GW	Project Sample	10/4/2006	---	71	---	18700	193	2270	16100
MW-47	07-RT-010-GW	Project Sample	5/30/2007	---	139	---	47700	777	<10	<10
MW-47	07-RT-036-GW	Project Sample	9/19/2007	---	142	---	45500	485	<10	<10
MW-47	08-RT-009-GW	Project Sample	5/12/2008	---	83.8	---	21400	260	<5	<5
MW-47	08-RT-035-GW	Project Sample	9/17/2008	73	165	27	40600	1330	1.1 VM	0.43
MW-47	09-RT-011-GW	Project Sample	5/6/2009	67.4	268 VJ	49.3	55900	490	48.4	1
MW-47	09-RT-019-GW	QC Duplicate	5/6/2009	68.9	256 VJ	47.9	62300	494	40.5	<10
MW-47	09-RT-070-GW	Project Sample	10/6/2009	67.9	413	30.4	32800	309	2.5	0.35 F
MW-47	10-RT-045-GW	Project Sample	5/11/2010	64.7	1980	32.3	38700 VH	410	232	55.3
MW-47	10-RT-089-GW	Project Sample	10/19/2010	86.6	2080	71.8	67700	612	2280	278
MW-47	11-RT-001-GW	Project Sample	5/17/2011	69.6	1430	35.4	34900	384	4140	1610
MW-47	12-RT-009-GW	Project Sample	5/8/2012	<60	370	37.2	34400	345	5120	4050
MW-47	13-RT-025-GW	Project Sample	4/10/2013	31 VH	304 VH	<62 VH	10900 VH	181 VH	1950 VH	3990 VH
MW-47	14-RT-009-GW	Project Sample	4/23/2014	11.5	112	7.24	6170	62.2	790	2500
MW-48	09-RT-043-GW	Project Sample	8/17/2009	<1.2	57.9	89.9	12100	42.9	16800	120000
MW-48	09-RT-071-GW	Project Sample	10/6/2009	3.23	128	73	23700	119	4090	333 VJ
MW-48	10-RT-046-GW	Project Sample	5/12/2010	0.24	16.5 VJ	7.31	3310	13.5	292 VJ	26 VJ
MW-48	10-RT-068-GW	QC Duplicate	5/12/2010	0.25	16.2	7.41	3100	14.2	617 VR	616 VR
MW-48	10-RT-090-GW	Project Sample	10/19/2010	<0.12	7.22 VJ	3.08	1220	6.78	7.39	2.78
MW-48	11-RT-002-GW	Project Sample	5/18/2011	0.52	54.1	39.2	14600	37.4	<620	30
MW-48	12-RT-010-GW	Project Sample	5/8/2012	1.35	<155	<155	31500	<155	4.57	3.42
MW-48	13-RT-026-GW	Project Sample	4/10/2013	1.29	17.1	16.5	4700	14.6	0.72	0.64

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-48	14-RT-010-GW	Project Sample	4/22/2014	<20	<50	61.7	25400	70.7	<50	<50
MW-48	16-RT-010-GW	Project Sample	10/26/2016	<12	364	133	97400 E	196	350	<31
MW-49	09-RT-044-GW	Project Sample	8/17/2009	<1.2	25.9	8.4	7660	17	309	986
MW-49	09-RT-072-GW	Project Sample	10/6/2009	2.4	78.8 VJ	31.7	16300	73.9 VJ	1490	137 VJ
MW-49	10-RT-047-GW	Project Sample	5/13/2010	5.2	359 VJ	94	92900	203	<6.2	29.2
MW-49	10-RT-091-GW	Project Sample	10/19/2010	4.26 VH	314 VH	66.5 VH	63200 VH	120 VH	1.76 VH	0.93 VH
MW-49	11-RT-003-GW	Project Sample	5/18/2011	3.13	876	49.8	50700	96	5.25	2.65
MW-49	12-RT-011-GW	Project Sample	5/9/2012	<24	2700	<62	79300	94	<62	<62
MW-49	13-RT-027-GW	Project Sample	4/10/2013	<0.24	109	<0.62	382	4.57	<0.62	<0.62
MW-49	14-RT-011-GW	Project Sample	4/23/2014	4.14	8390	31.2	37800	182	<10	14.8
MW-49	16-RT-011-GW	Project Sample	10/26/2016	<2.4	9720	34.4	50500	120	<6.2	<6.2
MW-50	09-RT-045-GW	Project Sample	8/17/2009	2.8	25.4	21.2	8840	44.1	2340	3550
MW-50	09-RT-073-GW	Project Sample	10/6/2009	3.7	81.6 VJ	115	12600	58.7	9360	44000 VJ
MW-50	10-RT-048-GW	Project Sample	5/12/2010	3.97	285	226	28900	67.5	26900	64400
MW-50	10-RT-059-GW	QA Split	5/12/2010	---	146 VJ	---	23000	52.5	20100	64900
MW-50	10-RT-067-GW	QC Duplicate	5/12/2010	3.65	294	246	30700	78	26100	73100
MW-50	10-RT-092-GW	Project Sample	10/20/2010	2.2	77	101	21400	45	17900	54700
MW-50	11-RT-004-GW	Project Sample	5/17/2011	1.82	354 VJ	114	117000 VJ	103 VJ	15500 VJ	38100 VJ
MW-50	11-RT-009-GW	QA Split	5/17/2011	---	258 VJ	---	48800 VJ	219 VJ	6050 VJ	18000 VJ
MW-50	12-RT-012-GW	Project Sample	5/8/2012	2.82	1180	261	3890	654	22.2	4.69
MW-50	13-RT-028-GW	Project Sample	4/10/2013	0.37	1400	38.2	19600	51	1080	2710
MW-50	14-RT-012-GW	Project Sample	4/22/2014	<4	1680	9.94	7440	28.6	81.8	128
MW-50	16-RT-012-GW	Project Sample	10/26/2016	<2.4	15800	41.8	47000	135	<6.2	<6.2
MW-51	10-RT-093-GW	Project Sample	10/19/2010	1.53	184	196	79400	254	5200	59000
MW-51	11-RT-005-GW	Project Sample	5/18/2011	0.49	2220	53.9	30300	180	236	793
MW-51	12-RT-013-GW	Project Sample	5/9/2012	<24	11400	64	73600	256	<62	<62
MW-51	13-RT-029-GW	Project Sample	4/10/2013	0.13	3870	17.3	10500	49	2.54	4.73
MW-51	14-RT-013-GW	Project Sample	4/22/2014	<0.2	12.5	<0.5	34.6	0.655	0.749	5.81
MW-51	16-RT-013-GW	Project Sample	10/26/2016	0.41	11800 E	21.1	22200 E	394 E	<0.31	14.2
MW-51	16-RT-017-GW	QC Duplicate	10/26/2016	<12	9120	<31	11200 J	146 J	<31	<31
MW-52	10-RT-094-GW	Project Sample	10/19/2010	0.42	26.5	36.8	18200	81.8	2320	1410
MW-52	11-RT-006-GW	Project Sample	5/17/2011	<0.12	53.5	2.81	1130	5.05	1.75	2.78

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July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
MW-52	12-RT-014-GW	Project Sample	5/8/2012	<0.12	475	3.74	1220	8.71	<0.31	0.7
MW-52	13-RT-030-GW	Project Sample	4/10/2013	3.66	10900	23.1	30500	152	1.17	<0.62
MW-52	14-RT-014-GW	Project Sample	4/23/2014	<0.2	2.74	<0.5	11.7	1.02	0.776	15.2
MW-52	16-RT-014-GW	Project Sample	10/26/2016	<0.12	20.8	<0.31	24.8	3.78	<0.31	1.15
L-13	03-RT-008-GW	Project Sample	3/10/2003	---	166	---	3040	42.2	<10	<10
L-13	03-RT-010-GW	QA Split	3/10/2003	3.81	193	3.05	3240	42.8	1.39	1.15
L-13	03-RT-037-GW	Project Sample	6/17/2003	---	599	---	3690	51.5	<10	<10
L-13	03-RT-077-GW	QA Split	6/17/2003	6.51	610	2.85	4360	<1	<1	<1
L-17	03-RT-038-GW	Project Sample	6/17/2003	---	11.6	---	1490	20.2	111	161
L-74	06-RT-076-GW	Project Sample	10/1/2006	1.16	4.89	1.8	1030	1.8	<310	700 F
L-75	06-RT-077-GW	Project Sample	10/1/2006	36.4	<620	51.3	39100	51.6	720 F	3860
L-76	06-RT-078-GW	Project Sample	10/1/2006	12.6	49.7	<620	700 F	<620	1740 F	139000 VH
L-76	06-RT-081-GW	QC Duplicate	10/1/2006	12.6	<620	<620	640	<620	1780 F	139000
L-78	08-RT-010-GW	Project Sample	6/26/2008	<20	44.5	32	7630	70.5	5800	12300
L-78	08-RT-036-GW	Project Sample	9/18/2008	1.3	208 VJ	64	14500	101 VJ	9620	22800
L-78	09-RT-020-GW	Project Sample	5/7/2009	<8	257 VJ	35.6	5520	39.2	3350	5900
L-78	09-RT-074-GW	Project Sample	10/7/2009	1.3	61.8	82.1 VJ	14300 VJ	107 VJ	5610	19600 VJ
L-78	10-RT-062-GW	Project Sample	5/13/2010	<12	1380 VJ	113	28400	160	9220	26100
L-78	10-RT-095-GW	Project Sample	10/20/2010	1.97 VH	66.3 VH	13.3 VH	5470 VH	16.1 VH	834 VH	21200 VH
L-78	11-RT-010-GW	Project Sample	5/17/2011	<120	570	<310	15100	<310	3090	8750
L-78	12-RT-015-GW	Project Sample	5/9/2012	<24	<62	<62	4040	<62	472	12700
L-78	13-RT-031-GW	Project Sample	4/9/2013	0.75 VH	1280 VH	38.5 VH	21800 VH	31 VH	3150 VH	6510 VH
L-78	14-RT-015-GW	Project Sample	4/23/2014	<20	1070	<50	19900	38.6	2560	4350
L-79	08-RT-011-GW	Project Sample	5/13/2008	---	13.4	---	1240	9.2	918	2710
L-80	08-RT-012-GW	Project Sample	5/13/2008	---	77.8	---	8850	68	4450	48900
L-80	08-RT-037-GW	Project Sample	9/18/2008	5.98	93.6 VJ	51.5	11700	60.9	3920	41300
L-80	09-RT-021-GW	Project Sample	5/7/2009	5.4	138 VJ	46.2	11600	53.8	4150	13300
L-80	14-RT-018-GW	Project Sample	4/23/2014	<20	284	66.2	20000	41.6	3670	63500

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
L-81	08-RT-013-GW	Project Sample	6/26/2008	23.5	77	<50	11700	108	978	2950
L-81	08-RT-038-GW	Project Sample	9/18/2008	24	302	22	23100	184	490	480
L-81	09-RT-022-GW	Project Sample	5/7/2009	25.8	303 VJ	21	16600	156	761	791
L-93	09-RT-039-GW	Project Sample	8/15/2009	<1.2	11.7	4.5	1540	12.7	17.3	32.2
L-94	09-RT-040-GW	Project Sample	8/15/2009	<1.2	7.5	3.8	2390	16.6	265	201
L-96	09-RT-042-GW	Project Sample	8/15/2009	3.1	7.8	3.9	1890	20.4	261	6250
WP-2	02-RT-114-GW	Project Sample	12/18/2002	<4	<1	<1	<1	<1	<1	<1
SB-1(deep)	97RTGW506GW	Project Sample	7/18/1997	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SB-1(deep)	SB-1 (D)	Project Sample	4/23/1998	<1	<1	<1	<1	<1	<1	<1
SB-1(deep)	SB-1 Deep	Project Sample	6/29/1998	<1	<1	<1	<1	<1	<1	<1
SB-1(deep)	SB-1 Deep	Project Sample	10/20/1998	<1	<1	<1	<1	<1	<1	<1
SB-1(deep)	03-RT-061-GW	Project Sample	6/19/2003	<0.4	<1	<1	<1	<1	5.11	39
SB-1(deep)	03-RT-107-GW	Project Sample	10/9/2003	1.07	<1	<1	<1	<1	<1	<1
SB-1(deep)	04-RT-066-GW	Project Sample	10/22/2004	<0.4	<1	<1	<1	<1	<1	<1
SB-1(shallow)	SB-1 (S)	Project Sample	4/23/1998	<1	<1	<1	<1	<1	<1	<1
SB-1(shallow)	SB-1 Shallow	Project Sample	6/30/1998	<1	<1	<1	<1	<1	<1	<1
SB-1(shallow)	SB-1 Shallow	Project Sample	10/20/1998	<1	<1	<1	<1	<1	<1	<1
SB-1(shallow)	SB-1 Shallow	Project Sample	4/16/1999	<1	<1	<1	<	<1	<1	<1
SB-1(shallow)	03-RT-060-GW	Project Sample	6/19/2003	<0.4	<1	<1	<1	<1	<1	<1
L-97	09-RT-047-GW	Project Sample	8/19/2009	0.82	7.33	0.56	395	1.57	7.85	25
L-98	09-RT-048-GW	Project Sample	8/19/2009	4.5	35.4	35.5	21600	41.9	1230	45500
L-99	09-RT-049-GW	Project Sample	8/19/2009	4.3	25	9.4	2120	<3.1	1070	13900
L-100	09-RT-050-GW	Project Sample	8/19/2009	1.08	3.3	1.15	1350	6.43	163	128
L-100	09-RT-092-GW	Project Sample	10/7/2009	1.23	23.5	1.6	1870	7.2	121	93
L-100	10-RT-054-GW	Project Sample	5/12/2010	0.82 VH	16.5 J,H	1.17 VH	1200 VH	3.9 VH	65.7 VH	91.3 VH

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
L-100	10-RT-096-GW	Project Sample	10/20/2010	<2.4	18	<6.2	1700	7.6	225	110
L-100	11-RT-007-GW	Project Sample	5/17/2011	<12	50	<31	3010	<31	216	151
L-100	12-RT-016-GW	Project Sample	5/9/2012	<12	<31	<31	2450	<31	61	<31
L-100	13-RT-023-GW	Project Sample	4/10/2013	0.66	15.4	2.72	1720	17	38.8	17.5
L-100	13-RT-035-GW	QC Duplicate	4/10/2013	0.65	11.9	2.94	1690	16.7	42.3	19.6
L-100	14-RT-016-GW	Project Sample	4/22/2014	<20	<50	<50	1610	<50	88.6	47.5
L-101	09-RT-059-GW	Project Sample	8/19/2009	0.99	21.1	32.9	2730	16	8580	18700
L-101	09-RT-093-GW	Project Sample	10/7/2009	1.08	47.1	69.5	31200	197	5730	7100
L-101	10-RT-055-GW	Project Sample	5/12/2010	2.35 VH	33.1 J,H	27.9 VH	16700 VH	53.9 VH	4680 VH	57600 VH
L-101	10-RT-097-GW	Project Sample	10/20/2010	<2.4	83.6	87.4	55500	217	173	110
L-101	11-RT-011-GW	Project Sample	5/17/2011	<12	1440	82	54300	182	<31	<31
L-101	11-RT-012-GW	QC Duplicate	5/17/2011	<12	1530	86	61800	203	<31	<31
L-101	12-RT-017-GW	Project Sample	5/8/2012	<24	76	<62	28800	118	62	406
L-101	12-RT-019-GW	QA Split	5/8/2012	---	462 VR	---	27600	123	95.8	363
L-101	12-RT-040-GW	QC Duplicate	5/8/2012	<24	62	<62	26200	180	<62	344
L-101	13-RT-024-GW	Project Sample	4/10/2013	1.21 VH	1120 VH	29.8 VH	25200 VH	<62 VH	266 VH	582 VH
L-101	14-RT-017-GW	Project Sample	4/23/2014	<20	1470	<50	29800	98	337	644
L-102	14-RT-019-GW	Project Sample	4/22/2014	<20	375	88.4	36700	62.4	6600	61500
L-103	14-RT-020-GW	Project Sample	4/23/2014	30.1	317	36.6	24600	185	3050	8340
Laundry Well	WSWell	Project Sample	10/29/1997	<1	<1	<0.5	1.07	<1	<1	<1
Laundry Well	WSWell	Project Sample	12/31/1997	<1	<1	<0.5	<1	<1	<1	<1
Laundry Well	Drinking Water Well	Project Sample	6/30/1998	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Laundry Well	DWW	Project Sample	12/29/1998	<5	<5	<5	<5	<5	<5	<5
Laundry Well	99-RT-063-GW	Project Sample	10/27/1999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Laundry Well	00-RT-047-GW	Project Sample	7/7/2000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Laundry Well	WSWell	Project Sample	6/20/2003	<0.5	<0.4	<0.5	<0.5	<0.5	<0.5	<0.5
Laundry Well	Space 79 Kitchen	Project Sample	11/29/2006	<0.5	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5
Laundry Well	Drinking Water Well	Project Sample	12/20/2010	<0.5	<0.4	<0.5	<0.5	<0.5	<0.5	<0.5
River - MW-5	05-RT-040-GW	Project Sample	6/2/2005	<0.4	<1	<1	<1	<1	<1	<1
River - MW-5	05-RT-068-GW	Project Sample	10/12/2005	<0.4	<1	<1	<1	<1	<1	<1
River - MW-5	06-RT-025-GW	Project Sample	5/25/2006	<0.4	<1	<1	<1	<1	<1	<1

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
River - MW-5	06-RT-060-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
River - MW-5	07-RT-017-GW	Project Sample	5/30/2007	<0.4	<1	<1	<1	<1	<1 VM	<1 VM
River - MW-5	07-RT-045-GW	Project Sample	9/20/2007	<0.4	<1	<1	<1	<1	<1	<1
River - MW-5	07-RT-048-GW	QC Duplicate	9/20/2007	<0.4	<1	<1	<1	---	<1	<1
River - MW-5	08-RT-019-GW	Project Sample	5/13/2008	<0.4	<1	<1	<1	<1	<1	<1
River - MW-5	08-RT-061-GW	Project Sample	9/20/2008	<0.4	<1	<1	<1	<1	<1	<1
River - MW-5	09-RT-015-SW	Project Sample	5/7/2009	<0.4	<1	<1	<1	<1	<1	<1
River - MW-5	09-RT-094-GW	Project Sample	10/9/2009	<0.12	<0.31	<0.31	13.3	<0.31	1.66	0.91 VJ
River - MW-5	10-RT-063-GW	Project Sample	5/13/2010	<0.12	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
River - MW-5	10-RT-114-GW	Project Sample	10/22/2010	<0.12	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
River - MW-5	12-RT-037-GW	Project Sample	5/9/2012	<0.12 VH	<0.31 VH	<0.31 VH	0.4 VH	<0.31 VH	<0.31 VH	<0.31 VH
River - MW-5	14-RT-029-GW	Project Sample	4/23/2014	<0.2	<0.5	<0.5	0.32	<0.5	<0.5	<0.5
River - MW-6	99RTRVP004SW	Project Sample	5/19/1999	---	<0.02	---	15	0.081	1.9	2.5
River - MW-6	03-RT-055-GW	Project Sample	6/19/2003	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	03-RT-116-GW	Project Sample	10/8/2003	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	04-RT-001-SW	Project Sample	5/6/2004	---	<1	---	<1	<1	<1	<1
River - MW-6	04-RT-002-SW	Project Sample	5/6/2004	---	<1	---	<1	<1	<1	<1
River - MW-6	04-RT-041-GW	Project Sample	6/7/2004	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	05-RT-041-GW	Project Sample	6/2/2005	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	05-RT-069-GW	Project Sample	10/12/2005	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	06-RT-026-GW	Project Sample	5/25/2006	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	06-RT-061-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
River - MW-6	07-RT-018-GW	Project Sample	5/30/2007	<0.4	<1	<1	<1	<1	<1 VM	<1 VM
River - MW-6	07-RT-046-GW	Project Sample	9/20/2007	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	08-RT-020-GW	Project Sample	5/13/2008	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	08-RT-062-GW	Project Sample	9/20/2008	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	09-RT-016-SW	Project Sample	5/7/2009	<0.4	<1	<1	<1	<1	<1	<1
River - MW-6	09-RT-095-GW	Project Sample	10/9/2009	<0.12	<0.31	<0.31	5.17	<0.31	<0.31	<0.31
River - MW-6	10-RT-064-GW	Project Sample	5/13/2010	<0.12	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
River - MW-6	10-RT-115-GW	Project Sample	10/22/2010	<0.12	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
River - MW-6	12-RT-038-GW	Project Sample	5/9/2012	<0.12 VH	<0.31 VH	<0.31 VH	<0.31 VH	<0.31 VH	<0.31 VH	<0.31 VH
River - MW-6	14-RT-030-GW	Project Sample	4/23/2014	<0.2	<0.5	<0.5	0.613	<0.5	<0.5	<0.5
River - MW-8	97-LTRP-202WA	Project Sample	5/14/1997	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
River - MW-8	99RTRVP003SW	Project Sample	5/19/1999	---	<0.02	---	2.8 E	<0.02	0.26	0.81

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River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
River - MW-8	05-RT-042-GW	Project Sample	6/2/2005	<0.4	<1	<1	<1	<1	<1	<1
River - MW-8	05-RT-070-GW	Project Sample	10/12/2005	<0.4	<1	<1	<1	<1	<1	<1
River - MW-8	06-RT-027-GW	Project Sample	5/25/2006	<0.4	<1	<1	<1	<1	<1	<1
River - MW-8	06-RT-062-GW	Project Sample	9/13/2006	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
River - MW-8	07-RT-019-GW	Project Sample	5/30/2007	<0.4	<1	<1	<1	<1	<1 VM	<1 VM
River - MW-8	07-RT-047-GW	Project Sample	9/20/2007	<0.4	<1	<1	<1	<1	<1	<1
River - MW-8	08-RT-021-GW	Project Sample	5/13/2008	<0.4	<1	<1	<1	<1	<1	<1
River - MW-8	08-RT-063-GW	Project Sample	9/20/2008	<0.4	<1	<1	<1	<1	<1	<1
River - MW-8	09-RT-017-SW	Project Sample	5/7/2009	<0.4	<1	<1	<1	<1	<1	<1
River - MW-8	09-RT-096-GW	Project Sample	10/9/2009	<0.12	<0.31	<0.31	2.84	<0.31	<0.31	<0.31
River - MW-8	10-RT-065-GW	Project Sample	5/13/2010	<0.12	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
River - MW-8	10-RT-116-GW	Project Sample	10/22/2010	<0.12	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
River - MW-8	12-RT-039-GW	Project Sample	5/9/2012	<0.12 VH	<0.31 VH	<0.31 VH	0.31 VH	<0.31 VH	<0.31 VH	<0.31 VH
River - MW-8	14-RT-031-GW	Project Sample	4/23/2014	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
River - SD-11	99RTRVP005SW	Project Sample	5/19/1999	---	<0.02	---	<0.02	<0.02	<0.02	<0.02
River - SD-035	06-RT-045-PW	Project Sample	5/17/2006	<0.4	<1	<1	<1	<1	<1	<1
River - SD-043	06-RT-046-PW	Project Sample	5/17/2006	<0.4	<1	<1	<1	<1	<1	<1
River - SD-043	08-RT-046-PW	Project Sample	5/7/2008	<0.4	<1	<1	<1	<1	<1	<1
River - SD-035	08-RT-047-PW	Project Sample	5/7/2008	<0.4	<1	<1	<1	<1	<1	<1
River - SD-035	13-RT-045-PW	Project Sample	5/22/2013	<0.24	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
River - SD-041	13-RT-046-PW	Project Sample	5/22/2013	<0.24	<0.62	<0.62	0.36	<0.62	<0.62	<0.62
SD-004	04-RT-090-PW	Project Sample	11/24/2004	<0.4	<1	<1	38.2	<1	1.9	<1
SD-006	04-RT-091-PW	Project Sample	11/5/2004	<0.4	<1	<1	45.3	<1	2.69	2.19
SD-006	04-RT-100-PW	QC Duplicate	11/24/2004	<0.4	<1	<1	5.66	<1	1.35	1.42
SD-006	04-RT-101-PW	Project Sample	11/24/2004	<0.4	<1	<1	4.45	<1	1.25	1.41
SD-006	06-RT-006-PW	Project Sample	5/17/2006	0.45	21.3	<1	41.8 VJ	3.13	1.65	<1
SD-006	08-RT-006-PW	Project Sample	5/7/2008	<0.4	11.6 VJ	<1	23.6	1.13	1.55	0.68
SD-006	13-RT-006-PW	Project Sample	5/22/2013	0.25 VB	0.49	<0.62	4.22	0.34	1.09	1.15
SD-007	04-RT-092-PW	Project Sample	11/5/2004	<0.4	4.48	<1	106	<1	2.02	<1
SD-007	04-RT-102-PW	Project Sample	11/24/2004	<0.4	<1	<1	6.08	<1	<1	<1
SD-007	06-RT-007-PW	Project Sample	5/17/2006	<0.4	4.24	<1	31.7 VJ	<1	1.6	<1
SD-007	13-RT-007-PW	Project Sample	5/23/2013	0.29 VB	2.05	<0.62	3.3	1.01	1.46	0.96

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
SD-008	06-RT-008-PW	Project Sample	5/17/2006	<0.4	9.58	<1	41.3 VJ	<1	<1	<1
SD-008	08-RT-008-PW	Project Sample	5/7/2008	<0.4	10.2 VJ	<1	25.1	3.4	0.35	<1
SD-008	13-RT-008-PW	Project Sample	5/23/2013	0.24 VB	<0.62	<0.62	3.03	0.38	1.43	0.56
SD-009	04-RT-094-PW	Project Sample	11/24/2004	<0.4	<1	<1	40.9	<1	<1	<1
SD-009	06-RT-009-PW	Project Sample	5/17/2006	<0.4	5.2	<1	49.1 VJ	<1	<1	<1
SD-009	08-RT-009-PW	Project Sample	5/7/2008	<0.4	2.54 VJ	<1	15.7	1.12	0.73	<1
SD-009	13-RT-009-PW	Project Sample	5/23/2013	0.32 VB	0.69	<0.62	5.65	0.64	1.21	<0.62
SD-010	04-RT-095-PW	Project Sample	11/24/2004	<0.4	<1	<1	53	<1	1.97	1.04
SD-010	06-RT-010-PW	Project Sample	5/17/2006	<0.4	<1	<1	23.3 VJ	<1	<1	<1
SD-010	13-RT-010-PW	Project Sample	5/23/2013	<0.24	<0.62	<0.62	2.17	<0.62	0.61	<0.62
SD-027	08-RT-027-PW	Project Sample	5/7/2008	<0.4	<1	<1	26	<1	3.91	8.92
SD-027	08-RT-048-PW	Project Sample	5/13/2008	<0.4	<1	<1	25.4	<1	4.29	8.15
SD-033	06-RT-033-PW	Project Sample	5/17/2006	<0.4	4.17	<1	13 VJ	<1	<1	<1
SD-033	08-RT-049-PW	Project Sample	5/13/2008	<0.4	7.33 VJ	<1	16.7	2.12	0.71	<1
SD-033	13-RT-033-PW	Project Sample	5/22/2013	0.28 VB	2.03	<0.62	3.2	0.88	0.82	<0.62
SD-035	06-RT-035-PW	Project Sample	5/17/2006	<0.4	6.77	<1	23.8 VJ	<1	<1	<1
SD-035	08-RT-035-PW	Project Sample	5/7/2008	<0.4	0.74	<1	4.12	0.52	<1	<1
SD-035	13-RT-035-PW	Project Sample	5/22/2013	0.25 VB	0.66	<0.62	1.58	0.38	0.8	<0.62
SD-037	06-RT-037-PW	Project Sample	5/17/2006	<0.4	7.11	<1	43.6 VJ	<1	<1	<1
SD-037	08-RT-037-PW	Project Sample	5/7/2008	0.14	3.86 VJ	<1	11.4	1.83	0.31	<1
SD-037	13-RT-037-PW	Project Sample	5/22/2013	0.28 VB	0.5	<0.62	1.64	0.42	<0.62	<0.62
SD-040	04-RT-098-PW	Project Sample	11/24/2004	<0.4	18.4	<1	321	3.23	1.03	<1
SD-040	06-RT-031-PW	QC Duplicate	5/17/2006	<0.4	6.1	<1	33 VJ	<1	<1	<1
SD-040	06-RT-040-PW	Project Sample	5/17/2006	<0.4	6.92	<1	40.9	1.1	1.07	<1
SD-040	08-RT-050-PW	Project Sample	5/13/2008	<0.4	5.16 VJ	<1	20.5	1.63	3.35	<1
SD-040	08-RT-051-PW	QC Duplicate	5/13/2008	<0.4	6.26 VJ	<1	18.7	1.56	3.02	<1
SD-040	13-RT-031-PW	QC Duplicate	5/22/2013	0.27 VB	<0.62	<0.62	5.88	0.77	1.71	1.25
SD-040	13-RT-040-PW	Project Sample	5/22/2013	0.28 VB	1.45	<0.62	5.67	0.71	1.59	1.05

Appendix A
July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products
River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
SD-041	04-RT-099-PW	Project Sample	11/24/2004	0.48	65.4	<1	353	4.39	<1	<1
SD-041	06-RT-032-PW	QC Duplicate	5/17/2006	<0.4	<1	<1	4.58	<1	<1	<1
SD-041	06-RT-041-PW	Project Sample	5/17/2006	<0.4	<1	<1	6.36 VJ	<1	<1	<1
SD-041	08-RT-032-PW	QC Duplicate	5/7/2008	<0.4	5.8 VJ	<1	21	3.12	0.59	<1
SD-041	08-RT-041-PW	Project Sample	5/7/2008	<0.4	5.72 VJ	<1	25	3.91	0.62	<1
SD-041	13-RT-032-PW	QC Duplicate	5/22/2013	0.35 VB	3.31	<0.62	8.55	1.43	3.7	0.64
SD-041	13-RT-041-PW	Project Sample	5/22/2013	0.35 VB	3.76	<0.62	9.12	1.58	4.17	0.63
SD-042	08-RT-042-PW	Project Sample	5/7/2008	<0.4	6.6 VJ	<1	23.6	1.96	1.24	<1
SD-042	13-RT-042-PW	Project Sample	5/22/2013	0.51 VB	4.93	<0.62	12.4	1.95	1.23	0.38
SD-043	06-RT-043-PW	Project Sample	5/17/2006	<0.4	2.24	<1	12.1 VJ	<1	<1	<1
SD-043	08-RT-043-PW	Project Sample	5/7/2008	<0.4	7.08 VJ	<1	21.7	4.11	0.36	<1
SD-043	13-RT-043-PW	Project Sample	5/23/2013	<0.24	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
SD-044	06-RT-044-PW	Project Sample	5/17/2006	<0.4	7.21	<1	24.9 VJ	<1	10.4	1.5
SD-044	13-RT-044-PW	Project Sample	5/23/2013	<0.24	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
SD-045	08-RT-045-PW	Project Sample	5/7/2008	<0.4	15.6 VJ	<1	28.4	2.01	0.65	<1
Outfall	97-LTRP-201-WA	Project Sample	5/14/1997	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	23
Outfall	002-WA SHBO	Project Sample	6/26/1997	<1	---	---	<3	---	<3	8.2
Outfall	99RTRVP001SW	Project Sample	5/19/1999	---	<0.02	---	0.18	<0.02	0.33	17
Outfall	99RTRVP002SW	QC Duplicate	5/19/1999	---	<0.02	---	0.18	<0.02	0.27	17
Outfall	KRBO SDOF	Project Sample	11/9/1999	<1	<1	<1	<1	<1	<1	6.69
Outfall	00-RT-015-GW	Project Sample	3/24/2000	<1	<1 J	<1	<1	<1	<1	1.2
Outfall	00-RT-038-GW	Project Sample	3/25/2000	<1	<1	<1 J	<1	<1	<1	2.2
Outfall	00-RT-055-GW	Project Sample	6/8/2000	<1	<2	<1	<1	<1	<1	4 J
Outfall	00-RT-112-GW	Project Sample	9/28/2000	<1	<2	<1	<1	<1	<1	2.2
Outfall	01-RT-026-GW	Project Sample	1/10/2001	<2	<2	<2	<2	<2	<2	4.6
Outfall	01-RT-044-GW	Project Sample	3/22/2001	<1	<1	<1	1.65	<1	<1	2.76
Outfall	01-RT-065-WQ	Project Sample	5/21/2001	<1	<1	<1	2.48	<1	<1	1.88
Outfall	01-RT-110-GW	Project Sample	10/18/2001	<0.7 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
Outfall	02-RT-060-GW	Project Sample	6/19/2002	<0.2 J	<0.2 J	<0.2 J	3.95 J	<0.2 J	<0.2 J	0.35 J
Outfall	02-RT-090-GW	Project Sample	9/26/2002	<1	<1	<1	2.2	<1	<1	<1

Appendix A

July 1997-October 2016 Groundwater Analytical Data (ug/L) for Benzene, PCE, and PCE Degradation Products

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Sample Type	Date Sampled	Benzene MCL=5; ACL= NA	Vinyl chloride MCL=2; ACL=2	1,1-DCE MCL=7; ACL=7	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=10; ACL=11,600	TCE MCL=5; ACL=21,900	PCE MCL=5; ACL=840
Outfall	03-RT-056-GW	Project Sample	6/19/2003	<0.4	<1	<1	1.65	<1	<1	2.36
Outfall	04-RT-086-SW	Project Sample	10/22/2004	<0.4	<1	<1	2.84	<1	<1	<1
Outfall-Aeration On	00-RT-039-GW	Project Sample	6/6/2000	<1	<2	<1	<1	<1	<1	4.4
Outfall-Aeration On	00-RT-111-GW	Project Sample	9/27/2000	<1	<2	<1	<1	<1	<1	2
Outfall-Aeration On	01-RT-025-GW	Project Sample	1/11/2001	<2	<2	<2	<2	<2	<2	4.4

Notes:

J or VJ - Estimated Value ***H - Estimated result; the analysis was performed past the recommended hold time or sample preservation incorr***

C - The MRL is elevated because the sample required diluting. ***F - Result is below the MRL.*** ***E - Result is over calibration range.***

D4, D5, and D6 - Value is from a 10 fold, 20 fold, and 50 fold diluted anlaysis, respectively.

-- Analyte not included in performance monitoring analytical program

A qualified result for tetrachloroethene (PCE) was originally reported for the MW-28 project sample (99-RT-069-GW). The reported PCE result was suspected to be a carry-over from the analysis of a previous sample. There was insufficient sample volume for re-analysis; therefore, the third party sample result is reported for PCE.

Samples collected during the October 1997 sampling event (and the December 1997 Laundry well samples) were analyzed by EPA Methods 8260 and 524.2. The value reported for each analyte represents the maximum concentration detected between the two analyses.

The "Laundry Well" is completed in the deeper, confined aquifer.

"Outfall" refers to the Kenai River Bridge Outfall discharging from the storm sewer system adjacent to the RTRVP site. "Outfall - aeration on" refers to samples collected while an aeration system (installed in May 2000) was functioning in the storm sewer system. "Outfall" refers to samples collected either before the aeration system was installed or while the system was shut down. The aeration system has not functioned since March 2001.

Note, samples were collected from the outfall on 3/24/2000 and again on 3/25/2000, because the 3/24/2000 sample was collected during a rain storm event. The 3/25/2000 sample was collected to more accurately represent usual (non-storm event) conditions in the storm drain outfall.

APPENDIX B

Groundwater/Surface water Sample Data Sheets
and
Field Notes

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-23
Project # : 0371058-02
Date: 10/27/16
Project Name: 2016 River Terrace
Start Time: 1430
Site: River Terrace RV Park
End Time: 1515
Field Team: K. Bragg & K. Powers
Sample ID: 16RT-001-MW Time: 1510 primary dup split ms/msd
Sample ID: Time: primary dup split ms/msd

Weather Conditions: sunny 30°F

Depth to Top of Product (ft BTOC): None
Depth to Water (ft BTOC): 17.87
Depth to Oil/Water Interface* (ft BTOC): None
Total Depth (ft BTOC): 22.25
* Note: Same as depth to water

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 2.27 gallons**

Sensory Observations

Color: Clear, (Amber), Tan, Brown, Grey, Milky White, Other:
Odor: None, Low, Medium, High, (Very Strong), H2S, Fuel Like, Chemical ?, Unknown
Turbidity: None, Low, (Medium), High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1450	7.92	6.78	152	NA	22.45	11.6	17.6	0.1
2	1455	8.39	6.67	123	NA	11.32 - 17.4		17.5	0.2
3	1500	8.52	6.66	121	NA	10.63 - 26.7		17.6	0.7
4	1505	8.79	6.69	119	NA	10.15 - 32.8		17.6	
5									
6									
7									
8									
9									
10									
11									
12									

Stabilized

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: [signature] Date: 10/27/16
QC Check Signature: Kevin Powers Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-25

Project # : 0371058-02 Date: 27 Oct 2016

Project Name: 2016 River Terrace Start Time: 1540

Site: River Terrace RV Park End Time: 1610

Field Team: K. Bragg K. Powers

Sample ID: 16-RT-002-GW Time: 1605 primary dup split ms/msd

Sample ID: Time: primary dup split ms/msd

Weather Conditions: 30° Sunny

Depth to Top of Product (ft BTOC): NA Depth to Water (ft BTOC): 13.13

Depth to Oil/Water Interface* (ft BTOC): NA Total Depth (ft BTOC): 18.95

* Note: Same as depth to water

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 2.83 gallons**

Sensory Observations

Color: Clear, (Amber), Tan, Brown, Grey, Milky White, Other:

Odor: None, Low, Medium, High, (Very Strong), H2S, Fuel Like, Chemical ?, Unknown

Turbidity: None, Low, (Medium), High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1580	7.97	7.32	177	NA	5.41	103.4	13.25	0.1
2	1585	8.45	7.13	173	NA	5.39	125.2	13.3	0.2
3	1600	8.48	7.11	173	NA	5.86	131	13.35	0.3
4									
5									
6			Stabilized						
7									
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: Date: 10/27/16

QC Check Signature: Kevin Parson Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-16
Project # : 0371058-02
Date: 10/27/16
Project Name: 2016 River Terrace
Start Time: 1516
Site: River Terrace RV Park
End Time: 1540
Field Team: K Bragg & K Powers
Sample ID: 16-RT-003-16 Time: 1535 primary dup split ms/msd
Sample ID: Time: primary dup split ms/msd

Weather Conditions: Sunny 38°F

Depth to Top of Product (ft BTOC): None
Depth to Oil/Water Interface* (ft BTOC): None
* Note: Same as depth to water
Depth to Water (ft BTOC): 17.05
Total Depth (ft BTOC): 21.05

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column 4
ORP	± 1999 mV	NA	R=radius of well 0.083
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 1.94 gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, Grey, Milky White, Other:
Odor: None, Low, Medium, High, Very Strong, H2S, Fuel Like, Chemical ?, Unknown
Turbidity: None, Low, Medium, High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1523	7.56	6.70	479	high	61.84	-39.6	17.65	0.1
2	1526	7.76	6.93	847	high	6.26	-59.4	17.93	0.4
3	1529	7.99	6.96	814	high	7.41	-84.9	18.80	0.7
4	1532	8.04	6.94	809	high	7.89	-97.0	18.55	1.0
5	1535	8.05	6.92	810	high	6.13	-95.6	18.93	1.3
6									
7									
8									
9									
10									
11									
12									

Stabilized

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: [signature] Date: 10/27/16
QC Check Signature: [signature] Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-26

Project # : 0371058-02

Date: 27 October 2016

Project Name: 2016 River Terrace

Start Time: ~~0830~~ 1351

Site: River Terrace RV Park

End Time: 1430

Field Team: K. Bragg

Sample ID: MW-RT-004-0416 Time: 1426 primary dup split ms/msd

Sample ID: _____ Time: _____ primary dup split ms/msd

Weather Conditions: 26°F ~~Calm~~ KS Calm Sunny

Depth to Top of Product (ft BTOC): NA

Depth to Water (ft BTOC): 5.95

Depth to Oil/Water Interface* (ft BTOC): NA

Total Depth (ft BTOC): 11.45

* Note: Same as depth to water

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 0.96 gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, Grey, ~~Milky~~ White, Other:

Odor: None, Low, Medium, High, Very Strong, H2S, Fuel Like, Chemical ?, Unknown

Turbidity: None, Low, Medium, High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1404	9.41	7.43	223	High	5.68	-116.1	6.15	0.1
2	1407	8.58	7.42	191	High	6.13	-121.1	6.03	0.2
3	1410	8.68	7.41	180	High	7.08	-124.3	6.08	0.3
4	1413	8.60	7.34	114	High	7.86	-118.7	6.03	0.4
5	1416	8.69	7.28	104	High	7.95	-114.4	6.08	0.5
6	1419	8.50	7.20	85	High	9.25	-106.1	6.08	0.65
7	1422	8.78	7.15	74	High	10.35	-99.6	6.16	0.8 ~~0.95~~ 1.1
8	1425	8.68	7.05	80	High	8.19	-111.0	6.10	~~1.1~~ 1.25
9	1428			well Stagged Max Volume					~~1.25~~
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	Purged 3 well volumes

Sampler Signature: _____ Date: 10/27/16

QC Check Signature: _____ Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-35

Project # : 0371058-02 Date: 10/27

Project Name: 2016 River Terrace Start Time: 1202

Site: River Terrace RV Park End Time: 1225

Field Team: K. Bragg K. Powers

Sample ID: 16-RT-005-GW Time: 1220 primary dup split ms/msd

Sample ID: Time: primary dup split ms/msd

Weather Conditions: 30°F Partly Cloudy

Depth to Top of Product (ft BTOC): None Depth to Water (ft BTOC): 5.68

Depth to Oil/Water Interface* (ft BTOC): None Total Depth (ft BTOC): 6.98

* Note: Same as depth to water

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 0.23 gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, Grey, Milky White, Other:

Odor: None, Low, Medium, High, Very Strong, H2S, Fuel Like, Chemical ?, Unknown

Turbidity: None, Low, Medium, High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1207	5.26	7.05	233	Med.	10.61	-133.3	5.97	0
1210 2	1205	5.96	7.15	233	Med	9.26	-148.9	5.98	~~0.05~~ 0.09
3	1213	6.44	7.21	236	Med	8.77	-168.0	5.98	~~0.07~~ 0.06
4	1216	6.46	7.24	233	Med	9.23	-179.15	5.98	0.09
5	1219	6.38	7.24	232	Med	9.53	-187.2	5.98	0.12
6				Stabilized					
7									
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: Kristi Powers Date: 10/27/16

QC Check Signature: Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-6A
Project # : 0371058-02
Date: 27 Oct 2016
Project Name: 2016 River Terrace
Start Time: 1105
Site: River Terrace RV Park
End Time: 1208
Field Team: K. Bragg K. Powers
Sample ID: 16-RT-006-GW Time: 1155 primary dup split ms/msd
Sample ID: Time: primary dup split ms/msd

Weather Conditions: Sunny 30°F

Depth to Top of Product (ft BTOC): None
Depth to Oil/Water Interface* (ft BTOC): None
* Note: Same as depth to water

KB
Depth to Water (ft BTOC): ~~5.25~~ 5.45
Total Depth (ft BTOC): 10.75
5.3

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 6.934 gallons**

Sensory Observations

Color: Clear, ~~Amber~~, Tan, Brown, Grey, Milky White, Other:
Odor: None, Low, Medium, High, ~~Very Strong~~, H2S, Fuel Like, Chemical ?, Unknown
Turbidity: None, Low, Medium, ~~High~~, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1125	5.69	6.98	440	NA	8.82	-97.4	5.3	0.1
2	1130	5.87	7.29	512	NA	7.08	-137	5.35	0.12
3	1135	5.88	7.26	452	NA	8.70	-116	5.4	0.2
4	1140	5.61	6.95	394	NA	9.51	-73	~~5.44~~ 5.89	0.25
5	1145	5.57	6.90	387	NA	9.69	-68	5.35	0.3
6	1150	5.54	6.95	375	NA	12.01	-95	5.4	0.35
7									
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: Date: 10/27/16
QC Check Signature: Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-9
Project # : 0371058-02
Date: 27 OCT 2016
Project Name: 2016 River Terrace
Start Time: 1040
Site: River Terrace RV Park
End Time: 1105
Field Team: K. Bragg K. Powers
Sample ID: 16-RT-027-GW Time: 1100 primary dup split ms/msd
Sample ID: Time: primary dup split ms/msd

Weather Conditions:

Depth to Top of Product (ft BTOC): None
Depth to Oil/Water Interface* (ft BTOC): None
Depth to Water (ft BTOC): 15.5
Total Depth (ft BTOC): 19.45
* Note: Same as depth to water

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column 3.95
ORP	± 1999 mV	NA	R=radius of well 0.083
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 1.917 gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, Grey, Milky White, Other: Dark Gray Milky
Odor: None, Low, Medium, High, Very Strong, H2S, Fuel Like, Chemical ?, Unknown
Turbidity: None, Low, Medium, High, Very Turbid, Heavy Silt

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1048	6.44	6.74	605	High	6.19	-65.3	16.1	0.2
2	1053	7.04	6.79	617	High	5.80	-71.1	16.1	0.7
3	1058	7.23	6.83	593	High	10.28	-86.2	16.23	1.2
4	1103			Stabilized					
5									
6									
7									
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: Kris Powers Date: 10/27/16
QC Check Signature: Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-39

Project # : 0371058-02 Date: 10/27/16

Project Name: 2016 River Terrace Start Time: 0950

Site: River Terrace RV Park End Time: 1030

Field Team: K. Bragg & K. Pearce

Sample ID: 16-RT-009-GW Time: 1025 primary dup split ms/msd

Sample ID: 16-RT-019-GW Time: 1030 primary dup split ms/msd

Weather Conditions: 29°F Cloudy 7mph

Depth to Top of Product (ft BTOC): None Depth to Water (ft BTOC): 14.95

Depth to Oil/Water Interface* (ft BTOC): None Total Depth (ft BTOC): 22.30

* Note: Same as depth to water 7.35

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 3.57 gallons**

Sensory Observations

Color: Clear, (Amber), Tan, Brown, Grey, Milky White, Other:

Odor: None, Low, Medium, High, ~~Very Strong~~, H2S, Fuel Like, Chemical ?, Unknown

Turbidity: None, Low, ~~Medium~~, (High), Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	0958	4.71	6.15	609	NA	8.10	5.0	15.43	0.5
2	1005	5.60	6.42	549	NA	9.32	-22.3	15.8	0.75
3	1010	6.30	6.56	671	NA	9.92	-34.6	16.2	1 gal
4	1015	6.89	6.64	607	NA	10.71	-43.7	16.85	1.25 gal
5	1020	6.51	6.61	589	NA	10.01	-62.5	17.6	2 gal
6									
7									
8		Stable							
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: Date: 10/27/16

QC Check Signature: Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-44
Project # : 0371058-02
Date: 27 Oct 2016
Project Name: 2016 River Terrace
Start Time: 0840
Site: River Terrace RV Park
End Time: 0945
Field Team: K. Bragg K. Powers
Sample ID: 16-RT-009-GW Time: 942 primary dup split ms/msd
Sample ID: Time: primary dup split ms/msd

Weather Conditions: 26° F Dark Calm

Depth to Top of Product (ft BTOC):
Depth to Oil/Water Interface* (ft BTOC):
* Note: Same as depth to water
Depth to Water (ft BTOC): 13.95
Total Depth (ft BTOC): 35.45
21.5

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume=10.47 gallons**

Sensory Observations

Color: (Clear), Amber, Tan, Brown, Grey, Milky White, Other:
Odor: None, Low, Medium, High, Very Strong, (H2S), Fuel Like, Chemical ?, Unknown
Turbidity: None, Low, (Medium), High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	930	5.8	7.09	674	NA	10.32	-12.4	15.75	0.1
2	935	6.13	7.2	686	NA	4.45	-25.4	16.5	0.2
3	940	6.25	7.26	682	NA	3.40	-24.1	16.98	6.3
4									
5				Stabilized					
6									
7									
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specific[illegible]ation.

Analyses	# of Bottles Collected
VOC (SW8260B)	3

Comments: PWR Recharge

Sampler Signature: Date: 10/27/16
QC Check Signature: Date: 10/27/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-48

Project # : 0371058-02

Date: 10-26-16

Project Name: 2016 River Terrace

Start Time: 1435

Site: River Terrace RV Park

End Time: 1605

Field Team: K. Bragg + K. Powers

Sample ID: 16-RT-010-GW Time: 1605 primary dup split ms/msd

Sample ID: 16-RT-010-Cales Time: 1605 primary dup split ms/msd

Weather Conditions: Partly Cloudy 32°F

Depth to Top of Product (ft BTOC): None

Depth to Oil/Water Interface* (ft BTOC): NA

* Note: Same as depth to water

Depth to Water (ft BTOC): 6 feet 6 inches

Total Depth (ft BTOC): 29.5 feet

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume=** 5.8 **gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, Grey, Milky White, Other:

Odor: None, Low, Medium, High, Very Strong, H2S, Fuel Like, Chemical ?, Unknown

Turbidity: None, Low, Medium, High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1500	7.97	6.41	4891	NA	9.77	-88.7	17 ft	V=5gal
2	1515	6.73	6.41	4821	NA	11.98	-93.3	17ft 2"	V=.75gal
3	1520	5.62	6.42	4829	NA	14.50	-95	17ft 5"	V=.80gal
4	1525	4.72	6.40	4814	NA	13.45	-95	17ft 7"	1 gal
5	1530	4.35	6.41	4799	NA	13.05	-95.8	18 ft 2"	1 gal
6	1535	6.46	6.46	47794	NA	11.18	-82.2	18' 3"	1.1 gal
7	1540	6.57	6.47	4750	NA	10.93	-92.5	18' 4"	1.1 gal
8	1550	4.64	6.51	4901	NA	17.29	-98.7	18' 21' 9"	2.0 gal
9	1555	8.10	6.50	4.951	NA	7.95	-83.9	22	2.5 gal
10	1600	7.45	6.52	4850	NA	7.33	-94	22.8	2.75 gal
11				Stabilized					
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	MS/MSD + 3	9 total

Sampler Signature: [signature] Date: 10/26/16

QC Check Signature: [signature] Date: 10/26/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW 4,9
Project # : 0371058-02
Date: 26 OCT 2016
Project Name: 2016 River Terrace
Start Time: 1755
Site: River Terrace RV Park
End Time: 1835
Field Team: K. Bragg K. Powers
Sample ID: 16-RT-011-GW Time: 1830 primary dup split ms/msd
Sample ID: Time: primary dup split ms/msd

Weather Conditions: Partly Cloudy 35°F

Depth to Top of Product (ft BTOC): NA
Depth to Oil/Water Interface* (ft BTOC): NA
* Note: Same as depth to water
Depth to Water (ft BTOC): 6.9
Total Depth (ft BTOC): 32.2

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, (Grey), Milky White, Other:
Odor: None, Low, Medium, High, (Very Strong), H2S, Fuel Like, Chemical ?, Unknown
Turbidity: None, Low, Medium, (High), Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1800	7.05	6.72	322	NA	9.64	-121	8.6	.25
2	1805	7.12	6.76	301	NA	7.29	-114	9.8	.5
3	1810	6.57	6.86	675	NA	8.28	-114	11	.75
4	1815	6.81	6.90	682	NA	8.34	-118	11.8	1
5	1820	6.91	6.90	2770	NA	8.38	-1111	14	1.1
6	1825	6.11	6.89	2783	NA	8.3	-95	14.9	1.2
7	1830	6.50	6.87	2998	NA	8.47	-91	16.6	
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: Date: 10/26/16
QC Check Signature: Date: 10/26/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW50

Project # : 0371058-02 Date: 26 OCT 2016

Project Name: 2016 River Terrace Start Time: 1655

Site: River Terrace RV Park End Time: 1715

Field Team: K. Bragg K. Powers

Sample ID: 16-RT-013-GW Time: 1713 primary dup split ms/msd

Sample ID: Time: primary dup split ms/msd

Weather Conditions: Partly Cloudy 32°F

Depth to Top of Product (ft BTOC): NA Depth to Water (ft BTOC): 7.7 ft

Depth to Oil/Water Interface* (ft BTOC): NA Total Depth (ft BTOC): 35 ft

* Note: Same as depth to water

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column
ORP	± 1999 mV	NA	R=radius of well
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, Grey, Milky White, Other:

Odor: None, Low, Medium, High, Very Strong, H2S, Fuel Like, Chemical ?, Unknown

Turbidity: None, Low, Medium, High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1700	6.17	7.41	253	NA	8.70	-75.8	8.3	0.2
2	1705	7.25	6.43	256	NA	7.60	-64.8	15.7	1 gal
3	1710	6.82	6.89	247	NA	7.69	-56.5	17.4	1.5 gal
4									
5									
6									
7									
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: Date: 10/26/16

QC Check Signature: Date: 10/26/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW 5I

Project # : 0371058-02 Date: 26 Oct 2016

Project Name: 2016 River Terrace Start Time: 1610

Site: River Terrace RV Park End Time:

Field Team: K. Bragg & K. Powers

Sample ID: 16-RT-013-GW Time: 1645 primary dup split ms/msd

Sample ID: 16-RT-017-GW Time: 1650 primary dup split ms/msd

Weather Conditions: Partly Cloudy 320F

Depth to Top of Product (ft BTOC): None Depth to Water (ft BTOC): 7.76

Depth to Oil/Water Interface* (ft BTOC): None Total Depth (ft BTOC): 30.0

* Note: Same as depth to water

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column 22.24
ORP	± 1999 mV	NA	R=radius of well .0833
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume=** 10.8 **gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, Grey, Milky White, Other:

Odor: None, Low, Medium, High, Very Strong, H2S, Fuel Like, Chemical ?, Unknown

Turbidity: None, Low, Medium, High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1629	5.02	7.09	1270	High	14.46	-65.1	7.76	0.2
2	1634	5.60	7.16	1381	High	12.80	-69.8	9.65	
3	1639	5.80	7.19	1369	High	11.43	-91.8	11.21	
4	1644	6.35	7.25	1413	High	11.96	-96.2	12.91	
5				Stabilized Ready to Sample					
6									
7									
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	EDT 3	Field Duplicate taken

Sampler Signature: [signature] Date: 10/26/16

QC Check Signature: [signature] Date: 10/26/16

Low-Flow Groundwater Sampling with Minimal Drawdown Worksheet

Well ID: MW-52

Project # : 0371058-02 Date: 10/26/15

Project Name: 2016 River Terrace Start Time: 17:20

Site: River Terrace RV Park End Time: 1758

Field Team: K. Bragg & K. Powers

Sample ID: 16-RT-0114-GW Time: 1750 primary dup split ms/msd

Sample ID: _____ Time: _____ primary dup split ms/msd

Weather Conditions: Cloudy 35°F

Depth to Top of Product (ft BTOC): None Depth to Water (ft BTOC): 10.27

Depth to Oil/Water Interface* (ft BTOC): None Total Depth (ft BTOC): 35.42

* Note: Same as depth to water

Criteria for Stable Parameters

Parameter	Working Range	Stability Criteria	Maximum Purge Volume
Temperature	>0.00 °C	± 1° C	Max purge is 3 well volumes
pH	0-14	± 10%	Max V = L*π*R*R*7.48*3 in gallons
Conductivity	0-999 mS/m	± 10%	L= length of water column 25.15
ORP	± 1999 mV	NA	R=radius of well .083
Dissolved Oxygen	0-19.99 mg/L	NA	7.48= conversion from ft^3 to gallons
Turbidity	0-800 NTU	NA	**Max Volume= 12.2 gallons**

Sensory Observations

Color: Clear, Amber, Tan, Brown, Grey, Milky White, Other:

Odor: None, Low, Medium, High, Very Strong, H2S, Fuel Like, Chemical ?, Unknown

Turbidity: None, Low, Medium, High, Very Turbid, Heavy Silts

Instrument Observations

Round	Time	Temp °C	pH	Conductivity (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	Water Level (ft BTOC)	Volume (gal)
1	1730	6.37	7.19	685	None	4.42	-1.6	13.3	0.75
2	1735	6.81	7.22	686	None	7.66	-33.6	16.2	0.80
3	1740	6.30	7.59	1212	None	7.59	-68.2	17.1	1.25
4	1745	5.85	7.70	1301	None	7.73	-91.5	17.5	1.75
5	1750	6.26	7.69	1198	None	7.54	-90.2	17.9	2.10
6									
7									
8									
9									
10									
11									
12									

Notes: Drawdown should be less than 0.3 feet while sampling. Minimal drawdown shall be achieved and measured by pumping at a low rate (approximately 0.1 to 0.5 liter/minute) and continually measuring water levels in the well. Note that site's hyrogeology may make it difficult to achieve this specification.

Analyses	# of Bottles Collected	Comments:
VOC (SW8260B)	3	

Sampler Signature: _____ Date: 10/26/16

QC Check Signature: _____ Date: 10/26/16

CONTENTS

PAGE	REFERENCE	DATE

32°F ~~cloudy~~ Cloudy

26 Oct 2016 KBrugg KPowers RTerracuso

0700 meet @ office & Pack truck

0730 Review HASP & WP w/ J. Leety

0830 Depart for Site

0930 Arrive to site & walk around

1145 Lunch

1245 Back on Site. Safety Mtg.
Wells have been surveyed marked & uncovered.
MW-35 needs new cover.
MW-36 is now locked under new freezer... will sample MW-16 instead.

1325 Set up on MW-48 and calibrate YSI 11J100629 /Y-1

1610 Set up on well MW-51

1655 Set up on MW-50

1730 Set up on MW-52

1755 Set up on MW-49

1830 Clean up site for night

1845 QC sample sheets and complete sample summary.

Sample Summary 10/26/16

Sample ID	Time	Comments
16-RT-010-GW	1605	MW-48 (MS/MSD)
16-RT-013-GW	1645	MW-51
16-RT-017-GW	1650	FD for MW-51
16-RT-012-GW	1713	MW-50
16-RT-014-GW	1750	MW-52
16-RT-011-GW	1830	MW-49

Wells to be Sampled 10/27/16

MW-6A, MW-9, MW-16, MW-23, MW-26, MW-25, MW-35, MW-39, MW-44 and 1 field duplicate

26°F calm

27 Oct 2016 K. Bragg & K. Powers Interviews

0700 Safety Mtg & Bfast

0800 Still dark - Discuss safety & Sik Walk to chose Safetest way to sample use head lamps & car lights

0815 organize gear & Prep for Sampling

0830 Set up on MW26, well cover frozen.

0840 Set up on MW 44.

0900 surveyors on site

945 Set up on MW 39

1025 Sample MW39 took Field Duplicate

1040 Set up on MW9

1100 Sample MW9

1105 Set up on MW 6A Peri Pumpuse

1155 Sample MW 6A

noon Set up on MW 35 Peri Pumpusets Sample MW 35

1245 Lunch Break

1345 Set up on MW 26 Sample MW26

1430 Set up on ~~wwes~~ MW 23

1510 Sample MW 23 Utilities Approx 10ft North of MW 23

1445 MW-25 has yellow utilities

approximately 6 feet North and Red utilities approximately 3 feet West.

1515 Set up on MW 16

1535 Sample MW16

~~1535~~

1540 Set up on MW25. This is a high traffic area so team Stopped & Discussed BMP to Stay Safe while Sampling here.

1615 Finished Sampling MW 25 Call PM to check in

1620 Demobilize all equipment.

1630 Check out of hotel and drive back to Anchorage.

1645 QC Sample sheets and fill out COC.

Sample Summary 10/27/16

Sample ID	Time	MW#
16-RT-009-GW	0942	MW-44
16-RT-008-GW	1025	MW-39
16-RT-018-GW	1030	MW-39 FD
16-RT-007-GW	1100	MW-9
16-RT-006-GW	1155	MW-6A
16-RT-005-GW	1220	MW-35
16-RT-004-GW	1425	MW-26
16-RT-001-GW	1510	MW-23
16-RT-003-GW	1535	MW-16
16-RT-002-GW	1605	MW-25

Trip Blank from entire sample period on COC

APPENDIX C

Performance Monitoring Analytical Results

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
		Upper Plume					
MW-36	00-RT-103-GW	9/27/2000	6.91	8.2	.289	1	---
	00-RT-138-GW	11/28/2000	6.38	7.8	.35	0.45	---
	01-RT-009-GW	1/11/2001	5.57	6.6	.950	0.54	-68
	01-RT-035-GW	3/8/2001	5.92	6.3	.654	1.4	-59
	01-RT-073-GW	5/22/2001	6.68	6.9	.215	0.86	-20
	01-RT-096-GW	10/16/2001	5.2	8.6	1.4	0.61	81.6
	01-RT-136-GW	1/16/2002	5.36	5.8	.592	2.65	5.43
	02-RT-015-GW	3/13/2002	6.32	5.4	0.885	0.1	---
	02-RT-045-GW	6/18/2002	5.07	8.6	0.324	0.47	7
	02-RT-068-GW	9/27/2002	5.22	9.2	0.367	0.27	67
	02-RT-110-GW	12/19/2002	6.19	6.2	0.607	0.09	-10.5
	03-RT-012-GW	3/10/2003	6.43	3.9	.295	0.44	-6.7
	03-RT-040-GW	6/17/2003	5.99	7.4	.441	0.06	16.6
	03-RT-092-GW	10/7/2003	5.93	9.23	0.475	---	-99
	04-RT-001-GW	1/21/2004	6.08	7.25	0.501	0.2	10.8
	04-RT-012-GW	3/31/2004	6.55	4.54	0.114	0.3	-29
	04-RT-023-GW	6/8/2004	6.35	7.1	0.124	0.56	-30.9
	04-RT-047-GW	10/30/2004	5.91	9.2	0.186	1.11	51.1
	05-RT-001-GW	2/23/2005	---	5.71	0.392	0.39	-123.2
	05-RT-027-GW	6/3/2005	---	7.3	0.21	0.36	-132.9
	05-RT-044-GW	10/11/2005	6.00	9.43	0.454	0.21	-20.3
	06-RT-007-GW	5/24/2006	6.35	7.76	0.234	0.88	-33
	06-RT-029-GW	9/12/2006	6.13	9.75	0.155	2.37	15.5
	07-RT-001-GW	5/30/2007	6.78	5.52	0.289	2.42	-42.4
	07-RT-021-GW	9/20/2007	6.34	9.52	0.270	0.88	27
	08-RT-001-GW	5/13/2008	7.49	5.86	0.305	0.82	41.4
	08-RT-042-GW	9/18/2008	6.14	8.74	0.165	1.2	14.8
	09-RT-001-GW	5/5/2009	6.59	5.09	0.255	---	---
	09-RT-078-GW	10/8/2009	---	8.43	0.137	0.56	-29.1
	10-RT-049-GW	5/14/2010	6.4	6	0.133	0.98	-55.5
	10-RT-080-GW	10/20/2010	6.2	7.64	0.236	0.98	-28.6
	12-RT-001-GW	5/9/2012	4.7	6.13	0.259	0.09	80.8
	13-RT-016-GW	4/11/2013	6.5	3.2	0.249	0.66	-64.2
	14-RT-001-GW	4/22/2014	6.5	5.9	0.216	0.27	-79.2

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
MW-37	00-RT-102-GW	9/27/2000	7.13	7.2	.446	1.75	---
	00-RT-137-GW	11/28/2000	5.72	7.2	1.14	0.49	---
	01-RT-007-GW	1/11/2001	5.77	6	1.21	0.64	-126
	01-RT-036-GW	3/8/2001	5.74	5.3	1.87	1.55	-10.5
	01-RT-072-GW	5/22/2001	5.62	5.9	.88	1.35	33.2
	01-RT-094-GW	10/16/2001	6.1	7.9	1.23	0.71	6.4
	01-RT-134-GW	1/16/2002	6.4	5.6	.682	1.54	6.55

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-16	00-RT-040-GW	6/7/2000	6.36	5.3	.400	1.53	---
	00-RT-101-GW	9/27/2000	6.87	6.8	.41	2.25	---
	00-RT-136-GW	11/28/2000	5.86	6.2	.741	1.65	---
	01-RT-008-GW	1/11/2001	6.35	5.5	.680	0.29	-27
	01-RT-037-GW	3/8/2001	6.66	4.8	0.958	1.16	-51.9
	01-RT-071-GW	5/22/2001	5.66	8.1	.299	0.81	54.8
	01-RT-095-GW	10/16/2001	6.15	8.1	0.901	0.7	23.4
	01-RT-135-GW	1/16/2002	6.46	5.4	.609	1.97	7.05
	02-RT-014-GW	3/13/2002	5.43	5.2	0.838	0.35	---
	02-RT-044-GW	6/18/2002	5.41	6.9	1.49	0.47	56.5
	02-RT-067-GW	9/27/2002	5.78	8	1.16	0.24	-26.1
	02-RT-109-GW	12/19/2002	5.76	6.4	1.48	0.3	80.8
	03-RT-011-GW	3/10/2003	6.21	4.8	1.12	0.32	840
	03-RT-041-GW	6/18/2003	6.44	6.5	1.2	0.2	52.1
	04-RT-002-GW	1/21/2004	6.34	6.43	0.324	1.5	-23.5
	04-RT-013-GW	3/31/2004	6.33	4.42	0.334	0.4	-18.5
	04-RT-024-GW	6/8/2004	5.51	7.32	0.720	0.73	29.8
	04-RT-048-GW	10/30/2004	5.76	8.08	0.463	0.81	100.5
	05-RT-028-GW	6/3/2005	---	6.31	0.726	0.37	-148.2
	05-RT-045-GW	10/12/2005	6.18	8.16	0.549	0.42	-35.4
	06-RT-008-GW	5/24/2006	5.93	6.87	1.096	0.7	-16
	06-RT-030-GW	9/12/2006	5.88	9.49	0.770	1.08	2.1
	07-RT-002-GW	5/29/2007	6.12	4.63	1.201	0.47	10.5
	07-RT-022-GW	9/20/2007	6.0	8.82	0.979	0.84	61.5
	08-RT-002-GW	5/13/2008	6.14	4.92	0.588	0.78	24.2
	08-RT-043-GW	9/19/2008	6.05	7.12	0.643	0.76	-7.4
	09-RT-002-GW	5/5/2009	6.53	4.18	0.614	---	---
	09-RT-079-GW	10/8/2009	---	7.28	0.377	0.56	-54.3
	10-RT-050-GW	5/14/2010	6.4	5.6	0.37	0.74	-55.3
	10-RT-081-GW	10/21/2010	6.2	6.82	0.812	0.59	-24.2
	12-RT-002-GW	5/9/2012	7.5	5.62	0.458	1.45	18.4
	13-RT-015-GW	4/11/2013	4.9	2.6	2.642	0.3	9.9
	14-RT-002-GW	4/22/2014	6.2	4.2	0.386	0.74	-43.1
	16-RT-003-GW	10/27/2016	8.0	6.9	0.310	---	-98.6

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-38	00-RT-100-GW	9/27/2000	7.21	6.7	.366	11	---
	00-RT-135-GW	11/28/2000	6.42	6.3	.346	2.3	---
	01-RT-006-GW	1/11/2001	6.76	5.4	.483	0.97	-75
	01-RT-038-GW	3/8/2001	7.35	4.7	.547	1.5	79.5
	01-RT-070-GW	5/22/2001	6.86	5.1	.59	1.59	83.3
	01-RT-093-GW	10/16/2001	7.09	7.2	0.666	1.15	-30.1
	01-RT-132-GW	1/16/2002	6.95	4.9	.501	0.8	7.46
	02-RT-013-GW	3/13/2002	5.76	4.3	0.733	0.4	---
	02-RT-043-GW	6/18/2002	6.54	7.3	0.754	0.67	-36.9
	02-RT-066-GW	9/27/2002	6.58	8.2	0.533	0.24	-80.2
	02-RT-111-GW	12/19/2002	6.77	6.1	0.665	0.54	26
	03-RT-014-GW	3/11/2003	6.85	4.8	.714	0.18	500
	03-RT-067-GW	6/18/2003	8.45	6	.583	0.11	-32.9
	04-RT-034-GW	6/9/2004	6.48	6.03	0.355	0.67	-84.7
	04-RT-082-GW	10/22/2004	7.2	7.59	0.383	0.69	-152.4
	05-RT-031-GW	6/3/2005	---	5.76	0.562	0.28	-157.8
	05-RT-066-GW	10/12/2005	6.36	8.14	0.527	0.34	-57
	06-RT-023-GW	5/26/2006	6.61	5.52	0.619	0.64	-55.8
	06-RT-056-GW	9/12/2006	7.12	9.2	0.490	0.3	-137.1
	07-RT-015-GW	5/30/2007	7.22	4.01	0.524	0.82	-41.6
	07-RT-025-GW	9/20/2007	6.68	7.69	0.377	0.37	-15.8
	08-RT-046-GW	9/19/2008	7.17	6.78	0.563	0.62	-96.4
	09-RT-082-GW	10/8/2009	---	7.03	0.565	0.45	-129.8
	10-RT-102-GW	10/22/2010	7.3	6.63	0.688	0.37	-132.1
	12-RT-024-GW	5/10/2012	9.7	4.79	0.517	0.2	-21.3
	13-RT-004-GW	4/11/2013	5.4	1.2	0.842	0.41	-8.8
	14-RT-023-GW	4/22/2014	7.2	5.8	0.809	0.15	-170.8

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-25	00-RT-068-GW	6/9/2000	6.51	4.7	.338	5.9	---
	00-RT-126-GW	9/29/2000	6.17	6.8	.44	5	---
	01-RT-020-GW	1/10/2001	6.46	5.1	.344	2.72	269
	01-RT-022-GW	1/10/2001	6.46	5.1	.344	2.72	269
	01-RT-042-GW	3/22/2001	6.60	2.8	.422	1.9	86.8
	01-RT-077-GW	6/25/2001	8.8	7.4	.462	0.6	132
	01-RT-109-GW	10/17/2001	6.67	7	1.16	0.54	-0.7
	01-RT-133-GW	1/16/2002	6.97	2.1	.82	1.61	8.94
	02-RT-016-GW	3/13/2002	5.74	2.9	1.22	0.6	---
	02-RT-017-GW	3/13/2002	5.74	2.9	1.22	---	---
	02-RT-049-GW	6/18/2002	7.03	6.5	0.557	0.42	-59.6
	02-RT-071-GW	9/27/2002	6.65	8.1	0.860	0.25	-13.6
	02-RT-108-GW	12/19/2002	6.95	3.9	0.708	0.68	-30.6
	03-RT-013-GW	3/11/2003	6.9	4.1	.697	0.04	0
	03-RT-042-GW	6/18/2003	6.81	5.8	.47	0.04	-9
	04-RT-003-GW	1/21/2004	6.69	5.46	0.317	0.6	-70.7
	04-RT-014-GW	3/31/2004	6.81	2.78	0.275	0.2	-53.9
	04-RT-033-GW	6/8/2004	6.77	6.8	0.221	0.45	-69.1
	04-RT-049-GW	10/30/2004	6.28	8.14	0.327	0.41	116.2
	05-RT-003-GW	2/23/2005	---	3.98	0.205	1.35	-126.5
	05-RT-029-GW	6/3/2005	---	5.91	0.325	0.26	-170.1
	05-RT-046-GW	10/12/2005	6.22	8.16	0.495	1.07	-9.3
	06-RT-009-GW	5/24/2006	6.21	5.33	0.38	0.91	28.3
	06-RT-031-GW	9/12/2006	6.41	8.2	0.302	0.51	-31.3
	07-RT-003-GW	5/29/2007	6.49	3.87	0.257	1.88	45
	07-RT-023-GW	9/18/2007	6.26	7.76	0.177	0.43	89.6
	08-RT-003-GW	5/13/2008	8.69	3.47	0.287	1.33	11.8
	08-RT-044-GW	9/19/2008	6.38	8.71	0.228	0.71	43.4
	09-RT-003-GW	5/5/2009	6.39	2.76	0.238	---	---
	09-RT-080-GW	10/8/2009	---	8.33	0.197	1.42	-13
	10-RT-051-GW	5/14/2010	6.4	5.06	0.17	0.72	51.8
	10-RT-082-GW	10/21/2010	5.6	6.73	0.203	0.5	-0.3
	12-RT-023-GW	5/10/2012	8.1	5.28	0.284	0.45	128.1
	13-RT-003-GW	4/11/2013	6.3	2	0.253	0.87	87.7
	14-RT-022-GW	4/24/2014	6.3	3.2	0.143	0.45	15.4
	16-RT-002-GW	10/27/2016	8.5	7.1	0.173	---	-131

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
MW-21	00-RT-067-GW	6/9/2000	7.16	4.8	.389	0.91	---
	01-RT-023-GW	1/10/2001	7.23	4.4	.988	6.4	165
	01-RT-041-GW	3/22/2001	6.73	3.6	.459	1.05	-108.7
	01-RT-107-GW	10/17/2001	6.97	6.1	0.876	0.54	-91.8
	01-RT-151-GW	1/16/2002	6.63	5.1	.671	0.9	8.6
	02-RT-050-GW	6/18/2002	6.93	7	0.652	0.39	-104
	02-RT-092-GW	9/27/2002	6.72	8.5	0.576	0.38	68.5
	03-RT-065-GW	6/18/2003	7.51	7.4	1.15	0.12	-12.5
	03-RT-100-GW	10/7/2003	6.56	8.53	0.764	---	-160
	04-RT-031-GW	6/8/2004	6.62	6.1	0.697	0.59	-107
	04-RT-075-GW	10/22/2004	6.57	8.19	0.631	0.4	-143.6
	05-RT-030-GW	6/3/2005	---	6.8	1.252	0.38	-176.9
	05-RT-062-GW	10/12/2005	6.38	8.8	0.967	0.74	-73.8
	06-RT-050-GW	9/13/2006	5.83	7.68	0.350	0.54	-12.7
	07-RT-024-GW	9/20/2007	6.60	8.43	0.424	0.53	-13.5
	08-RT-045-GW	9/20/2008	6.29	7.21	0.314	0.79	-37.1
	09-RT-081-GW	10/8/2009	---	7.01	0.361	0.56	-79.9
	10-RT-101-GW	10/22/2010	6.2	7	0.358	1.64	-31.7
	12-RT-021-GW	5/10/2012	9.0	5.66	0.331	2.33	40.4

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
MW-42	02-RT-099-GW	11/2/2002	6.34	9.7	0.56	---	44.9
	02-RT-112-GW	12/19/2002	6.54	7.4	.392	0.24	-15.5
	03-RT-030-GW	3/11/2003	6.12	6.9	0.321	0.05	1
	03-RT-069-GW	6/18/2003	7.29	7.9	.31	0.85	-18.2
	03-RT-097-GW	10/7/2003	6.26	9.47	0.419	---	-109
	04-RT-035-GW	6/9/2004	6.21	7.41	0.237	0.83	-45.5
	04-RT-084-GW	10/22/2004	6.56	8.6	0.196	0.69	-119
	05-RT-032-GW	6/3/2005	---	8.17	0.326	0.31	-159.9
	05-RT-067-GW	10/12/2005	6.19	9.6	0.287	0.23	-32.9
	06-RT-024-GW	5/26/2006	5.88	7.27	0.370	0.43	18.1
	06-RT-058-GW	9/12/2006	6.09	9.88	0.314	0.53	9.9
	07-RT-016-GW	5/30/2007	6.60	6.07	0.429	0.68	-5.6
	07-RT-026-GW	9/20/2007	6.38	9.01	0.266	0.59	88.5
	08-RT-004-GW	5/13/2008	7.10	7.16	0.281	0.81	6
	08-RT-048-GW	9/18/2008	6.31	8.69	0.208	0.68	76.9
	09-RT-004-GW	5/5/2009	6.02	5.66	0.289	---	---
	09-RT-083-GW	10/8/2009	---	8.31	0.198	0.54	-8.9
	10-RT-052-GW	5/14/2010	6.4	6.14	0.199	0.78	14.8
	10-RT-083-GW	10/18/2010	6.2	7.94	0.126	0.41	-190.4
	12-RT-003-GW	5/9/2012	4.4	5.89	0.164	1.6	73.5
	13-RT-017-GW	4/11/2013	6.6	2.9	0.267	0.48	-62.9
	14-RT-003-GW	4/22/2014	6.4	5.1	0.135	1.6	-122.4

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
Lower (Phase II) Plume							
MW-10	00-RT-053-GW	6/7/2000	6.71	5.2	.385	0.69	---
	00-RT-118-GW	9/28/2000	6.67	7.2	.405	0.5	---
	01-RT-013-GW	1/10/2001	6.61	4.6	1.07	5.15	-29
	01-RT-048-GW	3/22/2001	6.47	2.1	.839	1.08	-78
	01-RT-081-GW	6/25/2001	---	5.9	.971	0.67	-56
	01-RT-100-GW	10/16/2001	4.88	6.8	2.42	0.55	-13
	01-RT-140-GW	1/15/2002	4.5	5	.8	1.31	104
	02-RT-010-GW	3/13/2002	6.10	3.5	2.98	0.55	---
	02-RT-051-GW	6/19/2002	5.58	6.3	1.6	0.33	54.1
	02-RT-076-GW	9/26/2002	5.66	8	0.755	0.68	34.6
	02-RT-120-GW	12/19/2002	6.05	3.8	0.595	0.24	8
	03-RT-021-GW	3/11/2003	6.45	3.8	.99	0.23	16
	03-RT-044-GW	6/18/2003	7.8	7.7	1.39	0.08	24.2
	03-RT-118-GW	10/8/2003	5.95	7.82	0.433	---	-18
	04-RT-005-GW	1/20/2004	6.24	4.9	0.514	0.1	-48.1
	04-RT-016-GW	3/30/2004	6.21	1.78	0.208	1	-1.7
	04-RT-039-GW	6/8/2004	6.20	5.09	0.314	0.53	-43.9
	04-RT-050-GW	10/29/2004	6.11	7.17	0.350	1.3	18.5
	05-RT-004-GW	2/24/2005	---	4.12	0.321	0.71	-50
	05-RT-033-GW	6/2/2005	9.08	6.14	0.891	0.44	-138.3
	05-RT-047-GW	10/11/2005	5.95	8.12	0.560	0.44	-13.7
	06-RT-010-GW	5/25/2006	6.38	5.14	1.310	1.06	-45.8
	06-RT-043-GW	9/13/2006	5.70	7.52	0.487	0.4	12.8
	07-RT-037-GW	9/18/2007	6.14	9.71	0.162	0.7	22.4
	08-RT-054-GW	9/19/2008	5.73	9.51	0.196	0.58	81.6
	09-RT-088-GW	10/7/2009	---	8.69	0.129	3.28	45.4
	10-RT-107-GW	10/21/2010	6.3	8.01	0.347	0.27	-89
	12-RT-031-GW	5/10/2012	8.7	5.25	0.586	1.11	84.9

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-4A	00-RT-048-GW	6/7/2000	6.16	5.8	.203	0.8	---
	00-RT-119-GW	9/28/2000	6.2	9.1	.24	2.7	---
	01-RT-017-GW	1/10/2001	6.21	5.2	.364	0.47	253
	01-RT-019-GW	1/10/2001	6.21	5.2	.364	0.47	253
	01-RT-047-GW	3/22/2001	6.05	2.9	.215	2.14	113.9
	01-RT-080-GW	6/25/2001	---	7.4	.228	0.47	169
	01-RT-097-GW	10/15/2001	5.64	8.6	0.673	5.93	-37.7
	01-RT-139-GW	1/15/2002	6.34	5	.409	1.25	-7.5
	02-RT-012-GW	3/13/2002	6.42	4.3	0.607	0	---
	02-RT-048-GW	6/19/2002	6.26	7	0.376	0.5	-2.6
	02-RT-065-GW	9/27/2002	6.22	8.6	0.496	0.42	34.2
	02-RT-115-GW	12/19/2002	6.13	5.5	.554	0.24	8.01
	03-RT-015-GW	3/11/2003	5.85	4	.243	0.15	49.3
	03-RT-034-GW	6/17/2003	6.28	6.3	.449	0.23	14.4
	04-RT-004-GW	1/20/2004	6.14	5.81	0.377	0.2	-54.2
	04-RT-015-GW	3/31/2004	6.05	3.91	0.552	0.2	-0.3
	04-RT-036-GW	6/8/2004	5.78	5.48	0.486	1	7.8
	04-RT-051-GW	10/29/2004	5.90	8.25	0.576	0.51	-46.3
	05-RT-005-GW	2/23/2005	---	5.39	0.389	0.96	-108
	05-RT-048-GW	10/11/2005	5.90	8.32	0.664	0.53	-27.3
	06-RT-011-GW	5/25/2006	6.00	4.68	1.306	0.75	22.5
	06-RT-044-GW	9/12/2006	5.66	7.27	0.547	0.42	56.3
	07-RT-027-GW	9/18/2007	6.4	7.55	0.752	0.66	-38.3
	08-RT-016-GW	5/13/2008	4.64	3.85	0.632	0.58	26.5
	08-RT-030-GW	9/17/2008	6.27	9.75	0.63	0.54	10.4
	09-RT-084-GW	10/7/2009	---	9.05	0.494	0.32	24.4
	10-RT-103-GW	10/21/2010	5.8	8.48	0.533	1.09	78.2
	12-RT-027-GW	5/9/2012	6.6	6.16	0.365	0.38	150.3
	13-RT-036-GW	4/10/2013	6.1	0.5	.081	7.8	81.9

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
		Lower Plume					
MW-26	00-RT-059-GW	6/8/2000	6.78	6.5	.130	0.81	---
	01-RT-115-GW	10/17/2001	6.83	7.6	.133	0.66	52.9
	02-RT-085-GW	9/26/2002	6.8	10.4	0.051	6.33	102.9
	04-RT-057-GW	10/30/2004	6.29	8.33	0.049	8.74	168
	05-RT-064-GW	10/12/2005	6.28	10.84	0.071	6.9	61.6
	06-RT-053-GW	9/13/2006	6.15	12.14	0.072	9.15	115.2
	08-RT-059-GW	9/18/2008	6.06	11.46	0.142	7.55	73.9
	10-RT-113-GW	10/21/2010	6.4	8.41	0.129	5.2	-48.4
	13-RT-005-GW	4/10/2013	6.8	2	0.439	1.52	36.9
	14-RT-024-GW	4/22/2014	6.4	4.9	0.110	7.1	13.4
	16-RT-004-GW	10/27/2016	8.7	7	0.080	---	-101

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-39	00-RT-106-GW	9/27/2000	6.41	8.5	.287	1.25	---
	00-RT-134-GW	11/28/2000	6.26	6.6	.459	5.44	---
	01-RT-005-GW	1/11/2001	6.31	6.1	.318	1.63	29.1
	01-RT-034-GW	3/8/2001	6.23	5.7	.293	1.14	98.2
	01-RT-074-GW	5/22/2001	6.57	8.3	.16	0.87	6.8
	01-RT-092-GW	10/16/2001	5.14	7.2	1.347	0.64	3
	01-RT-131-GW	1/15/2002	5.4	5	.38	0.78	28.9
	02-RT-063-GW	9/27/2002	6.23	7.6	1.17	0.62	-3.76
	02-RT-104-GW	12/18/2002	6.29	5	0.820	0.38	-6.5
	03-RT-003-GW	2/4/2003	6.75	5.7	1.02	0.67	-8.6
	03-RT-027-GW	3/11/2003	6.54	5.2	.902	0.31	6.98
	03-RT-039-GW	6/17/2003	6.3	6.3	.72	0.13	-6.9
	04-RT-008-GW	1/21/2004	6.22	6.1	0.412	0.15	-49.3
	04-RT-019-GW	3/31/2004	6.32	3.31	0.394	0.6	-28.7
	04-RT-028-GW	6/8/2004	6.20	5.44	0.408	---	-41.3
	04-RT-055-GW	10/29/2004	6.00	7.82	0.384	1.35	-18.6
	05-RT-009-GW	2/23/2005	---	5.25	0.449	0.72	-113
	05-RT-023-GW	6/2/2005	---	5.72	0.715	0.53	-300.3
	05-RT-051-GW	10/11/2005	5.82	9.04	0.566	0.56	-37.3
	06-RT-003-GW	3/8/2006	5.54	3.98	0.644	0.65	55.4
	06-RT-014-GW	5/24/2006	5.83	5.33	0.798	0.72	-9.9
	06-RT-035-GW	9/11/2006	5.85	8.07	0.424	0.32	-3.4
	07-RT-006-GW	5/30/2007	6.57	5.42	2.901	0.79	-23.7
	07-RT-033-GW	9/18/2007	5.70	6.68	1.346	0.74	-6.2
	08-RT-006-GW	5/12/2008	6.83	5.1	1.003	0.94	23.2
	08-RT-032-GW	9/17/2008	6.04	7.8	0.624	1.15	-36.3
	09-RT-008-GW	5/6/2009	6.34	4.26	1.11	---	---
	09-RT-067-GW	10/6/2009	---	6.39	0.571	1.58	-41.7
	10-RT-042-GW	5/12/2010	5.5	4.78	1.271	0.4	-9.9
	10-RT-086-GW	10/20/2010	6.4	6.05	1.972	2.8	-32.1
	12-RT-006-GW	5/8/2012	6.6	8.26	0.716	0.1	58
	13-RT-020-GW	4/9/2013	6.1	2.6	1.294	1.45	-37.2
	14-RT-006-GW	4/23/2014	6.3	5.2	0.868	0.36	-49.4
	16-RT-008-GW	10/27/2016	6.5	6.6	0.589	---	-62.5

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-44	02-RT-100-GW	11/2/2002	7.97	6.9	0.910	---	32
	02-RT-105-GW	12/18/2002	7.67	4.7	0.811	2.5	200.6
	03-RT-029-GW	3/11/2003	8.37	5.5	.736	7.65	7
	03-RT-052-GW	6/19/2003	8.92	6.9	.621	2.02	89
	04-RT-042-GW	6/8/2004	7.33	6.18	0.253	2.39	-45.8
	04-RT-058-GW	10/29/2004	7.88	6.69	0.466	0.82	54.2
	05-RT-037-GW	6/3/2005	8.78	6.18	0.758	0.9	-185.2
	05-RT-053-GW	10/12/2005	7.83	6.23	0.461	0.34	-102.8
	06-RT-005-GW	3/7/2006	7.82	5.08	0.666	0.3	37
	06-RT-017-GW	5/24/2006	7.43	7.12	0.419	0.58	-96.2
	06-RT-037-GW	9/12/2006	7.43	7.49	0.246	0.31	-109.8
	07-RT-009-GW	5/30/2007	7.89	6.03	0.825	1.09	-157.7
	07-RT-035-GW	9/18/2007	7.3	6.42	1.051	0.63	45.1
	08-RT-008-GW	5/12/2008	7.51	5.3	0.438	1.17	31.9
	08-RT-034-GW	9/17/2008	7.59	7.07	0.807	0.38	-179.8
	09-RT-010-GW	5/6/2009	6.21	4.3	0.395	---	---
	09-RT-069-GW	10/6/2009	---	5.95	0.512	0.44	-132.2
	10-RT-044-GW	5/12/2010	7.0	5.77	0.662	0.21	-73.2
	10-RT-088-GW	10/20/2010	7.6	4.63	1.166	0.58	-55.5
	12-RT-008-GW	5/8/2012	7.2	8	1.652	0.07	-15.3
	13-RT-018-GW	4/9/2013	7.0	3	1.218	0.26	-51.2
	14-RT-008-GW	4/23/2014	7.1	4.1	0.122	0.82	-25.8
	16-RT-009-GW	10/27/2016	6.2	7.3	0.682	---	-24.1
MW-45	03-RT-093-GW	10/9/2003	8.3	6.99	0.616	---	-68
	04-RT-043-GW	6/8/2004	7.77	5.62	0.445	0.17	-111.9
	04-RT-059-GW	10/29/2004	7.79	6.31	0.468	0.55	-9.1
	05-RT-038-GW	6/3/2005	---	5.96	0.785	0.26	-229.6
	06-RT-039-GW	9/12/2006	7.58	5.82	0.443	2.64	-27.8
	12-RT-035-GW	5/9/2012	8.3	6.13	0.949	0.31	32.4
	13-RT-011-GW	4/9/2013	7.8	3.3	0.776	0.18	-120.9
MW-46	04-RT-044-GW	6/8/2004	6.95	6.02	0.111	1.97	-31.9
	04-RT-060-GW	10/29/2004	7.60	6.65	0.304	3.26	66.2
	05-RT-039-GW	6/3/2005	8.68	7.81	0.219	0.58	-209.7
	06-RT-040-GW	9/12/2006	7.44	6.04	0.425	0.42	-59.9
	12-RT-036-GW	5/9/2012	4.1	5.36	0.414	0.14	91.8

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-47	06-RT-038-GW	10/4/2006	6.35	7.87	0.866	1.41	-54.3
	07-RT-010-GW	5/30/2007	6.88	6.66	3.351	0.82	-74.9
	07-RT-036-GW	9/19/2007	6.25	8.53	2.062	0.66	-68.4
	08-RT-009-GW	5/12/2008	6.98	4.41	1.912	1.43	13.4
	08-RT-035-GW	9/17/2008	6.07	8.04	2.429	1.9	-44.8
	09-RT-011-GW	5/6/2009	6.19	4.86	3.579	---	---
	09-RT-070-GW	10/6/2009	---	6.65	2.1	0.47	-97.1
	10-RT-045-GW	5/11/2010	5.7	5.83	2.137	1.37	-94.2
	10-RT-089-GW	10/19/2010	5.4	5.59	3.398	0.33	-49.5
	11-RT-001-GW	5/17/2011	5.6	7.28	5.795	0.68	-40.9
	12-RT-009-GW	5/8/2012	5.8	10.2	6.294	0.05	4.7
	13-RT-025-GW	4/10/2013	5.6	3.5	2.136	1.35	50.9
	14-RT-009-GW	4/23/2014	6.5	5.4	0.365	0.3	-106.9
MW-48	09-RT-043-GW	8/17/2009	7.43	8.08	0.46	1.54	-86.3
	09-RT-071-GW	10/6/2009	---	6.9	3.9	0.4	152.1
	10-RT-046-GW	5/12/2010	5.6	6.23	0.468	0.21	5.2
	10-RT-090-GW	10/19/2010	6.3	7.35	0.126	0.49	-148.7
	11-RT-002-GW	5/18/2011	5.7	5.28	1.496	0.88	17.9
	12-RT-010-GW	5/8/2012	5.6	7.34	1.928	0.05	50.6
	13-RT-026-GW	4/10/2013	5.7	3.2	1.450	0.67	-0.2
	14-RT-010-GW	4/22/2014	6.0	5.2	4.033	1.7	-84.3
	16-RT-010-GW	10/26/2016	7.4	6.5	4.85	---	-94
MW-49	09-RT-044-GW	8/17/2009	7.34	8.7	0.72	4.28	-102.4
	09-RT-072-GW	10/6/2009	---	6.24	1.34	0.4	-88.6
	10-RT-047-GW	5/13/2010	6.6	5.7	2.693	0.64	-78.7
	10-RT-091-GW	10/19/2010	6.4	6.26	3.040	0.14	-155.7
	11-RT-003-GW	5/18/2011	6.5	6.4	3.773	0.62	-127
	12-RT-011-GW	5/9/2012	8.5	5.12	5.466	0.86	-31.1
	13-RT-027-GW	4/10/2013	6.4	3.4	4.842	1.3	-82.1
	14-RT-011-GW	4/23/2014	6.8	5.3	3.506	0.78	-84.5
	16-RT-011-GW	10/26/2016	6.5	6.9	2.998	---	-91

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-50	09-RT-045-GW	8/17/2009	8.2	8.21	0.646	8.43	0.7
	09-RT-073-GW	10/6/2009	---	6.33	0.672	0.41	-147.7
	10-RT-048-GW	5/12/2010	7.9	6.33	0.836	0.4	-107.4
	10-RT-092-GW	10/20/2010	6.6	5.52	0.662	0.7	-156.3
	11-RT-004-GW	5/17/2011	6.8	6.5	1.346	1.05	-99.8
	12-RT-012-GW	5/8/2012	9.1	7.65	1.329	0.29	-56.5
	13-RT-028-GW	4/10/2013	7.0	3.7	1.365	0.69	-25.8
	14-RT-012-GW	4/22/2014	6.3	5.2	0.132	2.1	-33.4
	16-RT-012-GW	10/26/2016	6.8	6.9	0.247	---	-56.5
MW-51	10-RT-093-GW	10/19/2010	7.0	7	1.575	5.14	-103.8
	11-RT-005-GW	5/18/2011	7.0	5.94	1.599	0.75	-161
	12-RT-013-GW	5/9/2012	5.2	5.17	1.230	0.28	120.9
	13-RT-029-GW	4/10/2013	7.0	2.4	0.890	0.2	-69.4
	14-RT-013-GW	4/22/2014	6.4	5.2	0.051	3.1	27.1
	16-RT-013-GW	10/26/2016	6.4	7.2	1.413	---	-96.2
MW-52	10-RT-094-GW	10/19/2010	7.6	6.37	0.637	0.24	-152.1
	11-RT-006-GW	5/17/2011	8.2	8.77	1.029	0.56	-168
	12-RT-014-GW	5/8/2012	10.9	7.64	0.875	0.21	-116
	13-RT-030-GW	4/10/2013	8.1	2.6	1.673	0.21	-84.2
	14-RT-014-GW	4/23/2014	6.3	5.4	0.303	0.26	-20.7
	16-RT-014-GW	10/26/2016	6.2	7.7	1.198	---	-90.2
L-13	03-RT-008-GW	3/10/2003	6.44	3.7	.74	---	74.7
	03-RT-037-GW	6/17/2003	6.13	6.5	.697	0.47	22.7
L-78	08-RT-010-GW	6/26/2008	6.53	8.58	0.458	0.11	-22.1
	08-RT-036-GW	9/18/2008	5.79	7.32	5.840	2.07	-125.2
	09-RT-074-GW	10/7/2009	---	6.66	5.12	0.68	-98.6
	10-RT-062-GW	5/13/2010	6.1	6.29	5.304	0.68	-117.7
	10-RT-095-GW	10/20/2010	5.7	7.58	5.778	0.57	-152
	11-RT-010-GW	5/17/2011	5.0	7.03	12.11	1.5	-245
	12-RT-015-GW	5/9/2012	5.6	11.75	7.728	1.43	152.5
	13-RT-031-GW	4/9/2013	6.1	2.9	10.54	0.39	-162.9
	14-RT-015-GW	4/23/2014	6.1	6.6	8.532	0.15	-147.7
L-79	08-RT-011-GW	5/13/2008	4.93	5.95	6.402	0.91	83.1

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
L-100	10-RT-054-GW	5/12/2010	5.3	5.57	4.895	1.27	-85.1
	10-RT-096-GW	10/20/2010	4.5	6.53	3.400	0.3	-77.6
	11-RT-007-GW	5/17/2011	5.0	7.44	3.152	0.75	-128
	12-RT-016-GW	5/9/2012	5.8	7.74	2.079	0.1	126.4
	13-RT-023-GW	4/10/2013	5.0	3	0.876	0.49	75.2
	14-RT-016-GW	4/22/2014	6.8	7.4	0.300	0.25	-104
L-101	10-RT-097-GW	10/20/2010	7.4	6.78	1.001	0.48	-126.7
	11-RT-011-GW	5/17/2011	7.1	6.78	1.306	1.06	-170
	12-RT-017-GW	5/8/2012	7.2	13.33	7.653	1.18	1.8
	13-RT-024-GW	4/10/2013	4.9	1.9	10.61	1.28	-76
	14-RT-017-GW	4/23/2014	5.8	5.5	6.425	0.22	-205.3
L-102	14-RT-019-GW	4/22/2014	5.0	5.8	7.42	0.48	-119.1
L-103	14-RT-020-GW	4/23/2014	5.1	4.4	4.466	1.23	-335.6

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-9	00-RT-051-GW	6/7/2000	6.43	5.2	.294	2.3	---
	00-RT-107-GW	9/27/2000	6.38	7.2	.359	0.75	---
	00-RT-133-GW	11/28/2000	5.57	6.6	1.07	0.67	---
	01-RT-003-GW	1/11/2001	5.67	6.4	1.11	1.18	35.8
	01-RT-004-GW	1/11/2001	5.67	6.4	1.11	1.18	35.8
	01-RT-033-GW	3/8/2001	5.57	5	1.01	1.32	48.9
	01-RT-068-GW	5/22/2001	5.98	5.8	.437	0.82	6.4
	01-RT-091-GW	10/16/2001	5.4	6.7	2.86	0.88	-11.1
	01-RT-129-GW	1/15/2002	5.41	5.4	2.15	0.48	32.6
	02-RT-001-GW	3/13/2002	6.02	2.1	1.10	0.4	---
	02-RT-041-GW	6/19/2002	5.31	5.9	1.5	0.36	63.9
	02-RT-062-GW	9/27/2002	5.75	7.2	0.859	0.06	5.91
	02-RT-102-GW	12/18/2002	5.86	5.1	0.753	0.35	0.4
	03-RT-001-GW	2/4/2003	5.79	6	0.752	4.37	27.8
	03-RT-007-GW	3/10/2003	5.71	4.4	1.04	0.52	74.8
	03-RT-036-GW	6/17/2003	6.23	5.7	.715	0.2	27.4
	03-RT-095-GW	10/8/2003	6.02	6.93	0.925	---	-64
	04-RT-007-GW	1/21/2004	5.92	5.77	1.09	0.05	-70.6
	04-RT-018-GW	3/31/2004	5.91	4.11	0.873	0.2	7.1
	04-RT-027-GW	6/8/2004	5.61	4.96	0.979	0.6	7.6
	04-RT-054-GW	10/29/2004	5.51	7.19	0.966	0.6	21.7
	05-RT-008-GW	2/24/2005	---	4.79	0.767	0.6	-51.5
	05-RT-022-GW	6/2/2005	7.56	5.23	1.001	0.68	-84.2
	05-RT-050-GW	10/11/2005	5.55	7.08	0.963	0.54	-11.7
	06-RT-002-GW	3/8/2006	5.94	4.34	1.129	0.29	22.5
	06-RT-013-GW	5/25/2006	5.98	6.29	0.842	0.63	33.8
	06-RT-034-GW	9/11/2006	5.77	6.6	0.656	0.67	-13.8
	07-RT-005-GW	5/30/2007	5.74	4.5	1.937	1.04	61.4
	07-RT-032-GW	9/19/2007	5.54	6.16	0.846	1.18	-3.2
	08-RT-005-GW	5/12/2008	6.44	3.69	0.901	1.54	74.6
	08-RT-031-GW	9/16/2008	5.08	6.3	0.95	2.02	73.8
	09-RT-007-GW	5/6/2009	5.43	4.1	1.214	---	---
	09-RT-066-GW	10/5/2009	7.52	7.24	0.583	0.39	-18.6
	10-RT-041-GW	5/11/2010	5.9	4.84	0.537	0.16	1.9
	10-RT-085-GW	10/20/2010	5.4	5.61	0.321	0.46	-163.2
	12-RT-005-GW	5/8/2012	6.3	5.32	0.424	0.27	101.4

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
MW-9	13-RT-019-GW	4/9/2013	6.1	3.5	0.979	0.24	-48
	14-RT-005-GW	4/23/2014	6.8	4.2	0.994	0.71	-83
	16-RT-007-GW	10/27/2016	7.2	6.8	0.583	---	-36.2

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-40	00-RT-108-GW	9/27/2000	6.36	6.8	.344	0.75	---
	00-RT-132-GW	11/28/2000	5.59	6.6	0.91	0.61	---
	01-RT-002-GW	1/11/2001	5.52	6.5	1.08	4.38	95
	01-RT-032-GW	3/8/2001	5.53	4.8	1.06	0.89	39.2
	01-RT-075-GW	5/22/2001	6.03	6.7	.477	0.47	-22.1
	01-RT-090-GW	10/16/2001	5.4	6	2.0	0.76	10.4
	01-RT-130-GW	1/15/2002	5.58	4.8	2.11	1.03	55.6
	02-RT-042-GW	6/19/2002	5.44	5.6	2.12	0.2	26.8
	02-RT-064-GW	9/27/2002	5.89	7.3	.737	0.66	6.09
	02-RT-103-GW	12/18/2002	5.96	3.5	1.18	0.19	-52.6
	03-RT-002-GW	2/4/2003	6.37	5.5	1.59	0.21	46
	03-RT-028-GW	3/11/2003	5.86	4.9	1.60	0.59	52.8
	03-RT-035-GW	6/17/2003	6.31	5.5	1.18	0.51	31.5
	04-RT-009-GW	1/21/2004	6.11	5.56	0.841	0.1	-62.3
	04-RT-020-GW	3/30/2004	6.13	1.79	0.659	0.8	-19.2
	04-RT-029-GW	6/8/2004	6.00	5.06	0.858	0.32	-49.3
	04-RT-056-GW	10/29/2004	5.93	7.13	0.880	0.56	24.2
	05-RT-010-GW	2/24/2005	---	4.41	0.714	0.73	-81.8
	05-RT-024-GW	6/2/2005	7.34	5.34	1.221	0.37	-125.5
	05-RT-052-GW	10/12/2005	6.01	7.22	0.931	0.28	-33.7
	06-RT-004-GW	3/8/2006	6.20	4.76	0.986	0.25	-32.4
	06-RT-015-GW	5/25/2006	6.16	5.11	0.817	1.42	-8.8
	06-RT-036-GW	9/12/2006	6.02	5.95	0.315	0.43	-25.6
	07-RT-007-GW	5/30/2007	6.48	3.98	1.135	0.88	-19.3
	07-RT-034-GW	9/19/2007	6.33	6.84	0.625	0.57	-63.7
	08-RT-007-GW	5/12/2008	7.21	4.49	0.769	1.05	5.4
	08-RT-033-GW	9/17/2008	6.11	6.16	0.627	1.29	-55
	09-RT-009-GW	5/6/2009	6.32	3.99	1.153	---	---
	09-RT-068-GW	10/7/2009	---	5.66	0.341	0.43	-33.5
	10-RT-043-GW	5/13/2010	6.3	4.47	0.365	0.6	-27.2
	10-RT-087-GW	10/20/2010	6.9	6.83	0.286	0.25	-130.8
	12-RT-007-GW	5/7/2012	6.8	4.58	0.279	0.79	72.9
	13-RT-021-GW	4/9/2013	6.3	2.3	0.754	0.51	-55
	14-RT-007-GW	4/23/2014	6.3	4.9	0.601	0.4	-66.3

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-6	00-RT-045-GW	6/7/2000	6.39	5.3	.237	0.68	---
	00-RT-109-GW	9/27/2000	6.4	7.2	.303	4	---
	00-RT-130-GW	11/28/2000	6.36	4.9	1.08	0.6	---
	00-RT-131-GW	11/28/2000	6.36	4.9	1.08	0.6	---
	00-RT-139-GW	11/28/2000	6.36	4.9	1.08	0.6	---
	01-RT-001-GW	1/11/2001	6.04	3.4	1.54	1.27	26.5
	01-RT-030-GW	3/8/2001	6.28	2.9	1.20	0.84	-29.2
	01-RT-076-GW	5/22/2001	6.31	4.6	.535	0.35	-45.7
	01-RT-089-GW	10/16/2001	6.05	6.7	3.02	0.78	-49.3
	01-RT-128-GW	1/15/2002	5.24	2.9	1.87	3.3	8.5
	02-RT-002-GW	3/13/2002	5.56	2.1	1.75	0.1	---
	02-RT-040-GW	6/19/2002	5.92	6.2	1.39	0.2	-4.1
	02-RT-061-GW	9/27/2002	6.04	8.7	1.71	0.22	-43.2
	02-RT-116-GW	12/18/2002	5.90	3.7	1.19	0.18	-37.3
	03-RT-004-GW	2/4/2003	6.31	3.8	1.3	0.17	32.8
	03-RT-016-GW	3/11/2003	6.21	3	1.39	0.48	19.9
	03-RT-032b-G	6/17/2003	6.48	5.8	1.00	0.32	-15.4
	04-RT-010-GW	1/20/2004	6.24	3.81	0.512	0.8	-67.7
	04-RT-021-GW	3/29/2004	6.33	1.93	0.002	0.6	-24.8
	04-RT-025-GW	6/7/2004	6.15	5.41	0.436	0.68	-73.2
	04-RT-052-GW	10/30/2004	5.84	7.12	0.641	0.99	199.9
	05-RT-006-GW	2/24/2005	---	2.78	0.441	0.79	-36.7
	05-RT-020-GW	6/2/2005	---	6.32	0.737	0.36	-131.7
	05-RT-049-GW	10/11/2005	6.07	9.14	0.757	0.45	-23.6
	06-RT-012-GW	5/25/2006	6.17	4.3	0.628	0.47	-20.7
	06-RT-033-GW	9/11/2006	5.39	8.27	0.442	0.79	-20.1
	07-RT-004-GW	5/30/2007	6.70	2.16	1.235	1.34	-41.4
	07-RT-031-GW	9/19/2007	6.31	8.62	0.621	0.45	-58.2
	08-RT-018-GW	5/13/2008	4.85	3.21	0.784	0.53	3.7
	08-RT-051-GW	9/19/2008	6.05	8.51	0.525	0.35	5.8
	09-RT-005-GW	5/6/2009	6.24	2.49	0.842	---	---
	09-RT-065-GW	10/7/2009	---	7.42	0.469	0.34	-49.7
	10-RT-040-GW	5/13/2010	6.5	2.78	0.384	0.94	-36.5
	10-RT-084-GW	10/20/2010	6.7	7.55	0.417	0.35	-89.6
	12-RT-004-GW	5/8/2012	8.8	5.4	0.315	0.65	3.9
	13-RT-022-GW	4/11/2013	6.0	2.4	0.588	1.2	-8.5

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
MW-6	14-RT-004-GW	4/24/2014	6.2	2.7	0.360	0.71	-81.6
	16-RT-006-GW	10/27/2016	5.5	6.9	0.375	---	-68
MW-5	00-RT-054-GW	6/7/2000	6.39	8.1	.14	6.28	---
	01-RT-119-GW	10/18/2001	6.23	5.2	0.315	0.89	9.8
	02-RT-073-GW	9/26/2002	5.60	9.3	0.154	0.39	80.7
	03-RT-115-GW	10/8/2003	5.60	8.56	0.157	---	174
	04-RT-068-GW	10/23/2004	6.17	6.8	0.122	3.62	37.4
	06-RT-045-GW	9/13/2006	5.65	10.62	0.214	0.93	71.4
	07-RT-028-GW	9/20/2007	5.76	8.77	0.142	2.35	101.2
	08-RT-050-GW	9/20/2008	5.77	8.61	0.198	0.69	47.8
MW-7	00-RT-046-GW	6/7/2000	6.22	5.4	.245	0.7	---
	01-RT-016-GW	1/11/2001	6.41	4	.691	1.38	-8.1
	01-RT-055-GW	3/22/2001	6.38	3.7	.480	1.27	27.7
	01-RT-123-GW	10/18/2001	6.13	6.9	1.22	0.8	-50.8
	01-RT-144-GW	1/16/2002	6.21	2.6	.681	5	-33
	02-RT-011-GW	3/14/2002	5.81	4.5	2.82	0.15	---
	02-RT-053-GW	6/19/2002	6.12	8	1.2	0.09	-24.5
	02-RT-074-GW	9/26/2002	6.02	8.7	0.783	0.25	-38.4
	02-RT-117-GW	12/18/2002	6.23	2.7	0.614	0.26	-38.2
	03-RT-019-GW	3/11/2003	6.32	2.9	.793	0.76	38
	03-RT-046-GW	6/18/2003	8.64	5.6	.610	0.26	13
	03-RT-120-GW	10/9/2003	6.25	7.68	0.543	---	-90
	04-RT-037-GW	6/7/2004	6.17	5.01	0.586	0.45	-92.5
	04-RT-069-GW	10/23/2004	6.29	7.35	0.433	0.88	-36.8
	05-RT-036-GW	6/2/2005	7.36	5.37	0.966	0.75	-93
	05-RT-057-GW	10/12/2005	6.02	8.29	0.799	0.32	-9.7
	06-RT-020-GW	5/25/2006	6.75	4.49	0.554	0.58	-12.5
	06-RT-032-GW	9/11/2006	6.26	8.24	0.449	0.59	-52.8
	07-RT-029-GW	9/19/2007	6.33	8.32	0.841	0.4	-63.4
	08-RT-052-GW	9/19/2008	6.16	8.06	0.693	0.85	-18.5
	09-RT-086-GW	10/8/2009	---	7.05	0.458	0.34	-52.5
	10-RT-105-GW	10/21/2010	6.3	6.81	0.494	0.36	-83.8
	12-RT-029-GW	5/10/2012	8.9	4.44	0.404	0.5	29.3

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
MW-8	00-RT-052-GW	6/7/2000	6.28	5.6	.287	0.5	---
	01-RT-014-GW	1/10/2001	6.03	3.7	2.03	0.7	85
	01-RT-051-GW	3/22/2001	5.96	2	.827	---	57.4
	01-RT-124-GW	10/18/2001	5.49	4.3	2.53	0.36	25.6
	01-RT-147-GW	1/16/2002	5.91	2.9	1.58	2.06	6.46
	02-RT-003-GW	3/13/2002	5.08	2.6	2.52	0.2	---
	02-RT-054-GW	6/19/2002	5.86	6.9	1.48	0.17	-1.7
	02-RT-119-GW	12/18/2002	5.97	3.9	1.34	0.14	29.3
	03-RT-020-GW	3/11/2003	6.26	3.3	1.63	0.34	27.9
	03-RT-045-GW	6/18/2003	8.32	6.6	1.46	0.11	18
	03-RT-117-GW	10/8/2003	6.36	7.92	0.718	---	-98
	04-RT-038-GW	6/7/2004	6.67	6.18	0.359	0.5	-51.5
	04-RT-070-GW	10/23/2004	6.45	7.39	0.362	0.47	-64.8
	05-RT-013-GW	2/22/2005	8.72	3.65	0.638	0.58	-120.5
	05-RT-058-GW	10/12/2005	5.95	8.07	0.534	0.38	-7.8
	06-RT-046-GW	9/13/2006	6.38	7.04	0.890	0.52	-74.5
	07-RT-030-GW	9/19/2007	6.13	8.74	0.268	2.06	-5.3
	08-RT-053-GW	9/19/2008	6.02	9.97	0.437	0.44	12.8
	09-RT-087-GW	10/8/2009	---	8.59	0.264	0.38	24.2
	10-RT-106-GW	10/21/2010	6.1	8.07	1.100	1.06	13.8
	12-RT-030-GW	5/10/2012	9.4	4.96	1.067	0.16	3.5

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
MW-12	00-RT-056-GW	6/8/2000	5.92	5.4	.199	0.95	---
	01-RT-120-GW	10/18/2001	6.32	6.9	0.563	0.59	-4.7
	01-RT-143-GW	1/16/2002	6.02	2.6	0.389	1.92	6.5
	02-RT-007-GW	3/13/2002	6.47	2.2	0.513	0.25	---
	02-RT-052-GW	6/19/2002	6.25	6.9	0.391	0.72	-15.9
	02-RT-078-GW	9/26/2002	5.78	8.8	0.511	0.13	21.8
	02-RT-121-GW	12/19/2002	6.22	4.5	0.503	0.65	-33.5
	03-RT-022-GW	3/11/2003	6.47	3.7	.507	0.43	24.3
	03-RT-049-GW	6/18/2003	7.32	7.3	.603	0.09	12
	03-RT-110-GW	10/8/2003	6.08	7.7	0.533	---	-9
	04-RT-032-GW	6/8/2004	6.15	4.95	0.265	0.81	-21.7
	04-RT-072-GW	10/23/2004	6.29	7.32	0.210	0.58	-23.3
	05-RT-014-GW	2/22/2005	8.33	3.61	0.222	1.55	-33.6
	05-RT-059-GW	10/12/2005	5.90	8.38	0.528	0.62	48.2
	07-RT-038-GW	9/19/2007	5.81	10.31	0.141	2.54	23.3
	08-RT-055-GW	9/19/2008	5.73	10.51	0.199	0.39	111.5
	09-RT-089-GW	10/7/2009	---	7.98	0.272	0.36	-30.5
	10-RT-108-GW	10/21/2010	6.1	8.27	0.379	1.25	14.5
	12-RT-032-GW	5/10/2012	8.5	3.45	0.443	0.32	85
	13-RT-008-GW	4/9/2013	6.1	1.7	0.451	1.89	83.6
	14-RT-026-GW	4/24/2014	5.6	3.2	0.675	4.6	88.8

Table C-1: June 2000 through October 2016 Performance Monitoring
Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	*Sample ID*	*Date Sampled*	*pH*	*Temperature (degrees C)*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*ORP (mV)*
MW-20	00-RT-044-GW	6/7/2000	6.41	5.5	.276	1.38	---
	01-RT-015-GW	1/11/2001	6.2	3.2	1.24	1.17	69
	01-RT-052-GW	3/22/2001	6.17	1.9	.700	---	---
	01-RT-126-GW	10/18/2001	6.21	4.9	1.44	1.07	-5.6
	01-RT-149-GW	1/16/2002	6.13	1.8	.287	4.92	6.6
	02-RT-004-GW	3/13/2002	5.23	1.7	1.46	0.25	---
	02-RT-005-GW	3/13/2002	5.23	1.7	1.46	0.25	---
	02-RT-056-GW	6/18/2002	6.37	8	1.09	0.26	-54.9
	02-RT-081-GW	9/26/2002	5.87	9.1	0.678	0.25	-12.9
	02-RT-124-GW	12/18/2002	6.05	2.1	0.771	0.16	-39.9
	03-RT-024-GW	3/11/2003	6.52	1.9	.791	0.23	-0.6
	03-RT-033-GW	6/17/2003	6.5	6.4	.451	0.6	7.2
	04-RT-006-GW	1/20/2004	6.01	2.64	0.227	0.6	47.6
	04-RT-017-GW	3/30/2004	6.53	0.77	0.117	0.4	-32.2
	04-RT-026-GW	6/8/2004	6.43	5.87	0.664	0.42	-94.8
	04-RT-053-GW	10/29/2004	6.11	6.32	0.477	1.05	98.5
	05-RT-007-GW	2/24/2005	---	2.45	0.269	0.53	-7.1
	05-RT-021-GW	6/2/2005	8.55	6.11	0.510	0.65	-66.3
	05-RT-061-GW	10/11/2005	5.91	8.12	0.456	0.7	20.2
	06-RT-016-GW	5/26/2006	6.29	5.5	0.807	1.14	-4
	06-RT-049-GW	9/13/2006	6.16	8.04	1.092	0.57	-39.6
	07-RT-039-GW	9/19/2007	5.86	9.22	0.532	3.85	16.1
	08-RT-017-GW	5/13/2008	5.57	6.6	0.971	3.42	28.1
	08-RT-057-GW	9/19/2008	5.67	10.42	0.420	0.48	87.9
	09-RT-090-GW	10/8/2009	---	8.37	0.491	0.99	-5
	10-RT-109-GW	10/21/2010	6.2	7.61	0.310	0.81	-80.9
	12-RT-033-GW	5/10/2012	8.5	5.68	0.426	1.94	71.1
	13-RT-010-GW	4/9/2013	6.1	0.6	0.068	9	462

Table C-1: June 2000 through October 2016 Performance Monitoring Groundwater Field Screening Data

River Terrace RV Park, Soldotna, Alaska

Location	Sample ID	Date Sampled	pH	Temperature (degrees C)	Conductivity (mS)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-35	00-RT-074-GW	6/9/2000	6.4	8.2	.281	2.05	---
	01-RT-118-GW	10/18/2001	6.33	7	0.348	1.49	36.9
	02-RT-089-GW	9/26/2002	5.63	9.1	0.262	0.47	5.86
	03-RT-113-GW	10/8/2003	5.92	8.49	0.334	---	26
	04-RT-081-GW	10/23/2004	6.08	7.21	0.240	0.48	51.8
	05-RT-065-GW	10/12/2005	5.76	8.53	0.381	0.32	42.7
	06-RT-022-GW	5/25/2006	6.17	4.9	0.486	2.53	27.8
	06-RT-055-GW	9/13/2006	6.00	9.79	0.291	0.63	36
	07-RT-014-GW	5/31/2007	5.93	2.76	0.333	2.67	65.9
	07-RT-040-GW	9/20/2007	6.05	8.73	0.258	0.82	78.2
	08-RT-060-GW	9/20/2008	6.04	8.36	0.282	0.61	58.9
	09-RT-091-GW	10/8/2009	---	7.59	0.208	0.41	2.9
	10-RT-110-GW	10/21/2010	6.0	6.95	0.235	0.38	-44.6
	12-RT-034-GW	5/10/2012	8.6	3.21	0.325	1.2	74.7
	13-RT-006-GW	4/9/2013	5.0	1.8	0.397	0.66	81.1
	16-RT-005-GW	10/27/2016	6.4	7.2	0.232	---	-189

Note: --- indicates that measurement is not available (No ORP data available for September or November 2000 or March 2002 due to ORP probe malfunction; no pH data available for June 2001 due to probe malfunction; no DO data available for September/October 2003 due to malfunction; no DO or ORP data available for May 2009 due to probe malfunction).

One set of historical (pre-performance monitoring) data is provided for comparison with data collected during Phase I and II performance monitoring.

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
	Upper Plume								
MW-36	00-RT-103-GW	Project Sample	9/27/2000	3420	209 VJ	27.2	<1	<1	<0.4
	00-RT-104-GW	QC Duplicate	9/27/2000	3230	205 VJ	28	<1	<1	<0.4
	00-RT-105-GW	QA Duplicate	9/27/2000	3600	170	25	<1	<2	
	00-RT-138-GW	Project Sample	11/28/2000	2880	1710	842	30.8	<5	<2
	01-RT-009-GW	Project Sample	1/11/2001	198	604	1480	28.5	<10	<4
	01-RT-035-GW	Project Sample	3/8/2001	628	1000	3990	87.5	<50	<50
	01-RT-073-GW	Project Sample	5/22/2001	3090	390	1640	28.5	<25	<25
	01-RT-096-GW	Project Sample	10/16/2001	<10	26.3	1170	<10	<10	<10
	01-RT-136-GW	Project Sample	1/16/2002	18.9	36.5	1330	<10	<10	<10
	01-RT-137-GW	QC Duplicate	1/16/2002	16.6	39	1330	<10	<10	<10
	01-RT-138-GW	QA Split	1/16/2002	24.4 J	41.5 J	1420 J	14.6 J	<2 J,H	
	02-RT-015-GW	Project Sample	3/13/2002	5.25	7.76	1170	<2	<2	
	02-RT-045-GW	Project Sample	6/18/2002	7.38 J	23.9 J	3340 J	28 J	<2 J	
	02-RT-046-GW	QC Duplicate	6/18/2002	7.32 J	27 J	2650 J	23.8 J	<2 J	
	02-RT-047-GW	QA Split	6/18/2002	<10	21.2	2610	24.9	<10	<10
	02-RT-068-GW	Project Sample	9/27/2002	320	370	810	5.4	<1	
	02-RT-069-GW	QC Duplicate	9/27/2002	310	380	800	5.4	<1	
	02-RT-070-GW	QA Split	9/27/2002	346	415	727	<10	<10	<10
	02-RT-110-GW	Project Sample	12/19/2002	2.81	4.43	716	<1	<1	
	03-RT-012-GW	Project Sample	3/10/2003	<10	<10	969	<10	<10	<10
	03-RT-040-GW	Project Sample	6/17/2003	26	21.7	2220	27.3	<10	<10
	03-RT-092-GW	Project Sample	10/7/2003	41	68.6	901	8.2	<1	<1
	04-RT-001-GW	Project Sample	1/21/2004	1.3	<1	717	5.8	1.3	<1
	04-RT-012-GW	Project Sample	3/31/2004	1.9	<1	484	4.7	<1	<1
	04-RT-023-GW	Project Sample	6/8/2004	10.1	7.3	1620	17.4	<5	<5
	04-RT-047-GW	Project Sample	10/30/2004	6	9.8	1330	13.6	<1	<1
	05-RT-001-GW	Project Sample	2/23/2005	8.9	<5	914	8.2	<5	<5
	05-RT-027-GW	Project Sample	6/3/2005	8.28	82.2	1850	13.7	<2	
	05-RT-043-GW	QC Duplicate	6/3/2005	8.14	61.6	1970	14.7	<2	
	05-RT-044-GW	Project Sample	10/11/2005	<1	<1	636 VM	5.9	6.6	<1
	06-RT-007-GW	Project Sample	5/24/2006	<1	<1	547	7.6	93.6	<1
	06-RT-029-GW	Project Sample	9/12/2006	414	110	139	<10	<10	<10
	07-RT-001-GW	Project Sample	5/30/2007	8.3	23.1	257	<5	29.1	<5
	07-RT-021-GW	Project Sample	9/20/2007	54.3	62.7	339	<5	18	<5
	07-RT-042-GW	QC Duplicate	9/20/2007	62.6	64.1	337	<5	18.8	<5

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-36	07-RT-044-GW	QA Split	9/20/2007	33.5 VJ	50	251	0.69 VM	12.6 VJ	<0.5
	08-RT-001-GW	Project Sample	5/13/2008	25.4	24.4	202	4.4	64.1	<1
	08-RT-040-GW	QA Split	9/18/2008	95.6 VJ	<1 VJ	32.5	<1	1.5	<1
	08-RT-042-GW	Project Sample	9/18/2008	71.7	26.9 VM	27.2 VM	<1	0.77 VJ	<0.5
	08-RT-064-GW	QC Duplicate	9/18/2008	70	26.8	30.4	<1	1.7 VJ	<0.5
	09-RT-001-GW	Project Sample	5/5/2009	98.9	37.7	221	1.71	34.3	<0.5
	09-RT-078-GW	Project Sample	10/8/2009	125	77.2	192	3.04	55.8	<0.15
	10-RT-049-GW	Project Sample	5/14/2010	175	61.9	207	1.82	32.3 VJ	<0.15
	10-RT-080-GW	Project Sample	10/20/2010	51.6	42.6	168	1.2	17.4	<0.15
	12-RT-001-GW	Project Sample	5/9/2012	1.81	9.35	85.5	0.46	4.38	<0.15
	13-RT-016-GW	Project Sample	4/11/2013	11.3	8.69	41	<0.62	4.97	<0.3
	14-RT-001-GW	Project Sample	4/22/2014	7.09	64.1	355	<0.5	10.8	<0.25
MW-37	00-RT-102-GW	Project Sample	9/27/2000	1910	55.3	19.1	<1	<1	<0.4
	00-RT-137-GW	Project Sample	11/28/2000	982	1280	655	<5	<5	<2
	01-RT-007-GW	Project Sample	1/11/2001	314	462	1240	<10	<10	<4
	01-RT-036-GW	Project Sample	3/8/2001	209	219	1430	<10	<10	<10
	01-RT-072-GW	Project Sample	5/22/2001	53.3	144	1530	16.2	<10	<10
	01-RT-094-GW	Project Sample	10/16/2001	7.5 J,H	8.6 J,H	544 J,H	<5 J,H	<5 J,H	<5 J,H
	01-RT-134-GW	Project Sample	1/16/2002	5.3 J,H	2.4 J,H	384 J,H	2.5 J,H	<2 J,H	<2 J,H
MW-16	00-RT-040-GW	Project Sample	6/7/2000	1300	37	8.5	<1	<2	
	00-RT-101-GW	Project Sample	9/27/2000	2450	73.7	17.6	<1	<1	<0.4
	00-RT-136-GW	Project Sample	11/28/2000	3110	968	113	<5	<5	<2
	01-RT-008-GW	Project Sample	1/11/2001	60.7	889	578	10.8	<10	<4
	01-RT-037-GW	Project Sample	3/8/2001	17.8	46	1210	10.2	<5	<5
	01-RT-071-GW	Project Sample	5/22/2001	25.2	121	2700	31.7	<10	<10
	01-RT-095-GW	Project Sample	10/16/2001	<5 J,H	6 J,H	476 J,H	<5 J,H	<5 J,H	<5 J,H
	01-RT-135-GW	Project Sample	1/16/2002	3.9 J,H	<2 J,H	306 J,H	2.2 J,H	<2 J,H	<2 J,H
	02-RT-014-GW	Project Sample	3/13/2002	2.48	2.58	383	2.78	<2	
	02-RT-044-GW	Project Sample	6/18/2002	12.8 J	25.3 J	2410 J	15.7 J	<2 J	
	02-RT-067-GW	Project Sample	9/27/2002	8.2	8.2	1200	7	1.1	
	02-RT-109-GW	Project Sample	12/19/2002	17.1	28.2	864	<1	<1	
	03-RT-011-GW	Project Sample	3/10/2003	16.1	21.7	681	<10	<10	<10
	03-RT-041-GW	Project Sample	6/18/2003	<10	<10	635	<10	<10	<10
	03RT-078-GW	Project Sample	9/18/2003	<5	<5	352	<5	<5	<5
	04-RT-002-GW	Project Sample	1/21/2004	2	1.3	380	3.7	1	<1
	04-RT-013-GW	Project Sample	3/31/2004	2.2	<1	557	5.6	1.9	<1

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-16	04-RT-024-GW	Project Sample	6/8/2004	<5	<5	844	5.6	<5	<5
	04-RT-048-GW	Project Sample	10/30/2004	2.4	<1	1040	7.9	2.9	<1
	04-RT-064-GW	QA Split	10/30/2004	16.5	5.36	1080	5.17	2.11	
	05-RT-028-GW	Project Sample	6/3/2005	<2	<2	920	4.28	<2	
	05-RT-045-GW	Project Sample	10/12/2005	1	1.6	509 VM	4.1	1.7	<1
	06-RT-008-GW	Project Sample	5/24/2006	<1	<1	115	5.5	36.6	<1
	06-RT-030-GW	Project Sample	9/12/2006	30.6	<5	271	<5	22.8	<5
	07-RT-002-GW	Project Sample	5/29/2007	9.8	8	422	5.8	78.9	<1
	07-RT-022-GW	Project Sample	9/20/2007	12.6 VH	9.8 VH	158 VH	2.6 VH	37.8 VH	<1
	08-RT-002-GW	Project Sample	5/13/2008	14.5	7.6	58.8	1.4	11.2	<1
	08-RT-043-GW	Project Sample	9/19/2008	4.36	3.74	61.5	1.91	21.7 VJ	<0.5
	08-RT-065-GW	QC Duplicate	9/19/2008	5.19	4.59	58.7	1.84	20.3	<0.5
	09-RT-002-GW	Project Sample	5/5/2009	1.04	1.92	35.9	3.15	16.7	<0.5
	09-RT-079-GW	Project Sample	10/8/2009	2.35	7.52 VB	22.6	1.54	7.62	<0.15
	10-RT-050-GW	Project Sample	5/14/2010	10.1	13.3	960	1.26	6.1 VJ	<0.15
	10-RT-081-GW	Project Sample	10/21/2010	9.99	11.5	18.6	2.13	10.7	0.35
	10-RT-099-GW	QA Split	10/21/2010	9.7	12.2	18.7	2.2	8.1	<1
	12-RT-002-GW	Project Sample	5/9/2012	30.4 VH	7.76 VH	13.8 VH	0.42 VH	3.73 VH	<0.15 VH
	13-RT-015-GW	Project Sample	4/11/2013	47.7	13.4	297 VJM	3.93	35.3	<0.3
	13-RT-034-GW	QC Duplicate	4/11/2013	48	13.4	153 VJM	3.67	31.7	<0.3
	14-RT-002-GW	Project Sample	4/22/2014	6.61	5.02	26.5	0.83	8.03	<0.25
	16-RT-003-GW	Project Sample	10/27/2016	1.07	2.21	13.6	1.67	<0.31	<0.15
MW-38	00-RT-100-GW	Project Sample	9/27/2000	804	19.7	3.3	<1	<1	<0.4
	00-RT-135-GW	Project Sample	11/28/2000	1210	37.4	16.3	<5	<5	<2
	01-RT-006-GW	Project Sample	1/11/2001	226	54.1	18.9	<10	<10	<4
	01-RT-038-GW	Project Sample	3/8/2001	178	17.9	1.5	<1	<1	<1
	01-RT-070-GW	Project Sample	5/22/2001	84.7	53.4	535	4.8	<1	<1
	01-RT-093-GW	Project Sample	10/16/2001	52.7 J,H	9.5 J,H	117 J,H	<1 J,H	<1 J,H	<1 J,H
	01-RT-132-GW	Project Sample	1/16/2002	12.2	4.6	82	<1	<1	<1
	02-RT-013-GW	Project Sample	3/13/2002	9.19	4.1	91.1	<2	<2	
	02-RT-043-GW	Project Sample	6/18/2002	2.52 J	2.18 J	635 J	3.19 J	<2 J	
	02-RT-066-GW	Project Sample	9/27/2002	53	14	150	<1	<1	
	02-RT-111-GW	Project Sample	12/19/2002	5.69	4.94	376	<1	<1	
	03-RT-014-GW	Project Sample	3/11/2003	5.77	3.8	279	2.31	<1	
	03-RT-067-GW	Project Sample	6/18/2003	3.49	3.67	182	1.05	<1	
	03RT-079-GW	Project Sample	9/18/2003	6.3	4.6	159	1	<1	<1

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-38	04-RT-034-GW	Project Sample	6/9/2004	1.05	<1	326	1	<1	<0.5
	04-RT-082-GW	Project Sample	10/22/2004	2.12	1.6	72.6	<1	<1	<0.5
	05-RT-031-GW	Project Sample	6/3/2005	1.83 VB	1.86	240	<1	<1	
	05-RT-066-GW	Project Sample	10/12/2005	2.22	1.73	141	<1	<1	<0.5
	06-RT-023-GW	Project Sample	5/26/2006	<1	1.72	122	1.35	1.69	<0.5
	06-RT-056-GW	Project Sample	9/12/2006	14	5.5	260	2.2	23	
	06-RT-063-GW	QC Duplicate	9/12/2006	14	5.7	250	2.3	24	
	07-RT-015-GW	Project Sample	5/30/2007	6.05	3.28	89	3.22	43.1	<0.5
	07-RT-025-GW	Project Sample	9/20/2007	1.4	1.2	35.2	1.3	4.5	<1
	08-RT-046-GW	Project Sample	9/19/2008	12.9	1.02	4.77	<1	1.59	<0.5
	09-RT-082-GW	Project Sample	10/8/2009	<0.31	<0.31	21.8	1.72	7.67	<0.15
	10-RT-102-GW	Project Sample	10/22/2010	<0.31	<0.31	3.61	<0.31	2.79	<0.15
	12-RT-024-GW	Project Sample	5/10/2012	1.39	2.23 VJ	93.1	1.21 VJ	12.4 VJ	<0.15
	13-RT-004-GW	Project Sample	4/11/2013	1.14	5.97	27.4	1.39	7.47	<0.3
	14-RT-023-GW	Project Sample	4/22/2014	0.373	0.986	29	2.32	16.5	<0.25
	14-RT-033-GW	QC Duplicate	4/22/2014	<50	<50	61.6	<50	<50	<25
MW-25	00-RT-068-GW	Project Sample	6/9/2000	310	11	7.1	<1	<2	
	00-RT-069-GW	QC Duplicate	6/9/2000	280	11	6.7	<1	<2	
	00-RT-070-GW	QA Duplicate	6/9/2000	290	10	6.4	<0.5	<0.5	
	00-RT-126-GW	Project Sample	9/29/2000	540	18	11	<1	<2	
	00-RT-127-GW	QC Duplicate	9/29/2000	500	16	7.4	<1	<2	
	00-RT-129-GW	QA Split	9/29/2000	395	14.9	10	<1	<1	
	01-RT-020-GW	Project Sample	1/10/2001	480	120	58	<20	<20	
	01-RT-021-GW	QC Duplicate	1/10/2001	510	130	57	<20	<20	
	01-RT-022-GW	QA Split	1/10/2001	792	171	72.8	<10	<10	<4
	01-RT-042-GW	Project Sample	3/22/2001	425	84	284	7.93	<2	
	01-RT-077-GW	Project Sample	6/25/2001	156	25.6	142	2.3	<2	
	01-RT-109-GW	Project Sample	10/17/2001	17.9 J	10 J	801 J	4.23 J	<2 J	
	01-RT-133-GW	Project Sample	1/16/2002	5.4 J,H	<5 J,H	752 J,H	<5 J,H	<5 J,H	<5 J,H
	02-RT-016-GW	Project Sample	3/13/2002	3.22	2.28	956	<2	<2	
	02-RT-017-GW	QC Duplicate	3/13/2002	4.07	2.49	933	<2	<2	
	02-RT-018-GW	QA Split	3/13/2002	3.7	2.21	804	4.12	<2	
	02-RT-049-GW	Project Sample	6/18/2002	2.89 J	<2 J	721 J	4.12 J	<2 J	
	02-RT-071-GW	Project Sample	9/27/2002	2.5	<1	980	6.2	1.3	
	02-RT-108-GW	Project Sample	12/19/2002	3.28	1.61	796	<1	<1	
	03-RT-013-GW	Project Sample	3/11/2003	1.4	<1	1320	9.82	1.2	

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-25	03-RT-042-GW	Project Sample	6/18/2003	<10	<10	563	<10	<10	<10
	03-RT-088-GW	Project Sample	9/18/2003	<1 J	<1 J	765 J	13.9 J	<1 J	
	04-RT-003-GW	Project Sample	1/21/2004	<1	4.1	867	7.9	1	<1
	04-RT-014-GW	Project Sample	3/31/2004	<1	1.3	932	6.5	1.3	<1
	04-RT-033-GW	Project Sample	6/8/2004	<1	<1	301	1.73	<1	<0.5
	04-RT-046-GW	QC Duplicate	6/8/2004	<1	<1	325	1.93	<1	<0.5
	04-RT-049-GW	Project Sample	10/30/2004	<1	5	1020	7	<1	<1
	05-RT-003-GW	Project Sample	2/23/2005	<1	6.9	566	4.2	<1	<1
	05-RT-029-GW	Project Sample	6/3/2005	<1	6.49	358	2.69	<1	
	05-RT-046-GW	Project Sample	10/12/2005	<1	<1	1030 VM	9.2	1.8	<1
	06-RT-009-GW	Project Sample	5/24/2006	<10	<10	949	<10	48.5	<10
	06-RT-031-GW	Project Sample	9/12/2006	<5	<5	451	<5	34.7	<5
	07-RT-003-GW	Project Sample	5/29/2007	7.9	5	137	1.1	12.4	<1
	07-RT-023-GW	Project Sample	9/18/2007	7	5.9	141	1.4	14.2 VM	<1
	08-RT-003-GW	Project Sample	5/13/2008	3.5	2.8	126	1.9	29.2	<1
	08-RT-044-GW	Project Sample	9/19/2008	4.41	3.34	127	2.03	26.8	<0.5
	09-RT-003-GW	Project Sample	5/5/2009	9.66	1.9	15.8	<1	0.42	<0.5
	09-RT-080-GW	Project Sample	10/8/2009	8.94	1.98 VB	58.8	0.95	11	<0.15
	10-RT-051-GW	Project Sample	5/14/2010	3.35	5.22	49.7	1.3	10.1 VJ	<0.15
	10-RT-082-GW	Project Sample	10/21/2010	8.76	8.46	84.8	1.26	9.5 VJ	<0.15
	10-RT-100-GW	QA Split	10/21/2010	8.8	8.2	83.5	1.4	6.8 VJ	<1
	12-RT-023-GW	Project Sample	5/10/2012	11.1	11.8 VJ	43.4 VJM	0.93 VJ	5	<0.15
	12-RT-042-GW	QC Duplicate	5/10/2012	10.8	13.4	49.4 VM	1.25	6.52	<0.15
	13-RT-003-GW	Project Sample	4/11/2013	6	6.61	37.2	0.53	1.48	<0.3
	14-RT-022-GW	Project Sample	4/24/2014	3.73	13.7	44	0.905	3.2	<0.25
	16-RT-002-GW	Project Sample	10/27/2016	16.7	22	113 E	1.54	12.3	<0.15
MW-21	00-RT-067-GW	Project Sample	6/9/2000	130	25	42	<1	<2	
	00-RT-125-GW	Project Sample	9/29/2000	130	19	29	<1	<2	
	01-RT-023-GW	Project Sample	1/10/2001	53	16	36	<2	<2	
	01-RT-041-GW	Project Sample	3/22/2001	53.8	16.9	45.2	<1	<1	
	01-RT-078-GW	Project Sample	6/25/2001	28.4	11.2	73	<2	<2	
	01-RT-107-GW	Project Sample	10/17/2001	11 J	3.13 J	73.9 J	<1 J	<1 J	
	01-RT-151-GW	Project Sample	1/16/2002	8.57 J	3.16 J	104 J	0.788 J	<1 J	
	02-RT-050-GW	Project Sample	6/18/2002	11.3 J	2.95 J	84.3 J	<1 J	<1 J	
	02-RT-092-GW	Project Sample	9/27/2002	32	9.5	99	<2	<1	
	03-RT-065-GW	Project Sample	6/18/2003	45.7	13	177	<1	<1	

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-21	03-RT-100-GW	Project Sample	10/7/2003	21.4	3.64	72.7	<1	<1	
	04-RT-031-GW	Project Sample	6/8/2004	1.26	1.24	89.8	<1	<1	<0.5
	04-RT-045-GW	QC Duplicate	6/8/2004	1.43	1.46	97.5	<1	<1	<0.5
	04-RT-075-GW	Project Sample	10/22/2004	7.36	3.22	91.7	<1	<1	<0.5
	05-RT-030-GW	Project Sample	6/3/2005	27.5	14.6	144	<1	<1	
	05-RT-062-GW	Project Sample	10/12/2005	1.27	<1	116	<1	<1	<0.5
	06-RT-050-GW	Project Sample	9/13/2006	88	42	170	<0.5	<0.5	
	07-RT-024-GW	Project Sample	9/20/2007	23.6	7.5	121	<1	<1	<1
	08-RT-045-GW	Project Sample	9/20/2008	148	62.8	389	0.69	<1	<0.5
	09-RT-081-GW	Project Sample	10/8/2009	9.2 F	6.95 VJ	341	0.54	0.34	<0.15
	10-RT-101-GW	Project Sample	10/22/2010	47.7	23.9	549	1.44	<0.62	<0.3
	10-RT-119-GW	QC Duplicate	10/22/2010	55.5	27.7	575	1.5	0.31	<0.15
	12-RT-021-GW	Project Sample	5/10/2012	38.1	18.6 VJ	34.9 VJ	<0.31	<0.31	<0.15
MW-42	02-RT-099-GW	Project Sample	11/2/2002	39.7	17.7	129	1.3	<1	<1
	02-RT-112-GW	Project Sample	12/19/2002	44.5	19.2	976	9.76	<1	
	03-RT-030-GW	Project Sample	3/11/2003	69.4	43.8	940	12.9	<1	
	03-RT-069-GW	Project Sample	6/18/2003	23.1	11.6	355	3.67	<1	
	03-RT-070-GW	QC Duplicate	6/18/2003	20.5	10.8	387	3.75	<1	
	03-RT-071-GW	QA Split	6/18/2003	32.9	18.5	373	5.1	<1	<1
	03-RT-097-GW	Project Sample	10/7/2003	298	309	<1	<1	<1	
	04-RT-035-GW	Project Sample	6/9/2004	31.6	9.69	181	1.84	<1	<0.5
	04-RT-084-GW	Project Sample	10/22/2004	15.6	35.5	400	<1	<1	<0.5
	05-RT-032-GW	Project Sample	6/3/2005	23.1	21.3	93	1.37	<1	
	05-RT-067-GW	Project Sample	10/12/2005	127	21.3	634	7.39	<1	<0.5
	06-RT-024-GW	Project Sample	5/26/2006	41.9	14.9	472	5.53	23	<0.5
	06-RT-058-GW	Project Sample	9/12/2006	13	5.8	140	1.3	1.3	
	07-RT-016-GW	Project Sample	5/30/2007	27.9	10.9	259 VH	3.06	18.3	<0.5
	07-RT-026-GW	Project Sample	9/20/2007	16.8 VH	7.3 VH	18 VH	<1 VH	1.1 VH	<1
	08-RT-004-GW	Project Sample	5/13/2008	1.7	11.2	241	2.4	59.4	<1
	08-RT-048-GW	Project Sample	9/18/2008	194	57	48.5	0.69	11.1 VJ	<0.5
	09-RT-004-GW	Project Sample	5/5/2009	409	176	234	3.74	52.5	<0.5
	09-RT-083-GW	Project Sample	10/8/2009	27.7	11.1	25.3	1.57	9.45	<0.15
	10-RT-052-GW	Project Sample	5/14/2010	40.8	8.07	12.6	<0.31	1.55 VJ	<0.15
	10-RT-083-GW	Project Sample	10/18/2010	17.3	2.84	17.5	<0.31	6.63	<0.15
	12-RT-003-GW	Project Sample	5/9/2012	48 VJH	16.1 VJH	60.7 VJH	.62 VJH	7.01 VJH	<0.15 VJ
	13-RT-017-GW	Project Sample	4/11/2013	11.3	25.5	256	2.17	18.3	<0.3

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-42	14-RT-003-GW	Project Sample	4/22/2014	7	4.8	58.5	1.66	7.95	<0.25
	14-RT-034-GW	QC Duplicate	4/22/2014	141	<50	180	<50	<50	<25
Lower (Phase II) Plume									
MW-10	00-RT-053-GW	Project Sample	6/7/2000	610 J	82	460	<10	<20	
	00-RT-118-GW	Project Sample	9/28/2000	690	86	460 VJ	<1	<2	
	01-RT-013-GW	Project Sample	1/10/2001	31	24 H	780	4.9 H	<2 H	
	01-RT-050-GW	QA Split	3/7/2001	<10	13.9	1740	<10	<10	<10
	01-RT-048-GW	Project Sample	3/22/2001	21.5	26.2	1020	40.3	<2	
	01-RT-049-GW	QC Duplicate	3/22/2001	12.5	21	974	25.3	<2	
	01-RT-050-GW	QA Split	3/22/2001	12.2	20.1	816	<10	<10	<10
	01-RT-081-GW	Project Sample	6/25/2001	17.6	11.7	801	2.46	---	
	01-RT-100-GW	Project Sample	10/16/2001	95.5	116	954	<10	<10	<10
	01-RT-140-GW	Project Sample	1/15/2002	144	135	986	<10	<10	<10
	01-RT-141-GW	QC Duplicate	1/15/2002	172	187	1110	<10	<10	<10
	01-RT-142-GW	QA Split	1/15/2002	160 J	123 J	858 J	<2 J,H	2.22 J,H	
	02-RT-010-GW	Project Sample	3/13/2002	180	127	994	5.89	3.47	
	02-RT-051-GW	Project Sample	6/19/2002	34.7 J	58.1 J	724 J	3.11 J	<2 J	
	02-RT-076-GW	Project Sample	9/26/2002	20	15	330	1.2	<1	
	02-RT-120-GW	Project Sample	12/19/2002	1.69	1.25	363	1.57	<1	
	03-RT-021-GW	Project Sample	3/11/2003	<1	<1	489	2	1.69	
	03-RT-044-GW	Project Sample	6/18/2003	1	<1	443	1.79	1.9	
	03-RT-118-GW	Project Sample	10/8/2003	9.42	1.74	115	<1	<1	
	03-RT-119-GW	QC Duplicate	10/8/2003	7.72	1.54	181	<1	<1	
	04-RT-005-GW	Project Sample	1/20/2004	1.6	2.2	820	15.1	3.3	<1
	04-RT-016-GW	Project Sample	3/30/2004	2.4	1.9	286	<1	1.3	<1
	04-RT-039-GW	Project Sample	6/8/2004	<1	<1	258	1.1	1	<1
	04-RT-050-GW	Project Sample	10/29/2004	<5	<5	258	<5	<5	<5
	05-RT-004-GW	Project Sample	2/24/2005	<5	<5	269	<5	<5	<5
	05-RT-033-GW	Project Sample	6/2/2005	<1	<1	359	<1	1.59	
	05-RT-047-GW	Project Sample	10/11/2005	<1	<1	159 VM	<1	<1	<1
	06-RT-010-GW	Project Sample	5/25/2006	<1	<1	339	1.2	1.8	<1
	06-RT-043-GW	Project Sample	9/13/2006	9.9	2.6	11	<0.5	<0.5	
	07-RT-037-GW	Project Sample	9/18/2007	8.2	<1	19.5	<1	<1	<1
	08-RT-054-GW	Project Sample	9/19/2008	10.5	<1	1.18	<1	<1	<0.5
	09-RT-088-GW	Project Sample	10/7/2009	7.2	0.36	1.67	<0.31	<0.31	<0.15
	10-RT-107-GW	Project Sample	10/21/2010	6.69	0.85	10.1	<0.31	<0.31	<0.15

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-10	12-RT-031-GW	Project Sample	5/10/2012	9.23	0.42	3.81 VJ	<0.31	<0.31	<0.15
MW-4A	00-RT-048-GW	Project Sample	6/7/2000	410	91	630	10	<2	
	00-RT-049-GW	QC Duplicate	6/7/2000	1000	160	850	<10	<20	
	00-RT-050-GW	QA Duplicate	6/7/2000	900	160	780	22	<0.5	
	00-RT-119-GW	Project Sample	9/28/2000	490	190	690 VJ	9.7	<2	
	01-RT-017-GW	Project Sample	1/10/2001	530	140	600	<20	<20	
	01-RT-018-GW	QC Duplicate	1/10/2001	530	140	600	<20	<20	
	01-RT-019-GW	QA Split	1/10/2001	799	188	856	10	<10	<4
	01-RT-047-GW	Project Sample	3/22/2001	969	114	649	33.6	<2	
	01-RT-080-GW	Project Sample	6/25/2001	623	102	638	8.43	<2	
	01-RT-097-GW	Project Sample	10/15/2001	27.2	15.1	1310	<10	<10	<10
	01-RT-098-GW	QC Duplicate	10/15/2001	27.1	16.6	1270	<10	<10	<10
	01-RT-099-GW	QA Split	10/15/2001	31 J,H	16.7 J,H	1370 J	<10 J,H	<10 J,H	
	01-RT-139-GW	Project Sample	1/15/2002	54.6	68.9	2290	16.6	<10	<10
	02-RT-012-GW	Project Sample	3/13/2002	44.8	114	3100	24	<2	
	02-RT-048-GW	Project Sample	6/19/2002	38.3 J	59.4 J	1180 J	9.32 J	<2 J	
	02-RT-065-GW	Project Sample	9/27/2002	100	180	1300	10	<1	
	02-RT-115-GW	Project Sample	12/19/2002	342	110	658	11.5	<1	
	03-RT-015-GW	Project Sample	3/11/2003	61.2	47.8	271	3.44	<1	
	03-RT-034-GW	Project Sample	6/17/2003	45	57.4	617	7.8	<5	<5
	03RT-080-GW	Project Sample	9/18/2003	116	139	950	8.2	<5	<5
	04-RT-004-GW	Project Sample	1/20/2004	110	95.7	1320	11.8	<1	<1
	04-RT-015-GW	Project Sample	3/31/2004	24.3	28.2	625	5.4	<1	<1
	04-RT-030-GW	QC Duplicate	6/8/2004	<5	<5	854	6.8	<5	<5
	04-RT-036-GW	Project Sample	6/8/2004	<5	<5	808	6.4	<5	<5
	04-RT-051-GW	Project Sample	10/29/2004	8.1	22.3	798	7.1	1	<1
	05-RT-005-GW	Project Sample	2/23/2005	<1	4.8 VJ	970	9	1.2	<1
	05-RT-011-GW	QC Duplicate	2/23/2005	<5	21.8 VJ	979	7.3	<5	<5
	05-RT-012-GW	QA Split	2/23/2005	<1	7.63 VJ	879	9.81	1.55	<0.5
	05-RT-019-GW	QA Duplicate	2/23/2005	2.76	21.6 VJ	906	8.93	1.58	<0.5
	05-RT-048-GW	Project Sample	10/11/2005	<10	<10	274 VM	<10	<10	<10
	06-RT-011-GW	Project Sample	5/25/2006	<1	2	395	4.8	2.1	<1
	06-RT-044-GW	Project Sample	9/12/2006	28	48	200	1.9	<0.5	
	07-RT-027-GW	Project Sample	9/18/2007	22.9	2.7	151	1.5	<1	<1
	08-RT-016-GW	Project Sample	5/13/2008	41.2	50	98	1.63	0.84	<0.5
	08-RT-030-GW	Project Sample	9/17/2008	4.14	25.5 VM	312	2.92	3.25 VJ	<0.5

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-4A	09-RT-084-GW	Project Sample	10/7/2009	7.9 VJ	3.78	243	3.32	5.28	<0.15
	10-RT-103-GW	Project Sample	10/21/2010	6.04	3.35	253	2.18	4.17	<0.15
	12-RT-020-GW	QA Split	5/9/2012	16.9	5.9	21.6	<1	<1	<1
	12-RT-027-GW	Project Sample	5/9/2012	15 VH	7.15 VH	23.7 VH	0.41 VH	0.61 VH	<0.15 VH
	12-RT-041-GW	QC Duplicate	5/9/2012	14.8	3.96 VJ	18.1	<0.31	0.55	<0.15
	13-RT-032-GW	QC Duplicate	4/10/2013	2.1	<0.62	9.16 VR	<0.62	<0.62	<0.3
	13-RT-036-GW	Project Sample	4/10/2013	1.68	<0.62	<0.62	<0.62	<0.62	<0.3
	Lower Plume								
MW-26	00-RT-059-GW	Project Sample	6/8/2000	170	52	710 E	13	<20	
	01-RT-115-GW	Project Sample	10/17/2001	73 J	59.8 J	297 J	<8 J	<8 J	
	01-RT-116-GW	QC Duplicate	10/17/2001	107 J	31.4 J	344 J	9.72 J	<4 J	
	01-RT-117-GW	QA Split	10/17/2001	112 J,H	28.2 J,H	265 J,H	7.8 J,H	<2 J,H	<2 J,H
	02-RT-085-GW	Project Sample	9/26/2002	68	11	53	2	<1	
	02-RT-086-GW	QC Duplicate	9/26/2002	68	11	53	1.9	<1	
	02-RT-087-GW	QA Split	9/26/2002	86.4	13.2	52.3	<1	<1	<1
	03-RT-087-GW	Project Sample	9/18/2003	124 J	31.3 J	231 J	10.4 J	<1 J	
	04-RT-057-GW	Project Sample	10/30/2004	72.3	9.3	44.2	2	<1	<1
	05-RT-064-GW	Project Sample	10/12/2005	56.9	8.84	44.8	1.85	<1	<0.5
	06-RT-053-GW	Project Sample	9/13/2006	78	13	56	2.5	<0.5	
	08-RT-059-GW	Project Sample	9/18/2008	135	23.7	148	5.48	<1	<0.5
	10-RT-113-GW	Project Sample	10/21/2010	148	31.5	192	5.8	<0.31	<0.15
	13-RT-005-GW	Project Sample	4/10/2013	146	24.4	262	<6.2	0.86	<0.3
	14-RT-024-GW	Project Sample	4/22/2014	134	26	175	3.51	<0.5	<0.25
	14-RT-032-GW	QC Duplicate	4/22/2014	<50	<50	75.7	<50	<50	<25
	16-RT-004-GW	Project Sample	10/27/2016	133 E	18.9	100 E	1.85	<0.31	<0.15
MW-39	00-RT-106-GW	Project Sample	9/27/2000	62.9	93.5	726	9	2.5	<0.4
	00-RT-134-GW	Project Sample	11/28/2000	36.4	81	594	5.2	<5	<2
	01-RT-005-GW	Project Sample	1/11/2001	27.6	74.4	625	<10	<10	<4
	01-RT-034-GW	Project Sample	3/8/2001	30.6	41	394	<5	<5	<5
	01-RT-074-GW	Project Sample	5/22/2001	29.4	62.2	622	6	<5	<5
	01-RT-092-GW	Project Sample	10/16/2001	<20 J,H	31.8 J,H	2500 J,H	<20 J,H	<20 J,H	<20 J,H
	01-RT-131-GW	Project Sample	1/15/2002	<20	<20	1860	23.4	<20	<20
	02-RT-063-GW	Project Sample	9/27/2002	6.3	7.4	3400	36	9.1	
	02-RT-104-GW	Project Sample	12/18/2002	16.4	<5	2530	25.9	6.5	<5
	02-RT-107-GW	QA Split	12/18/2002	18.7	1.78	2950	28.5	5.85	
	03-RT-003-GW	Project Sample	2/4/2003	<50	<50	11400	39.5 J	<50	<50

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-39	03-RT-006-GW	Pre-purge Sample	2/4/2003	<50	<50	6720	50.5	<50	<50
	03-RT-027-GW	Project Sample	3/11/2003	<1	2.54	4720	36.4	12.7	
	03-RT-039-GW	Project Sample	6/17/2003	<10	<10	3830	39.5	<25	<10
	03RT-081-GW	Project Sample	9/18/2003	25	<5	2360	22.4	19.4	<5
	04-RT-008-GW	Project Sample	1/21/2004	<50	<50	6370	74	214	<50
	04-RT-019-GW	Project Sample	3/31/2004	<1	<1	3100	44.6	456	<1
	04-RT-028-GW	Project Sample	6/8/2004	9.4	<5	4230	56.5	65.4	<5
	04-RT-055-GW	Project Sample	10/29/2004	<1	<1	3590	81.8	116	<1
	04-RT-061-GW	QC Duplicate	10/29/2004	11.5	2.3	3530	82.4	120	<1
	05-RT-009-GW	Project Sample	2/23/2005	<20	<20	3550	61	651	<20
	05-RT-023-GW	Project Sample	6/2/2005	<1	<1	1620	<1	460	<1
	05-RT-051-GW	Project Sample	10/11/2005	<5	<5	2160 VM	53.2	226	<5
	06-RT-003-GW	Project Sample	3/8/2006	11.4	<5	3090	67.9	255	<5
	06-RT-014-GW	Project Sample	5/24/2006	<1	<1	1160 VH	55	435	<1
	06-RT-035-GW	Project Sample	9/11/2006	<10	<10	1500	48.9	158	<10
	07-RT-006-GW	Project Sample	5/30/2007	<1	<1	660	40	300	<1
	07-RT-033-GW	Project Sample	9/18/2007	<1	<1	1820	64.1	134	<1
	08-RT-006-GW	Project Sample	5/12/2008	<1	<1	888	45.5	174	<1
	08-RT-032-GW	Project Sample	9/17/2008	0.34	<1 VM	1140	47.4	216	<0.5
	09-RT-008-GW	Project Sample	5/6/2009	2.11	0.32	330	14.4	41.1	<0.5
	09-RT-067-GW	Project Sample	10/6/2009	1.55 VJ	0.81	902	43.8	187	<0.15
	10-RT-042-GW	Project Sample	5/12/2010	0.94	3.08	518	47.4	132	<0.15
	10-RT-086-GW	Project Sample	10/20/2010	3.59	1.84	585	52.2	115	<0.15
	10-RT-117-GW	QC Duplicate	10/20/2010	3.64	1.64	589	46	114	<0.3
	12-RT-006-GW	Project Sample	5/8/2012	<0.31	<0.31	<3.1	18.9	53.7	<0.15
	13-RT-020-GW	Project Sample	4/9/2013	<0.62	<0.62	25	34.1	14.1	<0.3
	14-RT-006-GW	Project Sample	4/23/2014	<0.5	<0.5	13.1	27.6	4.55	<0.25
	16-RT-008-GW	Project Sample	10/27/2016	<0.31	<0.31	12.2 J	21.2	9.16 J	<0.15
	16-RT-018-GW	QC Duplicate	10/27/2016	<0.31	<0.31	6.47 J	16.6	4.76 J	<0.15
MW-44	02-RT-100-GW	Project Sample	11/2/2002	31300	1480	556	<10	<10	<10
	02-RT-105-GW	Project Sample	12/18/2002	19800	3170	326	2.4	10.6	<1
	03-RT-029-GW	Project Sample	3/11/2003	29500	2390	147	<5	9	
	03-RT-054-GW	QA Split	6/18/2003	26300	5730	1750	9.6	<5	<5
	03-RT-052-GW	Project Sample	6/19/2003	20600	5390	2180	9.01	10.5	
	03-RT-053-GW	QC Duplicate	6/19/2003	23100	5440	1840	8.61	9.86	
	03RT-082-GW	Project Sample	9/18/2003	18900	4970	894	3.6	11.6	<1

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-44	04-RT-042-GW	Project Sample	6/8/2004	15800	3740	1050	6.01	8.3	<0.5
	04-RT-058-GW	Project Sample	10/29/2004	13500	4460	1760	9.9	49.7	<1
	04-RT-063-GW	QA Split	10/29/2004	8160	3310	1510	7	31.3	
	05-RT-037-GW	Project Sample	6/3/2005	9250	3990	1160	2.56	9.16	
	05-RT-053-GW	Project Sample	10/12/2005	11500	4570	1890 VM	<10	14.7	<10
	06-RT-005-GW	Project Sample	3/7/2006	3530	3220	8080	104	187	<1
	06-RT-017-GW	Project Sample	5/24/2006	416	720	6170 VH	28	45.6	<10
	06-RT-037-GW	Project Sample	9/12/2006	26.5	<25	3990	<25	<25	<25
	07-RT-009-GW	Project Sample	5/30/2007	26.2	34.8	7500	84.4	1630	<5
	07-RT-035-GW	Project Sample	9/18/2007	1.8	3.6	18600	88.5	5910	<1
	08-RT-008-GW	Project Sample	5/12/2008	67.5	15.2	1020	10.4	393	<1
	08-RT-034-GW	Project Sample	9/17/2008	0.88	0.57 VM	6220	43.7	4340	<0.5
	09-RT-010-GW	Project Sample	5/6/2009	5.04	1.61	104	8	72.7 VJ	<0.5
	09-RT-069-GW	Project Sample	10/6/2009	1.98 VJ	0.69	188	6.03	171 VJ	<0.15
	10-RT-044-GW	Project Sample	5/12/2010	11.8 VH	4.55 VH	482 VH	5.16 VH	204 VH	<0.15 VH
	10-RT-088-GW	Project Sample	10/20/2010	0.85	0.46	380	4.37	609	<0.15
	12-RT-008-GW	Project Sample	5/8/2012	0.58	<0.31	131	11	109	<0.15
	13-RT-018-GW	Project Sample	4/9/2013	1.1	0.73	87	1.4	<6.2	<0.3
	14-RT-008-GW	Project Sample	4/23/2014	1.78	0.91	41.9	5.78	52.7	<0.25
	16-RT-009-GW	Project Sample	10/27/2016	10.9	<0.31	231	1.82	137	<0.15
MW-45	03-RT-093-GW	Project Sample	10/9/2003	<1	2.5	6.1	<1	<1	<1
	04-RT-043-GW	Project Sample	6/8/2004	8.41	10.7	2.32	<1	<1	<0.5
	04-RT-059-GW	Project Sample	10/29/2004	2.2	3.7	1.7	<1	<1	<1
	05-RT-038-GW	Project Sample	6/3/2005	2.76	7.62	4.89	<1	<1	
	06-RT-039-GW	Project Sample	9/12/2006	<1	1.9	2.4	<1	<1	<1
	12-RT-035-GW	Project Sample	5/9/2012	0.58 VH	9.43 VH	18.7 VH	0.72 VH	8.04 VH	<0.15 VH
	13-RT-011-GW	Project Sample	4/9/2013	0.47	2.52	2.61	<0.62	0.92	<0.3
MW-46	03-RT-094-GW	Project Sample	10/9/2003	<1	<1	51.4	<1	<1	<1
	04-RT-044-GW	Project Sample	6/8/2004	73.6 VH	13.4 VH	9.95 VH	<1	<1	<0.5
	04-RT-060-GW	Project Sample	10/29/2004	3.9	<1	10.1	<1	<1	<1
	05-RT-039-GW	Project Sample	6/3/2005	40.1	<1	1.45	<1	<1	
	06-RT-040-GW	Project Sample	9/12/2006	<1	<1	10.1	<1	1.9	<1
	12-RT-036-GW	Project Sample	5/9/2012	0.59 VH	<0.31 VH	3.48 VH	0.31 VH	1.32 VH	<0.15 VH
MW-47	06-RT-038-GW	Project Sample	10/4/2006	16100	2270	18700	193	71	<1
	07-RT-010-GW	Project Sample	5/30/2007	<10	<10	47700	777	139	<10
	07-RT-036-GW	Project Sample	9/19/2007	<10	<10	45500	485	142	<10

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-47	08-RT-009-GW	Project Sample	5/12/2008	<5	<5	21400	260	83.8	<5
	08-RT-035-GW	Project Sample	9/17/2008	0.43	1.1 VM	40600	1330	165	<0.5
	09-RT-011-GW	Project Sample	5/6/2009	1	48.4	55900	490	268 VJ	<0.5
	09-RT-019-GW	QC Duplicate	5/6/2009	<10	40.5	62300	494	256 VJ	<5
	09-RT-070-GW	Project Sample	10/6/2009	0.35 F	2.5	32800	309	413	<0.15
	10-RT-045-GW	Project Sample	5/11/2010	55.3	232	38700 VH	410	1980	<0.15
	10-RT-089-GW	Project Sample	10/19/2010	278	2280	67700	612	2080	<3
	11-RT-001-GW	Project Sample	5/17/2011	1610	4140	34900	384	1430	<3
	12-RT-009-GW	Project Sample	5/8/2012	4050	5120	34400	345	370	<0.15
	13-RT-025-GW	Project Sample	4/10/2013	3990 VH	1950 VH	10900 VH	181 VH	304 VH	<30 VH
	14-RT-009-GW	Project Sample	4/23/2014	2500	790	6170	62.2	112	<5
MW-48	09-RT-043-GW	Project Sample	8/17/2009	120000	16800	12100	42.9	57.9	<1.5
	09-RT-071-GW	Project Sample	10/6/2009	333 VJ	4090	23700	119	128	<0.15
	10-RT-046-GW	Project Sample	5/12/2010	26 VJ	292 VJ	3310	13.5	16.5 VJ	<0.15
	10-RT-068-GW	QC Duplicate	5/12/2010	616 VR	617 VR	3100	14.2	16.2	<0.15
	10-RT-090-GW	Project Sample	10/19/2010	2.78	7.39	1220	6.78	7.22 VJ	<0.15
	11-RT-002-GW	Project Sample	5/18/2011	30	<620	14600	37.4	54.1	0.32
	12-RT-010-GW	Project Sample	5/8/2012	3.42	4.57	31500	<155	<155	0.62
	13-RT-026-GW	Project Sample	4/10/2013	0.64	0.72	4700	14.6	17.1	<0.3
	14-RT-010-GW	Project Sample	4/22/2014	<50	<50	25400	70.7	<50	<25
	16-RT-010-GW	Project Sample	10/26/2016	<31	350	97400 E	196	364	<15
MW-49	09-RT-044-GW	Project Sample	8/17/2009	986	309	7660	17	25.9	<1.5
	09-RT-072-GW	Project Sample	10/6/2009	137 VJ	1490	16300	73.9 VJ	78.8 VJ	<0.15
	10-RT-047-GW	Project Sample	5/13/2010	29.2	<6.2	92900	203	359 VJ	<3
	10-RT-091-GW	Project Sample	10/19/2010	0.93 VH	1.76 VH	63200 VH	120 VH	314 VH	<0.15
	11-RT-003-GW	Project Sample	5/18/2011	2.65	5.25	50700	96	876	<0.15
	12-RT-011-GW	Project Sample	5/9/2012	<62	<62	79300	94	2700	<30
	13-RT-027-GW	Project Sample	4/10/2013	<0.62	<0.62	382	4.57	109	<0.3
	14-RT-011-GW	Project Sample	4/23/2014	14.8	<10	37800	182	8390	<5
	16-RT-011-GW	Project Sample	10/26/2016	<6.2	<6.2	50500	120	9720	<3
MW-50	09-RT-045-GW	Project Sample	8/17/2009	3550	2340	8840	44.1	25.4	<1.5
	09-RT-073-GW	Project Sample	10/6/2009	44000 VJ	9360	12600	58.7	81.6 VJ	<0.15
	10-RT-048-GW	Project Sample	5/12/2010	64400	26900	28900	67.5	285	0.25
	10-RT-059-GW	QA Split	5/12/2010	64900	20100	23000	52.5	146 VJ	<1
	10-RT-067-GW	QC Duplicate	5/12/2010	73100	26100	30700	78	294	<0.15
	10-RT-092-GW	Project Sample	10/20/2010	54700	17900	21400	45	77	<0.15

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River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-50	11-RT-004-GW	Project Sample	5/17/2011	38100 VJ	15500 VJ	117000 VJ	103 VJ	354 VJ	<0.15
	11-RT-009-GW	QA Split	5/17/2011	18000 VJ	6050 VJ	48800 VJ	219 VJ	258 VJ	<1
	12-RT-012-GW	Project Sample	5/8/2012	4.69	22.2	3890	654	1180	<0.15
	13-RT-028-GW	Project Sample	4/10/2013	2710	1080	19600	51	1400	<0.3
	14-RT-012-GW	Project Sample	4/22/2014	128	81.8	7440	28.6	1680	<5
	16-RT-012-GW	Project Sample	10/26/2016	<6.2	<6.2	47000	135	15800	<3
MW-51	10-RT-093-GW	Project Sample	10/19/2010	59000	5200	79400	254	184	<0.15
	11-RT-005-GW	Project Sample	5/18/2011	793	236	30300	180	2220	<0.15
	12-RT-013-GW	Project Sample	5/9/2012	<62	<62	73600	256	11400	<30
	13-RT-029-GW	Project Sample	4/10/2013	4.73	2.54	10500	49	3870	<0.3
	14-RT-013-GW	Project Sample	4/22/2014	5.81	0.749	34.6	0.655	12.5	<0.25
	16-RT-013-GW	Project Sample	10/26/2016	14.2	<0.31	22200 E	394 E	11800 E	<0.15
	16-RT-017-GW	QC Duplicate	10/26/2016	<31	<31	11200 J	146 J	9120	<15
MW-52	10-RT-094-GW	Project Sample	10/19/2010	1410	2320	18200	81.8	26.5	<0.15
	11-RT-006-GW	Project Sample	5/17/2011	2.78	1.75	1130	5.05	53.5	<0.15
	12-RT-014-GW	Project Sample	5/8/2012	0.7	<0.31	1220	8.71	475	<0.15
	13-RT-030-GW	Project Sample	4/10/2013	<0.62	1.17	30500	152	10900	<0.3
	14-RT-014-GW	Project Sample	4/23/2014	15.2	0.776	11.7	1.02	2.74	<0.25
	16-RT-014-GW	Project Sample	10/26/2016	1.15	<0.31	24.8	3.78	20.8	<0.15
L-13	03-RT-008-GW	Project Sample	3/10/2003	<10	<10	3040	42.2	166	<10
	03-RT-010-GW	QA Split	3/10/2003	1.15	1.39	3240	42.8	193	
	03-RT-037-GW	Project Sample	6/17/2003	<10	<10	3690	51.5	599	<10
	03-RT-077-GW	QA Split	6/17/2003	<1	<1	4360	<1	610	
L-17	03-RT-038-GW	Project Sample	6/17/2003	161	111	1490	20.2	11.6	<10
L-74	06-RT-076-GW	Project Sample	10/1/2006	700 F	<310	1030	1.8	4.89	<0.5
L-75	06-RT-077-GW	Project Sample	10/1/2006	3860	720 F	39100	51.6	<620	<0.5
L-76	06-RT-078-GW	Project Sample	10/1/2006	139000 VH	1740 F	700 F	<620	49.7	<0.5
	06-RT-081-GW	QC Duplicate	10/1/2006	139000	1780 F	640	<620	<620	<0.5
L-78	08-RT-010-GW	Project Sample	6/26/2008	12300	5800	7630	70.5	44.5	<25
	08-RT-036-GW	Project Sample	9/18/2008	22800	9620	14500	101 VJ	208 VJ	<0.5
	09-RT-020-GW	Project Sample	5/7/2009	5900	3350	5520	39.2	257 VJ	<10
	09-RT-074-GW	Project Sample	10/7/2009	19600 VJ	5610	14300 VJ	107 VJ	61.8	<0.15
	10-RT-062-GW	Project Sample	5/13/2010	26100	9220	28400	160	1380 VJ	<15
	10-RT-095-GW	Project Sample	10/20/2010	21200 VH	834 VH	5470 VH	16.1 VH	66.3 VH	<0.15 VH
	11-RT-010-GW	Project Sample	5/17/2011	8750	3090	15100	<310	570	<150

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LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
L-78	12-RT-015-GW	Project Sample	5/9/2012	12700	472	4040	<62	<62	<30
	13-RT-031-GW	Project Sample	4/9/2013	6510 VH	3150 VH	21800 VH	31 VH	1280 VH	<0.3 VH
	14-RT-015-GW	Project Sample	4/23/2014	4350	2560	19900	38.6	1070	<25
L-79	08-RT-011-GW	Project Sample	5/13/2008	2710	918	1240	9.2	13.4	<5
L-80	08-RT-012-GW	Project Sample	5/13/2008	48900	4450	8850	68	77.8	<5
	08-RT-037-GW	Project Sample	9/18/2008	41300	3920	11700	60.9	93.6 VJ	<0.5
	09-RT-021-GW	Project Sample	5/7/2009	13300	4150	11600	53.8	138 VJ	<10
	14-RT-018-GW	Project Sample	4/23/2014	63500	3670	20000	41.6	284	<25
L-81	08-RT-013-GW	Project Sample	6/26/2008	2950	978	11700	108	77	<25
	08-RT-038-GW	Project Sample	9/18/2008	480	490	23100	184	302	<0.5
	09-RT-022-GW	Project Sample	5/7/2009	791	761	16600	156	303 VJ	<10
L-100	09-RT-050-GW	Project Sample	8/19/2009	128	163	1350	6.43	3.3	<0.15
	09-RT-092-GW	Project Sample	10/7/2009	93	121	1870	7.2	23.5	<0.15
	10-RT-054-GW	Project Sample	5/12/2010	91.3 VH	65.7 VH	1200 VH	3.9 VH	16.5 J,H	<0.15 VH
	10-RT-096-GW	Project Sample	10/20/2010	110	225	1700	7.6	18	<3
	11-RT-007-GW	Project Sample	5/17/2011	151	216	3010	<31	50	<15
	12-RT-016-GW	Project Sample	5/9/2012	<31	61	2450	<31	<31	<15
	13-RT-023-GW	Project Sample	4/10/2013	17.5	38.8	1720	17	15.4	<0.3
	13-RT-035-GW	QC Duplicate	4/10/2013	19.6	42.3	1690	16.7	11.9	<0.3
	14-RT-016-GW	Project Sample	4/22/2014	47.5	88.6	1610	<50	<50	<25
L-101	09-RT-059-GW	Project Sample	8/19/2009	18700	8580	2730	16	21.1	<0.15
	09-RT-093-GW	Project Sample	10/7/2009	7100	5730	31200	197	47.1	<0.15
	10-RT-055-GW	Project Sample	5/12/2010	57600 VH	4680 VH	16700 VH	53.9 VH	33.1 J,H	<0.15 VH
	10-RT-097-GW	Project Sample	10/20/2010	110	173	55500	217	83.6	<3
	11-RT-011-GW	Project Sample	5/17/2011	<31	<31	54300	182	1440	<15
	11-RT-012-GW	QC Duplicate	5/17/2011	<31	<31	61800	203	1530	<15
	12-RT-017-GW	Project Sample	5/8/2012	406	62	28800	118	76	<30
	12-RT-019-GW	QA Split	5/8/2012	363	95.8	27600	123	462 VR	<5
	12-RT-040-GW	QC Duplicate	5/8/2012	344	<62	26200	180	62	<30
	13-RT-024-GW	Project Sample	4/10/2013	582 VH	266 VH	25200 VH	<62 VH	1120 VH	<0.3 VH
	14-RT-017-GW	Project Sample	4/23/2014	644	337	29800	98	1470	<25
L-102	14-RT-019-GW	Project Sample	4/22/2014	61500	6600	36700	62.4	375	<25
L-103	14-RT-020-GW	Project Sample	4/23/2014	8340	3050	24600	185	317	<25
MW-9	00-RT-051-GW	Project Sample	6/7/2000	1200	230	1000	<10	<20	
	00-RT-107-GW	Project Sample	9/27/2000	2320	345	1140	7	2.8	<0.4

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LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-9	00-RT-133-GW	Project Sample	11/28/2000	113	150	2900	25.9	<5	<2
	01-RT-003-GW	Project Sample	1/11/2001	95.3	99.1	2260	15.6	<10	<4
	01-RT-004-GW	QC Duplicate	1/11/2001	90.6	92.1	2130	15.2	<10	<4
	01-RT-010-GW	QA Split	1/11/2001	<50	<50	1600	<50	<50	
	01-RT-033-GW	Project Sample	3/8/2001	86.2	103	1570	<25	<25	<25
	01-RT-067-GW	QA Duplicate	5/22/2001	22.6	5.02	1260	8.19	2.6	
	01-RT-068-GW	Project Sample	5/22/2001	24.5	<10	1580	13.5	<10	<10
	01-RT-069-GW	QC Duplicate	5/22/2001	29.9	<10	1910	15.5	<10	<10
	01-RT-091-GW	Project Sample	10/16/2001	63.2	58.9	2050	<10	<10	<10
	01-RT-129-GW	Project Sample	1/15/2002	129	125	2210	21.7	<10	<10
	02-RT-001-GW	Project Sample	3/13/2002	588	326	3280	20.8	8.19	
	02-RT-041-GW	Project Sample	6/19/2002	<200 J	<200 J	2830 J	<200 J	9.51 J	
	02-RT-062-GW	Project Sample	9/27/2002	190	68	2300	18	7.1	
	02-RT-102-GW	Project Sample	12/18/2002	21.9	7.9	2670	30.2	42.5	<1
	03-RT-001-GW	Project Sample	2/4/2003	17 J	<20	3030	18.4 J	30	<20
	03-RT-007-GW	Project Sample	3/10/2003	27.8	13.2	3460	28.1	66.2	<10
	03-RT-036-GW	Project Sample	6/17/2003	40.8	<20	2540	37.8	171	<20
	03RT-083-GW	Project Sample	9/19/2003	62.3	<10	3150	38.3	306	<10
	03-RT-095-GW	Project Sample	10/8/2003	37.8	<5	2980	28.3	450	<5
	04-RT-007-GW	Project Sample	1/21/2004	160	4	1460	34.8	434	<1
	04-RT-011-GW	QC Duplicate	1/21/2004	139	<10	1460	30.5	441	<10
	04-RT-018-GW	Project Sample	3/31/2004	21.1	3.5	2490	46.6	413	<1
	04-RT-027-GW	Project Sample	6/8/2004	35.2	<20	1260	24.8	436	<20
	04-RT-054-GW	Project Sample	10/29/2004	4.7	<1	1600	40.6	358	<1
	04-RT-062-GW	QC Duplicate	10/29/2004	15.9	10.3	2070	38.6	372	<1
	05-RT-008-GW	Project Sample	2/24/2005	<5	<5	844	<5	176	<5
	05-RT-022-GW	Project Sample	6/2/2005	<1	<1	410	<1	135	<1
	05-RT-025-GW	QC Duplicate	6/2/2005	<1	<1	361	<1	140	<1
	05-RT-026-GW	QA Split	6/2/2005	<1	<1	421	28.8 VJ	103	
	05-RT-050-GW	Project Sample	10/11/2005	93.8	<5	537 VM	18.9	105	<5
	05-RT-055-GW	QA Split	10/11/2005	79.8	4.06	681	19.7	113	<0.5
	06-RT-002-GW	Project Sample	3/8/2006	<1	<1	280	20	68.6	<1
	06-RT-006-GW	QC Duplicate	3/8/2006	<1	<1	270	20.4	67.2	<1
	06-RT-013-GW	Project Sample	5/25/2006	<1	<1	123	30.3	62.3	<1
	06-RT-034-GW	Project Sample	9/11/2006	<5	<5	594	15.8	98.3	<5
	07-RT-005-GW	Project Sample	5/30/2007	33	34.4	544	35.2	152	<1
	07-RT-011-GW	QC Duplicate	5/30/2007	30.2	32.4	492	29.9	147	<1

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LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-9	07-RT-012-GW	QA Split	5/30/2007	38.5	33.7	476 VH	23.7 VJ	97.9 VJ	<0.5
	07-RT-032-GW	Project Sample	9/19/2007	<10	<10	536	16.7	85.5	<10
	07-RT-041-GW	QC Duplicate	9/19/2007	8.3 VJ	9.2	529	21.2	108	<1
	07-RT-043-GW	QA Split	9/19/2007	5.29 VJ	8.23	397 VM	11.9 VJ	88.4 VM	<0.5
	08-RT-005-GW	Project Sample	5/12/2008	24.4	27.3	408	18	84.2	<1
	08-RT-014-GW	QC Duplicate	5/12/2008	24.7	26.6	453	17	80.4	<5
	08-RT-015-GW	QA Split	5/12/2008	29.6	33.1	520	20.9	106	<0.5
	08-RT-031-GW	Project Sample	9/16/2008	39.1	34.3 VM	431	11.7	95	<0.5
	09-RT-007-GW	Project Sample	5/6/2009	13.8	16.7	240	15.7	47.1	<0.5
	09-RT-014-GW	QA Split	5/6/2009	14.7	17	224	14.8	49.3	<1
	09-RT-018-GW	QC Duplicate	5/6/2009	15.2	15.2	259	14.6	44.7	<0.5
	09-RT-066-GW	Project Sample	10/5/2009	1.49 VJ	0.89	194	12.6	38.7	<0.15
	09-RT-076-GW	QA Split	10/5/2009	<5	<5	149 VJ	9.3 VJ	25.4 VJ	<5
	09-RT-097-GW	QC Duplicate	10/5/2009	1.68 VJ	0.83	207	12.7	38.2	<0.15
	10-RT-041-GW	Project Sample	5/11/2010	1.12	0.68	202	15	56.8 VJ	<0.15
	10-RT-058-GW	QA Split	5/11/2010	1.2	<1	173	15.1	37.6 VJ	<1
	10-RT-066-GW	QC Duplicate	5/11/2010	29.6 VR	4.11 VR	256	15.2	52.7 VJ	<0.15
	10-RT-085-GW	Project Sample	10/20/2010	28.8	12.9	332	6.71	38.5	<0.15
	12-RT-005-GW	Project Sample	5/8/2012	0.91	0.72	19.7	10.1	19.2	<0.15
	12-RT-018-GW	QC Duplicate	5/8/2012	1.72	1	24.3	10.5	18.7	<0.15
	13-RT-019-GW	Project Sample	4/9/2013	1.84	<0.62	17.2	6.25	4.16	<0.3
	14-RT-005-GW	Project Sample	4/23/2014	2.96	<0.5	7.47	8.52	2.05	<0.25
	16-RT-007-GW	Project Sample	10/27/2016	2.72	<0.31	68.5	6.36	10.7	<0.15
MW-40	00-RT-108-GW	Project Sample	9/27/2000	641	158	1120	10.2	2.6	<0.4
	00-RT-132-GW	Project Sample	11/28/2000	76.9	43	1940	19.4	<5	<2
	01-RT-002-GW	Project Sample	1/11/2001	52.9	<10	2440	15.9	<10	<4
	01-RT-032-GW	Project Sample	3/8/2001	30.5	<25	1270	<25	<25	<25
	01-RT-075-GW	Project Sample	5/22/2001	28.6	<10	1540	13.4	<10	<10
	01-RT-090-GW	Project Sample	10/16/2001	39.4	64.1	1930	<10	<10	<10
	01-RT-130-GW	Project Sample	1/15/2002	43.3	75.2	2330	22.1	<10	<10
	02-RT-042-GW	Project Sample	6/19/2002	<0.4 J	<0.4 J	2720 J	8.23 J	2.41 J	
	02-RT-064-GW	Project Sample	9/27/2002	470	100	1600	11	3.9	
	02-RT-103-GW	Project Sample	12/18/2002	29.9	25.6	2350	28.4	24.3	<1
	03-RT-002-GW	Project Sample	2/4/2003	27.6	68	2860	24.6	33.4	<20
	03-RT-028-GW	Project Sample	3/11/2003	48.8	55.8	3810	36.4	53.4	
	03-RT-035-GW	Project Sample	6/17/2003	35.8	70.9	2690	33.9	96.6	<5

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-40	03RT-084-GW	Project Sample	9/19/2003	31.1	45.6	2760	30.5	144	<10
	04-RT-009-GW	Project Sample	1/21/2004	<20	27	2030	39.8	363	<20
	04-RT-020-GW	Project Sample	3/30/2004	13.5	145	2620	39.8	173	<1
	04-RT-029-GW	Project Sample	6/8/2004	26.8	12	1810	36.8	341	<10
	04-RT-056-GW	Project Sample	10/29/2004	5.1	22.1	1220	37.6	235	<1
	05-RT-010-GW	Project Sample	2/24/2005	<5	<5	507	21.4	101	<5
	05-RT-024-GW	Project Sample	6/2/2005	2.2	21.4	521	1.1	201	<1
	05-RT-052-GW	Project Sample	10/12/2005	<10	<10	468 VM	15.7	78.5	<10
	06-RT-004-GW	Project Sample	3/8/2006	<1	<1	118	13.1	57.2	<1
	06-RT-015-GW	Project Sample	5/25/2006	7.7	<1	144	13	43.5	<1
	06-RT-018-GW	QC Duplicate	5/25/2006	<10	<10	144	11	36	<10
	06-RT-036-GW	Project Sample	9/12/2006	108	52.1	180	15.2	38.7	<1
	06-RT-041-GW	QC Duplicate	9/12/2006	96.3	44.4	174	15.1	38.8	<1
	06-RT-042-GW	QA Split	9/12/2006	81	49	170	12	28 VJ	
	07-RT-007-GW	Project Sample	5/30/2007	<1	<1	72.4	15.3	43.1	<1
	07-RT-034-GW	Project Sample	9/19/2007	3.2	<1	28.5	7.9	13.3	<1
	08-RT-007-GW	Project Sample	5/12/2008	<1	<1	3	<1	<1	<1
	08-RT-033-GW	Project Sample	9/17/2008	12	1.29 VM	44.4 VM	10	20.7 VJ	<0.5
	09-RT-009-GW	Project Sample	5/6/2009	4.45	7.79	17.8	9.76	9.4	<0.5
	09-RT-068-GW	Project Sample	10/7/2009	12.1 VJ	1.27	33.2	6.52	9.39	<0.15
	09-RT-077-GW	QA Split	10/7/2009	7.6	<5	23 VJ	<5	5.3 VJ	<5
	09-RT-098-GW	QC Duplicate	10/7/2009	7.45	1.3	35.9	5.07	9.1	<0.15
	10-RT-043-GW	Project Sample	5/13/2010	5.54	1.99	21.9	10.5	17.6 VJ	<0.15
	10-RT-087-GW	Project Sample	10/20/2010	7.26	3.72	103	3.78	8.95	<0.15
	10-RT-118-GW	QC Duplicate	10/20/2010	7	3.66	108	3.52	10.4	<0.15
	12-RT-007-GW	Project Sample	5/7/2012	41.4	11.5	12.2	7.06	6.65	<0.15
	13-RT-021-GW	Project Sample	4/9/2013	2.3	0.82	10.8	6.95	2.48	<0.3
	14-RT-007-GW	Project Sample	4/23/2014	0.61	<0.5	3.99	15.4	1.99	<0.25
MW-6	00-RT-045-GW	Project Sample	6/7/2000	330	180	930	9.7	<2	
	00-RT-109-GW	Project Sample	9/27/2000	70.3	71.3	865	11.8	2.2	<0.4
	00-RT-130-GW	Project Sample	11/28/2000	<5	7.7	2230	27.4	<5	<2
	00-RT-131-GW	QC Duplicate	11/28/2000	<5	7.8	2440	24.9	<5	<2
	00-RT-139-GW	QA Duplicate	11/28/2000	2.5	4.1	1900	14	2 VJ	3
	01-RT-001-GW	Project Sample	1/11/2001	14.9	<10	1720	16.9	3.1 VJ	<4
	01-RT-030-GW	Project Sample	3/8/2001	<10	<10	1330	13.9	<10	<10
	01-RT-031-GW	QC Duplicate	3/8/2001	<10	<10	1280	14	<10	<10

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-6	01-RT-039-GW	QA Split	3/8/2001	1.3 VJ	0.83 VJ	1100 VJ	15 VJ	2.3 VJ	
	01-RT-076-GW	Project Sample	5/22/2001	<10	<10	1390	12.1	<10	<10
	01-RT-089-GW	Project Sample	10/16/2001	<10	<10	1710	<10	<10	<10
	01-RT-128-GW	Project Sample	1/15/2002	<10	<10	1600	18.2	<10	<10
	02-RT-002-GW	Project Sample	3/13/2002	<2	2.33	1770	15.8	4.83	
	02-RT-040-GW	Project Sample	6/19/2002	<0.4 J	<0.4 J	2010 J	3.89 J	1.24 J	
	02-RT-061-GW	Project Sample	9/27/2002	<1	<1	2200	19	6	
	02-RT-116-GW	Project Sample	12/18/2002	<1	<1	2280	25.3	7.32	
	03-RT-004-GW	Project Sample	2/4/2003	<20	<20	2750	22.6	<20	<20
	03-RT-016-GW	Project Sample	3/11/2003	<1	<1	2870	43.3	15.5	
	03-RT-017-GW	QC Duplicate	3/11/2003	<1	<1	3030	36	17	
	03-RT-018-GW	QA Split	3/11/2003	<10	<10	2940	30	13.6	<10
	03-RT-032b-GW	Project Sample	6/17/2003	<25	<25	1930	<25	<25	<25
	03RT-085-GW	Project Sample	9/19/2003	18.5	<10	2230	24.4	16.5	<10
	04-RT-010-GW	Project Sample	1/20/2004	<20	<20	2740	28.6	98.8	<20
	04-RT-021-GW	Project Sample	3/29/2004	<1	<1	2640	35.2	148	<1
	04-RT-025-GW	Project Sample	6/7/2004	<5	<5	1440	15.7	77.8	<5
	04-RT-052-GW	Project Sample	10/30/2004	<1	<1	1270	27.1	439	<1
	05-RT-006-GW	Project Sample	2/24/2005	<1	<1	174	10.7	209	<1
	05-RT-020-GW	Project Sample	6/2/2005	<1	<1	212	<1	204	<1
	05-RT-049-GW	Project Sample	10/11/2005	<5	<5	58.4 VM	<5	25.4	<5
	06-RT-012-GW	Project Sample	5/25/2006	<1	<1	68.9	3.6	98.8	<1
	06-RT-019-GW	QA Split	5/25/2006	<1	<1	62.1	3.04	102	<0.5
	06-RT-033-GW	Project Sample	9/11/2006	<1	<1	32	2.9	16.6	<1
	07-RT-004-GW	Project Sample	5/30/2007	<1	<1	10.1	3.3	12.9	<1
	07-RT-031-GW	Project Sample	9/19/2007	<1	1.3	20	2.6	9.2	<1
	08-RT-018-GW	Project Sample	5/13/2008	<1	0.32	22.1	3.72	26.1	<0.5
	08-RT-022-GW	QC Duplicate	5/13/2008	<1	0.37	24	3.78	31.1	<0.5
	08-RT-041-GW	QA Split	9/19/2008	<1	<1	8	1.9	5.5 VJ	<1
	08-RT-051-GW	Project Sample	9/19/2008	<1	0.52	9.7	2.35	8.89	<0.5
	08-RT-066-GW	QC Duplicate	9/19/2008	<1	0.46	8.74	2.29	8.36	<0.5
	09-RT-005-GW	Project Sample	5/6/2009	<1	0.32	8.63	2.46	9.64	<0.5
	09-RT-065-GW	Project Sample	10/7/2009	<0.31	<0.31	6.27	2.18	7.72	<0.15
	09-RT-099-GW	QC Duplicate	10/7/2009	<0.31	<0.31	7.9	2.16	8.02	<0.15
	10-RT-040-GW	Project Sample	5/13/2010	<0.31	0.59	39.9	4.27	59.2 VJ	<0.15
	10-RT-084-GW	Project Sample	10/20/2010	0.41	0.67	9.89	4.27	14	<0.15
	12-RT-004-GW	Project Sample	5/8/2012	1.07	7.68	26.3	3.83	14.9	<0.15

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-6	13-RT-022-GW	Project Sample	4/11/2013	3.17	3.11	13.3	3.9	4.87	<0.3
	13-RT-033-GW	QC Duplicate	4/11/2013	2.68	3.37	9.84	3.33	4.09	<0.3
	14-RT-004-GW	Project Sample	4/24/2014	<0.5	<0.5	9.61	5.21	2.19	<0.25
	16-RT-006-GW	Project Sample	10/27/2016	<0.31	<0.31	7.82	4.99	7.02	<0.15
MW-5	00-RT-054-GW	Project Sample	6/7/2000	4.1 J	2.3	37	<1	<2	
	00-RT-121-GW	Project Sample	9/29/2000	2.3	2.1	100	<1	<2	
	01-RT-119-GW	Project Sample	10/18/2001	4.26 J	2.31 J	84.3 J	<2 J	<2 J	
	02-RT-073-GW	Project Sample	9/26/2002	12	5	210	<2	<1	
	03-RT-115-GW	Project Sample	10/8/2003	14.2	4.68	290	<1	<1	
	04-RT-068-GW	Project Sample	10/23/2004	4.06	3.1	289	<1	2.2	<0.5
	05-RT-056-GW	Project Sample	10/13/2005	2.92	2.15	205	<1	3.73	<0.5
	06-RT-045-GW	Project Sample	9/13/2006	0.95	3.5	72	0.68	0.68	
	07-RT-028-GW	Project Sample	9/20/2007	2.8 VH	2.8 VH	57.7 VH	<1 VH	3.9 VH	<1
	08-RT-050-GW	Project Sample	9/20/2008	1.52	1.99	22.4	<1	<1	<0.5
	13-RT-007-GW	Project Sample	4/10/2013	1.1	0.7	9.64	<0.62	<0.62	<0.3
MW-7	00-RT-046-GW	Project Sample	6/7/2000	250	35	470	4.2	<2	
	00-RT-120-GW	Project Sample	9/28/2000	88	18	430 VJ	3.9	<2	
	01-RT-016-GW	Project Sample	1/11/2001	6.2 H	2.5 H	390	8.5 H	2.3 H	
	01-RT-056-GW	QA Split	3/7/2001	<5	<5	364	5.4	<5	<5
	01-RT-055-GW	Project Sample	3/22/2001	1.49	<2	417	10.5	<2	
	01-RT-088-GW	Project Sample	6/25/2001	<2	<2	413	4.93	<2	
	01-RT-123-GW	Project Sample	10/18/2001	<4 J	<4 J	613 J	6.41 J	<4 J	
	01-RT-144-GW	Project Sample	1/16/2002	4.34 J	<10 J	440 J	8.66 J	<10 J	
	01-RT-145-GW	QC Duplicate	1/16/2002	4.56 J	<10 J	441 J	7.28 J	<10 J	
	01-RT-146-GW	QA Split	1/16/2002	<5 J,H	<5 J,H	413 J,H	<5 J,H	<5 J,H	<5 J,H
	02-RT-011-GW	Project Sample	3/14/2002	<2	<2	644	6.35	2.02	
	02-RT-053-GW	Project Sample	6/19/2002	<2 J	<2 J	1240 J	8.76 J	3.47 J	
	02-RT-074-GW	Project Sample	9/26/2002	<1	<1	830	7.3	3.8	
	02-RT-117-GW	Project Sample	12/18/2002	<1	1.41	822	6.7	2.73	
	02-RT-118-GW	QA Split	12/18/2002	<1	1.7	807	8.1	3.6	<1
	03-RT-019-GW	Project Sample	3/11/2003	<1	<1	1290	11.5	6.33	
	03-RT-046-GW	Project Sample	6/18/2003	<1	<1	893	8.47	5.51	
	03-RT-047-GW	QC Duplicate	6/18/2003	<1	<1	948	8.52	5.06	
	03-RT-048-GW	QA Split	6/18/2003	<10	<10	911	10.2	<10	<10
	03-RT-120-GW	Project Sample	10/9/2003	<1	<1	972	5.83 J	5.02	
	04-RT-037-GW	Project Sample	6/7/2004	<1	<1	1320	15.8	108	<0.5

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-7	04-RT-069-GW	Project Sample	10/23/2004	<1	1.03	1140	10.7	193	<0.5
	05-RT-036-GW	Project Sample	6/2/2005	<1	<1	367	6.74	77.7	
	05-RT-057-GW	Project Sample	10/12/2005	<1	<1	193	5.93	76.7	<0.5
	06-RT-020-GW	Project Sample	5/25/2006	<1	37	101	2.54	53.5	<0.5
	06-RT-028-GW	QC Duplicate	5/25/2006	<1	36.7	99.3	2.66	62.8	<0.5
	06-RT-032-GW	Project Sample	9/11/2006	<1	<1	80.9	3.5	45	<1
	07-RT-029-GW	Project Sample	9/19/2007	<1	<1	3.7	2	5.3	<1
	08-RT-052-GW	Project Sample	9/19/2008	<1	<1	10.1	3.03	7.05	<0.5
	09-RT-086-GW	Project Sample	10/8/2009	<0.31	0.54	12.3	1.85	3.87	<0.15
	10-RT-105-GW	Project Sample	10/21/2010	<0.31	0.69	11.9	2.33	9.22	<0.15
	12-RT-029-GW	Project Sample	5/10/2012	4.67	24.9 VJ	21.4 VJ	3.69 VJ	8.51 VJ	<0.15
MW-8	00-RT-052-GW	Project Sample	6/7/2000	300	150	970	<10	<20	
	00-RT-117-GW	Project Sample	9/28/2000	230	170	940 VJ	6.5	<2	
	01-RT-014-GW	Project Sample	1/10/2001	9.5 H	7.9 H	1300	18 J	3.7 H	
	01-RT-051-GW	Project Sample	3/22/2001	<2	<2	772	25.7	<2	
	01-RT-084-GW	Project Sample	6/25/2001	2.39	<2	832	4.76	<2	
	01-RT-124-GW	Project Sample	10/18/2001	<4 J	20.2 J	1290 J	8.76 J	<4 J	
	01-RT-147-GW	Project Sample	1/16/2002	8.45 J,H	32.2 J	1150 J	5 J,H	1.71 J,H	
	02-RT-003-GW	Project Sample	3/13/2002	17.4	62.9	1500	12.6	3.47	
	02-RT-054-GW	Project Sample	6/19/2002	13.3 J	29.2 J	717 J	5.01 J	<2 J	
	02-RT-075-GW	Project Sample	9/26/2002	5.8	9.8	580	3.9	1.3	
	02-RT-119-GW	Project Sample	12/18/2002	5.04	7.16	658	4.86	<1	
	03-RT-020-GW	Project Sample	3/11/2003	1.25	1.78	746	4.56	2.51	
	03-RT-045-GW	Project Sample	6/18/2003	<1	<1	338	2.86	1.18	
	03-RT-117-GW	Project Sample	10/8/2003	<1	<1	259	1.75 J	1.11	
	04-RT-038-GW	Project Sample	6/7/2004	<1	<1	196 VR	1.57	<1	<0.5
	04-RT-070-GW	Project Sample	10/23/2004	<1	<1	208	1.38	<1	<0.5
	05-RT-013-GW	Project Sample	2/22/2005	<1	<1	168	1.86	<1	<0.5
	05-RT-058-GW	Project Sample	10/12/2005	<1	<1	209	1.63	<1	<0.5
	06-RT-021-GW	Project Sample	5/25/2006	<1	<1	327	2.8	4.04	<0.5
	06-RT-046-GW	Project Sample	9/13/2006	2.6	1.2	140	1.3	1.2	
	07-RT-030-GW	Project Sample	9/19/2007	3.2	<1	94.9	<1	1	<1
	08-RT-053-GW	Project Sample	9/19/2008	1.75	1.31	100	1.25	1.77	<0.5
	09-RT-087-GW	Project Sample	10/8/2009	2.56 VJ	1.87	94.3	1.04	3.55	<0.15
	10-RT-106-GW	Project Sample	10/21/2010	0.86	1.86	88.4	0.99	6.66	<0.15
	12-RT-030-GW	Project Sample	5/10/2012	<0.31	0.79	16.1 VJ	0.33	1.7 VJ	<0.15

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-12	00-RT-056-GW	Project Sample	6/8/2000	100 J	83	480	<10	<20	
	00-RT-115-GW	Project Sample	9/28/2000	95	140	750 VJ	<1	<2	
	00-RT-116-GW	QC Duplicate	9/28/2000	93	120	780 VJ	<1	<2	
	00-RT-128-GW	QA Split	9/28/2000	64.3 VJ	96.8 VJ	692	3.78	<1	
	01-RT-120-GW	Project Sample	10/18/2001	<4 J	<4 J	489 J	<4 J	<4 J	
	01-RT-121-GW	QC Duplicate	10/18/2001	<4 J	<4 J	531 J	<4 J	<4 J	
	01-RT-122-GW	QA Split	10/18/2001	<10	<10	442	<10	<10	<10
	01-RT-143-GW	Project Sample	1/16/2002	5.26 J	4.32 J	95 J	0.78 J	<2 J	
	02-RT-007-GW	Project Sample	3/13/2002	5.95	3.91	71.4	<1	<1	
	02-RT-052-GW	Project Sample	6/19/2002	<2 J	<2 J	298 J	<2 J	<2 J	
	02-RT-078-GW	Project Sample	9/26/2002	<1	2.3	550	2.3	<1	
	02-RT-122-GW	QA Split	12/18/2002	<1	5.4	197	1.9	<1	<1
	02-RT-121-GW	Project Sample	12/19/2002	<1	4.48	244	1.71	<1	
	03-RT-022-GW	Project Sample	3/11/2003	<1	3.8	217	1.74	<1	
	03-RT-049-GW	Project Sample	6/18/2003	<1	<1	273 H	1.42	<1	
	03-RT-110-GW	Project Sample	10/8/2003	<4	5.2	248	<1	<1	
	04-RT-032-GW	Project Sample	6/8/2004	<1	<1	189	1.17	<1	<0.5
	04-RT-072-GW	Project Sample	10/23/2004	<1	1.7	246	1.53	<1	<0.5
	05-RT-014-GW	Project Sample	2/22/2005	<1	<1	220	1.96	<1	<0.5
	05-RT-059-GW	Project Sample	10/12/2005	<1	2.81	262	1.96	<1	<0.5
	07-RT-038-GW	Project Sample	9/19/2007	5.2	<1	<1	<1	<1	<1
	08-RT-055-GW	Project Sample	9/19/2008	4.19	<1	2.7	<1	<1	<0.5
	09-RT-089-GW	Project Sample	10/7/2009	3 VJ	3.65 VJ	82.4	<0.31	<0.31	<0.15
	10-RT-108-GW	Project Sample	10/21/2010	2.95	3.23	84	0.9	2.01	<0.15
	12-RT-032-GW	Project Sample	5/10/2012	4.16	1.31 VJ	18.6 VJ	<0.31	0.56	<0.15
	13-RT-008-GW	Project Sample	4/9/2013	1.62	1.99	54.2	<0.62	3.09	<0.3
	14-RT-026-GW	Project Sample	4/24/2014	2.17	1.91	28.2	0.36	1.72	<0.25
MW-20	00-RT-044-GW	Project Sample	6/7/2000	420	540	3000	26	4.5	
	00-RT-110-GW	Project Sample	9/27/2000	200	370	3100 VJ	30	<2	
	01-RT-015-GW	Project Sample	1/11/2001	6 H	7 H	2600	35 H	7.3 H	
	01-RT-052-GW	Project Sample	3/22/2001	3.57	3.44	2270	69.8	<2	
	01-RT-053-GW	QC Duplicate	3/22/2001	2.66	2.69	2630	43.5	<2	
	01-RT-054-GW	QA Split	3/22/2001	<10	<10	2290	23.4	<10	<10
	01-RT-085-GW	Project Sample	6/25/2001	3.24	2.28	2090	20.7	5.3	
	01-RT-086-GW	QC Duplicate	6/25/2001	3.25	2.38	2380	21.4	5.09	
	01-RT-087-GW	QA Split	6/25/2001	2.99	2.33	2490	25.1	4.57	

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-20	01-RT-126-GW	Project Sample	10/18/2001	<10 J,H	<10 J,H	2870 J	<10 J,H	5.87 J,H	
	01-RT-149-GW	Project Sample	1/16/2002	1.9 J,H	1.67 J,H	886 J	11.8 J	1.32 J,H	
	02-RT-004-GW	Project Sample	3/13/2002	<2	<2	4420 E	32	6.87	
	02-RT-005-GW	QC Duplicate	3/13/2002	<2	<2	3100	41.3	8.23	
	02-RT-006-GW	QA Split	3/13/2002	<1	<1	2150	21.3	<2	
	02-RT-056-GW	Project Sample	6/18/2002	<2 J	<2 J	1770 J	12.7 J	3.85 J	
	02-RT-057-GW	QC Duplicate	6/18/2002	<2 J	<2 J	2220 J	16.8 J	4.53 J	
	02-RT-058-GW	QA Split	6/18/2002	<10	<10	1820	20.7	<10	<10
	02-RT-081-GW	Project Sample	9/26/2002	<1	<1	1300	12	3.2	
	02-RT-082-GW	QC Duplicate	9/26/2002	<1	<1	1500	14	3.6	
	02-RT-083-GW	QA Split	9/26/2002	<10	<10	1060	<10	<10	<10
	02-RT-124-GW	Project Sample	12/18/2002	<1	<1	2000	22.5	5.1	
	03-RT-024-GW	Project Sample	3/11/2003	<1	<1	1090	16.4	4.39	
	03-RT-025-GW	QC Duplicate	3/11/2003	<1	<1	1210	18.3	4.58	
	03-RT-026-GW	QA Split	3/11/2003	<10	<10	1210	18.5	<10	<10
	03-RT-033-GW	Project Sample	6/17/2003	<5	<5	1260	18.6	<5	<5
	03RT-090-GW	Project Sample	9/19/2003	14.1	3.3	1020	15.5	3.6	<1
	04-RT-006v-GW	Project Sample	1/21/2004	1.4	1.6	1050	16	4	<1
	04-RT-017-GW	Project Sample	3/30/2004	<1	<1	895	12.9	3.3	<1
	04-RT-022-GW	QC Duplicate	3/30/2004	<1	<1	943	12.3	3.4	<1
	04-RT-026-GW	Project Sample	6/8/2004	<10	<10	857	11.4	<10	<10
	04-RT-053-GW	Project Sample	10/29/2004	32	6.5	1560	22	59.4	<1
	05-RT-007-GW	Project Sample	2/24/2005	<5	7.6	898	5.6	248	<5
	05-RT-021-GW	Project Sample	6/2/2005	<1	<1	582	<1	211	<1
	05-RT-061-GW	Project Sample	10/11/2005	<1	<1	231	8.5	113	<0.5
	06-RT-016-GW	Project Sample	5/26/2006	<1	<1	39.1	4.9	15.5	<1
	06-RT-049-GW	Project Sample	9/13/2006	<0.5	1.1	22	3.5	4.1	
	06-RT-064-GW	QC Duplicate	9/13/2006	<0.5	0.99	22	3.4	4.3	
	07-RT-039-GW	Project Sample	9/19/2007	3.6	1.4	6.1	<1	<1	<1
	08-RT-017-GW	Project Sample	5/13/2008	4.28	2.23	8.66	2.5	3.73	<0.5
	08-RT-057-GW	Project Sample	9/19/2008	3.49	1.32	10.1	0.77	1.42	<0.5
	09-RT-006-GW	Project Sample	5/6/2009	0.64	1.37	9.07	1.73	2.43	<0.5
	09-RT-090-GW	Project Sample	10/8/2009	0.83 F	1.33	16.4	3.1	6.21	<0.15
	10-RT-053-GW	Project Sample	5/13/2010	1.24	2.46	11.7	1.87	5.73 VJ	<0.15
	10-RT-109-GW	Project Sample	10/21/2010	0.91	1.65	24.6	2.85	12.7	<0.15
	12-RT-033-GW	Project Sample	5/10/2012	2.33	5.03 VJ	12.3 VJ	1.7 VJ	12.3 VJ	<0.15
	13-RT-010-GW	Project Sample	4/9/2013	0.64	0.58	2.12	<0.62	<0.62	<0.3

Table C-4: June 2000 through October 2016 Performance Monitoring Groundwater VOC Analytical Data (ug/L)

River Terrace RV Park, Soldotna, Alaska

LOCATION	Sample ID	Sample Type	Date Sampled	PCE MCL=5; ACL=840	TCE MCL=5; ACL=21,900	cis-1,2-DCE MCL=70; ACL=11,600	trans-1,2-DCE MCL=100; ACL=11,600	Vinyl chloride MCL=2; ACL=2	1,2-DCA
MW-35	00-RT-074-GW	Project Sample	6/9/2000	1.6	2.2	210 E	2.8	<2	
	00-RT-122-GW	Project Sample	9/28/2000	<1	1.7	210 VJ	1.9	<2	
	01-RT-118-GW	Project Sample	10/18/2001	<4 J	<4 J	197 J	<4 J	<4 J	
	02-RT-089-GW	Project Sample	9/26/2002	<2	3.3	160	<2	<1	
	03-RT-113-GW	Project Sample	10/8/2003	2.55	---	86.9	1.47	<1	
	04-RT-081-GW	Project Sample	10/23/2004	<1	2.79	403	2.31	2.42	<0.5
	05-RT-065-GW	Project Sample	10/12/2005	1.1	3.16	247	1.75	<1	<0.5
	06-RT-022-GW	Project Sample	5/25/2006	1.18	1.81	306	6.27	17	<0.5
	06-RT-055-GW	Project Sample	9/13/2006	1.1	2.2	290	3.4	12	
	07-RT-014-GW	Project Sample	5/31/2007	0.68 F	1.2	189 J,H	6.35 VJ	14.3	<0.5
	07-RT-020-GW	QC Duplicate	5/31/2007	0.97 F	1.27	328 VJ	3.75 VJ	11.2	<0.5
	07-RT-040-GW	Project Sample	9/20/2007	1.2	2	208	2.5	3.5	<1
	08-RT-060-GW	Project Sample	9/20/2008	1.65	1.51	294	3.07	6.41	<0.5
	09-RT-091-GW	Project Sample	10/8/2009	1.51 VJ	2.23	203	2.23	2.8	<0.15
	10-RT-110-GW	Project Sample	10/21/2010	1.92	2.16	208	2.5	3.48	<0.15
	12-RT-034-GW	Project Sample	5/10/2012	0.66	1.17 VJ	67.9	3.5 VJ	11.8 VJ	<0.15
	13-RT-006-GW	Project Sample	4/9/2013	0.92	1.38	142	2.59	8.94	<0.3
	14-RT-028-GW	Project Sample	4/24/2014	0.7	0.7	73.3	1.53	<0.5	<0.25
	16-RT-005-GW	Project Sample	10/27/2016	<0.31	1.88	49.3	<0.31	2.58	<0.15

Notes:

J or VJ: Estimated value
VM: Matrix interference
F: Value below reporting limit
VR: Result is rejected and not useable
VH: Hold time exceeded or sample preservation incorrect
E: Result is over calibration range

APPENDIX D

IDW Manifest and Drum Inspection Reports

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

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	AKR000002790	3	1-800-899-4672	002948061 FLE

GENERATOR

5. Generator's Name and Mailing Address
ERM
825 W 8TH AVE, SUITE 200
ANCHORAGE, AK 99501
Generator's Phone: (907) 258-4880

Generator's Site Address (if different than mailing address)
ADEC RIVER TERRACE RV PARK
44761 STERLING HWY
SOLDOTNA, AK 99669

6. Transporter 1 Company Name
NRC ALASKA LLC
U.S. EPA ID Number
AKR000004184

7. Transporter 2 Company Name
WEAVER BROTHERS
U.S. EPA ID Number
AKD002848372

8. Designated Facility Name and Site Address
US ECOLOGY IDAHO, INC.
20400 LEMLEY RD
GRAND VIEW, ID 83624
Facility's Phone: (208) 834-2275
U.S. EPA ID Number
IDD073114654

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN3077, Waste Environmentally hazardous substances, solid, n.o.s. (Tetrachloroethylene, Trichloroethylene), 9, PGIII ERG#171	1	DF	300	P	D043	F002	
X	2. UN3082, Waste Environmentally hazardous substances, liquid, n.o.s. (Tetrachloroethylene, Trichloroethylene), 9, PGIII ERG#171	1	DM	150	P	D043	F002	
	3.							
	4.							

14. Special Handling Instructions and Additional Information
D6270
1) 29616 DEBRIS
2) 29617-0 PURGE WATER

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Paul Horwath for ADEC
Signature: Paul Horwath for ADEC
Month: 10 Day: 28 Year: 2016

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Byrd
Signature:
Month: 10 Day: 28 Year: 16
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132	H132		

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

108251(NR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	AKR000002790	3	1-800-899-4672	002948064 FLE

5. Generator's Name and Mailing Address
ERM
825 W 8TH AVE, SUITE 200
ANCHORAGE, AK 99501
Generator's Phone: (907) 258-4880

Generator's Site Address (if different than mailing address)
ADEC RIVER TERRACE RV PARK
44761 STERLING HWY
SOLDOTNA, AK 99669

6. Transporter 1 Company Name
NRC ALASKA LLC
U.S. EPA ID Number: AKR000004184

7. Transporter 2 Company Name
WEAVER BROTHERS
U.S. EPA ID Number: AKD002848372

8. Designated Facility Name and Site Address
US ECOLOGY IDAHO, INC.
20400 LEMLEY RD
GRAND VIEW, ID 83624
Facility's Phone: 8002741516
U.S. EPA ID Number: IDD073114654

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN3077, Waste Environmentally Hazardous Substance, Solid, n.o.s. (Tetrachloroethylene, Trichloroethylene), 9, PGIII ERG#171	1	DM	300	P	D043	F002	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information D8509
1) 29618 CONTAMINATED SOILS/SOLIDS (30GAL)

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Paul Horwath for ADEC
Signature: Paul Horwath
Month 11 Day 15 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Nicholas Russell
Signature: Nicholas Russell
Month 11 Day 15 Year 16

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Signature
Month Day Year

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

...editions are obsolete.

River Terrace Hazardous Waste Drum Inspection Report

Location of Drums: One (1) 30 gallon steel drum with soil located in lower portion of site near Sterling Highway Bridge over Kenai River

Inspected by: Kimberly Shields

Inspection Date and Time: 11/7/2016 16:15

Number and Condition of Drums/Comments:

Drum condition looks good. Lid is secure. No leaks observed. Fresh snow had no signs of footprints or disturbances.

Inspected by: Kimberly Shields

Inspection Date and Time: 11/14/2016 1520

Number and Condition of Drums/Comments:

Drum condition looks good. No leaks observed.

PHOTOGRAPH 1: HAZARDOUS WASTE DRUM INSPECTION

APPENDIX E

Cross-Section Figures

(from previous reports)

NORTH

EXPLANATION

- MW-39 — MONITORING WELL LOCATIONS
- MW-52 — NEW MONITORING WELL LOCATIONS
- MW-14 — DECOMMISSIONED MONITORING WELLS
- SB-3A — SOIL BORING LOCATION
- L110 — NEW SOIL BORING LOCATION
- 235-EX-2150 7,300 (20') — APPROXIMATE SOIL SAMPLE LOCATIONS
  - DEPTH (FEET) BELOW GROUND SURFACE
  - PCE CONCENTRATION (ug/Kg)
- L78 — PREVIOUS MIP TEST LOCATIONS
- L93 — NEW MIP TEST LOCATION
- L2 — PERMANENT HRC INJECTION POINT
- L51 — CURRENT INJECTION ON EXISTING HRC POINT
- L99 — CURRENT HRC INJECTION POINT PHASE VI
- L86 — GEOPROBE HRC INJECTION LOCATIONS
- L104 — CURRENT GEOPROBE HRC INJECTION LOCATION
- MH-2 — MANHOLE
- CHLORINATED ETHENES CONCENTRATION >1,000 ug/kg
- CHLORINATED ETHENES CONCENTRATION >100,000 ug/kg

NOTE: ▲ SOIL SAMPLES TAKEN IN 1997 BY KENNARD ENVIRONMENTAL CONSULTANTS FROM EXCAVATION LIMITS.

APPROXIMATE SEWER LINE LOCATION

APPROXIMATE LOCATION OF FORMER 1997 EXCAVATION CONTOURS IN FEET BELOW GROUND SURFACE

CHLORINATED ETHENES CONCENTRATIONS >1,000 ug/kg

SECTION LINES A-A' THOROUGH (SEE FIGURES 4 THROUGH 7 OF THE PHASE VI HRC INJECTION REPORT [1/2010])

SECTION E-E' (SEE FIGURE 10 OF THIS REPORT)

MW-4A, MW-4, MW-10, MW-19, MW-26, MW-39, MW-40, MW-44, MW-45, MW-46, MW-47, MW-48, MW-49, MW-50, MW-51, MW-52, MW-9

SB-45, SB-2A/2B (APPROX), SB-3A/3B (APPROX), MH-1

225-EX-1708 18,900 (17')
188-EX-0903 10,800 (17')
231-EX-2101 12,200 (31.5')
237-EX-2155 15,500 (20')
235-EX-2150 7,300 (20')

FENCE, GATE

0 5 10
APPROX. SCALE IN FEET

FIGURE 9

SOURCE AREA CHARACTERIZATION

RIVER TERRACE RV PARK
2010 OCTOBER GROUNDWATER MONITORING REPORT
Soldotna, Alaska

DATE: MARCH 2011
CHKD: J.H.P.
DRAWN: C.E.H.
PROJ. No.: 14-192

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

oasis ENVIRONMENTAL

PATH: V:\Project Drawings\River Terrace\11 Rt\10 RT SAC FILE: 14-192-RT-SAC-F9.DWG PLOTTED: 3/1/11.

A

A'

MW-6 (47.85)

MW-40 (59.17)

MW-9 (59.21)

L12 (59.14)

MW-44 (59.13)

L78 (58.98)

L44 (59.32)

L98 (59.28)

L71D [TEMP] (58.96)

SB-3A [APPROX]

L79 (58.84)

MW-47 (58.26)

L72D [TEMP] (59.50)

L76 [TEMP] (60.03)

MW-48 (59.22)

L111 [TEMP] (59.18)

L73D [TEMP] (59.95)

L77 [TEMP] (59.08)

MW-26 (59.46)

EXISTING GROUND

MAXIMUM GROUNDWATER LEVEL

MINIMUM GROUNDWATER LEVEL

FILL

TILL

APPROXIMATE 1997 EXCAVATION LIMITS

ELEVATION IN FEET ABOVE MEAN SEA LEVEL

-60 -55 -50 -45 -40 -35 -30

10/05	9/06
PCE <5	PCE <1
DCE 58.4	DCE 32
VC 25.4	VC 16.6

TD 9'
BD 10'

10/05	9/06
PCE <10	PCE 108
DCE 468	DCE 180
VC 78.5	VC 38.7

PCE 1,600

TD 22'

PCE 170
DCE 37

10/05	9/06
PCE 93.8	PCE <5
DCE 537	DCE 594
VC 105	VC 98.3

PCE 11
DCE 69

PCE 4

TD 20'
BD 21.5'

TD 20'

PCE 30.2
DCE 416

TD 18.5'

8/05
PCE 1,860
TCE 392
DCE 4,930
VC 10

PCE 15,500

PCE 33

PCE 10,700
DCE 16,400

PCE 10,000

PCE 17,800

PCE 20,000

PCE 310

PCE 92,500

TD 37'

TD 40'

8/05
PCE 21,200
TCE 1,770
DCE 9,900
VC <50

10/06
PCE 139,000
TCE 1,740
DCE 700
VC 49.7

PCE 140,000

PCE 6,470
TCE 3,610
DCE 11,200
VC <32.3

8/09
PCE 120,000
TCE 16,800
DCE 12,100
VC 57.9

TD 30'

TD 36.5'

TD 37'

TD 40'

5/08
PCE 12,800
TCE 5,800
DCE 7,630
VC 44.5

10/05	9/06
PCE 11,500	PCE 26.5
TCE 4,570	TCE <25
DCE 1,890	DCE 3,990
VC 14.7	VC <25

TD 35'

PCE 40,100

8/09
PCE 45,500
TCE 1,230
DCE 21,600
VC 35.4

TD 37'

TD 40'

TD 40'

10/06
PCE 16,100
TCE 2,270
DCE 18,700
VC 71

8/05
PCE 263
TCE 97.5
DCE 699
VC <1

PCE 14,300
TCE 4,210
DCE 572

PCE 1,100
TCE 62.8
DCE 68.5

TD 30'

TD 40'

PCE 31

10/05	9/06
PCE 56.9	PCE 78
DCE 44.8	DCE 56
VC <1	VC <0.5

TD 12'

PCE 18,500 (PROJECTED)

PCE 52.1

TD 24'

LEGEND

MW-9 (59.21) — WELL IDENTIFICATION No. / WELL ELEVATION

WELL CASING

SAMPLE LOCATION

GROUNDWATER ELEVATION

SCREENING INTERVAL

HRC INJECTION INTERVAL

TD 20' — TOTAL DEPTH

BD 21.5' — TOTAL BORING DEPTH

APPROXIMATE SOIL SAMPLE LOCATIONS

10/05 PCE 56.9 DCE 44.8 VC <1 — SAMPLING DATE / GROUNDWATER RESULTS IN ug/L

PCE 13 — SOIL SAMPLE RESULTS IN ug/Kg

PCE CONCENTRATION >1,000 ug/Kg

PCE TETRACHLOROETHENE
TCE TRICHLOROETHENE
DCE CIS-1,2 DICHLOROETHENE
VC VINYL CHLORIDE

NOTE: A PCE CONCENTRATION OF 1,000 ug/Kg WAS ARBITRARILY SELECTED TO REPRESENT SOURCE CONTAMINATION AREAS.

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1"= 5'
VERTICAL EXAGGERATION 2X

FIGURE 4

CROSS SECTION A-A'

RIVER TERRACE RV PARK
Soldatna, Alaska

DATE: JANUARY 2010
CHKD: T.M.
DRAWN: C.E.H.
PROJ. No.: 14-160

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

oasis ENVIRONMENTAL

PATH: V:\Project Drawings\River Terrace\2010 RT\10 HRC RPT FILE: 14-160-RT-10-RPT-F4-5.DWG PLOTTED: 1/8/10.

B

B'

MW–4A (58.52)
L66 (58.32)
L65 (58.4)
SB–45 (58.22)
L51 (58.63)
L69D [TEMP] (59.12)
MW–39 (59.17)
MW–44 (59.13)
L68D [TEMP] (59.83)
L67D [TEMP] (59.34)

EXISTING GROUND

APPROXIMATE 1997 EXCAVATION LIMITS

MAXIMUM GROUNDWATER LEVEL

MINIMUM GROUNDWATER LEVEL

TILL

10/05
PCE <10
DCE 274
VC <10

PCE 12

PCE 119

PCE 707
DCE 738

8/05
PCE 9.85
DCE 5,040
VC 368

PCE 30.2
DCE 416

8/05
PCE 53.1
DCE 5,860
VC 33.7

8/05
PCE 44
DCE 5,070
VC 30.6

PCE 1,700
TCE 180

10/05
PCE <5
DCE 2,160
VC 226

10/05
PCE 11,500
TCE 4,570
DCE 1,890
VC 14.7

TD 15’
BD 16.5’
TD 16’
TD 16’
TD 25’
TD 19’
TD 22’
TD 41.5’
TD 35’
TD 40’
TD 40’

ELEVATION IN FEET ABOVE MEAN SEA LEVEL

60
54
48
42
36
30
24
18
12

?

LEGEND

MW–4A (58.52) — WELL IDENTIFICATION No. / WELL ELEVATION
WELL CASING
SAMPLE LOCATION
GROUNDWATER ELEVATION
SCREENING INTERVAL
HRC INJECTION INTERVAL
TOTAL DEPTH
TD 15’ BD 16.5’ — TOTAL BORING DEPTH

10/05 PCE <10 DCE 274 VC <10 — SAMPLING DATE / GROUNDWATER RESULTS IN ug/L

PCE 12 — SOIL SAMPLE RESULTS IN ug/Kg

PCE CONCENTRATION >1,000 ug/Kg

PCE TETRACHLOROETHENE
TCE TRICHLOROETHENE
DCE CIS–1,2 DICHLOROETHENE
VC VINYL CHLORIDE

NOTE: A PCE CONCENTRATION OF 1,000 ug/Kg WAS ARBITRARILY SELECTED TO REPRESENT SOURCE CONTAMINATION AREAS.

HORIZONTAL SCALE: 1" = 6'
VERTICAL SCALE: 1"= 6'
NO VERTICAL EXAGGERATION

FIGURE 5

CROSS SECTION B-B'

RIVER TERRACE RV PARK
Soldatna, Alaska

DATE: JANUARY 2010
CHKD: T.M.
DRAWN: C.E.H.
PROJ. No.: 14–160

825 W. 8th Ave., Anchorage, AK 99501, (907) 258–4880

oasis ENVIRONMENTAL

PATH: V:\Project Drawings\River Terrace\2010 RT\10 HRC RPT FILE: 14–160–RT–10–RPT–F4–5.DWG PLOTTED: 1/8/10.

NOTE: A PCE CONCENTRATION OF 1,000 ug/Kg WAS ARBITRARILY SELECTED TO REPRESENT SOURCE CONTAMINATION AREAS.

HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: 1"= 6'
VERTICAL EXAGGERATION = 1.2

FIGURE **6**

CROSS SECTION C-C'

RIVER TERRACE RV PARK
Soldatna, Alaska

DATE: FEB. 2010
CHKD: T.M.
DRAWN: C.E.H.
PROJ. No.: 14-160

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880
oasis ENVIRONMENTAL

PATH: V:\Project Drawings\River Terrace\2010 RT\10 HRC RPT FILE: 14-160-RT-10-RPT-F6-7.DWG PLOTTED: 2/8/10.

D

D'

MW–39 (59.17)

L74 (60.23)

MW–49 (58.72)

L75 (59.86)

L76 (60.03)

MW–48 (59.22)

L96 (59.21)

L100 (59.31)

L110 (59.52)

EXISTING GROUND

APPROXIMATE 1997 EXCAVATION LIMITS

TILL

ELEVATION IN FEET ABOVE MEAN SEA LEVEL

60
55
50
45
40
35
30
25
20

10/06
PCE 700
DCE 1,030
VC 4.89

PCE 1,700
TCE 180

10/05
PCE <10
DCE 2,160
VC 226

9/06
PCE <10
DCE 1,500
VC 158

TD 22'

PCE 144,000
TCE 1,360
DCE 3,420
VC 35.8

PCE 25,800
TCE 7,640
DCE 2,760
VC <31.2

8/09
PCE 986
TCE 309
DCE 7,660
VC 25.9

PCE 43,300
TCE 3,786
DCE 30,500
VC 26.4

TD 33.5'

TD 38'

PCE 145
TCE 18.3
DCE 9,950
VC 21.1

PCE 127,000
TCE 672
DCE 230
VC 45.5

10/06
PCE 3,860
TCE 720
DCE 39,100
VC <620

TD 38.4'

10/06
PCE 139,000
TCE 1,780
DCE 700
VC 49.7

PCE 140,000
TCE 1,370
DCE 116
VC 17.9

TD 37'

PCE 6,470
TCE 3,610
DCE 11,200
VC <32.3

8/09
PCE 120,000
TCE 16,800
DCE 12,100
VC 57.9

TD 30'

8/09
PCE 6,250
TCE 261
DCE 1,890
VC 7.8

PCE 86,600
TCE 1,580
DCE 390
VC 49.2

TD 35'

PCE 14,800
TCE 4,130
DCE 924
VC <37.5

8/09
PCE 128
TCE 163
DCE 1,350
VC 3.3

TD 35'

PCE <33.8
TCE <33.8
DCE 70.3
VC <33.8

PCE <42.3
TCE <42.3
DCE <42.3
VC <42.3

TD 28'

?

LEGEND

MW–48 (59.22) — WELL IDENTIFICATION No. / WELL ELEVATION

WELL CASING

SAMPLE LOCATION

GROUNDWATER ELEVATION

SCREENING INTERVAL

HRC INJECTION INTERVAL

TOTAL DEPTH

TD 45'

10/05 PCE 44 DCE 5,070 VC 30.6 — SAMPLING DATE / GROUNDWATER RESULTS IN ug/L

PCE 12 — SOIL SAMPLE RESULTS IN ug/Kg

PCE CONCENTRATION >1,000 ug/Kg

PCE — TETRACHLOROETHENE

TCE — TRICHLOROETHENE

DCE — CIS–1,2 DICHLOROETHENE

VC — VINYL CHLORIDE

NOTE: A PCE CONCENTRATION OF 1,000 ug/Kg WAS ARBITRARILY SELECTED TO REPRESENT SOURCE CONTAMINATION AREAS.

HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: 1"= 5'
NO VERTICAL EXAGGERATION

FIGURE 7

CROSS SECTION D-D'

RIVER TERRACE RV PARK
Soldatna, Alaska

DATE: FEB. 2010
CHKD: T.M.
DRAWN: C.E.H.
PROJ. No.: 14–160

825 W. 8th Ave., Anchorage, AK 99501, (907) 258–4880

oasis ENVIRONMENTAL

PATH: V:\Project Drawings\River Terrace\2010 RT\10 HRC RPT FILE: 14–160–RT–10–RPT–F6–7.DWG PLOTTED: 2/8/10.

E

E'

ELEVATION IN FEET ABOVE MEAN SEA LEVEL

60
55
50
45
40
35
30
25
20

MW-45 (59.23) [2003]
L70D (59.52) [8/2005]
L67D (59.34) [8/2005]
L115 (59.2) [10/2010]
MW-52 (58.76) [10/2010]
MW-50 (58.61) [8/2009]
MW-51 (58.76) [10/2010]
L111 (59.18) [8/2009]
L73D (59.95) [8/2005]

MW-7 (47.66) [1997]

EXISTING GROUND

MAXIMUM UNCONFINED GROUNDWATER LEVEL

MINIMUM UNCONFINED GROUNDWATER LEVEL

SEMI-CONFINED POTENTIOMETRIC SURFACE

MAXIMUM

MINIMUM

APPROXIMATE 1997 EXCAVATION LIMITS

10/2010
PCE <1
DCE 11.9
VC 9.22

PCE 350
TCE 210
DCE 490

TD 10.5'

8/2005
PCE 157
DCE 758
VC 284

8/2005
PCE 44
DCE 5,070
VC 30.6

8/2005
PCE 263
DCE 699
VC <1

TILL

9/2006
PCE <1
DCE 2.4
VC <1

PCE 17.6
TCE 14.1
DCE <17.6

TD 35'

TD 40'

PCE 61,100
TCE 899
DCE 170

PCE 14,300
TCE 4,210
DCE 572

10/2010
PCE 59,000
DCE 79,400
VC 184

PCE 1,100
TCE 62.8
DCE 68.5

TD 30'

PCE 2,150
TCE 1,840
DCE 20,900

10/2010
PCE 1,410
DCE 18,200
VC 26.5

10/2010
PCE 54,700
DCE 21,400
VC 77

PCE 4,640
TCE 1,430.
DCE 33,400

PCE 406,000
TCE 1,300
DCE 318
VC 98.9

TD 37'

LEGEND

L67D (59.34) [8/2005]	WELL IDENTIFICATION No. / WELL ELEVATION / INSTALLATION DATE
9/2006 PCE 56.9 DCE 44.8 VC <1	SAMPLING DATE / GROUNDWATER RESULTS IN ug/L
PCE 13	SOIL SAMPLE RESULTS IN ug/Kg
	PCE CONCENTRATION >1,000 ug/Kg
WELL CASING / SAMPLE LOCATION / GROUNDWATER ELEVATION / SCREENING INTERVAL / TOTAL DEPTH (TD 20')	
PCE	TETRACHLOROETHENE
TCE	TRICHLOROETHENE
DCE	CIS-1,2 DICHLOROETHENE
VC	VINYL CHLORIDE

NOTES:
1. A PCE CONCENTRATION OF 1,000 ug/Kg WAS ARBITRARILY SELECTED TO REPRESENT SOURCE CONTAMINATION AREAS.
2. MINIMUM/MAXIMUM GROUNDWATER LEVELS EXTRAPOLATED FROM NEARBY WELLS AND DATALOGGERS. UNCONFINED AQUIFER: MW-20 DATA FOR MW-7, MW-39 FOR L67D, MW-26 [FROM SECTION A-A'] FOR L73D. SIMI-CONFINDED AQUIFER: MW-44 DATA FOR L67D, AND MW-47 FOR MW-50.
3. * TOP OF TILL AT THESE LOCATIONS (RED ASTERISKS) FROM NEARBY LOGS: L70D FROM L10; L67D FROM MW-44; MW-50 FROM L112.

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1"= 5'
VERTICAL EXAGGERATION 2X

FIGURE **10**

CROSS SECTION E-E'

RIVER TERRACE RV PARK
2010 OCTOBER GROUNDWATER MONITORING REPORT
Soldotna, Alaska

DATE: MARCH 2011
CHKD: J.H.P.
DRAWN: C.E.H.
PROJ. No.: 14-192

825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

oasis ENVIRONMENTAL

PATH: V:\Project Drawings\River Terrace\2010 RT\10 HRC RPT FILE: 14-160-RT-10-RPT-E-E'.DWG PLOTTED: 3/1/11.

APPENDIX F

Quality Assurance Review (QAR)
and
ADEC Laboratory Data Review Checklists

H QUALITY ASSURANCE REVIEW

The QA/QC data evaluated during this review process indicate that the sample results are acceptable for their intended project use. Unless otherwise indicated, the analytical results meet the precision and accuracy requirements for the associated analytical methods. The QA/QC data indicate that the quality control mechanisms were generally effective in ensuring measurement data reliability within the expected limits of sampling and analytical error. Data qualified by the review process have been appropriately flagged before being presented in the report. The overall calculated completeness of the October 2016 groundwater sampling data set is 100%.

This data quality assurance review conforms to the requirements of the ADEC Technical Memo -06-2002, dated March 2009. ADEC Laboratory Data Review Checklists have been completed for each laboratory work order that is a part of this project and they are provided in this Appendix. The laboratory analytical data reports for this project are contained electronically in the CD-ROM that accompanies this report.

A summary of the project and the Data Quality Objectives are discussed below in Sections H.1 and H.2. The Quality Assurance Review (QAR) procedures are discussed below in Section H.3, the QAR results are presented in Section H.4, and the ADEC Laboratory Checklists are attached at the end of the QAR.

H.1 *PROJECT SUMMARY*

Compliance sampling was conducted on October 26 through October 27, 2016. SGS provided project laboratory services. The analytical data package, SGS work order 1166514, provided by the laboratory was reviewed to evaluate the integrity of the associated results. A limited QA/QC data package was provided by SGS for review and validation. The data have been reviewed to determine their suitability for use.

H.2 *DATA QUALITY OBJECTIVES*

Data Quality Objectives (DQOs) have been established for this project to ensure that the monitoring data is of sufficient quantity and quality to accomplish the following:

- Monitor dissolved-phase VOC impacts for comparison to ADEC Water Quality Standards defined in 18 AAC 70 and cleanup levels defined in the ROD;
- Evaluate hydrogeological characteristics and dissolved-phase VOC concentration trends;
- Evaluate the results of the site remediation activities; and
- Ensure the integrity of the results is legally defensible.

The laboratory analytical DQOs for the compliance and performance groundwater monitoring activities are tabulated below in Table H-1 and H-2, respectively. The practical quantitation limits (PQLs) for the individual samples may be affected by sample dilution caused by elevated target analyte concentrations. This effect shall be minimized to the extent practical by the laboratory during sample analysis.

Table H-1: Analytical Methods and Data Quality Objectives for Groundwater Monitoring

Parameters	Method	Reporting Limit	Precision (Relative Percent Differential)	Accuracy (Percent Recovery)	Completeness (%)
1,1-Dichloroethane	EPA 8260B	2.0 µg/L	≤ 20	70 – 130	85
1,2-Dichloroethane		2.0 µg/L	≤ 20	70 – 130	85
Cis-1,2-Dichloroethene		2.0 µg/L	≤ 20	70 – 130	85
Tetrachloroethene		2.0 µg/L	≤ 20	70 – 130	85
Trans-1,2-Dichloroethene		2.0 µg/L	≤ 20	70 – 130	85
Trichloroethene		2.0 µg/L	≤ 20	70 – 130	85
Vinyl Chloride		2.0 µg/L	≤ 20	70 – 130	85
Field Duplicates			≤ 30		

Table H-2: Analytical Methods and Data Quality Objectives for Performance Monitoring

Parameters	Method	Reporting Limit	Precision (Relative Percent Differential)	Accuracy (Percent Recovery)	Completeness (%)
1,1-Dichloroethane	EPA 8260B	2.0 µg/L	≤ 20	70 - 130	85
1,2-Dichloroethane		2.0 µg/L	≤ 20	70 – 130	85
Cis-1,2-Dichloroethylene		2.0 µg/L	≤ 20	70 - 130	85
Tetrachloroethene		2.0 µg/L	≤ 20	70 - 130	85
Trans-1,2-Dichloroethene		2.0 µg/L	≤ 20	70 - 130	85
Trichloroethene		2.0 µg/L	≤ 20	70 - 130	85
Vinyl Chloride		2.0 µg/L	≤ 20	70 - 130	85

H.3 *QUALITY ASSURANCE ANALYSIS SUMMARY*

The data review procedures, calculations, and qualifications used for this project are based on the Alaska Department of Environmental Conservation (ADEC) and U.S. Environmental Protection Agency (USEPA) procedural guidance documents. The reference documents used include ADEC *Underground Storage Tanks Procedures Manual, Guidance for Treatment of Petroleum-Contaminated Soil and Water, and Standard Sampling Procedures* dated November 7, 2002, USEPA *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (EPA 540/R-94/013), 2008; the USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA 540/R-094/013), 2008; and the ADEC Technical Memo - 06-2002, dated March 2009.

This QAR identifies problems with the project specific laboratory analytical data and describes the related effect on data usability. Data review has been conducted using a two-step process. The first step is performed by the analytical laboratory and is based on its standard operating and quality control procedures. After the laboratory analyses have been completed and the data have been reported, ERM performs the second step of the data review process, which is presented in this QAR. The data review and activities completed for all sample results generated during the groundwater monitoring event include:

- Initial review of sample handling procedures and analytical and field data for completeness, accuracy, holding time compliance, and QC sample frequency compliance.
- Evaluation of trip blank and method blank sample results to identify systematic contamination.
- Evaluation of accuracy and precision of field duplicate samples, laboratory control samples (LCS), and matrix spike/matrix spike duplicate (MS/MSD) samples.
- Assigning of data qualifier flags, as necessary, to reflect limitations identified by the data assessment process.
- Estimation of data completeness.

The quality control data evaluated herein provide information for identifying and defining qualitative and quantitative limitations associated with the analytical results. As a result of this review, analytical data reported by the laboratory that does not meet the QC and QA requirements specified by the associated analytical methods will be qualified to indicate potential analytical bias, as necessary. A summary of the review and validation process is described in greater detail below.

H.3.1 Sample Handling Procedures

Proper sample handling techniques are required to ensure sample integrity. During data review, the sample handling procedures identified below are evaluated to determine potential effects on data quality:

- Review of field sample collection and preservation procedures to determine whether they were completed in accordance with the requirements specified by the analytical methods.

- Review of chain-of-custody documentation to ensure control and custody of the samples was maintained.
- Review of sample holding times between sample collection, extraction, and analysis.
- Review of sample conditions upon receipt at the contract laboratory.

H.3.2 Blank Samples

H.3.2.1 *Laboratory Blank Samples*

Laboratory blank samples (method and instrument blanks) are laboratory-prepared, analyte-free samples used to detect the introduction of contamination or other artifacts into the laboratory sample handling and analytical process. These blanks play an especially important role in sampling programs involving trace-level analyses or analytes that are common solvents found in a laboratory.

H.3.2.2 *Trip Blanks*

Trip blank samples consist of analyte-free water taken from the laboratory to the sampling site, and returned to the laboratory unopened for analysis. A trip blank simulates a sample container and sample traveling to/from the field. It is used to document contamination attributable to shipping and field handling procedures. This type of blank is useful in documenting contamination of volatile organic samples.

H.3.3 Laboratory Control Samples

Laboratory control samples are used to assess analytical performance under a given set of standard conditions. These are synthetic samples containing some or all of the analytes of interest at known concentrations and prepared independently from calibration standards. The samples consist of laboratory control samples (LCS) and laboratory control sample duplicates (LCSD). Typically analyzed with each analytical batch, LCS may be used to estimate analytical accuracy and precision by comparing measured results to actual concentrations.

LCS are also duplicated in the laboratory and then analyzed in an identical manner by the laboratory to assess laboratory's internal precision. The analytical precision is expressed by the relative percent difference (RPD) between the measurement results of the two duplicate samples. Analytical precision and accuracy should meet method- and analyte-specific QA/QC requirements.

H.3.4 Matrix Spike and Matrix Spike Duplicates

Matrix spike samples are actual field samples to which known amounts of select compounds (one, or more, of the analytes of interest) are added. Both spiked and unspiked aliquots are analyzed. The difference between the concentration of the spike compound(s) in the spiked and unspiked aliquots is compared to the amount of spike added before the extraction process. Since actual samples are used for the recovery determination, the matrix effects can be evaluated. Usually expressed as a percentage of the mass of the spiked amount, spike recovery is the measurement of accuracy anticipated for the sample matrix.

Matrix spike samples are also duplicated in the laboratory and then analyzed in an identical manner by the laboratory to assess sample reproducibility and the laboratory's internal precision. The analytical precision is expressed by the RPD between the measurement results of the two duplicate samples. Analytical precision and accuracy should meet method- and analyte-specific QA/QC requirements.

H.3.5 Surrogates

Surrogate compounds are added to all samples being analyzed for organic constituents to evaluate analytical accuracy for each individual sample. The surrogate compounds are chemically similar to the analytes of interest but are not expected to be present in the field samples. Recovery of these surrogate compounds gives an estimate of the effectiveness of the extraction and analysis for each individual sample. Surrogate recoveries should meet method- and analyte-specific QA/QC requirements.

H.3.6 Field Duplicate and Replicate Samples

Field duplicate and replicate samples are collected simultaneously with or in immediate succession to a primary project sample. Duplicates and replicates are treated in the same manner as the primary sample during all phases of sample collection, handling, and analysis. Duplicate sample results are used to assess precision, including variability associated with both the laboratory analysis and the sample collection process (i.e., QC purposes). The replicate samples are used to evaluate differences associated with independent laboratory analytical processes and results (i.e., QA purposes). Duplicate field samples were collected and submitted blind to the laboratory at a frequency of ten percent for this program.

The analytical results were reviewed for agreement with each other or their respective reporting limits and evaluated for comparability. Analytical results which are not greater than ten times the reporting limit are not considered significant for the purpose of data agreement. The comparison between project, field duplicate, and field replicate sample results should meet the RPD requirements for field duplicate samples.

H.3.7 Reporting Limits (Sensitivity)

The reporting limits are the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory conditions. For many analytes, the reporting limit analyte concentration is selected by the laboratory as the lowest non-zero standard in the calibration curve. Sample reporting limits vary based on sample matrix and dilution of the samples during analysis.

The reporting limits are compared against the regulatory cleanup criteria or project required goals to ensure that these goals have been achieved during the laboratory analysis of the project samples.

H.3.8 Completeness

Completeness is calculated after the QC data have been evaluated, and the results are applied to the measurement data. In addition to results identified as being outside of the QC limits established for the method, broken or spilled samples, or samples that could

not be analyzed for any other reason, are included in the assessment of completeness. The percentage of valid results is reported as completeness. The calculation of completeness is as follows:

$$\frac{T - (I + NC)}{T} \times (100\ \%) = \textit{Completeness}$$

Where: T = Total number of expected measurements.
I = Number of invalidated (rejected) results.
NC = Number of results not collected (e.g., bottles broken, etc.).

H.3.9 Calibration Verification

Calibration verification is performed by the laboratory for the gas chromatographic/mass spectrometry (GC/MS) analysis of groundwater samples for VOCs using EPA method SW8260B. Calibration of laboratory instrumentation is required to generate results within accuracy control limits identified by the approved analytical methods. Instrument calibration using the GC/MS methods involves a complex process requiring proper tuning of the mass spectrometer, a multi-point calibration for each volatile organic compound, frequent analysis of calibration verification standards, and analysis of internal standards added to each sample. The instrument response generated from these calibration parameters are used to quantify the volatile compounds present in the associated samples. Successful calibration requires instrument response for each compound between 0 and 15% relative standard deviation. Calibration with QA/QC parameters outside the method specific control limits will cause excessive bias in the analytical results.

H.3.10 Data Qualification

Data qualification is based on problems discovered during data review and evaluation. The analytical results are flagged with qualifiers to indicate potential problems exist, which affects the integrity of the reported results. The following is a list of data qualifiers typically used for flagging of analytical data. A definition of the data qualifier meaning is also provided.

ND- The sample was analyzed for, but was not detected above the reported sample quantitation limit.

B - This flag is used when the analyte is found in an associated blank, as well as the sample. It indicates possible sample contamination is present and warns the data user to consider that the result may be a false positive.

J - Indicates an estimated value. This flag is used for circumstances where the analytical result value is questionable.

E - Indicates that the result was outside the calibration range of the instrument and the result represents an unreliable or estimated value.

H - This flag indicates that the recommended holding time or preservation procedure for a sample was out of compliance.

M - This flag is used to indicate that a matrix effect was present and indicates the analytical result value may be questionable.

R - Indicates a rejected sample result. These sample results are considered to be unusable for the purposes of the project.

V - Indicates the data qualifier was assigned by ERM during the data review process.

H.4 *DATA QUALITY REVIEW*

QC procedures associated with the groundwater samples generally include the evaluation of sample holding times, blank samples, laboratory control samples, matrix spikes, surrogates, and field duplicate samples. Results of the data review and evaluation are presented below for the associated analytical methods.

The QA/QC data evaluated during this review process indicate that the sample results are acceptable for their intended project use. Unless otherwise indicated, the analytical results meet the precision and accuracy requirements for the associated analytical methods. The QA/QC data indicate that the quality control mechanisms were generally effective in ensuring measurement data reliability within the expected limits of sampling and analytical error.

H.4.1 Groundwater Samples

Groundwater samples collected from fourteen groundwater monitoring wells, and two field duplicate samples (MW-51 and MW-39) were analyzed for VOCs by SGS Environmental Services, using EPA method SW8260B. The SGS results provided in work order 1166514 were reviewed and only the following minor anomalies were noted in the data.

The samples were received by SGS on 10/28/2016 in one cooler that had a temperature of 1.2 degrees Celsius (temperature blank). The cooler temperature was within the recommended temperature range.

The samples were received in good condition and with the proper preservation, with the following exceptions:

- Several samples had one or more VOC vials with headspace. The VOC analyses were performed using the containers without headspace.

The analyses were performed within the recommended hold times. Re-analyses at dilutions were performed past the holding time for four samples. These results were only used as confirmation of results that exceeded the calibration range.

All associated field and laboratory QA/QC results met established criteria with the following exceptions:

- Several results were reported over the calibration range. As corrective action for results that were detected over the calibration range, the samples were diluted and re-analyzed. The re-analysis results were analyzed past the holding time, but they confirmed the original results. The laboratory reported the original results. The following results exceeded the calibration range and were flagged VE, as estimated values: cis-1,2-dichloroethene in 16RT-010-GW; vinyl chloride,

trans-1,2-dichloroethene, and cis-1,2-dichloroethane in 16RT-013-GW; cis-1,2-dichloroethene and tetrachloroethene in 16-RT-004-GW; and cis-1,2-dichloroethene in 16-RT-002-GW.

- The project required reporting limits for tetrachloroethene, trichloroethene, 1,1-dichloroethene and/or benzene were not met for in four samples due to dilutions. The affected samples include 16-RT-010-GW, 16-RT-011-GW, 16-RT-012-GW, and 16-RT-013-GW. The usability of the results for affected compounds in these samples may be limited for this project.

- A CCV recovery for vinyl chloride did not meet control limits (biased high). The vinyl chloride result for associated project sample 16RT-018-GW was qualified as estimated (VJ) and may be biased high.

- One trip blank was analyzed for VOC compounds. VOC compounds were not detected in the trip blank.

- Instrument calibration blanks and method blanks were analyzed for VOC compounds. VOC compounds were not detected in the blanks.

- The LCS/LCSD recoveries were within percent recovery and RPD acceptance criteria, with the following exceptions:

    - In QC batch VXX29961, the LCS recovery for vinyl chloride was above the QC limit. The vinyl chloride result for associated project sample 16RT-018-GW was qualified as estimated (VJ) and may be biased high.

- One set of project sample MS/MSD analyses were performed by the laboratory for this analytical data set. All MS recoveries and MS/MSD RPD values were within QC acceptance criteria with the following exception.

    - The MS/MSD recoveries for cis-1,2-dichloroethene were outside of the laboratory's QC acceptance limits. Since the sample concentrations were greater than four times the spike amount and the blank spike percent recoveries were acceptable, these results do not require qualification.

- Surrogate recoveries were within acceptance limits for all project and QC samples.

Two field duplicate samples were collected from MW-51 and MW-39 to evaluate precision. Relative percent difference (RPD) values were calculated for all analytes with concentrations above the analytical reporting limit. The analytical results above the reporting limit were agreeable, with several exceptions.

- The RPD for cis-1,2-DCE and trans-DCE were greater than 30% for sample MW-51. Results for these compounds in sample MW-51 were qualified as estimated (VJ) with a higher imprecision.

- The RPD for cis-1,2-DCE and vinyl chloride were greater than 30% for sample MW-39. Results for these compounds in sample MW-39 were qualified as estimated (VJ) with a higher imprecision.

- It should be noted that the MW-51 duplicate sample results had elevated reporting limits due to sample dilution and therefore only three pairs of VOC analyte results were available for comparison.

The total overall calculated completeness of the October 2016 compliance monitoring data set is 100%, which meets the established 85% completeness data quality objective.

Laboratory Data Review Checklist

Completed by:

Elsie King

Title:

Project Chemist

Date:

January 20, 2017

CS Report Name:

River Terrace RV Park

Report Date:

January 20, 2017

Consultant Firm:

ERM Alaska

Laboratory Name:

SGS

Laboratory Report Number:

1166514

ADEC File Number:

Hazard Identification Number:

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   ☑ Yes ☐ No Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   ☐ Yes ☑ No Comments:

   The samples were not transferred.

2. Chain of Custody (COC)

   a. COC information completed, signed, and dated (including released/received by)?

   ☑ Yes ☐ No Comments:

   b. Correct analyses requested?

   ☑ Yes ☐ No Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   ☑ Yes ☐ No Comments:

   1.2 degrees C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

   ☑ Yes ☐ No Comments:

   c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

   ☑ Yes ☐ No Comments:

   d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

   ☑ Yes ☐ No Comments:

   Containers for samples -004C (16RT-013-GW) and -008C (16RT-011-GW) contained large bubbles. Containers for sample -007A-C (16RT-014-GW) are labeled 17:50, while on COC is written 17:15.

e. Data quality or usability affected?

Comments:

The analyses of samples 16RT-013-GW and 16RT-011-GW were performed using the sample containers that did not have bubbles.
The laboratory reported the collection time for sample 16RT-014-GW as listed on the COC.

4. Case Narrative

a. Present and understandable?

☑ Yes ☐ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☑ Yes ☐ No Comments:

Several results were reported over the calibration range. CCV and LCS recoveries were high for vinyl chloride.

c. Were all corrective actions documented?

☑ Yes ☐ No Comments:

As corrective action for results that were detected over the calibration range, the samples were diluted and re-analyzed. The re-analysis results were analyzed past the holding time, but they confirmed the original results. The laboratory reported the original results.
Corrective action was not performed for the high CCV and LCS recoveries due to the holding times.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The result for vinyl chloride in associated sample 16RT-018-GW may be biased high. The results listed below exceeded the calibration range and were flagged VE, as estimated values:
cis-1,2-dichloroethene in 16RT-010-GW;
vinyl chloride, trans-1,2-dichloroethene, and cis-1,2-dichloroethane in 16RT-013-GW;
cis-1,2-dichloroethene and tetrachloroethene in 16-RT-004-GW;
cis-1,2-dichloroethene in 16-RT-002-GW.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

☑ Yes ☐ No Comments:

b. All applicable holding times met?

☑ Yes ☐ No Comments:

Re-analysis was performed past the holding time as confirmation of results reported over the calibration range.

c. All soils reported on a dry weight basis?

☐ Yes ☒ No Comments:

NA- Water samples

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

☐ Yes ☒ No Comments:

Several results were reported as not detected with LOQ above the ADEC GW CLs. The affected samples required dilution for high concentrations of other target compounds. Results for PCE, TCE, 1,1-DCE and benzene were affected.

e. Data quality or usability affected?

Comments:

The results listed below are not useful for the determining if ADEC GW CLs have been met. They may be useful for determination of other site cleanup criteria.
1,1-DCE in sample 14-RT-009-GW;
PCE and benzene in sample 16-RT-010-GW;
TCE and benzene in samples 16-RT-011-GW and 16-RT-012-GW;
PCE, TCE, 1,1-DCE and benzene in field duplicate 16-RT-017-GW.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☒ Yes ☐ No Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

☒ Yes ☐ No Comments:

iii. If above LOQ, what samples are affected?

Comments:

NA - Method blank results were less than the LOQ.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☒ No Comments:

NA - Method blank results were less than the LOQ

v. Data quality or usability affected?

Data is acceptable.

Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☑ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☑ No Comments:

NA - Only organics

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☐ Yes ☑ No Comments:

A LCS %R for vinyl chloride was above the upper control limit.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

16RT-009-GW and 16RT-018-GW

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☑ Yes ☐ No Comments:

Vinyl chloride for sample 16RT-009-GW was reported from another analytical batch and not affected by the LCS %R. The vinyl chloride result for sample 16RT-018-GW was flagged VJ as estimated with a high bias.

vii. Data quality or usability affected?

Comments:

The vinyl chloride result for sample 16RT-018-GW was flagged VJ as estimated with a high bias.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☑ Yes ☐ No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☑ Yes ☐ No Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐ Yes ☑ No Comments:

NA - Surrogate recoveries were within control limits.

iv. Data quality or usability affected?

Comments:

Data is acceptable.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

☑ Yes ☐ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☑ Yes ☐ No Comments:

iii. All results less than LOQ?

☐ Yes ☐ No Comments:

Yes, Results were less than the LOQ.
(note this checkbox is not working correctly; if selected, the checkbox above is unchecked)

iv. If above LOQ, what samples are affected?

Comments:

NA - Trip blank results were below the LOQ.

v. Data quality or usability affected?

Comments:

Data is acceptable.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☑ Yes ☐ No Comments:

Field duplicate sample pairs were: 16-RT-008-GW and 16-RT-018-GW; 16-RT-013-GW and 16-RT-017-GW.

ii. Submitted blind to lab?

☑ Yes ☑ No Comments:

The field duplicates were given separate sample IDs and collection times. However, the COC listed Field Duplicate in the remarks on the COC.
(Note: this check box is not working; unable to remove accidental check from yes)

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐ Yes ☑ No Comments:

The RPD were above 30% for cis-1,2-DCE and trans-1,2-DCE in the field duplicate pair 16-RT-013-GW and 16-RT-017-GW. Results for sample 16-RT-017-GW were reported off a higher dilution than sample 16-RT-013-GW. The RPD could not be calculated when one of the duplicate results was reported as nondetect. The RPD were above 30% for cis-1,2-DCE and vinyl chloride in the field duplicate pair 16-RT-008-GW and 16-RT-018-GW.

iv. Data quality or usability affected?

Comments:

The results listed below were flagged VJ as estimated with high imprecision:
cis-1,2-DCE and trans-1,2-DCE in samples 16-RT-013-GW and 16-RT-017-GW;
cis-1,2-DCE and vinyl chloride in samples 16-RT-008-GW and 16-RT-018-GW.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

☐ Yes ☐ No ☑ Not Applicable

i. All results less than LOQ?

☐ Yes ☑ No Comments:

NA - Disposable sampling equipment was used.

ii. If above LOQ, what samples are affected?

Comments:

A - Disposable sampling equipment was used.

iii. Data quality or usability affected?

Comments:

A - Disposable sampling equipment was used.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

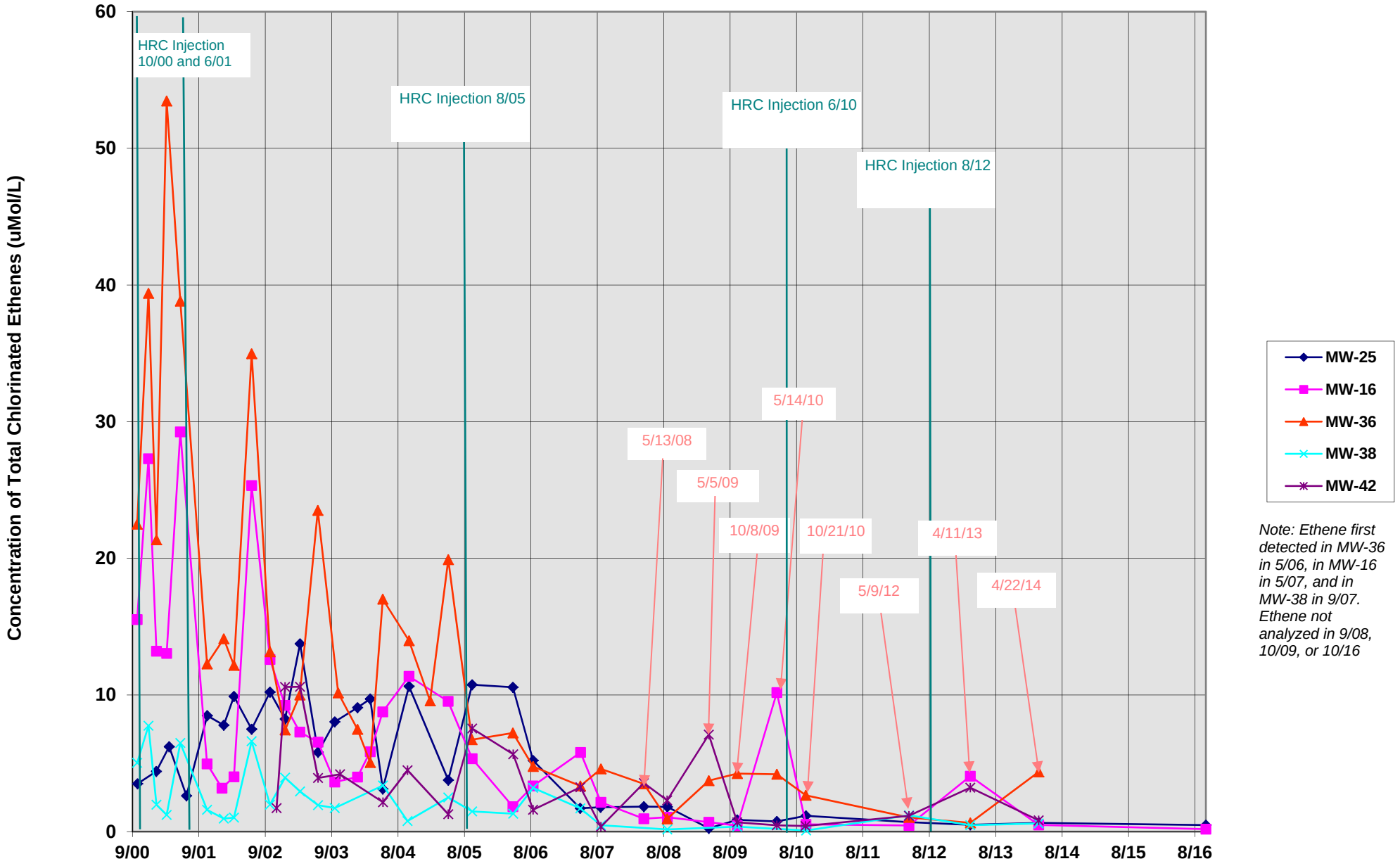
☒ Yes ☐ No Comments:

ND- The sample was analyzed for, but was not detected above the reported sample quantitation limit. J - Indicates an estimated value. This flag is used for circumstances where the analytical result value is questionable. E - Indicates that the result was outside the calibration range of the instrument and the result represents an unreliable or estimated value. V - Indicates the data qualifier was assigned by ERM during the data review process.

APPENDIX G

Bioremediation Effectiveness Graphs

Chart G-1: MW-36, MW-42, MW-16, MW-38, and MW-25 Total Chlorinated Ethenes
River Terrace RV Park



Note: Ethene first detected in MW-36 in 5/06, in MW-16 in 5/07, and in MW-38 in 9/07. Ethene not analyzed in 9/08, 10/09, or 10/16

Chart G-1b: Lower Plume Total Chlorinated Ethenes

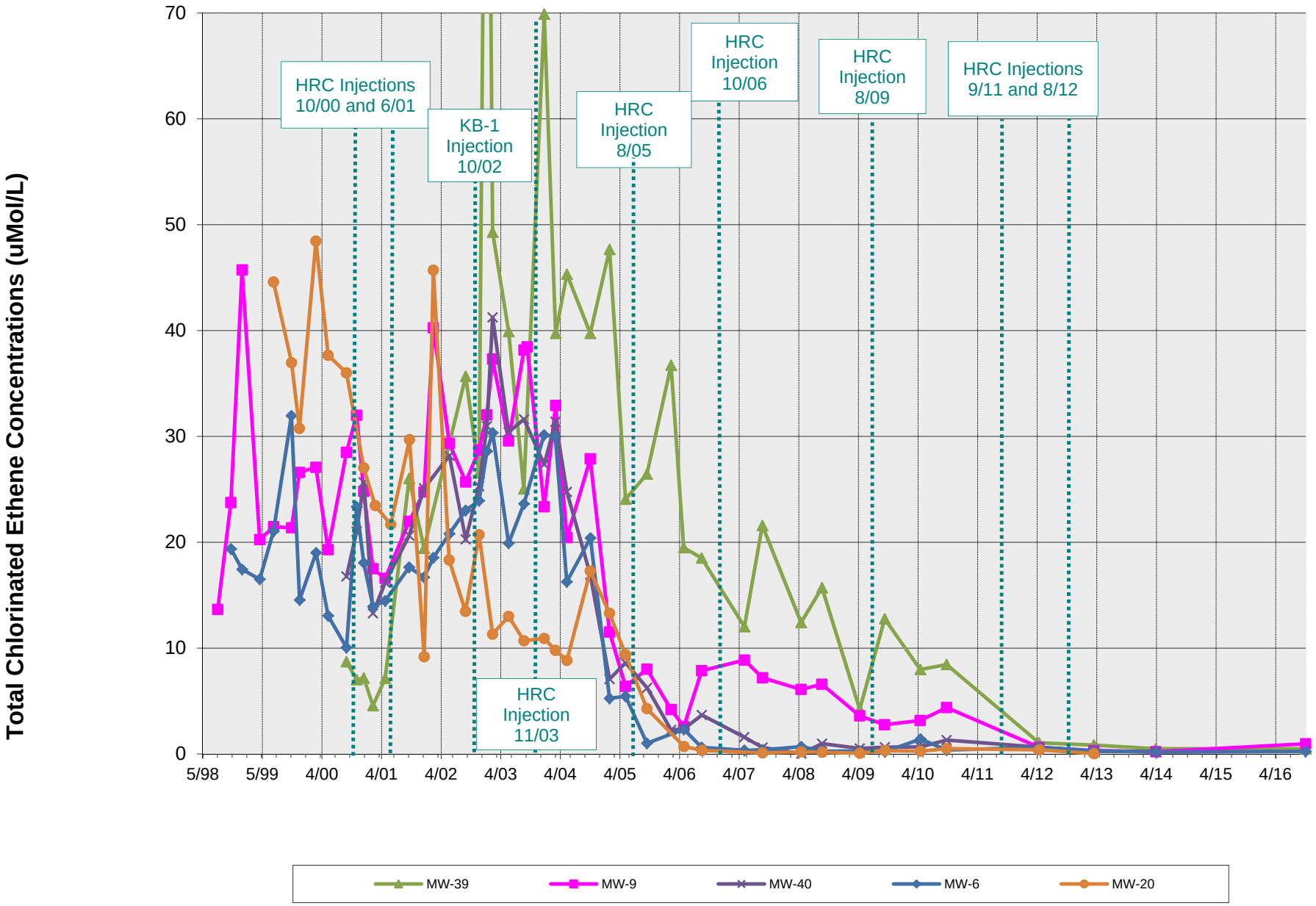


Chart G-1c: Lower Plume and Source Area Total Chlorinated Ethenes

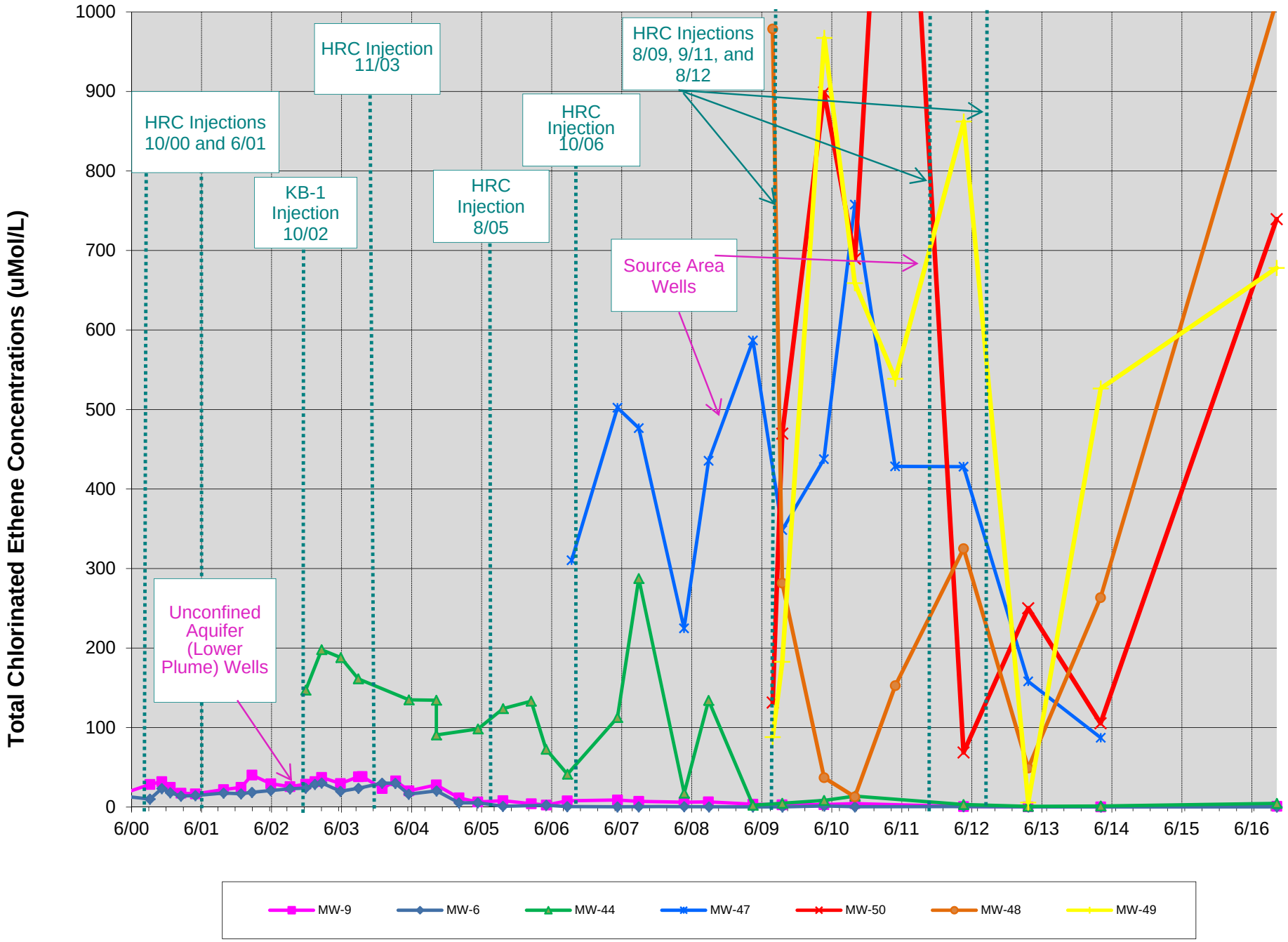


Chart G-2a: MW-16 VOCs

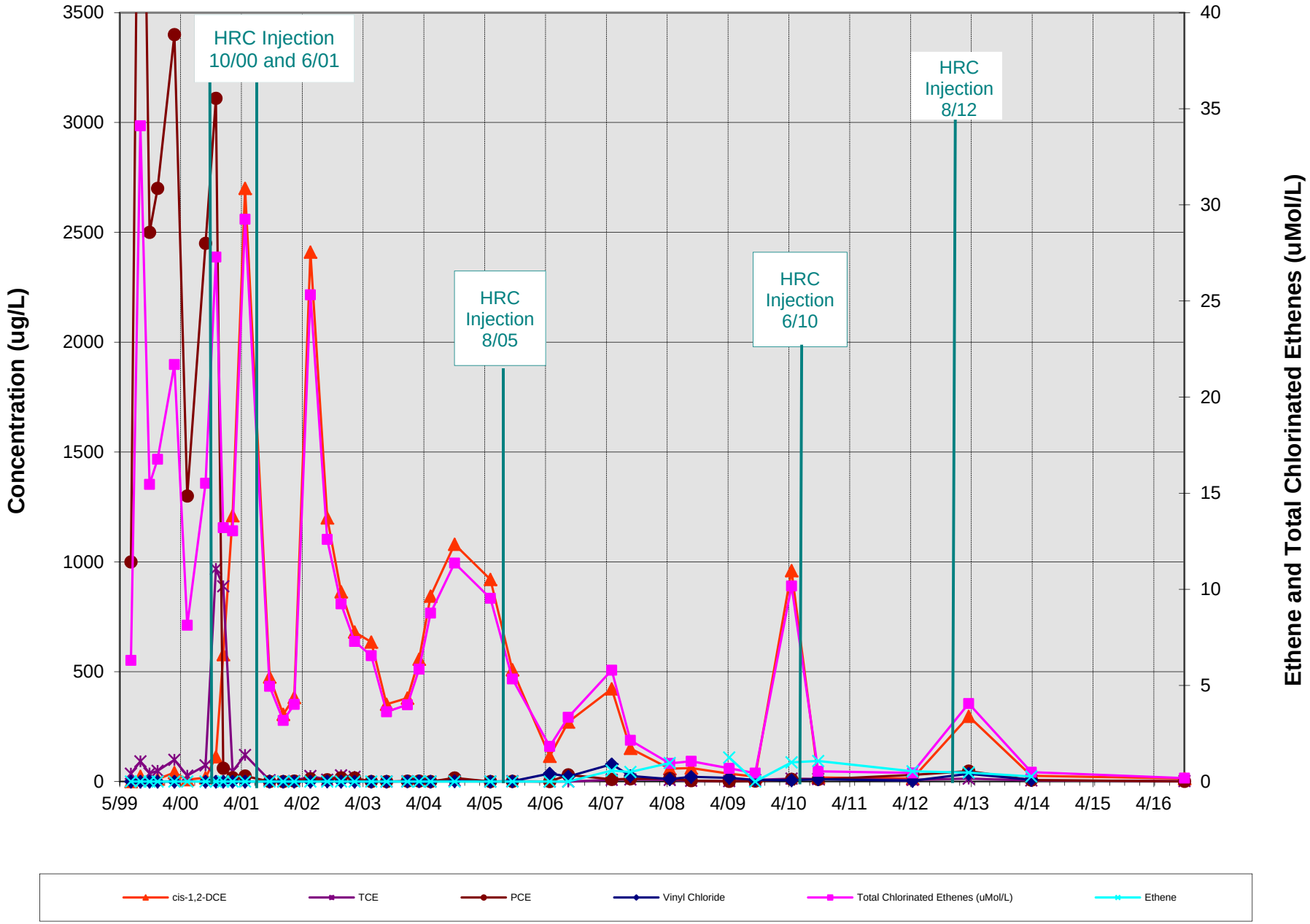
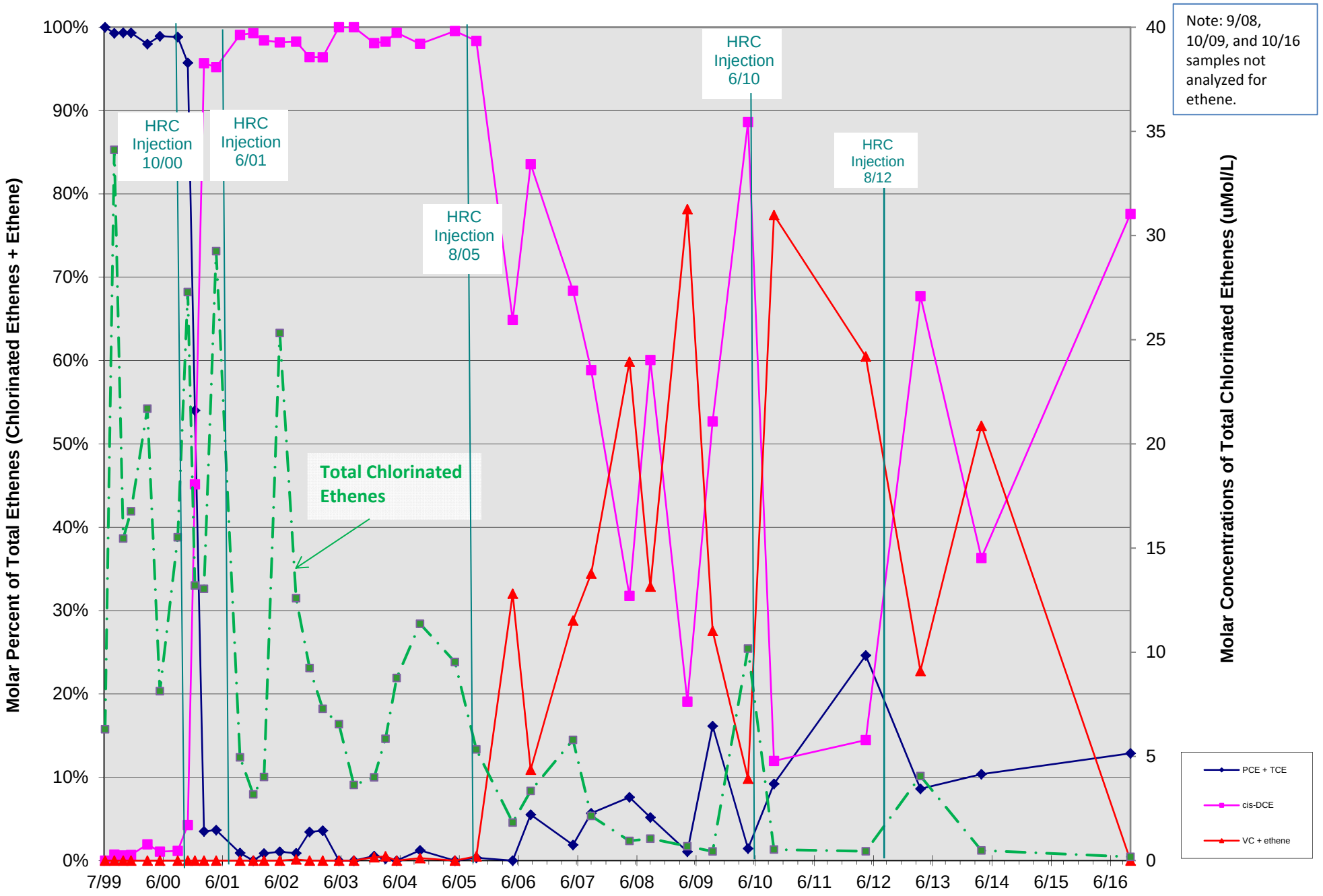


Chart G-2b: MW-16 Molar Percentages



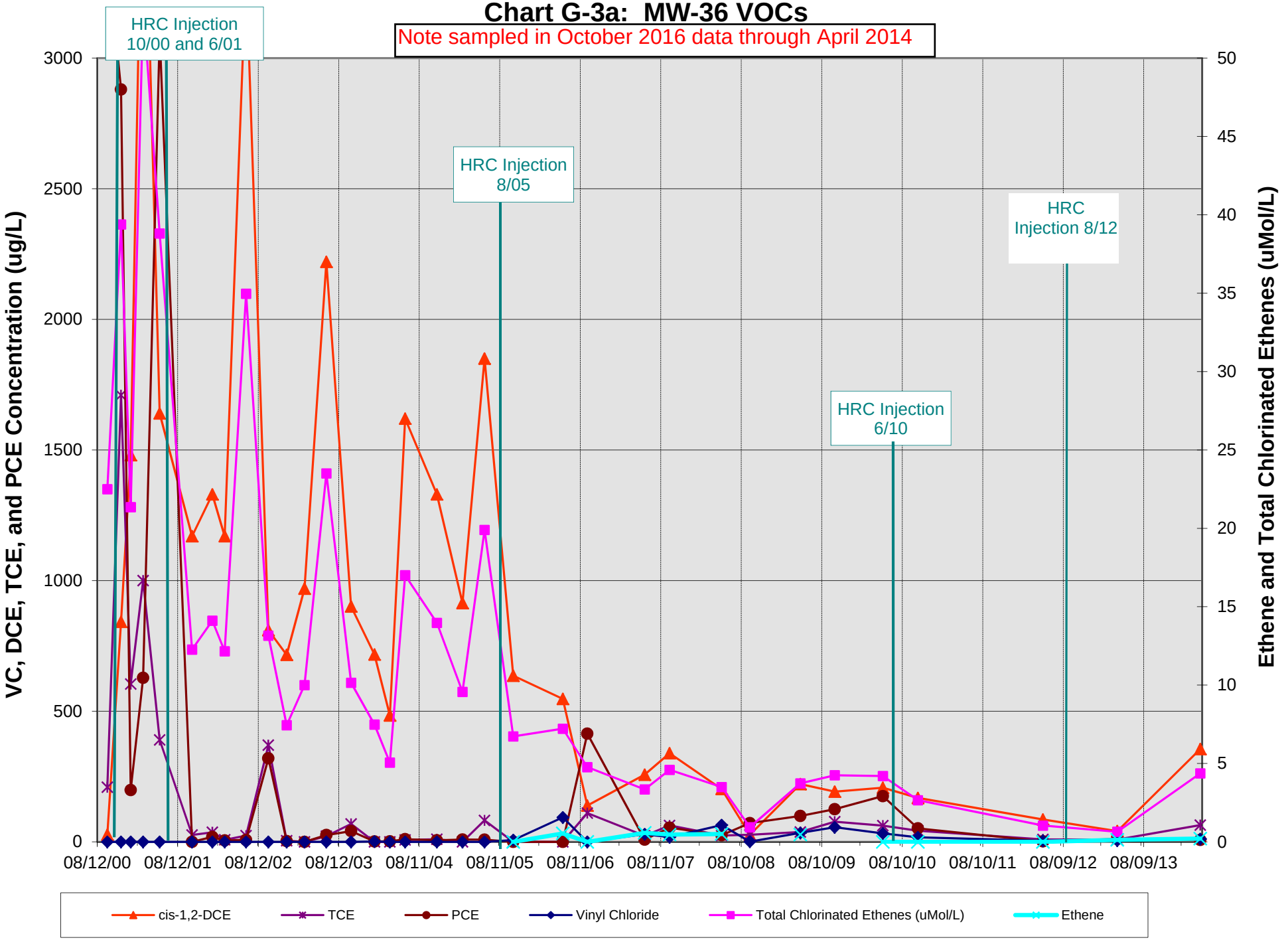


Chart G-3a: MW-36 VOCs
Note sampled in October 2016 data through April 2014
HRC Injection 10/00 and 6/01
HRC Injection 8/05
HRC Injection 8/12
HRC Injection 6/10
VC, DCE, TCE, and PCE Concentration (ug/L)
Ethene and Total Chlorinated Ethenes (uMol/L)
3000
2500
2000
1500
1000
500
0
50
45
40
35
30
25
20
15
10
5
0
08/12/00
08/12/01
08/12/02
08/12/03
08/11/04
08/11/05
08/11/06
08/11/07
08/10/08
08/10/09
08/10/10
08/10/11
08/09/12
08/09/13
cis-1,2-DCE
TCE
PCE
Vinyl Chloride
Total Chlorinated Ethenes (uMol/L)
Ethene

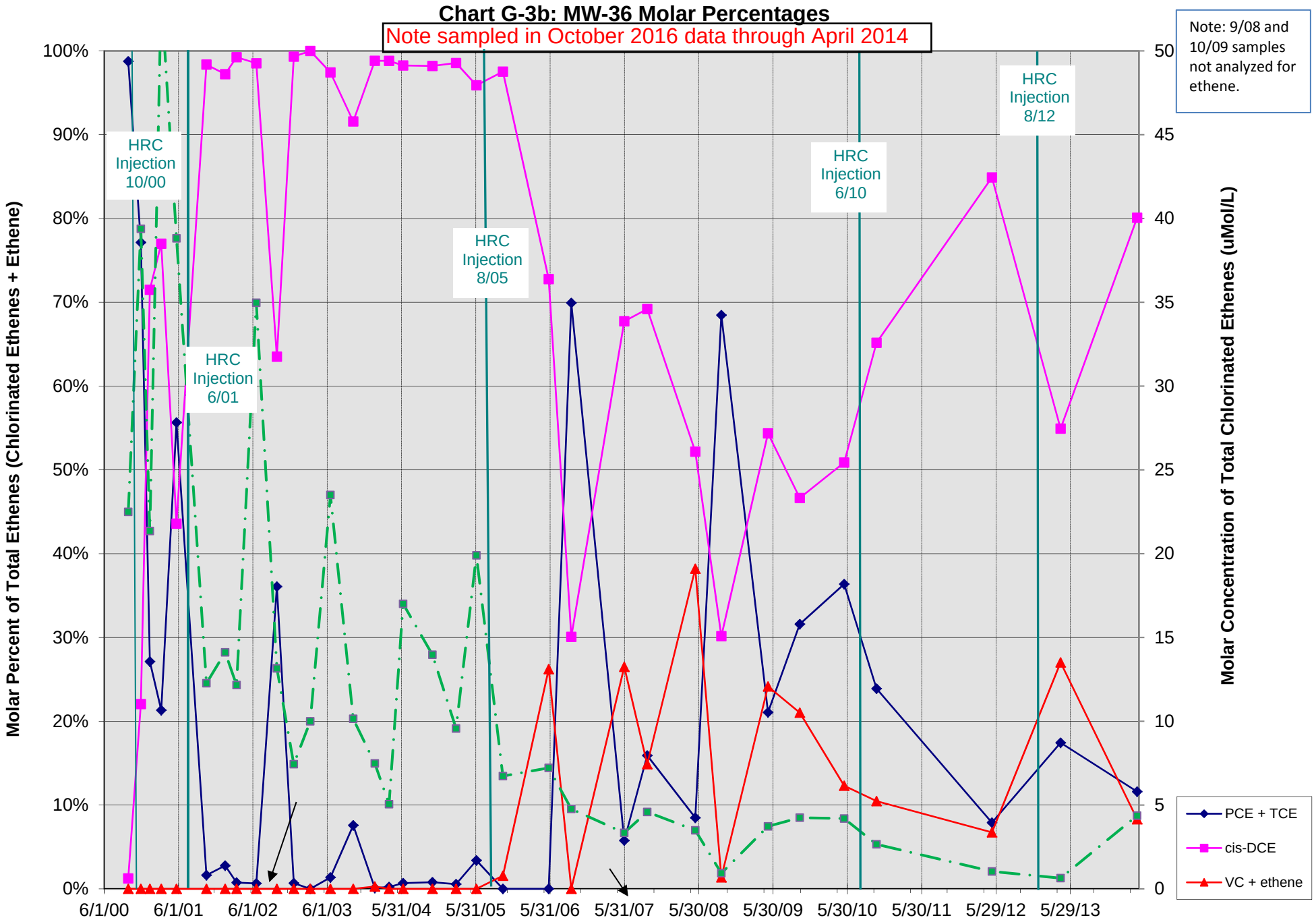
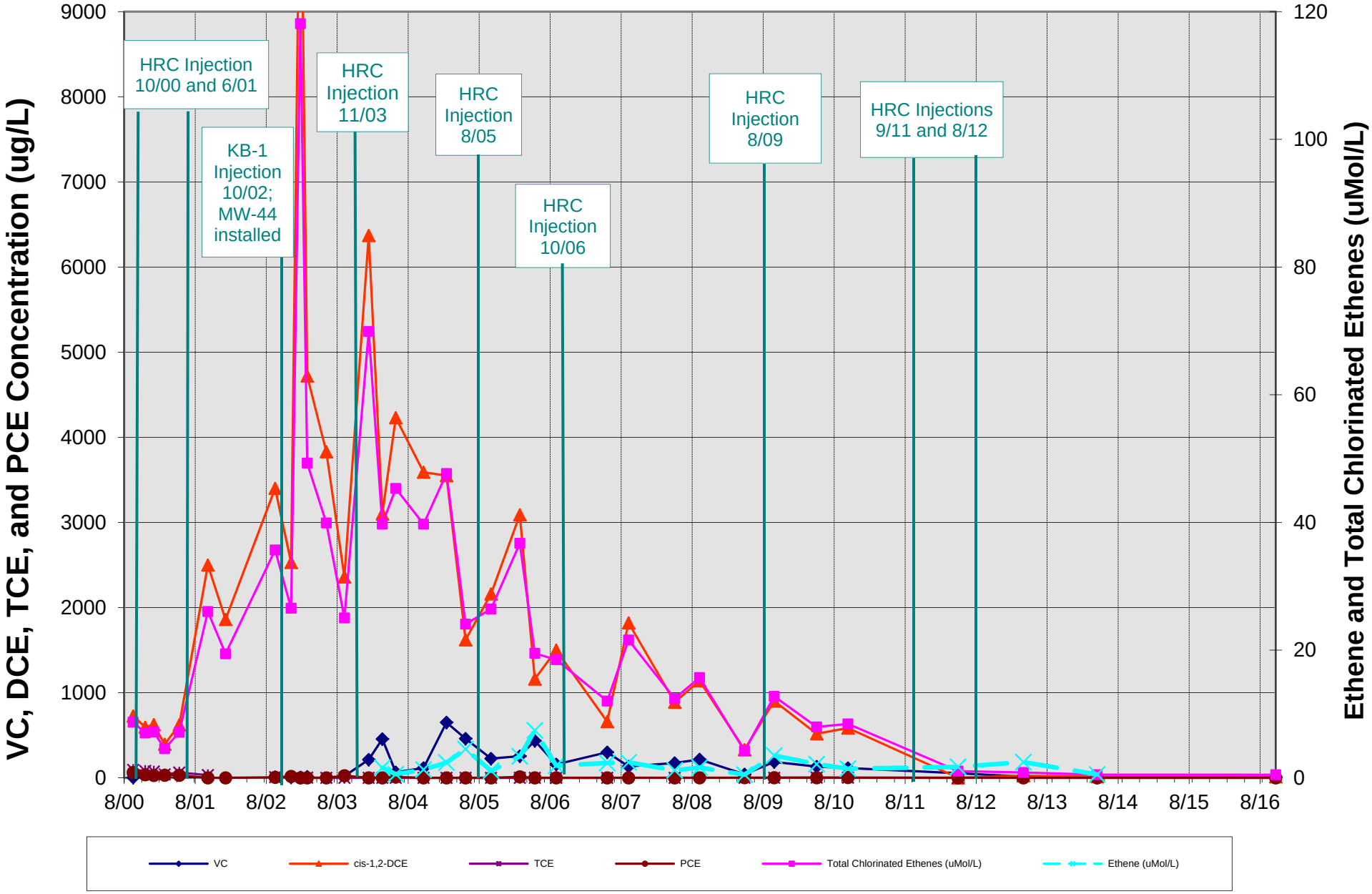


Chart G-3b: MW-36 Molar Percentages
Note sampled in October 2016 data through April 2014
Note: 9/08 and 10/09 samples not analyzed for ethene.
HRC Injection 10/00
HRC Injection 6/01
HRC Injection 8/05
HRC Injection 6/10
HRC Injection 8/12
Molar Percent of Total Ethenes (Chlorinated Ethenes + Ethene)
Molar Concentration of Total Chlorinated Ethenes (uMol/L)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
50
45
40
35
30
25
20
15
10
5
0
6/1/00
6/1/01
6/1/02
6/1/03
5/31/04
5/31/05
5/31/06
5/31/07
5/30/08
5/30/09
5/30/10
5/30/11
5/29/12
5/29/13
PCE + TCE
cis-DCE
VC + ethene

Chart G-4a: MW-39 VOCs



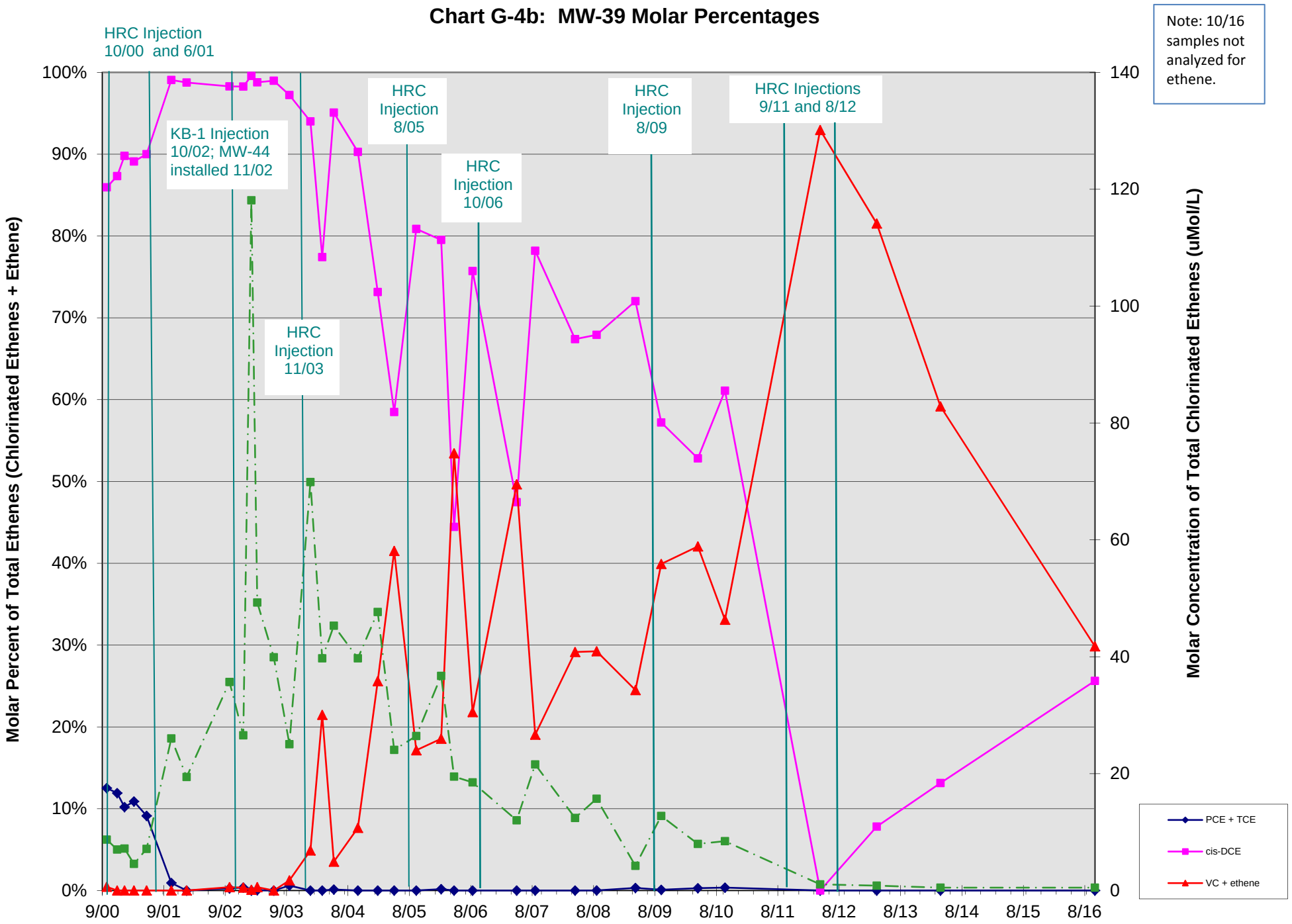


Chart G-4b: MW-39 Molar Percentages
Note: 10/16 samples not analyzed for ethene.
HRC Injection 10/00 and 6/01
KB-1 Injection 10/02; MW-44 installed 11/02
HRC Injection 11/03
HRC Injection 8/05
HRC Injection 10/06
HRC Injection 8/09
HRC Injections 9/11 and 8/12
Molar Percent of Total Ethenes (Chlorinated Ethenes + Ethene)
Molar Concentration of Total Chlorinated Ethenes (uMol/L)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
140
120
100
80
60
40
20
0
9/00
9/01
9/02
9/03
8/04
8/05
8/06
8/07
8/08
8/09
8/10
8/11
8/12
8/13
8/14
8/15
8/16
PCE + TCE
cis-DCE
VC + ethene

Chart G-5a: MW-9 VOCs

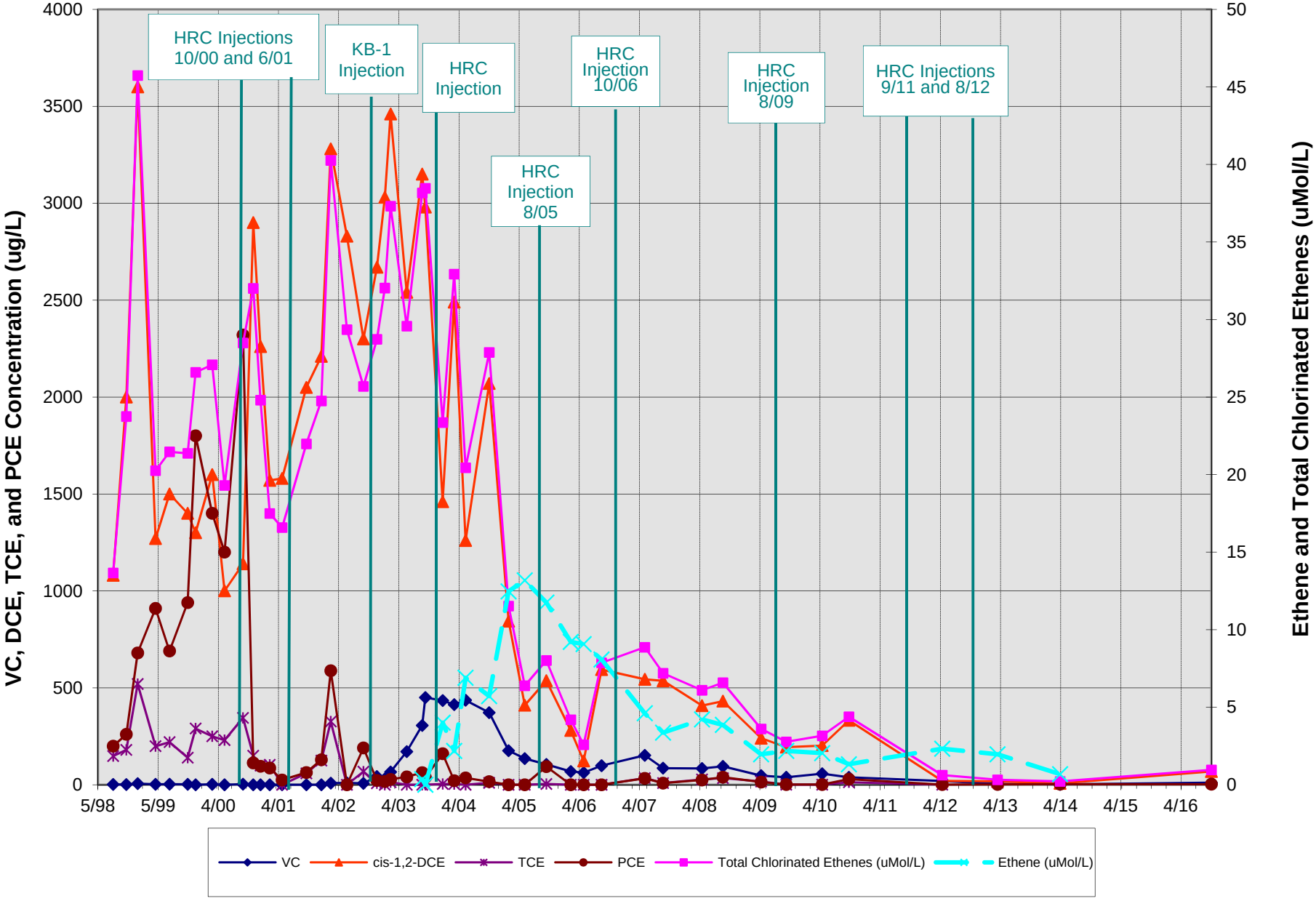


Chart G-5b: MW-9 Molar Percentages

Note: 10/16 samples not analyzed for ethene.

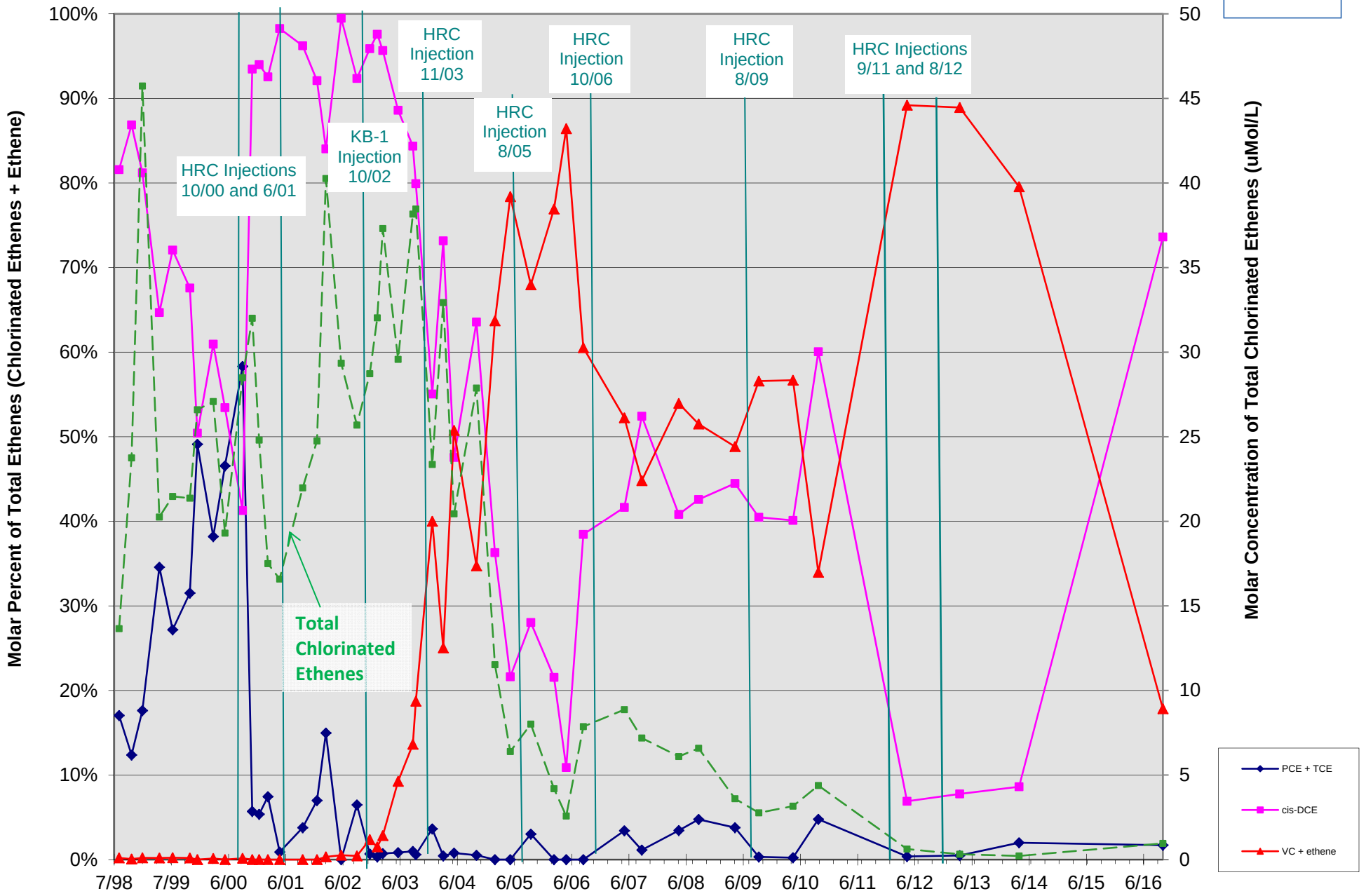


Chart G-7a: MW-6 VOCs

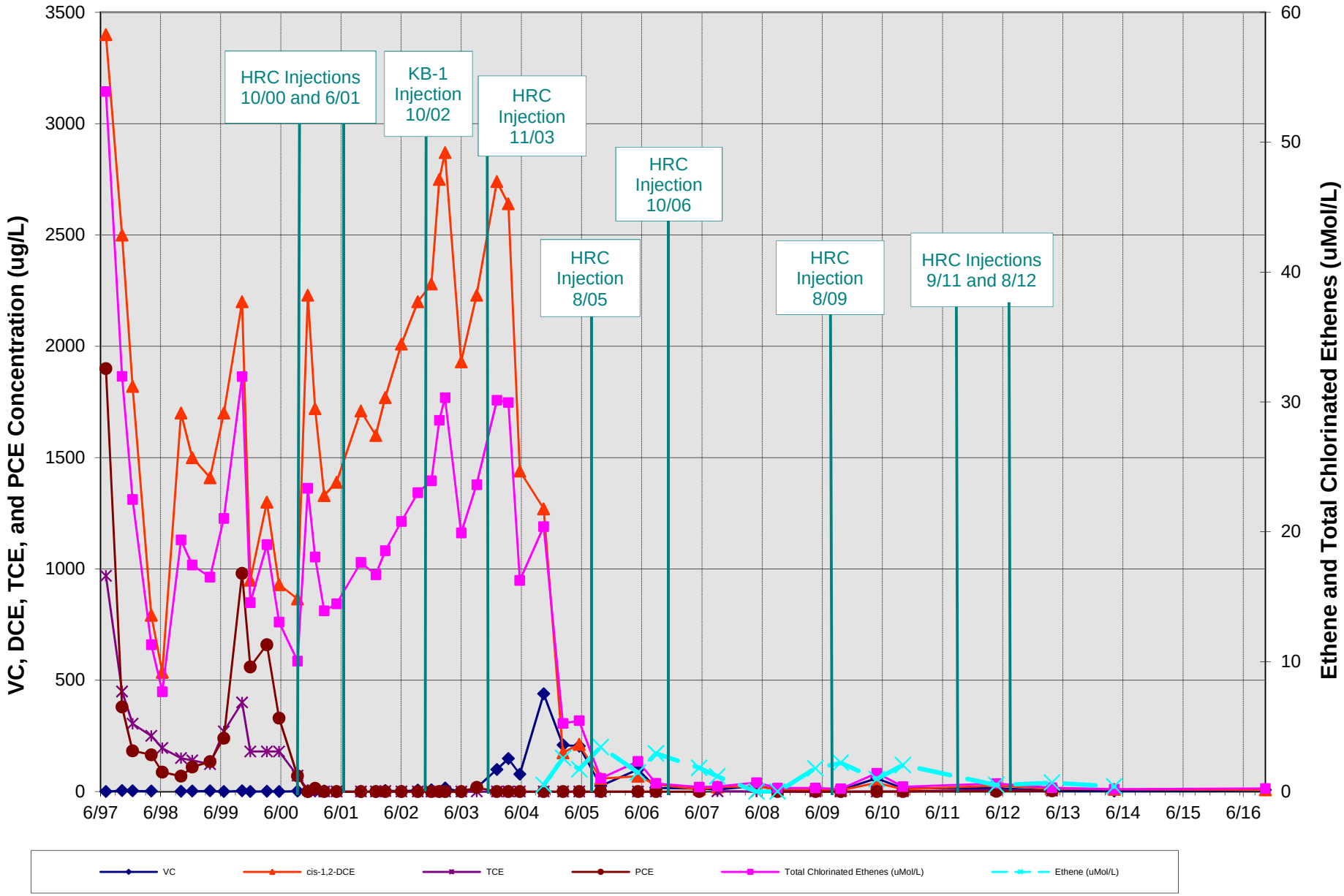


Chart G-7b: MW-6 Molar Percentages

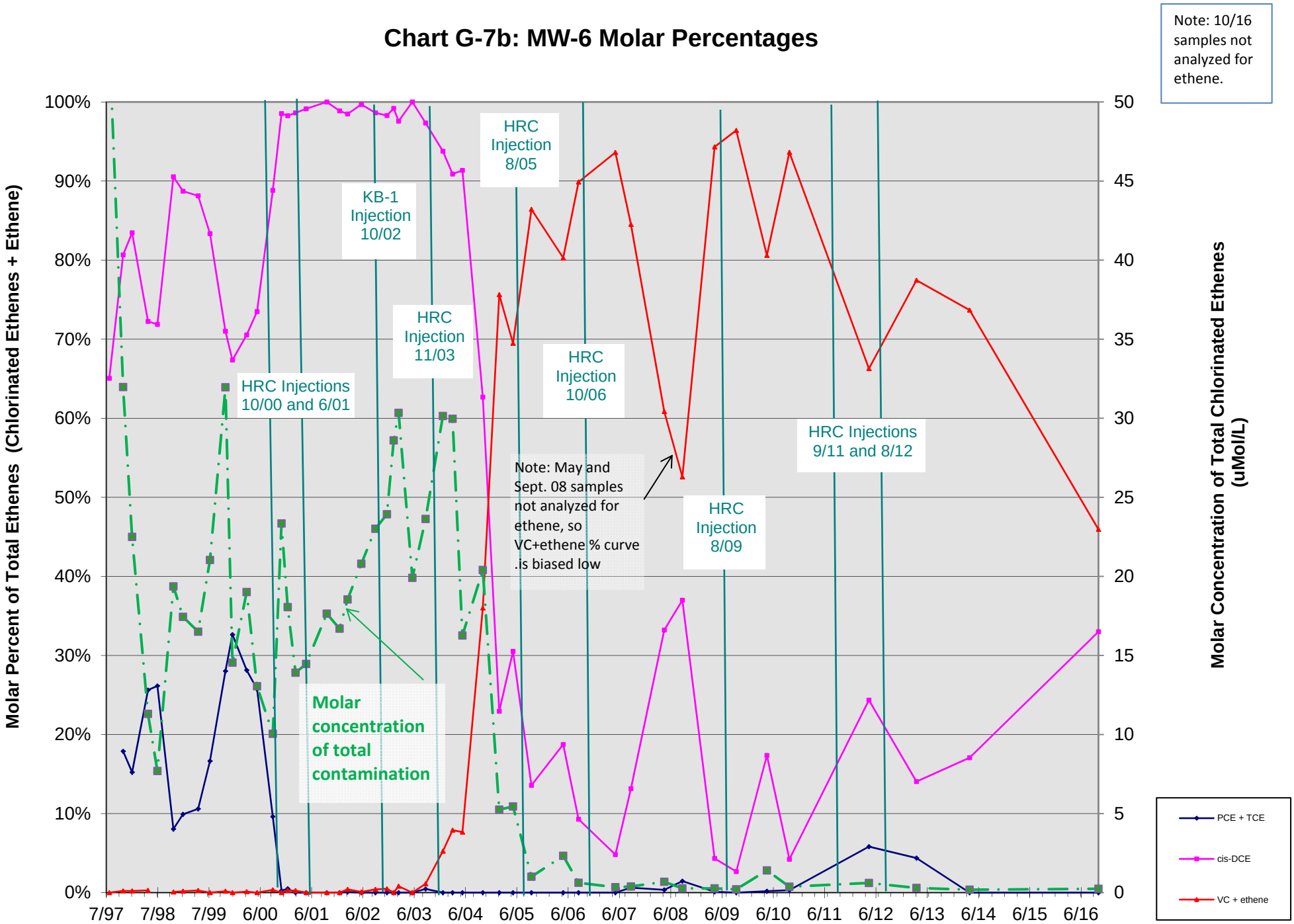
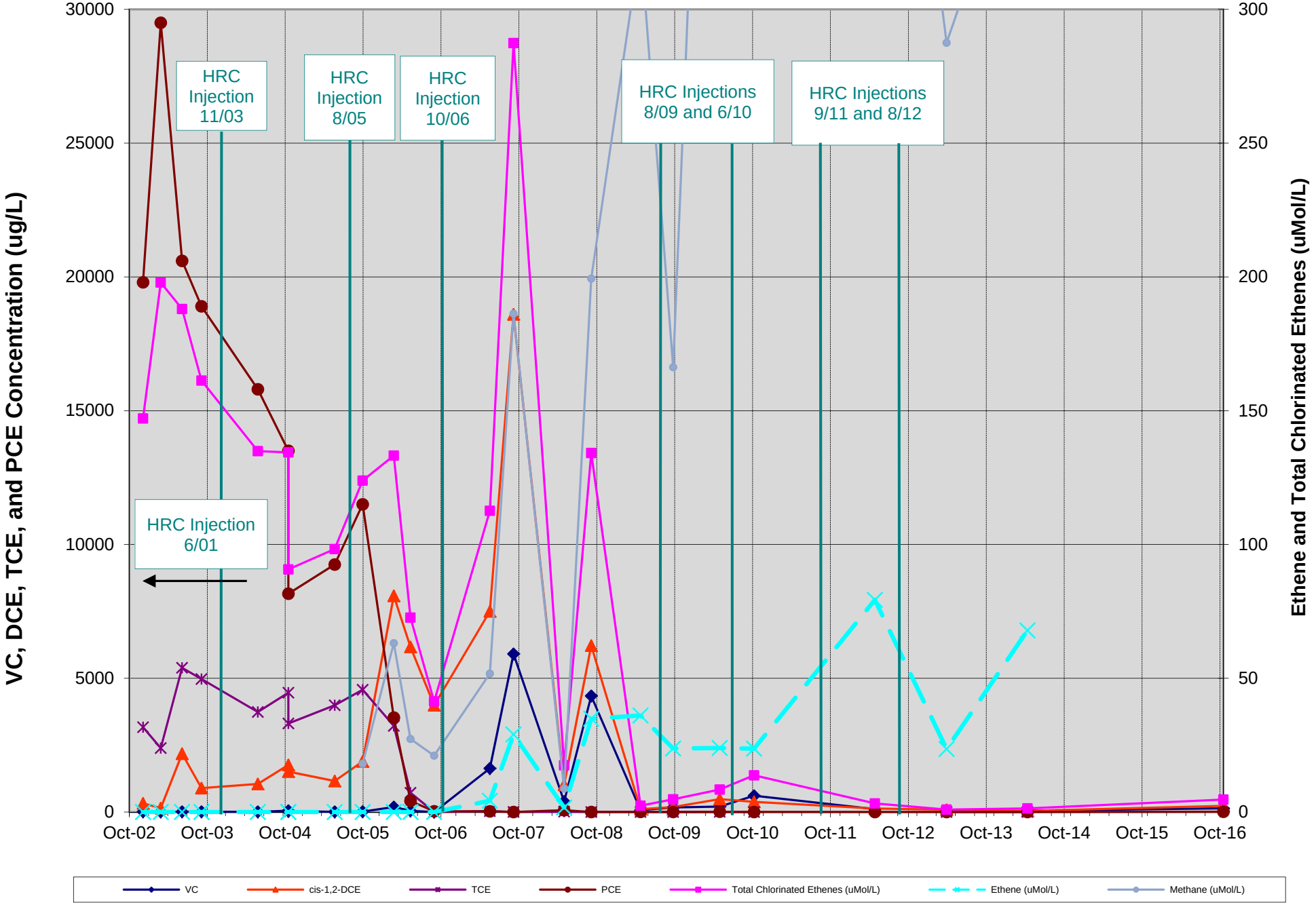


Chart G-9a: MW-44 VOCs



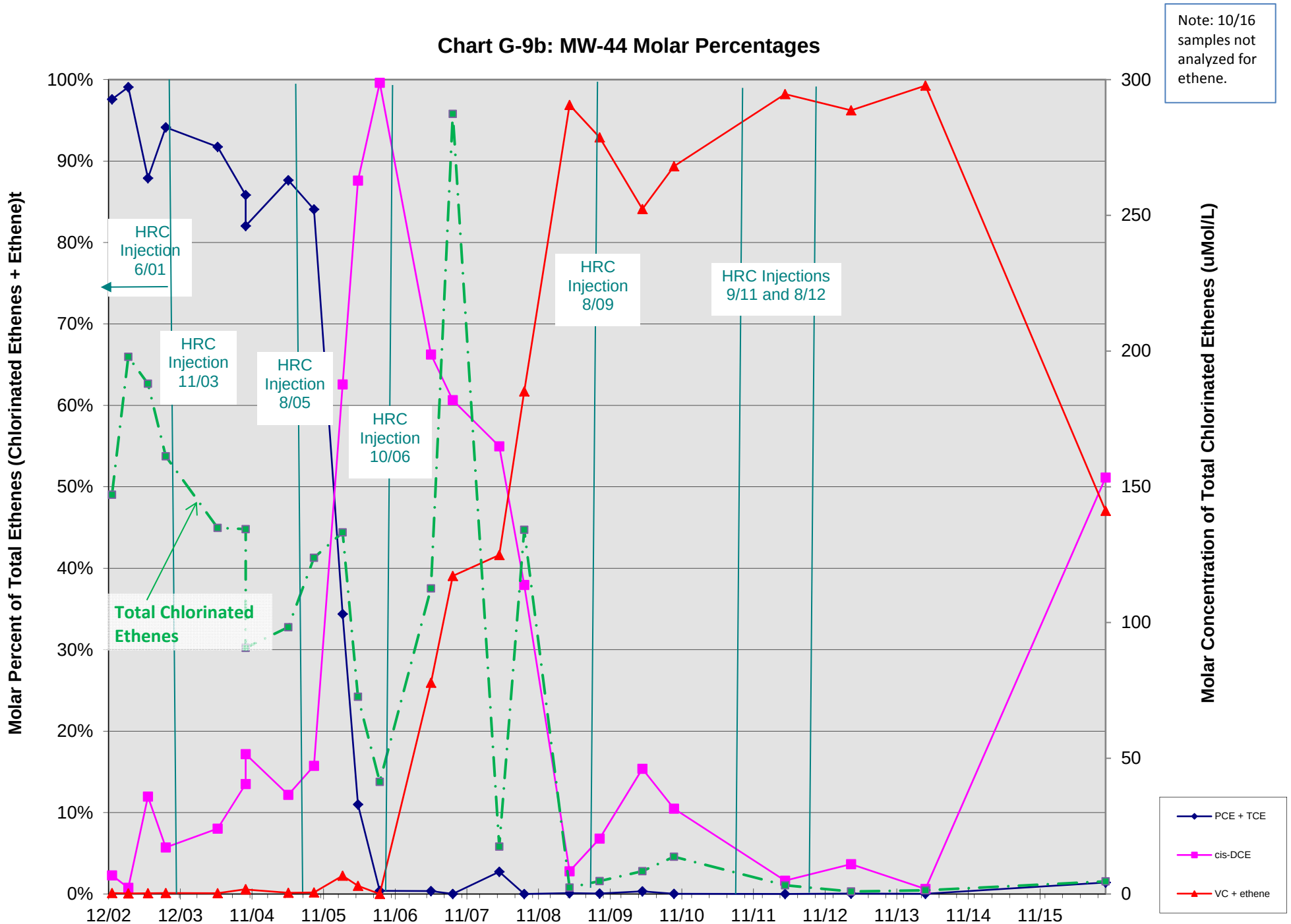
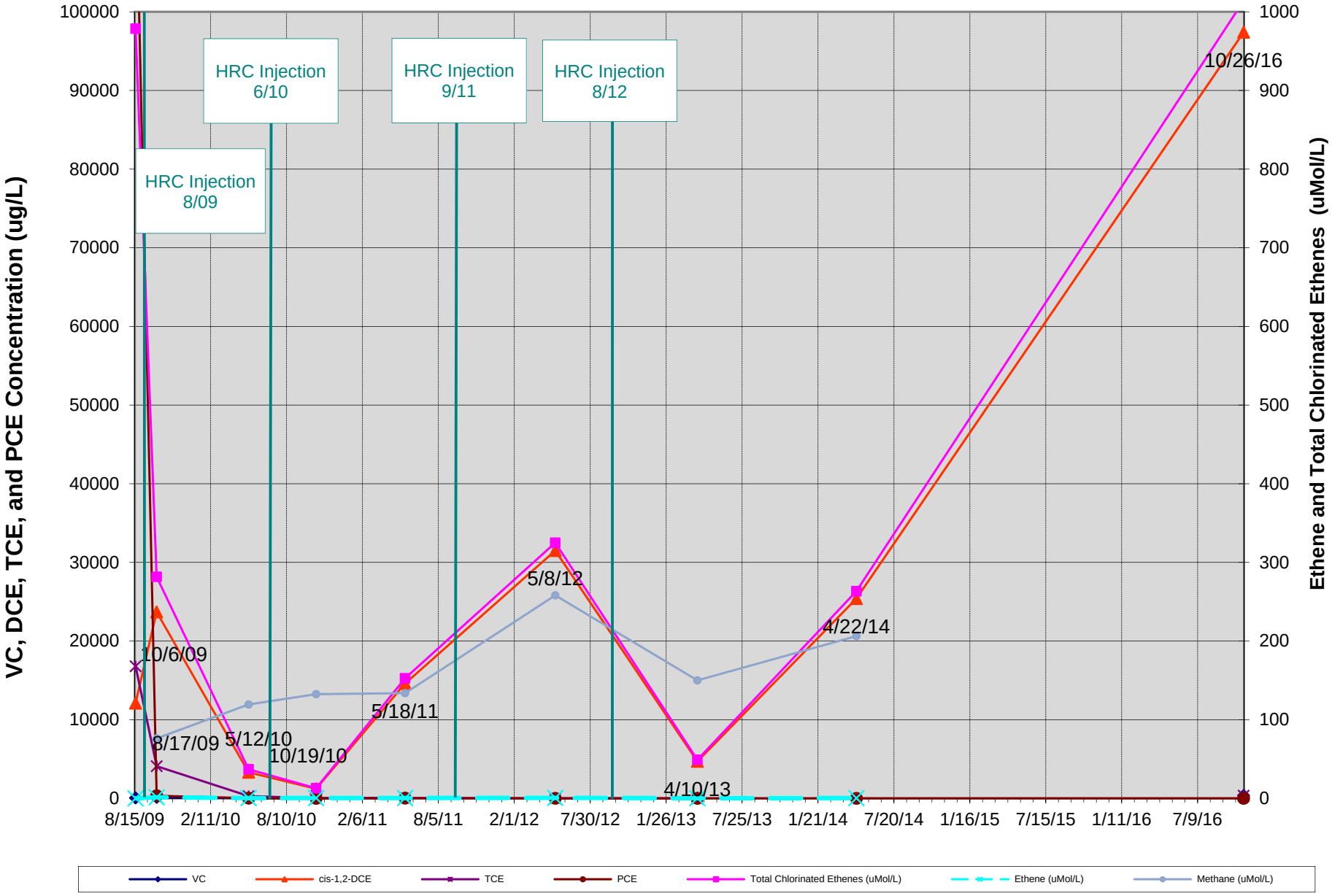


Chart G-9b: MW-44 Molar Percentages
Note: 10/16 samples not analyzed for ethene.
Molar Percent of Total Ethenes (Chlorinated Ethenes + Ethene)t
Molar Concentration of Total Chlorinated Ethenes (uMol/L)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
300
250
200
150
100
50
0
12/02
12/03
11/04
11/05
11/06
11/07
11/08
11/09
11/10
11/11
11/12
11/13
11/14
11/15
HRC Injection 6/01
HRC Injection 11/03
HRC Injection 8/05
HRC Injection 10/06
HRC Injection 8/09
HRC Injections 9/11 and 8/12
Total Chlorinated Ethenes
PCE + TCE
cis-DCE
VC + ethene

Chart G-11a: MW-48 VOCs



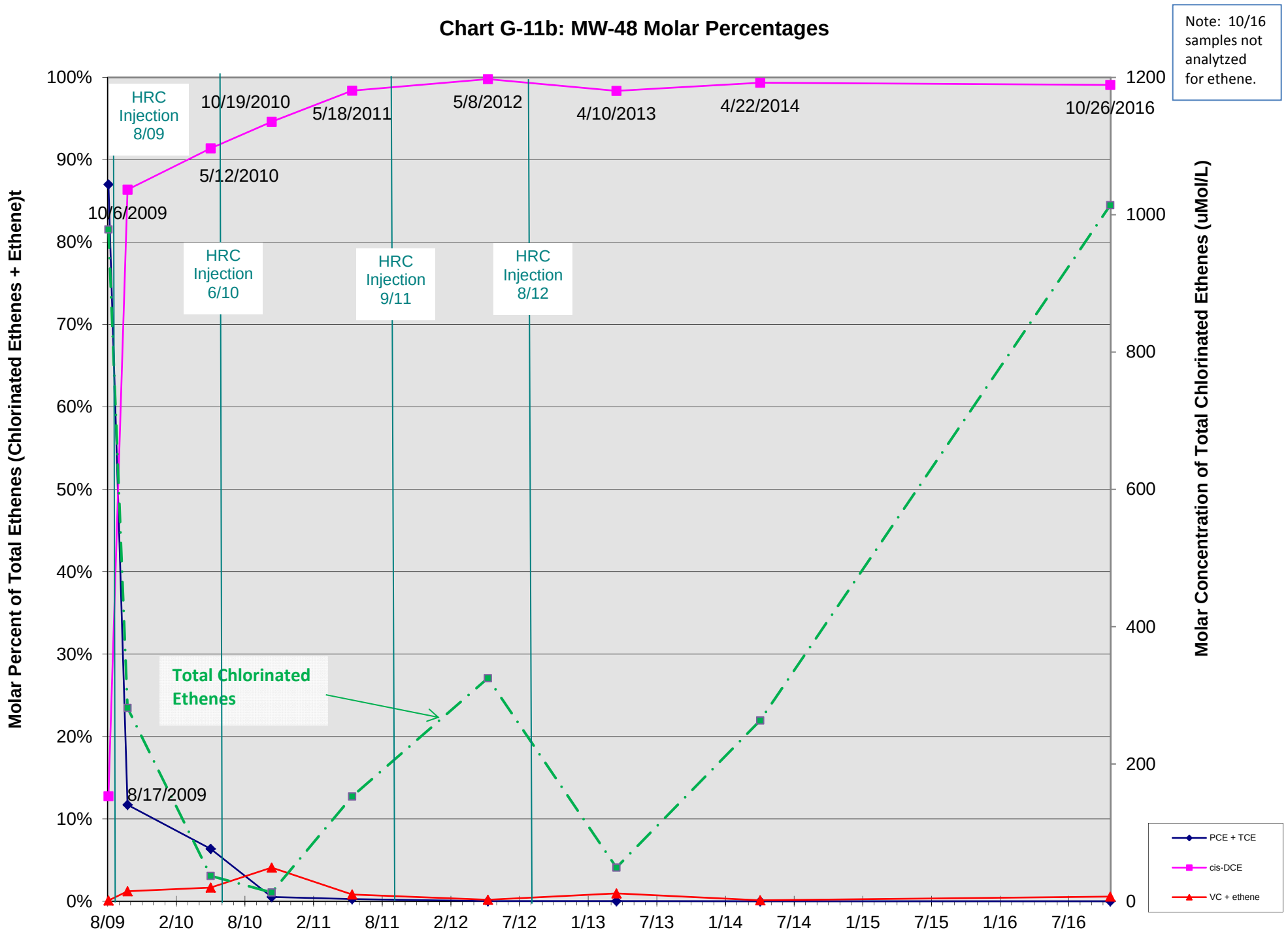
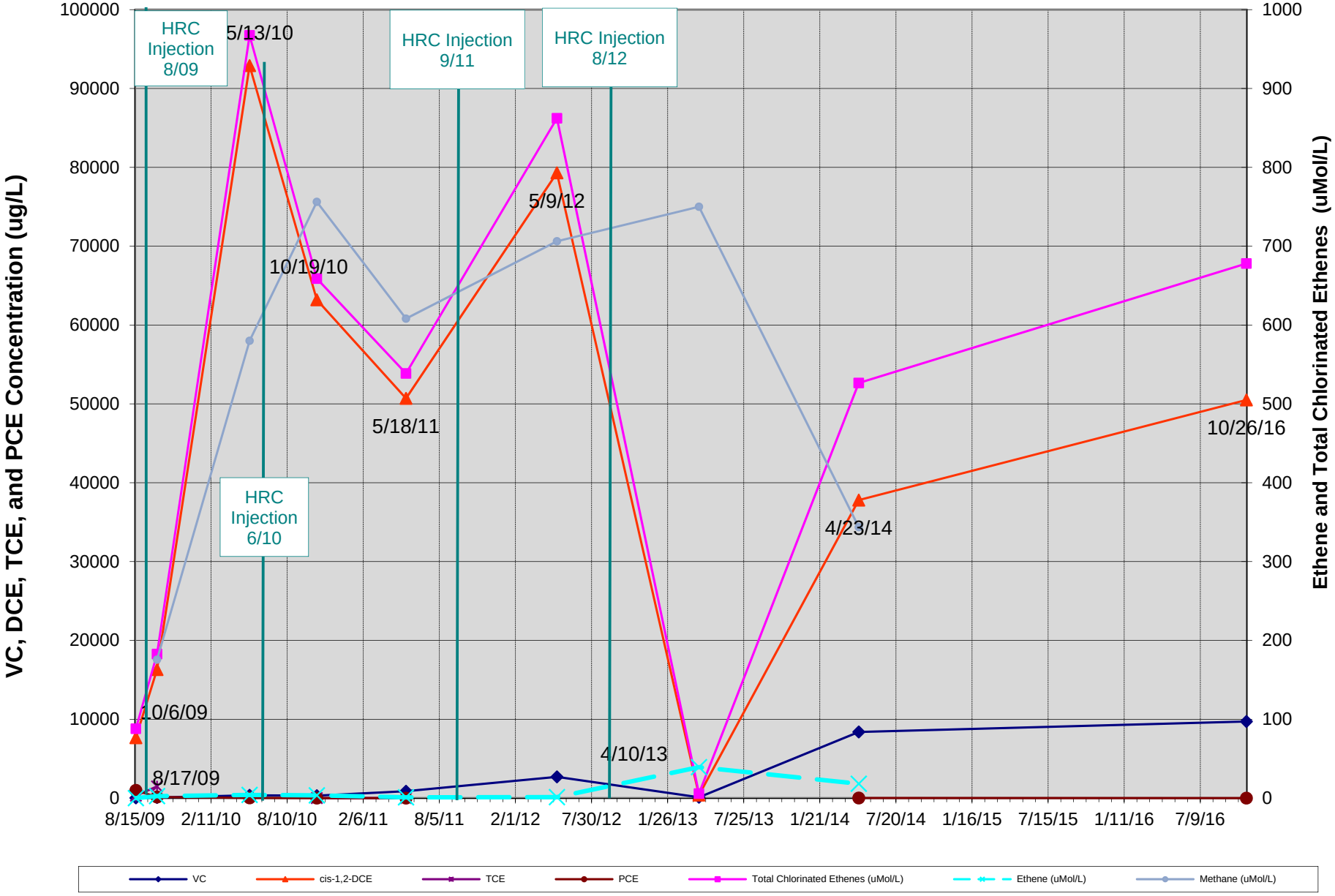


Chart G-11b: MW-48 Molar Percentages
Note: 10/16 samples not analyzed for ethene.
Molar Percent of Total Ethenes (Chlorinated Ethenes + Ethene)t
Molar Concentration of Total Chlorinated Ethenes (uMol/L)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1200
1000
800
600
400
200
0
HRC Injection 8/09
HRC Injection 6/10
HRC Injection 9/11
HRC Injection 8/12
10/6/2009
8/17/2009
5/12/2010
10/19/2010
5/18/2011
5/8/2012
4/10/2013
4/22/2014
10/26/2016
Total Chlorinated Ethenes
8/09
2/10
8/10
2/11
8/11
2/12
7/12
1/13
7/13
1/14
7/14
1/15
7/15
1/16
7/16
PCE + TCE
cis-DCE
VC + ethene

Chart G-12a: MW-49 VOCs



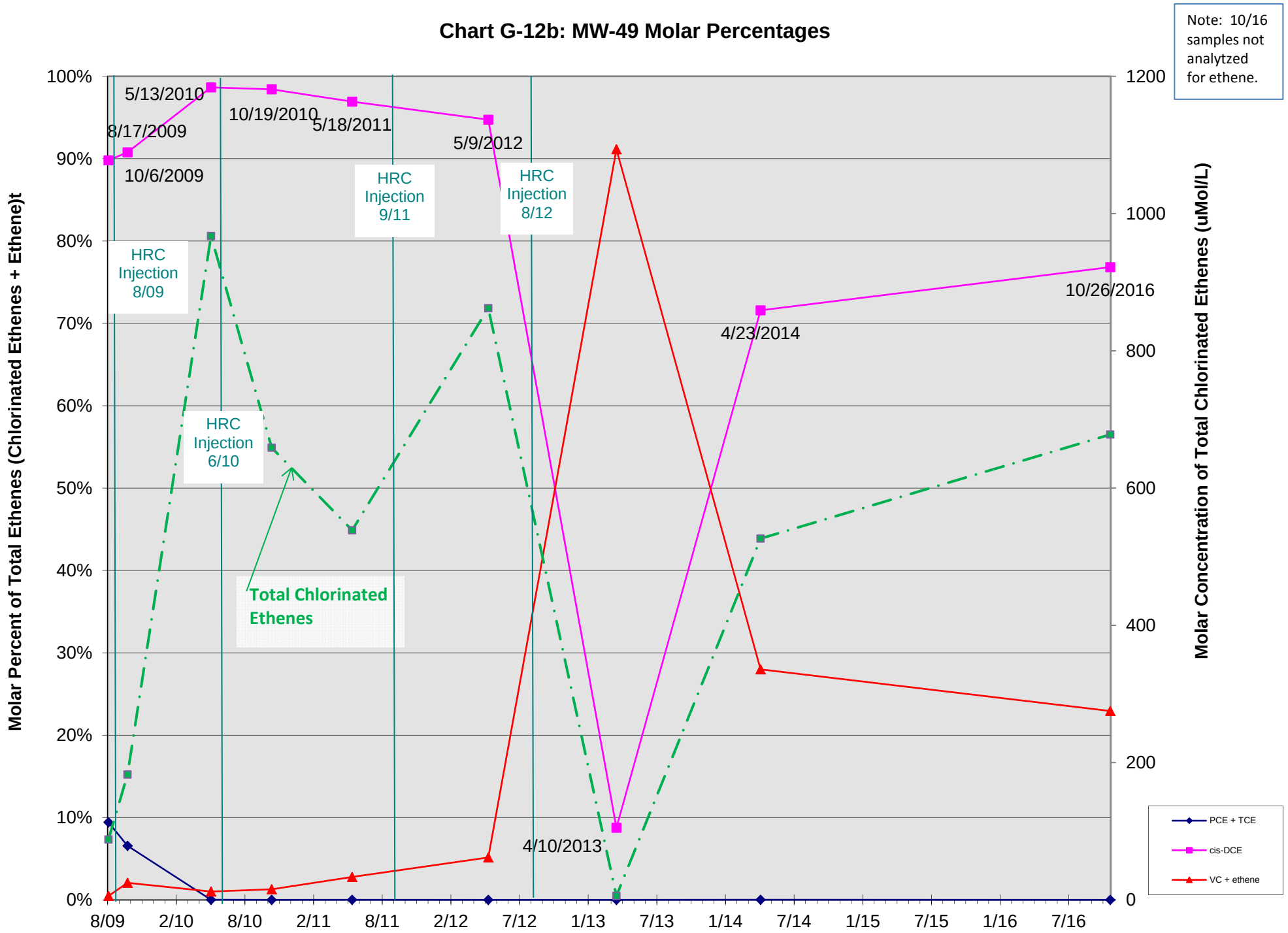
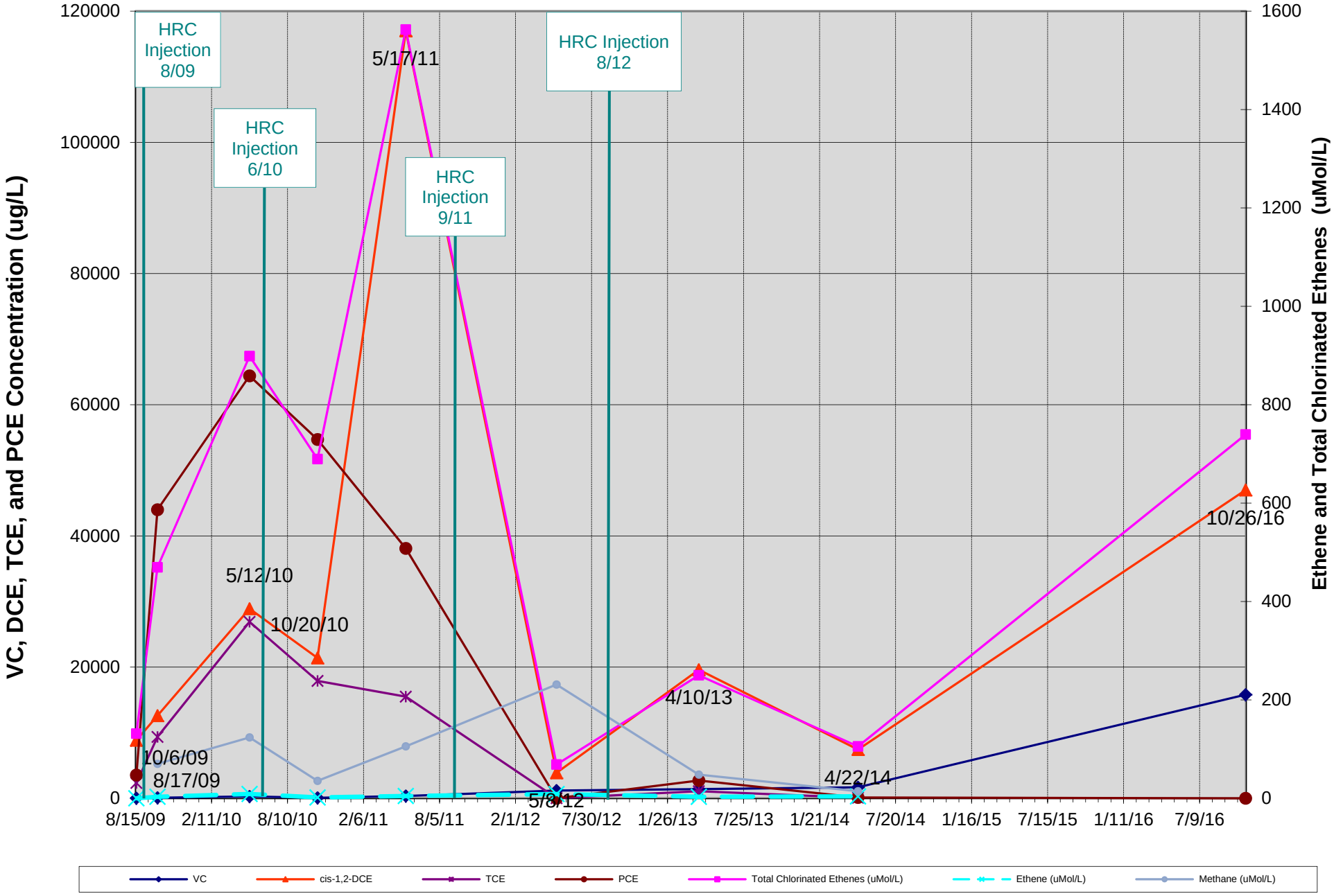


Chart G-12b: MW-49 Molar Percentages
Note: 10/16 samples not analytzed for ethene.
Molar Percent of Total Ethenes (Chlorinated Ethenes + Ethene)t
Molar Concentration of Total Chlorinated Ethenes (uMol/L)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1200
1000
800
600
400
200
0
8/09
2/10
8/10
2/11
8/11
2/12
7/12
1/13
7/13
1/14
7/14
1/15
7/15
1/16
7/16
5/13/2010
8/17/2009
10/6/2009
10/19/2010
5/18/2011
5/9/2012
HRC Injection 8/09
HRC Injection 6/10
HRC Injection 9/11
HRC Injection 8/12
Total Chlorinated Ethenes
4/10/2013
4/23/2014
10/26/2016
PCE + TCE
cis-DCE
VC + ethene

Chart G-13a: MW-50 VOCs



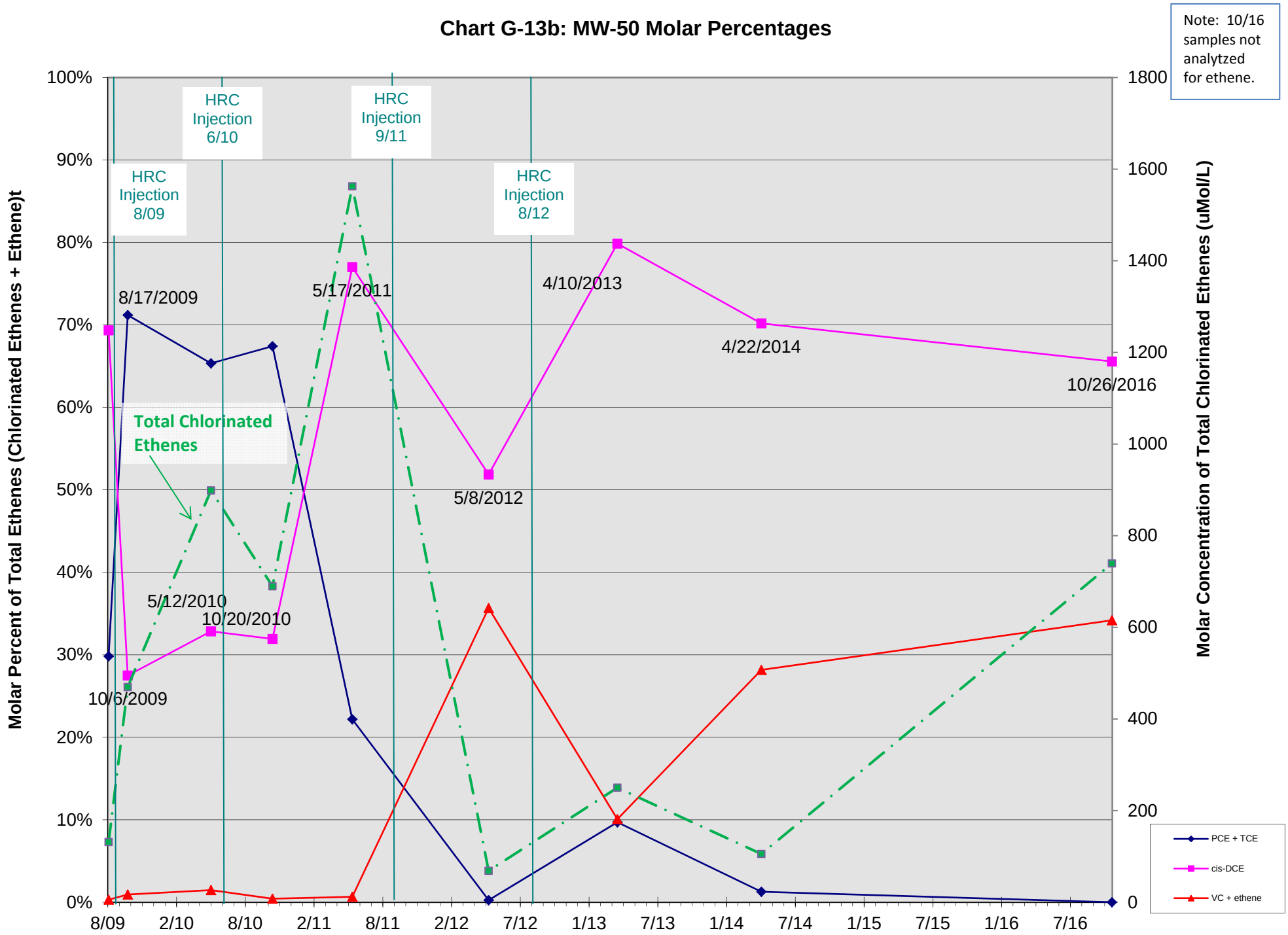
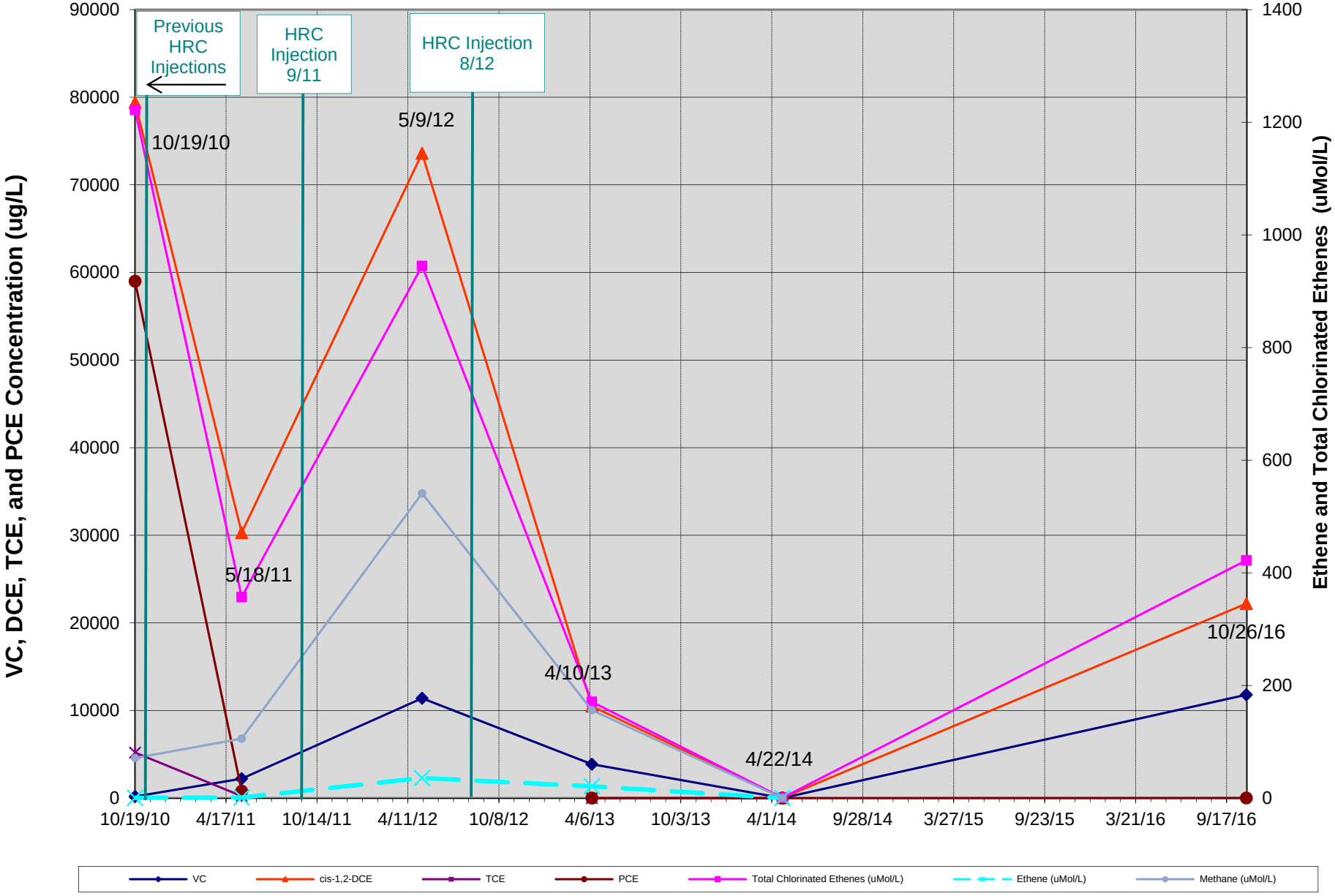


Chart G-13b: MW-50 Molar Percentages
Note: 10/16 samples not analytzed for ethene.
HRC Injection 8/09
HRC Injection 6/10
HRC Injection 9/11
HRC Injection 8/12
Total Chlorinated Ethenes
8/17/2009
10/6/2009
5/12/2010
10/20/2010
5/17/2011
5/8/2012
4/10/2013
4/22/2014
10/26/2016
Molar Percent of Total Ethenes (Chlorinated Ethenes + Ethene)t
Molar Concentration of Total Chlorinated Ethenes (uMol/L)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1800
1600
1400
1200
1000
800
600
400
200
0
8/09
2/10
8/10
2/11
8/11
2/12
7/12
1/13
7/13
1/14
7/14
1/15
7/15
1/16
7/16
PCE + TCE
cis-DCE
VC + ethene

Chart G-14a: MW-51 VOCs



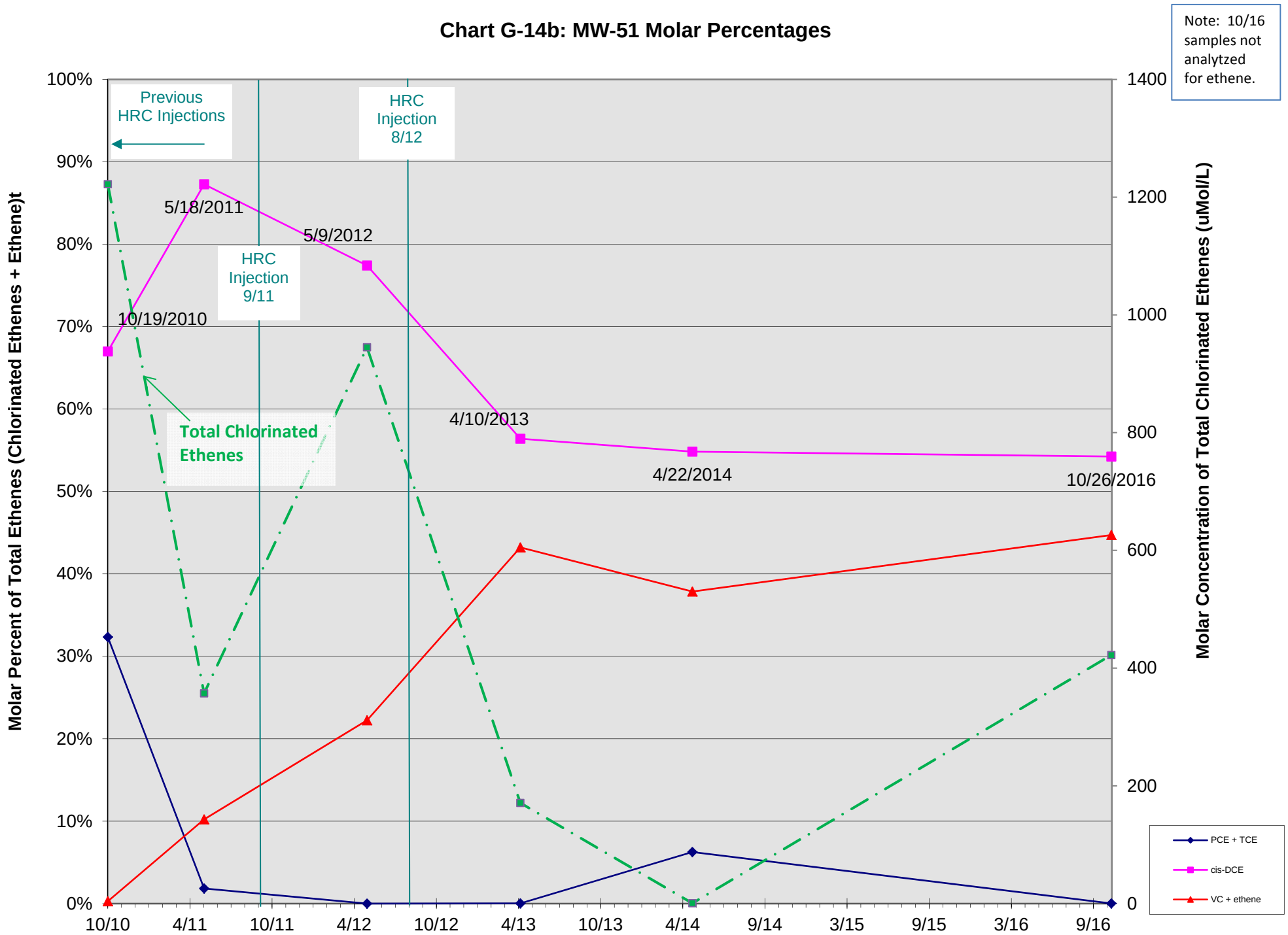
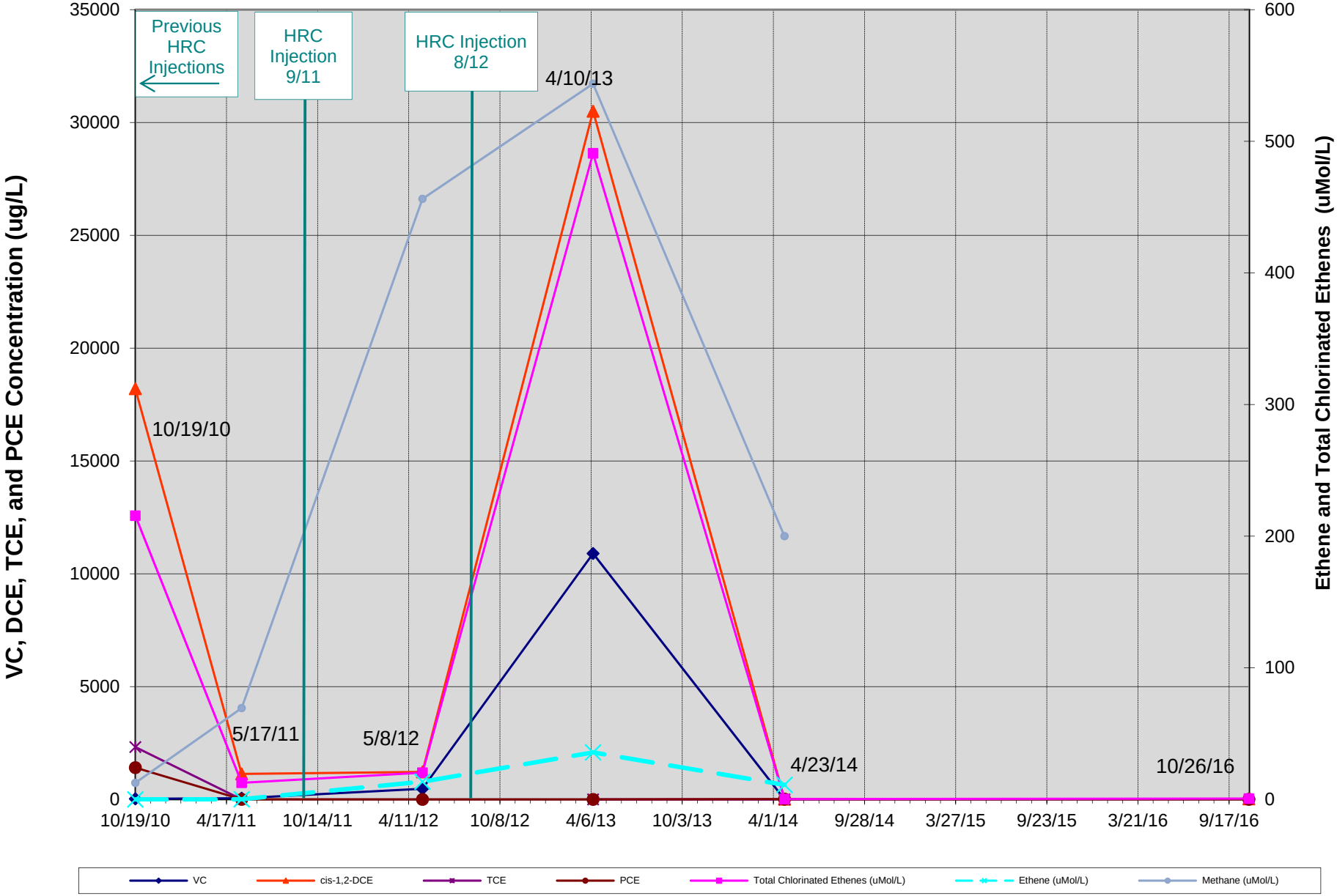


Chart G-14b: MW-51 Molar Percentages
Note: 10/16 samples not analyzed for ethene.
Previous HRC Injections
HRC Injection 8/12
HRC Injection 9/11
5/18/2011
5/9/2012
10/19/2010
4/10/2013
4/22/2014
10/26/2016
Total Chlorinated Ethenes
Molar Percent of Total Ethenes (Chlorinated Ethenes + Ethene)t
Molar Concentration of Total Chlorinated Ethenes (uMol/L)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1400
1200
1000
800
600
400
200
0
10/10
4/11
10/11
4/12
10/12
4/13
10/13
4/14
9/14
3/15
9/15
3/16
9/16
PCE + TCE
cis-DCE
VC + ethene

Chart G-15a: MW-52 VOCs



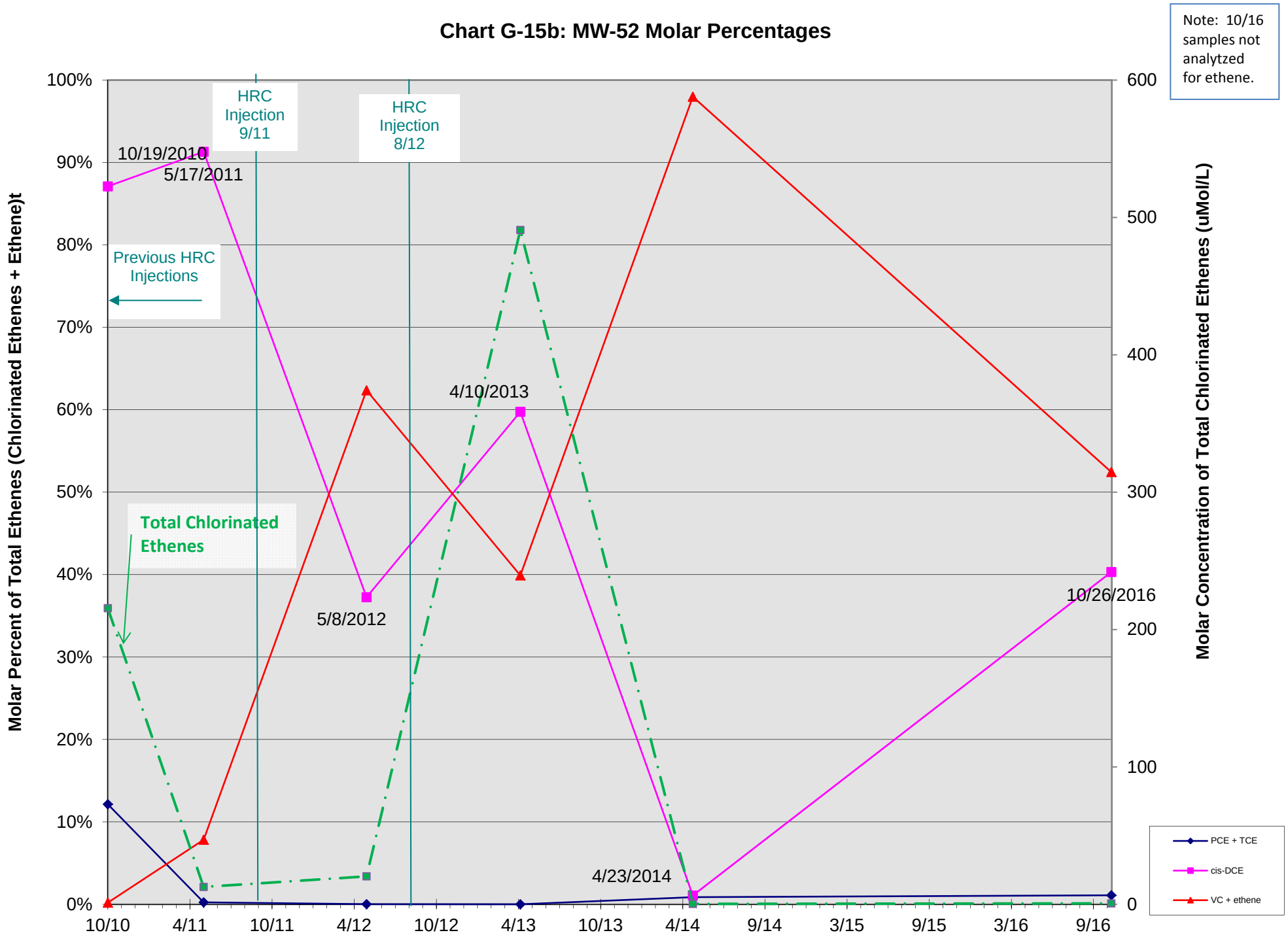


Chart G-15b: MW-52 Molar Percentages
Note: 10/16 samples not analytzed for ethene.
HRC Injection 9/11
HRC Injection 8/12
Previous HRC Injections
Total Chlorinated Ethenes
10/19/2010
5/17/2011
5/8/2012
4/10/2013
4/23/2014
10/26/2016
Molar Percent of Total Ethenes (Chlorinated Ethenes + Ethene)t
Molar Concentration of Total Chlorinated Ethenes (uMol/L)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
600
500
400
300
200
100
0
10/10
4/11
10/11
4/12
10/12
4/13
10/13
4/14
9/14
3/15
9/15
3/16
9/16
PCE + TCE
cis-DCE
VC + ethene

APPENDIX H

Mann-Kendall Statistical Trend Analysis

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

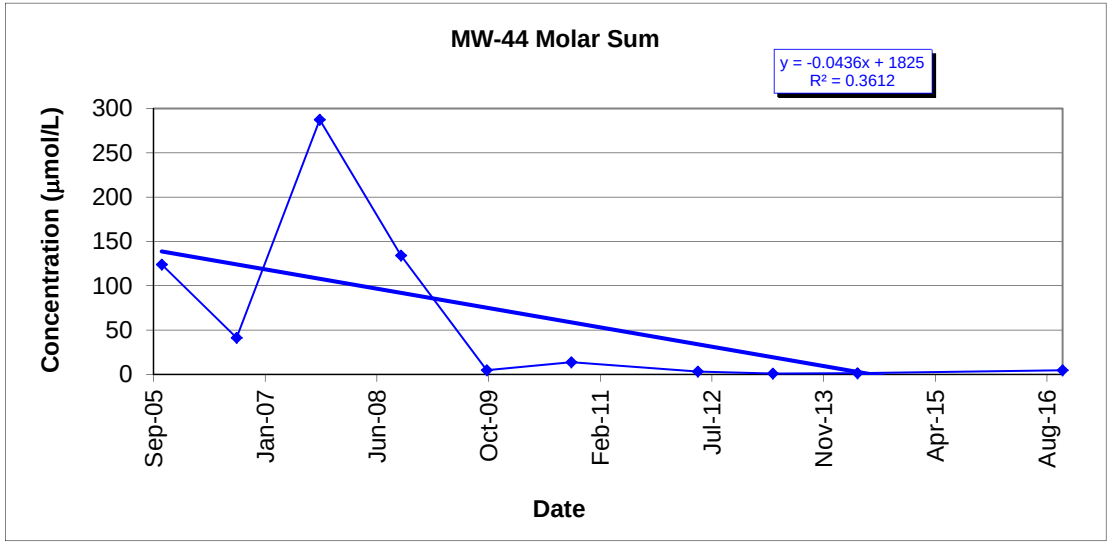
Monitoring Well No. MW-44
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

Monitoring date:	Oct-05	Sep-06	Sep-07	Sep-08	Oct-09	Oct-10	May-12	Apr-13	Apr-14	Oct-16	
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	
Molar Sum (µmol/L)	123.90	41.32	287.40	134.10	4.75	13.72	3.21	0.97	1.35	4.66	
Row 1: Compare to Event 1		-1	1	1	-1	-1	-1	-1	-1	-1	-5
Row 2: Compare to Event 2			1	1	-1	-1	-1	-1	-1	-1	-4
Row 3: Compare to Event 3				-1	-1	-1	-1	-1	-1	-1	-7
Row 4: Compare to Event 4					-1	-1	-1	-1	-1	-1	-6
Row 5: Compare to Event 5						1	-1	-1	-1	-1	-3
Row 6: Compare to Event 6							-1	-1	-1	-1	-4
Row 7: Compare to Event 7								-1	-1	1	-1
Row 8: Compare to Event 8									1	1	2
Row 9: Compare to Event 9										1	1

Mann-Kendall Statistic (S) = Total	**-27**
Confidence Level	**> 90%**
Coefficient of Variance (CV)	**1.53**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
Confidence Level Determination Based on Figure 3.6 (AFCEE, 2000)
Effects of Coefficient of Variance based on Table 3.2 (AFCEE, 2000)
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	No Trend?
Mann-Kendall	Decreasing

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-48
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

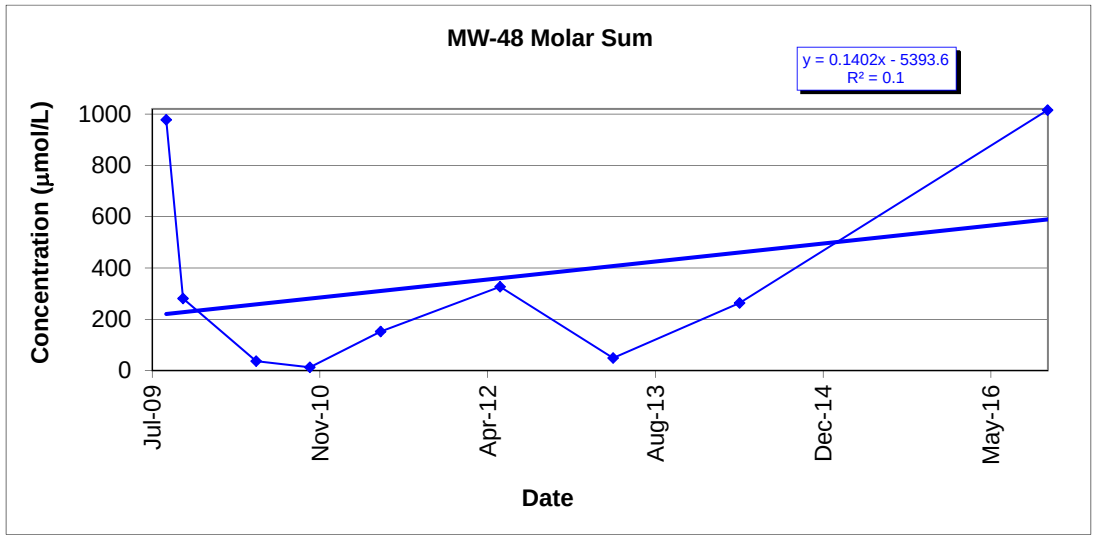
Monitoring date:	Aug-09	Oct-09	May-10	Oct-10	May-11	May-12	Apr-13	Apr-14	Oct-16	
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10
Molar Sum (µmol/L)	977.70	280.90	36.92	12.84	152.20	327.00	48.90	263.46	1015.34	

Row 1: Compare to Event 1	-1	-1	-1	-1	-1	-1	-1	1		-6
Row 2: Compare to Event 2		-1	-1	-1	1	-1	-1	1		-3
Row 3: Compare to Event 3			-1	1	1	1	1	1		4
Row 4: Compare to Event 4				1	1	1	1	1		5
Row 5: Compare to Event 5					1	-1	1	1		2
Row 6: Compare to Event 6						-1	-1	1		-1
Row 7: Compare to Event 7							1	1		2
Row 8: Compare to Event 8								1		1
Row 9: Compare to Event 9										0

Mann-Kendall Statistic (S) = Total	**4**
Confidence Level	**< 90%**
Coefficient of Variance (CV)	**1.19**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
Confidence Level Determination Based on Figure 3.6 (AFCEE, 2000)
Effects of Coefficient of Variance based on Table 3.2 (AFCEE, 2000)
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	No Trend
Mann-Kendall	No Trend

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No.	MW-49
Contaminant	PCE, TCE, cis-DCE, trans-DCE, VC

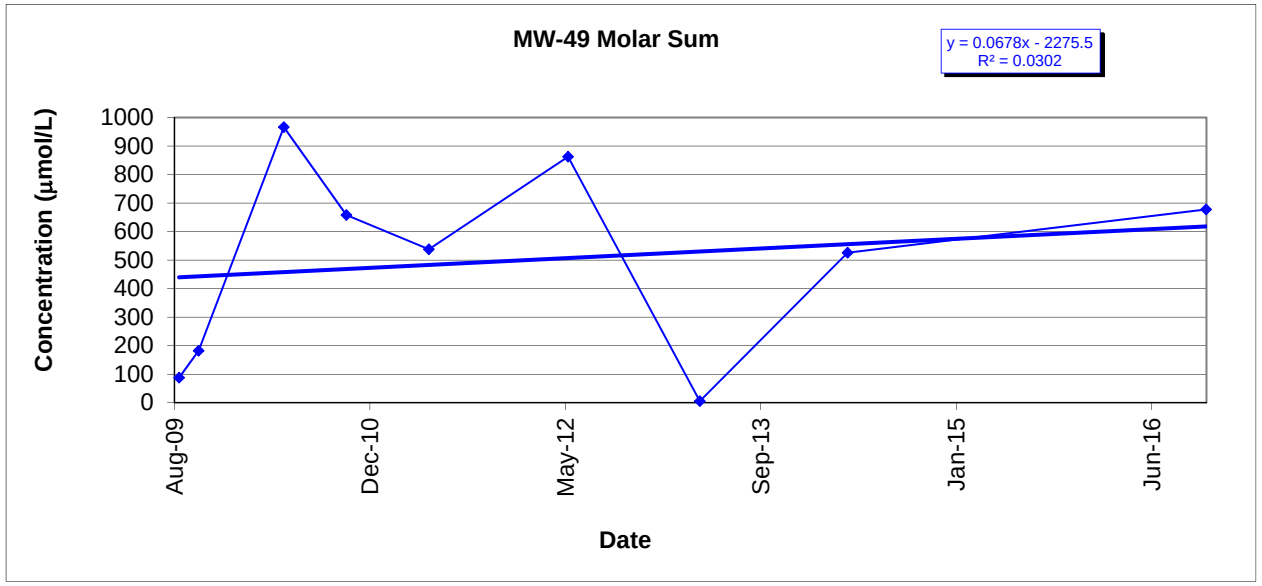
Monitoring date:	Aug-09	Oct-09	May-10	Oct-10	May-11	May-12	Apr-13	Apr-14	Oct-16	
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10
Molar Sum (µmol/L)	87.90	182.32	966.26	658.16	538.00	862.54	5.74	526.14	677.73	

Row 1: Compare to Event 1	1	1	1	1	1	1	-1	1	1	6
Row 2: Compare to Event 2		1	1	1	1	1	-1	1	1	5
Row 3: Compare to Event 3			-1	-1	-1	-1	-1	-1	-1	-6
Row 4: Compare to Event 4				-1	1	-1	-1	1		-1
Row 5: Compare to Event 5					1	-1	-1	1		0
Row 6: Compare to Event 6						-1	-1	-1		-3
Row 7: Compare to Event 7							1	1		2
Row 8: Compare to Event 8								1		1
Row 9: Compare to Event 9										0

Mann-Kendall Statistic (S) = Total	**4**
Confidence Level	**< 90%**
Coefficient of Variance (CV)	**0.74**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
Confidence Level Determination Based on Figure 3.6 (AFCEE, 2000)
Effects of Coefficient of Variance based on Table 3.2 (AFCEE, 2000)
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	No Trend
Mann-Kendall	No Trend

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-50
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

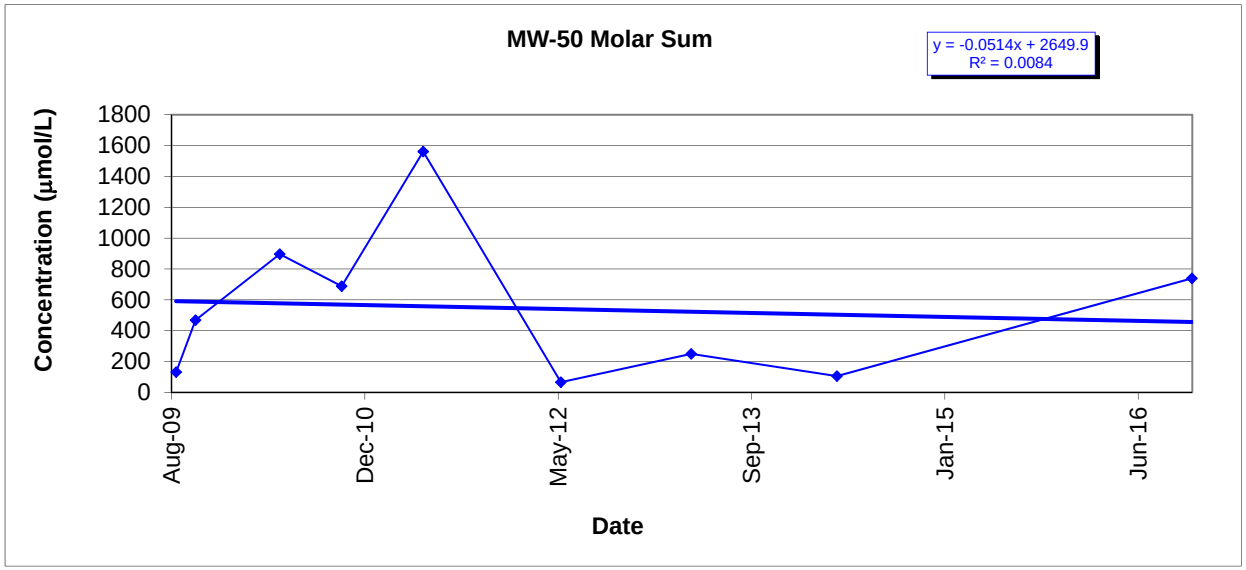
Monitoring date:	Aug-09	Oct-09	May-10	Oct-10	May-11	May-12	Apr-13	Apr-14	Oct-16	
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10
Molar Sum (µmol/L)	131.26	468.45	896.43	688.52	1561.30	65.95	249.65	105.31	739.06	

Row 1: Compare to Event 1	1	1	1	1	-1	1	-1	1		4
Row 2: Compare to Event 2		1	1	1	-1	-1	-1	1		1
Row 3: Compare to Event 3			-1	1	-1	-1	-1	-1		-4
Row 4: Compare to Event 4				1	-1	-1	-1	1		-1
Row 5: Compare to Event 5					-1	-1	-1	-1		-4
Row 6: Compare to Event 6						1	1	1		3
Row 7: Compare to Event 7							-1	1		0
Row 8: Compare to Event 8								1		1
Row 9: Compare to Event 9										0

Mann-Kendall Statistic (S) = Total	**0**
Confidence Level	**< 90%**
Coefficient of Variance (CV)	**0.99**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
Confidence Level Determination Based on Figure 3.6 (AFCEE, 2000)
Effects of Coefficient of Variance based on Table 3.2 (AFCEE, 2000)
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	No Trend
Mann-Kendall	No Trend

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-51

Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

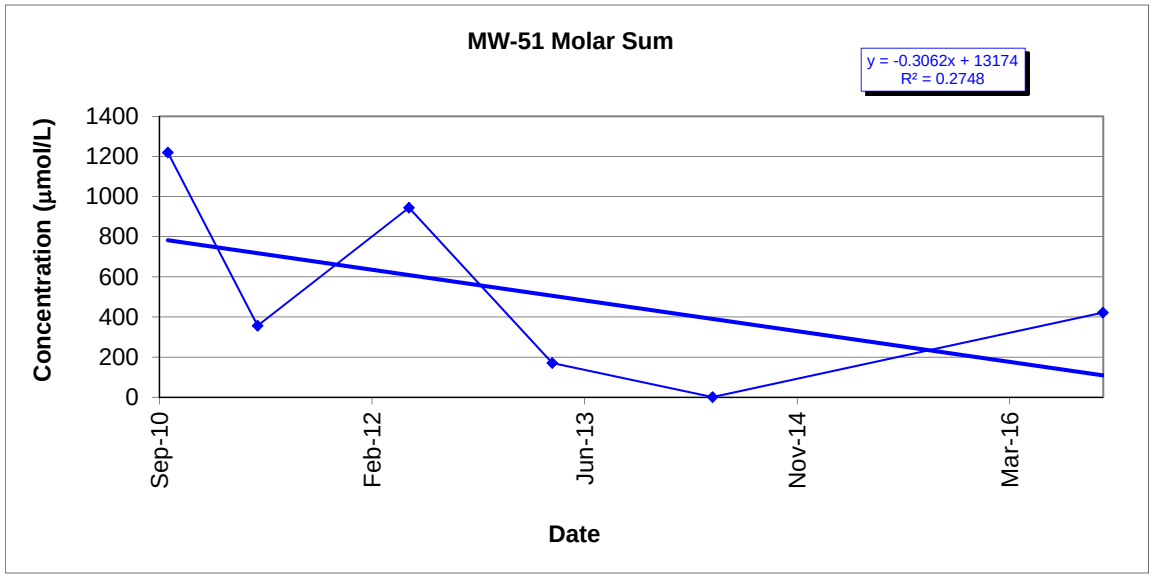
Monitoring date:	Oct-10	May-11	May-12	Apr-13	Apr-14	Oct-16				
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10
Molar Sum (µmol/L)	1219.90	356.49	944.62	170.78	0.60	421.94				

Row 1: Compare to Event 1		-1	-1	-1	-1	-1					-5
Row 2: Compare to Event 2			1	-1	-1	1					0
Row 3: Compare to Event 3				-1	-1	-1					-3
Row 4: Compare to Event 4					-1	1					0
Row 5: Compare to Event 5						1					1
Row 6: Compare to Event 6											0
Row 7: Compare to Event 7											0
Row 8: Compare to Event 8											0
Row 9: Compare to Event 9											0

Mann-Kendall Statistic (S) = Total	**-7**
Confidence Level	**< 90%**
Coefficient of Variance (CV)	**0.97**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
Confidence Level Determination Based on Figure 3.6 (AFCEE, 2000)
Effects of Coefficient of Variance based on Table 3.2 (AFCEE, 2000)
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	No Trend
Mann-Kendall	No Trend

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-52
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

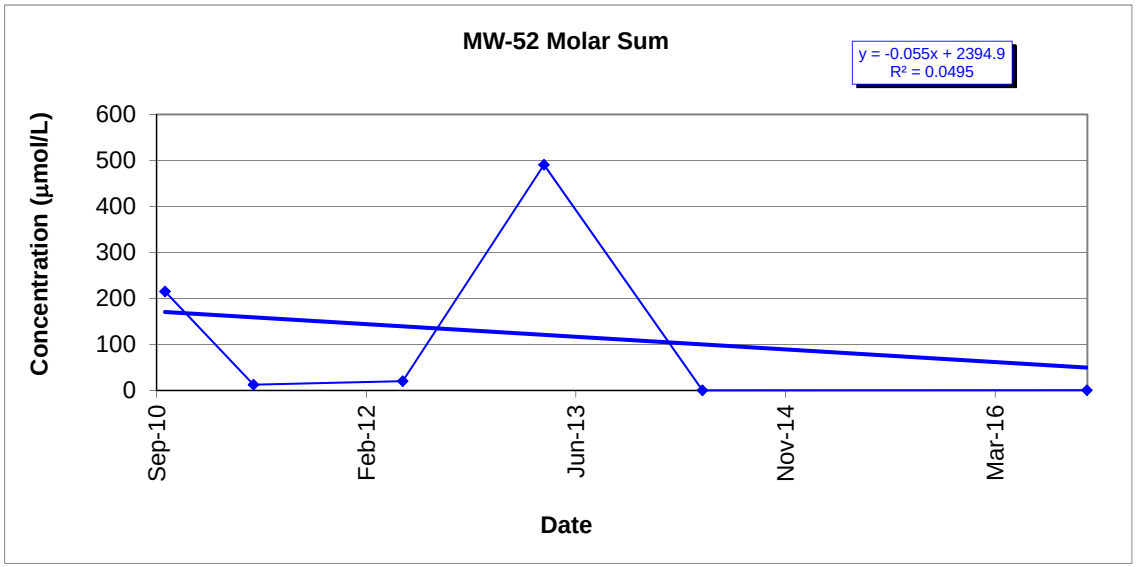
Monitoring date:	Oct-10	May-11	May-12	Apr-13	Apr-14	Oct-16				
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10
Molar Sum (µmol/L)	215.15	12.59	20.28	490.57	0.27	0.64				

Row 1: Compare to Event 1		-1	-1	1	-1	-1					-3
Row 2: Compare to Event 2			1	1	-1	-1					0
Row 3: Compare to Event 3				1	-1	-1					-1
Row 4: Compare to Event 4					-1	-1					-2
Row 5: Compare to Event 5						1					1
Row 6: Compare to Event 6											0
Row 7: Compare to Event 7											0
Row 8: Compare to Event 8											0
Row 9: Compare to Event 9											0

Mann-Kendall Statistic (S) = Total	**-5**
Confidence Level	**< 90%**
Coefficient of Variance (CV)	**1.43**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
Confidence Level Determination Based on Figure 3.6 (AFCEE, 2000)
Effects of Coefficient of Variance based on Table 3.2 (AFCEE, 2000)
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	No Trend
Mann-Kendall	No Trend

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-39
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

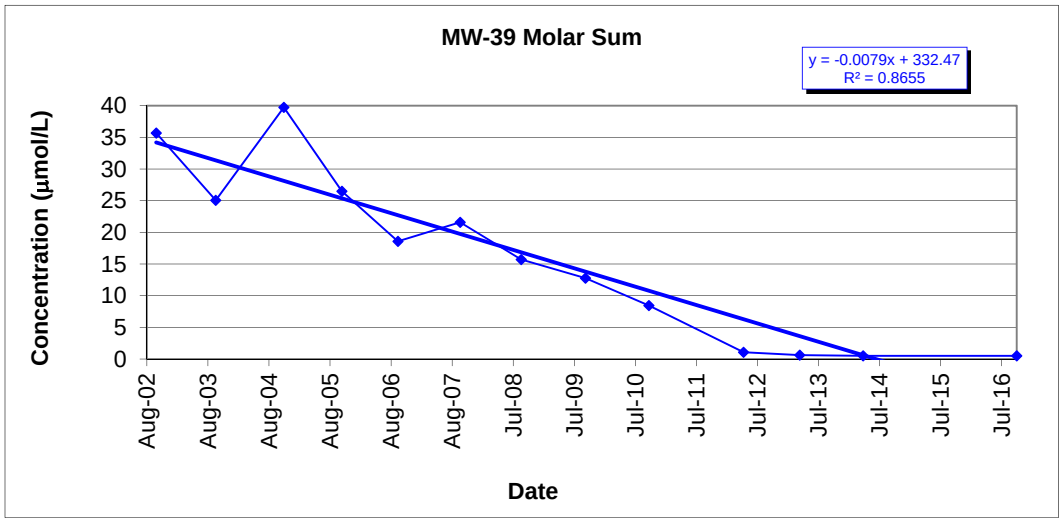
Monitoring date:	Sep-02	Sep-03	Oct-04	Oct-05	Sep-06	Sep-07	Sep-08	Oct-09	Oct-10	May-12	Apr-13	Apr-14	Oct-16
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13
Molar Sum (µmol/L)	35.68	25.05	39.74	26.48	18.57	21.58	15.71	12.76	8.45	1.07	0.62	0.50	0.50

Row 1: Compare to Event 1		-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-10
Row 2: Compare to Event 2			1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7
Row 3: Compare to Event 3				-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-10
Row 4: Compare to Event 4					-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Row 5: Compare to Event 5						1	-1	-1	-1	-1	-1	-1	-1	-6
Row 6: Compare to Event 6							-1	-1	-1	-1	-1	-1	-1	-7
Row 7: Compare to Event 7								-1	-1	-1	-1	-1	-1	-6
Row 8: Compare to Event 8									-1	-1	-1	-1	-1	-5
Row 9: Compare to Event 9										-1	-1	-1	-1	-4
Row 10: Compare to Event 10											-1	-1	-1	-3
Row 11: Compare to Event 11												-1	-1	-2
Row 12: Compare to Event 12													0	0

Mann-Kendall Statistic (S) = Total	**-69**
Confidence Level	**> 90%**
Coefficient of Variance (CV)	**0.85**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
Confidence Level Determination Based on Figure 3.6 (AFCEE, 2000)
Effects of Coefficient of Variance based on Table 3.2 (AFCEE, 2000)
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	Decreasing
Mann-Kendall	Decreasing

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-9
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

Monitoring date:	Sep-02	Sep-03	Oct-04	Oct-05	Sep-06	Sep-07	Sep-08	Oct-09	Oct-10	May-12	Apr-13	Apr-14	Oct-16	
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	
Molar Sum (µmol/L)	25.69	38.16	27.88	8.01	7.90	7.19	6.58	2.77	4.38	0.63	0.32	0.22	0.96	
Row 1: Compare to Event 1		1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-8
Row 2: Compare to Event 2			-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-11
Row 3: Compare to Event 3				-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-10
Row 4: Compare to Event 4					-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Row 5: Compare to Event 5						-1	-1	-1	-1	-1	-1	-1	-1	-8
Row 6: Compare to Event 6							-1	-1	-1	-1	-1	-1	-1	-7
Row 7: Compare to Event 7								-1	-1	-1	-1	-1	-1	-6
Row 8: Compare to Event 8									1	-1	-1	-1	-1	-3
Row 9: Compare to Event 9										-1	-1	-1	-1	-4
Row 10: Compare to Event 10											-1	-1	1	-1
Row 11: Compare to Event 11												-1	1	0
Row 12: Compare to Event 12													1	1

Mann-Kendall Statistic (S) = Total	**-66**
Confidence Level	**> 90%**
Coefficient of Variance (CV)	**1.23**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
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The closer to zero the CV is, the less variation in concentrations between sampling events.
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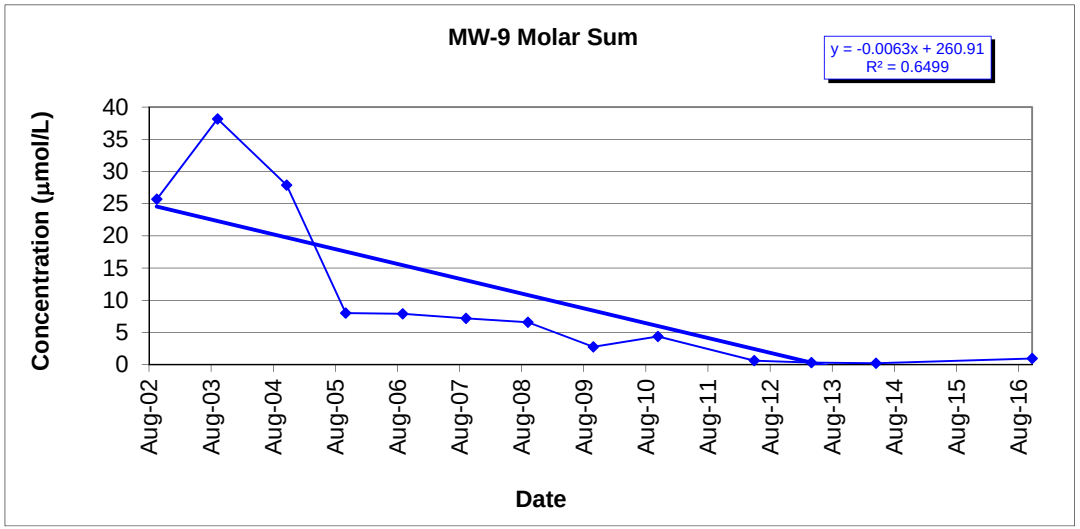
Effects of Coefficient of Variance based on Table 3.2 (AFCEE, 2000)
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	Possibly Decreasing
Mann-Kendall	Decreasing

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-6A
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

Monitoring date:	Sep-02	Sep-03	Oct-04	Oct-05	Sep-06	Sep-07	Sep-08	Oct-09	Oct-10	May-12	Apr-13	Apr-14	Oct-16
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13
Molar Sum (µmol/L)	22.99	23.67	20.41	1.07	0.63	0.39	0.27	0.21	0.38	0.61	0.30	0.19	0.25

Row 1: Compare to Event 1		1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-10
Row 2: Compare to Event 2			-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-11
Row 3: Compare to Event 3				-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-10
Row 4: Compare to Event 4					-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Row 5: Compare to Event 5						-1	-1	-1	-1	-1	-1	-1	-1	-8
Row 6: Compare to Event 6							-1	-1	-1	1	-1	-1	-1	-5
Row 7: Compare to Event 7								-1	1	1	1	-1	-1	0
Row 8: Compare to Event 8									1	1	1	-1	1	3
Row 9: Compare to Event 9										1	-1	-1	-1	-2
Row 10: Compare to Event 10											-1	-1	-1	-3
Row 11: Compare to Event 11												-1	-1	-2
Row 12: Compare to Event 12													1	1

Mann-Kendall Statistic (S) = Total	**-56**
Confidence Level	**> 90%**
Coefficient of Variance (CV)	**1.76**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
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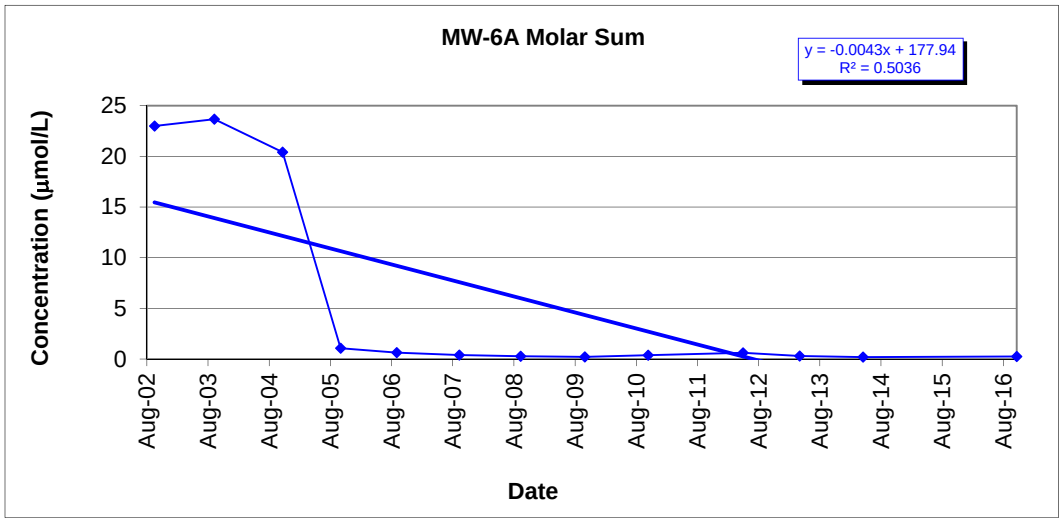
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	Possibly Decreasing
Mann-Kendall	Decreasing

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-16
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

Monitoring date:	Oct-01	Sep-02	Sep-03	Oct-04	Oct-05	Sep-06	Sep-07	Sep-08	Oct-09	Oct-10	May-12	Apr-13	Apr-14	Oct-16	
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14	
Molar Sum (µmol/L)	5.04	12.58	3.73	11.37	5.34	3.39	2.15	1.06	0.44	0.53	0.45	4.06	0.49	0.19	
Row 1: Compare to Event 1		1	-1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7
Row 2: Compare to Event 2			-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-12
Row 3: Compare to Event 3				1	1	-1	-1	-1	-1	-1	-1	1	-1	-1	-5
Row 4: Compare to Event 4					-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-10
Row 5: Compare to Event 5						-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Row 6: Compare to Event 6							-1	-1	-1	-1	-1	1	-1	-1	-6
Row 7: Compare to Event 7								-1	-1	-1	-1	1	-1	-1	-5
Row 8: Compare to Event 8									-1	-1	-1	1	-1	-1	-4
Row 9: Compare to Event 9										1	1	1	1	-1	3
Row 10: Compare to Event 10											-1	1	-1	-1	-2
Row 11: Compare to Event 11												1	1	-1	1
Row 12: Compare to Event 12													-1	-1	-2
Row 13: Compare to Event 13														-1	-1

Mann-Kendall Statistic (S) = Total	**-59**
Confidence Level	**> 90%**
Coefficient of Variance (CV)	**1.10**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

A negative S value with confidence > 90% indicates a decreasing concentration trend.
A positive S value with confidence > 90% indicates an increasing concentration trend.
Any S value with confidence < 90% indicates that there is likely no concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
A CV < 1 indicates concentrations are stable regardless of trend.
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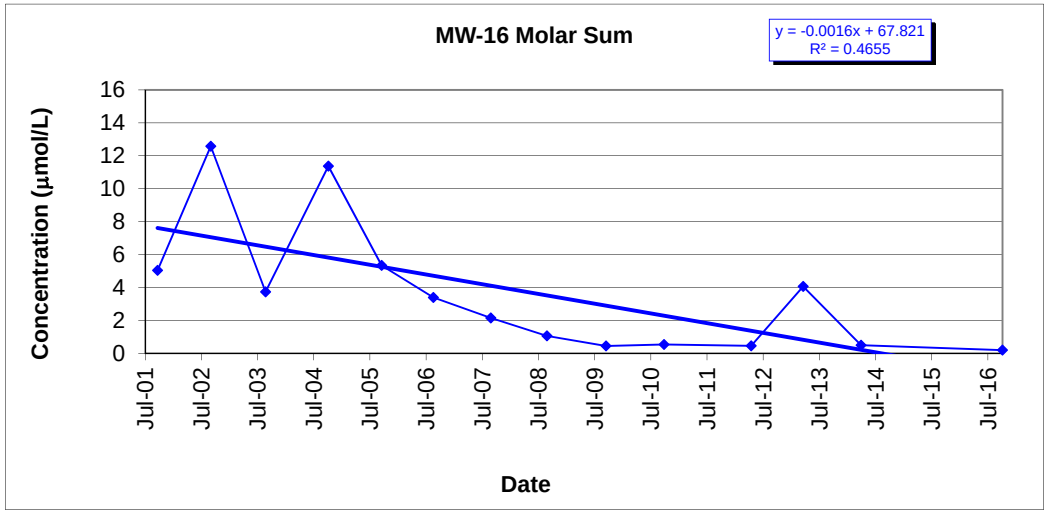
Linear Regressions trend analysis result based on R-squared value: R^2 <0.5 = no trend, 0.5 < R^2 < 0.8 = possible trend, R^2 > 0.8 trend



Trend Analysis	
Statistical Method	**Result**
Linear Regression	No Trend
Mann-Kendall	Decreasing

River Terrace RV Park
Mann-Kendall Test for Trend Analysis

Monitoring Well No. MW-25
Contaminant PCE, TCE, cis-DCE, trans-DCE, VC

Monitoring date:	Oct-01	Sep-02	Sep-03	Oct-04	Oct-05	Sep-06	Sep-07	Sep-08	Oct-09	Oct-10	May-12	Apr-13	Apr-14	Oct-16	
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14	
Molar Sum (µmol/L)	8.51	10.21	8.05	10.64	10.75	5.27	1.78	1.81	0.86	1.16	0.69	0.50	0.64	1.65	
Row 1: Compare to Event 1		1	-1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7
Row 2: Compare to Event 2			-1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-8
Row 3: Compare to Event 3				1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7
Row 4: Compare to Event 4					1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-8
Row 5: Compare to Event 5						-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Row 6: Compare to Event 6							-1	-1	-1	-1	-1	-1	-1	-1	-8
Row 7: Compare to Event 7								1	-1	-1	-1	-1	-1	-1	-5
Row 8: Compare to Event 8									-1	-1	-1	-1	-1	-1	-6
Row 9: Compare to Event 9										1	-1	-1	-1	1	-1
Row 10: Compare to Event 10											-1	-1	-1	1	-2
Row 11: Compare to Event 11												-1	-1	1	-1
Row 12: Compare to Event 12													1	1	2
Row 13: Compare to Event 13														1	1

Mann-Kendall Statistic (S) = Total	**-59**
Confidence Level	**> 90%**
Coefficient of Variance (CV)	**0.94**

Note: A minimum of four (4) independent sampling events are required for this test to be valid.

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A positive S value with confidence > 90% indicates an increasing concentration trend.
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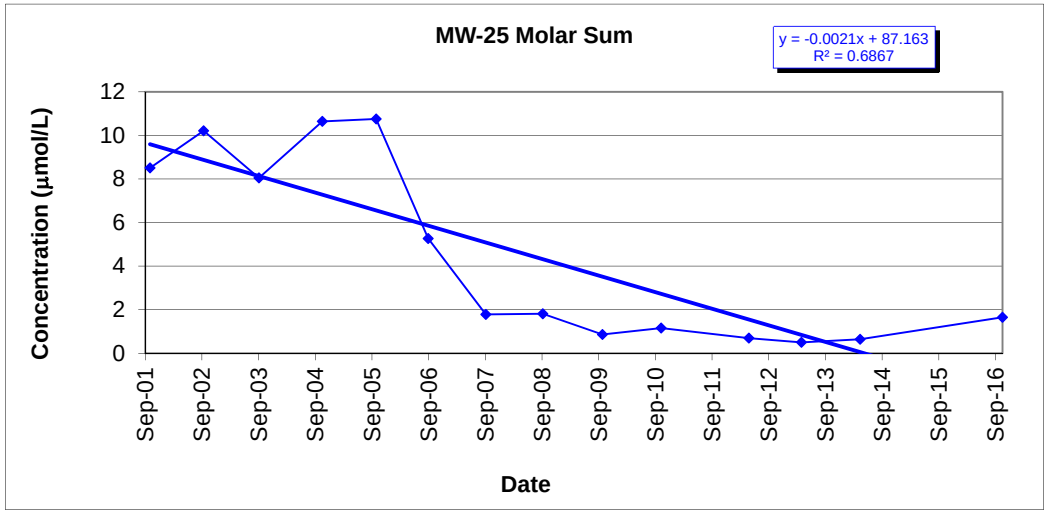

Trend Analysis	
Statistical Method	**Result**
Linear Regression	Possibly Decreasing
Mann-Kendall	Decreasing