Kinder Morgan Liquids Terminals, LLC

2021 Annual Groundwater Monitoring Report

Harbor Island Terminal
Seattle, Washington

March 18, 2022

2021 Annual Groundwater Monitoring Report

Harbor Island Terminal
Seattle, Washington

March 18, 2022

Prepared By:
Arcadis U.S., Inc.
1100 Olive Way, Suite 800
Seattle
Washington 98101
Phone: 206 325 5254
Fax: 206 325 8218

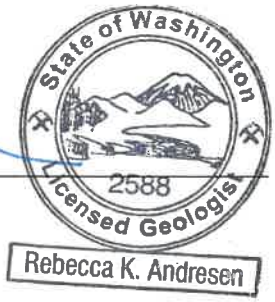
Prepared For:
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle
Washington 98134

Our Ref:
30111526

Lauren Selleck
Staff Engineer

Matt Annis
Project Manager

Rebecca Andresen, L.G.
Senior Vice President



Contents

Tables

Figures

Graphs

Appendices

1 Introduction

Arcadis U.S., Inc. (Arcadis) has prepared this report on behalf of Kinder Morgan Liquids Terminals, LLC, a wholly owned indirect subsidiary of Kinder Morgan, Inc., to present the results of the first and second semiannual 2021 groundwater monitoring events at the Harbor Island Terminal (the site). The site is located at 2720 13th Avenue Southwest in Seattle, Washington. A site location map is presented on **Figure 1**.

Groundwater monitoring events were completed between April 12 and April 14, 2021 and October 11 and October 14, 2021, in accordance with the Compliance Monitoring Plan (KHM 1999) and associated addenda, included as **Appendix A**. Remedial performance monitoring was performed periodically in 2021.

1.1 Site Description

The site is a 14-acre bulk petroleum storage facility located east of 13th Avenue Southwest on Harbor Island in Seattle, King County, Washington. The site has operated as a bulk petroleum storage terminal since 1944 and is surrounded by industrial facilities including shipyards, bulk petroleum storage facilities, and the Port of Seattle. The topography is relatively flat with an elevation of approximately 9 to 16 feet above the North American Vertical Datum of 1988 (NAVD 88). A site plan is presented on **Figure 2**.

The site consists of five distinct operational yards (A, B, C, D, and E). Features include aboveground storage tanks (ASTs) containing refined petroleum products in the B and C Yards. The A Yard, located in the southern portion of the site, consists of the terminal office, a truck loading rack, and other support structures. The B Yard, located north of the A Yard and south of the D Yard, contains 15 ASTs and associated piping and is surrounded by a 15-foot-high concrete wall. The D Yard, located north of the B Yard, is composed of a driveway and a maintenance building and is the primary corridor for site utilities. The C Yard, located north of the D Yard and south of the E Yard, contains six ASTs and associated piping and is surrounded by a 15-foot-high concrete wall. The E Yard, located at the north end of the site, is leased to other parties and consists of an office building and vehicle storage facilities.

1.2 Regulatory Background

The Washington Department of Ecology (Ecology) established site-specific cleanup levels (SSCLs) for groundwater as part of Consent Decree 00-2-07760-2SEA (CD [Ecology 2000]). The groundwater SSCLs were established on the basis that site groundwater is, and is anticipated to remain, non-potable. As such, the SSCLs were derived to meet surface water standards that are protective of aquatic organisms in the Duwamish River and Elliott Bay. The Cleanup Action Plan (Exhibit B of the CD [Ecology 1999]) outlines site-specific constituents of concern (COCs) and applicable cleanup levels. The SSCLs for each COC are as follow:

Constituent	Cleanup Level
Benzene	0.071 mg/L
Ethylbenzene	29.0 mg/L
Lead	0.0058 mg/L
Toluene	200 mg/L
GRO	1.0 mg/L
DRO	10 mg/L
HO	10 mg/L
Product	No sheen

DRO = diesel-range organic
GRO = gas-range organic
HO = heavy oil
mg/L = milligrams per liter

The Compliance Monitoring Plan (Exhibit F of the CD [KHM 1999]) provides groundwater monitoring objectives for site compliance. Groundwater monitoring compliance requirements have been amended in the Site-Wide Groundwater Compliance Monitoring Plan - Proposed Reduced Monitoring (Delta 2007), Technical Revision Request – Low Flow Groundwater Sampling (Delta 2008), Revised Site Groundwater Monitoring Plan (Arcadis 2014), and the Groundwater Analytical Reduction Request (Arcadis 2016). Groundwater monitoring compliance documents and approvals are included in **Appendix A.** The compliance status, most recent detections of COCs at concentrations above SSCLs, and most recent separate-phase hydrocarbons (SPH) observations in monitoring wells at the site are presented in **Table 1**.

1.3 Remedial Sulfate Application

In July 2013, gypsum and Epsom salt were applied to the ground surface in the B and D Yards to enhance anaerobic biological oxidation (ABOx) of residual petroleum hydrocarbons in the soil and groundwater using sulfate as a terminal electron acceptor, as summarized in the B and D Yards Groundwater Remediation – Engineering Design Report (Arcadis 2012). Approximately 264,000 pounds of gypsum and 42,000 pounds of Epsom salt were applied across 30,000 square feet (SF) of permeable soil to supply sulfate to the vadose-zone soils and groundwater.

Supplemental applications of Epsom salt in targeted areas of the B, C, and D Yards were conducted in accordance with the B and D Yards Groundwater Remediation – Engineering Design Report (Arcadis 2012) in September 2015, October 2016, April 2018, November 2018, December 2019, and July 2021. The scope and timing of supplemental sulfate applications is informed by performance monitoring, which includes analytical results from semiannual groundwater monitoring and periodic measurements of groundwater conductivity using a water quality meter. To maintain the target sulfate concentration of 900 mg/L in groundwater, the following supplemental applications have been completed:

- September 2015 – 16,000 pounds of Epsom salt were distributed over approximately 19,650 SF in the B, C and D Yards.
- October 2016 – 15,000 pounds of Epsom salt were distributed over approximately 17,500 SF in the B, C and D Yards.
- April 2018 – 10,000 pounds of Epsom salt were applied in the B, C and D Yards.
- November 2018 – 5,000 pounds of Epsom salt were applied in the C and D Yard application area near MW-19.
- December 2019 – approximately 14,400 pounds of Epsom salt were applied in the B, C, and D Yards.
- July 2021 – 10,000 pounds of Epsom salt were applied in the B, C, and D Yards.

The remedial sulfate application extents are presented on **Figure 3**.

2 Scope of Work

The 2021 semiannual groundwater monitoring events were performed in accordance with the groundwater monitoring compliance requirements presented in Section 1.2 and included as **Appendix A**. The scope of work for the 2021 semiannual monitoring events included:

- Measuring depth to water and SPH (where present) in 51 monitoring wells in April 2021 and 50 monitoring wells in October 2021. MW-16 was not accessible in October 2021.
- Purging monitoring wells using low-flow sampling methods; collecting field parameters including dissolved oxygen (DO), oxygen-reduction potential (ORP), pH, temperature, turbidity, and specific conductivity; and collecting groundwater samples from:
  - 19 monitoring wells in the first semiannual groundwater monitoring event;
  - 39 monitoring wells in the second semiannual groundwater monitoring event.
- Submitting groundwater samples to Pace National Center for Testing and Innovation (Pace) of Mount Juliet, Tennessee, for laboratory analysis.

Monitoring wells were purged using low-flow methodology with a peristaltic pump, and groundwater quality field parameters were measured using an Aqua TROLL 600 multiparameter sonde and an optical turbidimeter. Monitoring wells were sampled after depth to water, pH, specific conductivity, DO, ORP, turbidity, and temperature had stabilized in accordance with the Technical Revision Request – Low-Flow Groundwater Sampling (Delta 2008). Groundwater elevation data are presented in **Table 2,** and groundwater monitoring field data sheets are included in **Appendix B**.

Groundwater samples were collected in laboratory-provided bottles, placed in coolers with ice, and submitted to Pace under standard chain-of-custody protocol. Groundwater samples were analyzed for some or all of the following constituents in accordance with the Groundwater Analytical Reduction Request (Arcadis 2016) included in **Appendix A**:

- GRO by Northwest Method NWTPH-Gx;
- DRO and HO by Northwest Method NWTPH-Dx (with silica gel cleanup);

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX, collectively) by United States Environmental Protection Agency (USEPA) Method 8260D;
- Dissolved lead by USEPA Method 6020B;
- Total lead by USEPA Method 6020B;
- Sulfate by USEPA Method 9056A.

During the second semiannual groundwater monitoring event, groundwater samples collected from five monitoring wells located in the 13th Avenue Southwest area were also analyzed for the following geochemical parameters:

- Methane by USEPA Method RSK-175;
- Ferrous iron by Standard Method 3500Fe B-2011;
- Nitrate by USEPA Method 9056A;
- Sulfide by Standard Method 4500S2 D-2011.

Blind duplicate samples were collected from MW-7 and MW-21 in both groundwater monitoring events for quality assurance purposes. Laboratory analytical reports and chain-of-custody documentation are included as **Appendix C**.

2.1 Remedial Performance Monitoring and Irrigation

Performance monitoring of the remedial application in the B, C, and D Yards has been performed periodically since the initial remedial sulfate application was completed in July 2013. Specific conductivity was measured at nine monitoring wells within the sulfate application area (12, MW-7, MW-19, and TMW-1 through TMW-6) using a multi-parameter water quality meter. Field measurements of specific conductivity have been correlated to groundwater sulfate concentrations to monitor remedial performance between semiannual monitoring events to obtain more frequent sulfate concentration information.

Precipitation and infiltration are the primary mechanisms for delivering sulfate to the groundwater to support ABOx reactions. The irrigation system present in the B, C and D Yards is typically used to supplement natural rainfall during the summer, when precipitation is less frequent, to drive dissolution of Epsom salt and gypsum on the ground surface and infiltration of sulfate to the groundwater. The irrigation system was not operated in 2020 due to malfunctions in the controllers. The system was repaired in August 2021 following sulfate application in July. Repairs included modification of the irrigation system in the D yard to use more efficient surface sprinklers within the July 2021 sulfate application area. Monthly precipitation, including irrigation and natural rainfall, are shown on **Graphs 1** through **10**.

3 Summary of Results

Sample analytical results and field measurements collected during the first and second semiannual 2021 groundwater monitoring events are presented below.

3.1 Water Level Measurements

Depths to groundwater in monitoring wells were measured on April 12, 2021 and October 11, 2021 using oil/water interface probes. Monitoring well MW-16 could not be accessed during the second semiannual monitoring event. Groundwater elevations were calculated using depth-to-water measurements and wellhead survey elevations obtained in July 2003. Depths to groundwater for the April 12, 2021 gauging event ranged from 1.67 feet (monitoring well 12) to 10.36 feet (A-27) with groundwater elevations (relative to NAVD 88) ranging from 5.89 feet (MW-25) to 9.18 feet (MW-18). Depths to groundwater during the October 11, 2021 monitoring event ranged from 2.60 feet (monitoring well 12) to 10.97 feet (A-27) with groundwater elevations (relative to NAVD 88) ranging from 5.42 feet (MW-25) to 7.74 feet (MW-19). Groundwater direction is generally to the south from the D Yard toward the A Yard with an approximate hydraulic gradient ranging from 0.004 to 0.005 foot per foot (measured between MW-19 and A-6), which is consistent with previous monitoring events. The groundwater elevation data are presented in **Table 2,** and potentiometric contour maps for the two semiannual groundwater monitoring events are presented on **Figures 4** and **5**.

3.2 Passive Separate-Phase Hydrocarbon Recovery

Monitoring wells A-6 and A-16 were gauged using an oil/water interface probe on February 9, 2021 (first quarter of 2021). SPH was not observed, and no absorbent socks were placed. SPH was observed in monitoring well A-6 at a thickness of 0.03 foot during the first semiannual groundwater monitoring event on April 12, 2021, and a new sock was placed in the well.

On August 10, 2021 (third quarter of 2021), the existing sock was removed from A-6. SPH was observed at a thickness of 0.12 foot in A-16, and a new sock was placed in the well. During the second semiannual groundwater monitoring event (October 11, 2021), SPH was observed in both A-6 and A-16 at a thickness of 0.01 foot. The existing sock was removed from A-16, and a new absorbent sock was installed in both wells following gauging.

Quarterly gauging and sock management will continue through 2022 consistent with Ecology's approval of the Revised Site Groundwater Monitoring Plan (Ecology 2014).

3.3 Groundwater Analytical and Geochemical Results

Concentrations of COCs exceeding SSCLs in groundwater samples collected from monitoring wells at the site during 2021 are summarized below:

COC	Number of Wells Exceeding SSCL	Number of Wells Analyzed	Maximum Concentration (mg/L)	Location of Maximum Concentration
First Semiannual Groundwater Monitoring Event				
GRO	10	19	6.71	MW-24
Benzene	2	19	0.508	MW-24
Second Semiannual Groundwater Monitoring Event				

COC	Number of Wells Exceeding SSCL	Number of Wells Analyzed	Maximum Concentration (mg/L)	Location of Maximum Concentration
GRO	9	41	10.3	TMW-6
Benzene	3	41	0.440	MW-24
Total Lead	2	19	0.0131	12

During the second semiannual 2021 groundwater monitoring event, groundwater samples from five monitoring wells (A-27, A-28R, TMW-B1, MW-23, and MW-24) were analyzed for geochemical parameters to monitor natural attenuation along 13th Avenue Southwest:

- Methane was detected in all five monitoring wells at concentrations ranging from 3.02 mg/L (A-27) to 11.8 mg/L (MW-24).
- Ferrous iron was detected in all five monitoring wells at concentrations ranging from 7.64 mg/L (A-27) to 56.7 mg/L (MW-24).

Nitrate, sulfate, and sulfide were analyzed, but not detected at concentrations above laboratory reporting limits. Groundwater analytical results are presented in **Table 3**. Groundwater geochemical data, including field measurements, are presented in **Table 4**. Laboratory analytical reports and chain-of-custody documentation are included in **Appendix C,** historical groundwater elevations are included in **Appendix D**, and historical groundwater analytical results are included in **Appendix E**.

3.4 Remedial Performance Results

During the semiannual 2021 monitoring events, samples from 10 monitoring wells (11, 12, MW-7, MW-19, and TMW-1 through TMW-6) within the sulfate application area were analyzed for sulfate and compared to the target concentration designed to support ABOx of petroleum hydrocarbons (900 mg/L).

During the first semiannual event, sulfate concentrations in the application area ranged from 8.61 mg/L in well MW-19 to 1,220 mg/L in well TMW-2. Sulfate concentrations collected during the second semiannual event ranged from 45.1 mg/L in well 11 to 2,690 mg/L in well MW-7. Sulfate concentrations greater than the target of 900 mg/L within the application area were observed in the following locations:

- Monitoring wells TMW-1, TMW-2, TMW-3, and TMW-4 during the first event;
- Monitoring wells 12, MW-7, and TMW-2 during the second event.

Sulfate concentrations in monitoring wells within and downgradient of the July 2021 supplemental sulfate application area were higher during the second semiannual monitoring event including MW-19, MW-7, monitoring well 12, and TMW-6. Groundwater from MW-9 (during the first and second semiannual monitoring events) and A-27 (during the second semiannual monitoring event) was also analyzed for sulfate to evaluate downgradient migration of sulfate from the remedial application area. Sulfate concentrations detected in MW-9 during the first and second semiannual monitoring events were 16.8 mg/L and 7.01 mg/L, respectively. Sulfate was not detected at concentrations above the laboratory detection limit in A-27 during the second semiannual monitoring event. Groundwater analytical results for geochemical parameters are presented in **Table 4**. Constituent trend graphs for

the performance monitoring of wells within the sulfate application area are presented on **Graphs 1** through **10**. Laboratory analytical reports and chain-of-custody documentation are included in **Appendix C**. Historical groundwater analytical results are included in **Appendix E**.

3.5 Data Validation Results

Analytical data produced as part of the first and second semiannual 2021 groundwater monitoring events (sample delivery groups L1339541, L1339565, L1418087, and L1418880 [**Appendix C**]) were reviewed for completeness and technical compliance. All field samples from both semiannual monitoring events were analyzed within their specified hold times, except for the samples analyzed for ferrous iron by Method 3500-Fe B-2011. Ferrous iron is considered “out of hold” as received at the laboratory in accordance with the method, but the results are minimally impacted. Reported concentrations of ferrous iron should be considered minimum values. Two field duplicates, DUP-1 (MW-7) and DUP-2 (MW-21) during both events, were collected and analyzed. The relative percent differences between the parent and the duplicates were acceptable at less than 20 percent. Quality control samples analyzed by the laboratory were within established acceptance criteria.

4 Compliance and Conclusions

4.1 A Yard

Passive recovery of SPH using absorbent socks is conducted in accordance with the procedure outlined in the Ecology email approval of the Revised Site Groundwater Monitoring Plan (Arcadis 2014), which requires quarterly gauging and sock replacement for four quarters following the observance of sheen or measurable SPH during a semiannual monitoring event (Ecology 2014). During the second semiannual event, SPH was observed in monitoring wells A-6 and A-16 at thicknesses of 0.01 foot each. A new absorbent sock was placed in each well to passively recover SPH. The wells will continue to be gauged quarterly to monitor for SPH in accordance with the Revised Site Groundwater Monitoring Plan (Arcadis 2014), and absorbent socks will be deployed as needed when SPH is observed.

Groundwater samples were collected from within the A Yard at one monitoring well (A-5) during the first groundwater monitoring event and five monitoring wells (A-5, A-8, A-10, A-14R, and MW-25) during the second groundwater monitoring event. COCs in groundwater samples collected from the A Yard monitoring wells have been below SSCLs since 2012, except for GRO in monitoring well A-5, which was detected at a concentration above the SSCL of 1.0 mg/L during the first semiannual monitoring event in 2021. There were no other exceedances in the A Yard in 2021. Analytical results are presented on **Figures 6** and **7** and presented in **Table 3**.

4.2 B, C, and D Yards

4.2.1 Remedial Application Area

Concentrations of COCs during the first and second semiannual 2021 groundwater monitoring events in the 10 performance monitoring wells within the sulfate application area (11, 12, MW-7, MW-19, and TMW-1 through TMW-6) were generally consistent with concentrations observed during previous groundwater monitoring events. Concentrations of COCs were below SSCLs for all constituents in four performance monitoring wells (11, TMW-1, TMW-2, and TMW-3) for both monitoring events. Concentrations of COCs in the samples collected from monitoring well MW-7 in the second semiannual groundwater monitoring event were below SSCLs. Six performance monitoring wells (12, MW-7, MW-19, TMW-4, TMW-5, and TMW-6) exhibited GRO concentrations exceeding the SSCL during one or both of the 2021 monitoring events. Analytical results of the 10 performance monitoring wells within the sulfate application area for the first and second semiannual groundwater monitoring events are presented on **Figures 6** and **7**, respectively. Trend graphs showing the remedial performance and historical concentrations of COCs and sulfate are presented on **Graphs 1** through **10**. In general, COC concentrations in the remedial application area demonstrate stable to decreasing trends.

Sulfate concentrations in groundwater were above the target threshold of 900 mg/L, which is supportive of ABOx of petroleum hydrocarbons, at performance monitoring wells TMW-1, TMW-2, TMW-3, and TMW-4 during the first semiannual groundwater monitoring event. During the second semiannual groundwater monitoring event, performance monitoring wells 12, MW-7, and TMW-2 exhibited sulfate concentrations above the target of 900 mg/L. Concentrations of COCs were below all SSCLs in TMW-1, TMW-2, and TMW-3, and the additional sulfate application in July 2021 did not target the area surrounding these monitoring wells. In areas within and adjacent to the additional sulfate application, concentrations increased in the second semiannual monitoring event (MW-7, MW-19, monitoring well 12, and TMW-6). The sulfate concentration at monitoring well A-27, which is considered a sentinel well to monitor for excess sulfate cross-gradient from the ABOx treatment area, did not exceed the laboratory reporting limit of 5 mg/L during the second semiannual groundwater monitoring event. The secondary water quality level for sulfate is 250 mg/L.

During the second semiannual 2021 groundwater monitoring event, total lead was detected in monitoring well 12 at a concentration (0.0131 mg/L) that exceeded the SSCL (0.0058 mg/L). Lead impacts at the site have been attributed to former off-site smelting operations and the former smelter located on Harbor Island. Lead-impacted shallow soil was removed from the B and C Yards in 2002 (KHM 2002). Residual total lead and dissolved lead impacts to groundwater are monitored in accordance with the CD (Ecology 2000).

4.2.2 Non-Remedial Application Area

Seven monitoring wells in the B, C, and D Yards (MW-3, MW-5, MW-8, MW-9, MW-14, MW-20, and MW-21) are sampled either annually or semiannually and are not located within the remedial application area. Concentrations of all site COCs were below SSCLs in six of the seven monitoring wells and comply with the requirements of the CD (Ecology 2000). Concentrations of total lead measured in monitoring well MW-8 during the second semiannual event (0.00645 mg/L) exceeded the SSCL (0.0058 mg/L). SPH has not been observed in the B Yard since April 2014, the C Yard since gauging was initiated in 2000 (KHM 2001) or the D yard since May 2002 (KHM

2002). Analytical results for both semiannual groundwater monitoring events in non-remedial application area wells are presented on **Figures 6 and 7** and in **Table 3**. Analytical results for select monitoring wells with recent or historical concentrations exceeding SSCLs (MW-5, MW-8, and MW-14) are presented on **Graphs 11** through **13.**

4.3 E Yard

Groundwater sampling is conducted annually in one well (MW-1) located within the E Yard. Concentrations of site COCs have been below SSCLs in the E Yard since 2002.

4.4 13th Avenue Southwest Monitored Natural Attenuation Area

Concentrations of COCs in wells within the 13th Avenue Southwest monitored natural attenuation (MNA) area (A-27, A-28R, TMW-B1, MW-23, and MW-24) are consistent with historical concentrations, which show generally stable to decreasing trends.

In the 13th Avenue Southwest MNA area, concentrations of GRO in three of the wells sampled in the first semiannual monitoring event and four of the wells sampled in the second semiannual monitoring event exceeded the SSCL. Benzene concentrations exceeded the SSCL in two of the wells sampled during the first semiannual monitoring event and three of the wells sampled during the second semiannual monitoring event. Constituent trend graphs for monitoring wells exceeding SSCLs are presented on **Graphs 14** through **18**.

Concentrations of geochemical parameters in the 13th Avenue Southwest MNA wells are consistent with those detected in previous groundwater monitoring events. Concentrations of DO in wells A-27, A-28R, TMW-B1, MW-23, and MW-24 are equal to or less than 0.27 mg/L, indicating that groundwater conditions are typically anaerobic. Methane and ferrous iron were detected at concentrations above 3 mg/L and 7 mg/L, respectively. Based on the lack of DO and the relatively high concentrations of methane and ferrous iron, reducing conditions are present in the vicinity of these monitoring wells.

These data demonstrate that natural attenuation is occurring in wells located in the 13th Avenue Southwest MNA area, and that anaerobic biological degradation is occurring through iron reduction and methanogenesis (Ecology 2005).

5 References

Arcadis. 2012. B and D Yards Groundwater Remediation – Engineering Design Report. October 12.

Arcadis. 2014. 2014 Revised Site Groundwater Monitoring Plan, Kinder Morgan Liquid Terminals. April 30.

Arcadis. 2016. Groundwater Analytical Reduction Request. Kinder Morgan Harbor Island Terminal. February 11.

Delta. 2007. Site-Wide Groundwater Compliance Monitoring Plan – Proposed Reduced Monitoring. June 21.

Delta. 2008. Technical Revision Request – Low-Flow Groundwater Sampling. September 4.

Ecology. 1999. Cleanup Action Plan. GATX Terminal Corporation Harbor Island. November 2.

Ecology. 2000. Final Consent Decree No. 00-2-07760-2SEA. April 12.

Ecology. 2005. Guidance on Remediation of Petroleum-Contaminated Ground Water by Natural Attenuation. July.

Ecology. 2014. Email Approval of Revised Site Groundwater Monitoring Plan. August 13.

KHM. 1999. Compliance Monitoring Plan. Kinder Morgan Liquid Terminals, LLC, Harbor Island Terminal. October 27.

KHM. 2001. Groundwater Monitoring Report Third Quarter 2000. Kinder Morgan Liquid Terminals, LLC, Harbor Island Terminal. January.

KHM. 2002. Annual Groundwater Monitoring Report, Second Quarter 2002. Kinder Morgan Liquid Terminals, LLC, Harbor Island Terminal. December.

Tables

Table 1
Monitoring Well Compliance Status
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Location	Date of Last SPH or Sheen Observation	Date of Last Exceedance of SSCL	Constituent(s)	Comments
A-4	A Yard	05/23/11	--	--	SPH Skimmer
A-5	A Yard	09/15/03	04/13/21	GRO	
A-6	A Yard	10/11/21	--	--	SPH Skimmer, EFR, PR
A-8	A Yard	11/18/03	--	--	
A-10	A Yard	05/10/04	06/07/05	DRO	
A-11	A Yard	09/19/05	--	--	
A-12	A Yard	03/08/05	--	--	
A-14R	A Yard	09/19/05	12/14/04	Total Lead	
A-16	A Yard	10/11/21	--	--	SPH, EFR, PR
A-18	A Yard	09/19/05	--	--	
A-19	13th Ave	09/11/06	--	--	EFR
A-20	13th Ave	09/19/05	05/25/11	GRO	
A-21	13th Ave	05/20/02	08/25/12	GRO	
A-22R	13th Ave	10/12/05	05/25/11	GRO, Benzene	EFR
A-23R	13th Ave	Never	12/11/07	Benzene	
A-25	A Yard	11/15/10	06/16/11	GRO, Benzene	
A-26R	13th Ave	09/19/05	05/25/11	GRO, Benzene	EFR
A-27	13th Ave	12/18/00	10/22/20	GRO	
A-28R	13th Ave	Never	10/13/21	GRO	
11	B Yard	Never	--	--	ABOX
12	B Yard	03/28/17	10/12/21	GRO, Total Lead	ABOX
MW-1	E Yard	Never	11/05/02	Total Lead	
MW-2	13th Ave	Never	06/08/10	Total Lead	
MW-3	C Yard	Never	10/02/19	Total Lead	
MW-4	11th Ave	12/13/04	09/21/05	DRO	
MW-5	D Yard	Never	04/09/13	Total Lead	
MW-6	13th Ave	12/18/00	12/13/05	GRO	
MW-7	B Yard	11/16/09	04/13/21	GRO	ABOX
MW-8	B Yard	05/20/02	10/13/21	Total Lead	
MW-9	B Yard	05/23/11	10/04/18	Total Lead	
MW-12R	11th Ave	Never	08/26/04	Benzene	
MW-14	D Yard	Never	10/11/16	GRO	
MW-16	13th Ave	Never	--	--	
MW-17	13th Ave	Never	--	--	
MW-18	13th Ave	Never	06/08/06	GRO, Benzene	
MW-19	D Yard	05/20/02	10/11/21	GRO	ABOX
MW-20	C Yard	Never	09/25/01	Benzene	
MW-21	B Yard	03/01/12	09/22/09	GRO	
MW-22	13th Ave	Never	11/05/02	Benzene	
MW-23	13th Ave	08/29/11	10/13/21	GRO, Benzene	EFR
MW-24	13th Ave	08/29/11	10/13/21	GRO, Benzene	EFR
MW-25	A Yard	02/24/04	09/20/05	Total Lead	
SH-02R	11th Ave	Never	09/16/03	Total Lead	
SH-04	13th Ave	Never	--	--	
SH-05	11th Ave	Never	12/20/00	Total Lead	

Table 1
Monitoring Well Compliance Status
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Location	Date of Last SPH or Sheen Observation	Date of Last Exceedance of SSCL	Constituent(s)	Comments
SH-05R	11th Ave	11/18/03	12/15/04	DRO	
MW-07R	11th Ave	Never	09/13/06	Total Lead	
TMW-B1	13th Ave	Never	10/13/21	GRO, Benzene	
TMW-1	D Yard	Never	09/29/15	GRO	ABOX
TMW-2	D Yard	Never	--	--	ABOX
TMW-3	B Yard	Never	10/04/18	GRO	ABOX
TMW-4	B Yard	Never	10/12/21	GRO	ABOX
TMW-5	B Yard	Never	10/11/21	GRO	ABOX
TMW-6	B Yard	Never	10/13/21	GRO	ABOX

Notes:
Shading indicates SPH observance or SSCL exceedance in 2021
-- = No data/not applicable
ABOX = Sulfate application area
DRO = Diesel range organics
EFR = Enhanced fluids recovery, pilot test
GRO = Gasoline range organics
PR = Passive recovery absorbent sock
SSCL = Site-specific cleanup level
SPH = Separate phase hydrocarbons

Table 2
Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet)	Depth to Groundwater (feet BTOC)	SPH Thickness (feet)	Groundwater Elevation[1] (feet)
A-4	04/12/21	13.22	6.89	--	6.33
	10/11/21	13.22	7.28	--	5.94
A-5	04/12/21	14.13	7.64	--	6.49
	10/11/21	14.13	8.06	--	6.07
A-6	02/09/21	12.81	5.94	--	6.87
	04/12/21	12.81	6.65	0.03	6.18
	08/10/21	12.81	6.86	--	5.95
	10/11/21	12.81	7.07	0.01	5.75
A-8	04/12/21	14.61	7.77	--	6.84
	10/11/21	14.61	8.22	--	6.39
A-10	04/12/21	13.51	6.74	--	6.77
	10/11/21	13.51	7.19	--	6.32
A-11	04/12/21	14.40	7.57	--	6.83
	10/11/21	14.40	8.07	--	6.33
A-12	04/12/21	12.95	6.43	--	6.52
	10/11/21	12.95	6.83	--	6.12
A-14R	04/12/21	14.21	7.50	--	6.71
	10/11/21	14.21	7.93	--	6.28
A-16	02/09/21	14.39	7.22	--	7.17
	04/12/21	14.39	7.76	--	6.63
	08/10/21	14.39	8.23	0.12	6.26
	10/11/21	14.39	8.22	0.01	6.18
A-18	04/12/21	14.74	7.91	--	6.83
	10/11/21	14.74	8.36	--	6.38
A-19	04/12/21	14.57	7.89	--	6.68
	10/11/21	14.57	8.30	--	6.27
A-20	04/12/21	14.19	7.51	--	6.68
	10/11/21	14.19	7.86	--	6.33
A-21	04/12/21	14.35	7.60	--	6.75
	10/11/21	14.35	8.02	--	6.33
A-22R	04/12/21	14.11	7.45	--	6.66
	10/11/21	14.11	7.91	--	6.20
A-23R	04/12/21	15.57	8.87	--	6.70
	10/11/21	15.57	9.28	--	6.29
A-25	04/12/21	13.90	7.26	--	6.64
	10/11/21	13.90	7.79	--	6.11
A-26R	04/12/21	14.19	7.50	--	6.69
	10/11/21	14.19	8.00	--	6.19
A-27	04/12/21	17.22	10.36	--	6.86
	10/11/21	17.22	10.97	--	6.25
A-28R	04/12/21	14.93	7.90	--	7.03
	10/11/21	14.93	8.57	--	6.36
11	04/12/21	12.08	4.02	--	8.06
	10/11/21	12.08	5.11	--	6.97
12	04/12/21	9.79	1.67	--	8.12
	10/11/21	9.79	2.60	--	7.19

Table 2
Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet)	Depth to Groundwater (feet BTOC)	SPH Thickness (feet)	Groundwater Elevation[1] (feet)
MW-1	04/12/21	13.21	5.03	--	8.18
	10/11/21	13.21	6.30	--	6.91
MW-2	04/12/21	15.22	6.47	--	8.75
	10/11/21	15.22	8.06	--	7.16
MW-3	04/12/21	11.39	2.49	--	8.90
	10/11/21	11.39	4.10	--	7.29
MW-4	04/12/21	14.69	5.59	--	9.10
	10/11/21	14.69	7.21	--	7.48
MW-5	04/12/21	11.13	2.33	--	8.80
	10/11/21	11.13	3.65	--	7.48
MW-6	04/12/21	15.17	6.52	--	8.65
	10/11/21	15.17	7.90	--	7.27
MW-7	04/12/21	10.62	2.22	--	8.40
	10/11/21	10.62	3.26	--	7.36
MW-8	04/12/21	10.63	3.12	--	7.51
	10/11/21	10.63	4.17	--	6.46
MW-9	04/12/21	9.75	2.49	--	7.26
	10/11/21	9.75	3.33	--	6.42
MW-12R	04/12/21	15.47	7.06	--	8.41
	10/11/21	15.47	8.10	--	7.37
MW-14	04/12/21	11.44	2.75	--	8.69
	10/11/21	11.44	4.10	--	7.34
MW-16	04/12/21	15.23	6.27	--	8.96
	10/11/21	15.23	--	--	--
MW-18	04/12/21	15.49	6.31	--	9.18
	10/11/21	15.49	7.99	--	7.50
MW-19	04/12/21	11.39	2.24	--	9.15
	10/11/21	11.39	3.65	--	7.74
MW-20	04/12/21	11.72	2.65	--	9.07
	10/11/21	11.72	4.01	--	7.71
MW-21	04/12/21	9.41	2.58	--	6.83
	10/11/21	9.41	3.34	--	6.07
MW-22	04/12/21	16.32	7.49	--	8.83
	10/11/21	16.32	9.02	--	7.30
MW-23	04/12/21	14.15	7.41	--	6.74
	10/11/21	14.15	7.83	--	6.32
MW-24	04/12/21	14.34	7.44	--	6.90
	10/11/21	14.34	7.91	--	6.43
MW-25	04/12/21	13.05	7.16	--	5.89
	10/11/21	13.05	7.63	--	5.42
SH-02R	04/12/21	13.40	4.90	--	8.50
	10/11/21	13.40	6.13	--	7.27
SH-05R	04/12/21	13.89	6.79	--	7.10
	10/11/21	13.89	7.40	--	6.49
MW-07R	04/12/21	13.92	5.89	--	8.03
	10/11/21	13.92	6.90	--	7.02

Table 2
Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet)	Depth to Groundwater (feet BTOC)	SPH Thickness (feet)	Groundwater Elevation[1] (feet)
TMW-B1	04/12/21	--	7.37	--	--
	10/11/21	--	8.51	--	--
TMW-1	04/12/21	--	2.79	--	--
	10/11/21	--	4.11	--	--
TMW-2	04/12/21	--	2.91	--	--
	10/11/21	--	4.15	--	--
TMW-3	04/12/21	--	3.11	--	--
	10/11/21	--	4.16	--	--
TMW-4	04/12/21	--	2.83	--	--
	10/11/21	--	3.87	--	--
TMW-5	04/12/21	--	2.70	--	--
	10/11/21	--	3.87	--	--
TMW-6	04/12/21	--	2.01	--	--
	10/11/21	--	3.21	--	--

Notes:
-- = not measured/not applicable
BTOC = below top of casing (TOC); depth to groundwater measured from TOC
SPH = separate-phase hydrocarbons
1. MW-16 was blocked during the second semiannual groundwater monitoring event and therefore not gauged.
2. Groundwater elevation at wells with separate-phase hydrocarbons (SPH) corrected for SPH thickness using a specific gravity of 0.8, which is generally within the range of values presented in the American Petroleum Institute's LNAPL Parameters database for gasoline and diesel fuel.

Table 3
Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO	DRO, SGC	HO, SGC	Benzene	Toluene	Ethylbenzene	Xylenes	Total Lead	Dissolved Lead
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**	**0.0058**
A-5	04/13/21	**1.42**	--	--	**0.00355**	**0.00295**	<0.00100	**0.00355**	--	--
	10/12/21	**0.524**	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
A-8	10/12/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--
A-10	10/12/21	<0.100	**0.360**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--
A-14R	10/12/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
A-21	04/13/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/12/21	**0.154**	--	--	<0.00100	<0.00100	**0.00109**	<0.00300	**0.00326**	**0.00235**
A-23R	10/11/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
A-27	04/13/21	**0.741**	--	--	**0.0181**	<0.00100	**0.0122**	<0.00300	--	--
	10/13/21	**0.929**	--	--	**0.0138**	**0.00116**	<0.00100	**0.00429**	--	--
A-28R	04/13/21	**3.92**	--	--	**0.02180**	**0.00239**	**0.0190**	**0.00355**	--	--
	10/13/21	**2.50**	--	--	**0.0222**	**0.00235**	**0.00476**	<0.00300	<0.00200	<0.00200
11	04/14/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/12/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
12	04/12/21	**1.29**	--	--	**0.00327**	<0.00100	**0.00471**	**0.00605**	--	--
	10/12/21	**4.10**	**1.46**	<0.250	**0.0392**	**0.00746**	**0.1570**	**0.0458**	**0.0131**	**0.00325**
MW-1	10/14/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
MW-2	10/14/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
MW-3	10/13/21	**0.131 B**	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
MW-4	10/14/21	**0.221**	**1.290**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--
MW-5	10/11/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
MW-6	10/14/21	**0.211 B**	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
MW-7	04/13/21	**1.93**	--	--	<0.00100	<0.00100	**0.0239**	**0.0236**	--	--
	10/12/21	**0.472**	--	--	<0.00100	**0.00235**	**0.0103**	**0.00956**	**0.00365**	<0.00200
MW-7 (DUP)	04/13/21	**1.97**	--	--	<0.00100	<0.00100	**0.0234**	**0.0226**	--	--
	10/12/21	**0.419**	--	--	<0.00100	**0.00215**	**0.00992**	**0.00884**	**0.00392**	<0.00200
MW-07R	10/14/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
MW-8	10/13/21	<0.100	**0.365**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	**0.00645**	<0.00200
MW-9	04/13/21	**0.272**	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/13/21	**0.202**	--	--	<0.00100	<0.00100	<0.00100	<0.00300	**0.00233**	<0.00200
MW-12R	10/14/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
MW-14	10/12/21	**0.331**	--	--	<0.00100	<0.00100	<0.00100	**0.00316**	--	--
MW-18	04/13/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/14/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
MW-19	04/12/21	**2.140**	--	--	**0.00124**	**0.0170**	**0.157**	**0.0170**	--	--
	10/11/21	**1.90**	--	--	**0.0183**	**0.0542**	**0.0254**	**0.0169**	--	--
MW-20	10/13/21	**0.151 B**	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--

Table 3
Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO	DRO, SGC	HO, SGC	Benzene	Toluene	Ethylbenzene	Xylenes	Total Lead	Dissolved Lead
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**	**0.0058**
MW-21	04/14/21	<0.100	**0.780**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/13/21	**0.236**	**0.765**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--
MW-21 (DUP)	04/14/21	<0.100	**0.662**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/13/21	**0.212 B**	**0.711**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--
MW-22	10/14/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--
MW-23	04/13/21	**2.34 B**	--	--	**0.206**	**0.0118**	**0.0106**	**0.0150**	--	--
	10/13/21	**4.39**	--	--	**0.228**	<0.00500	**0.0111**	**0.0169**	<0.00200	<0.00200
MW-24	04/13/21	**6.71**	--	--	**0.508**	**0.0243**	**0.683**	**0.313**	--	--
	10/13/21	**9.63**	--	--	**0.440**	**0.0304**	**0.737**	**0.216**	**0.00224**	<0.00200
MW-25	10/12/21	<0.100	**0.437**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	**0.00293**	<0.00200
SH-02R	10/14/21	<0.100	<0.200	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
SH-05R	10/14/21	<0.100	**0.413**	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200
TMW-B1	10/13/21	**4.72**	--	--	**0.0751**	**0.00697**	**0.0143**	**0.00883**	--	--
TMW-1	04/12/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/11/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
TMW-2	04/12/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/11/21	<0.100	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
TMW-3	04/13/21	**0.167**	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
	10/12/21	**0.559**	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--
TMW-4	04/13/21	**2.51**	--	--	**0.00434**	**0.00224**	**0.0461**	**0.00398**	--	--
	10/12/21	**4.54**	--	--	**0.00122**	**0.0318**	**0.335**	**0.179**	--	--
TMW-5	04/12/21	**1.100**	--	--	**0.00158**	<0.00100	**0.00355**	<0.00300	--	--
	10/11/21	**1.03**	--	--	**0.00916**	**0.00238**	<0.00100	<0.00300	--	--
TMW-6	04/13/21	**2.16**	--	--	<0.00100	<0.00100	**0.290**	**0.473**	--	--
	10/13/21	**10.3**	--	--	<0.0100	<0.0100	**0.691**	**0.977**	--	--

Notes:
-- = Not applicable/Sample not analyzed for this parameter
< = Denotes compound was not detected at designated detection limit.
Bold = Analyte detected at a concentration above the laboratory reporting limit
Highlight = Detected concentration above the Site-Specific Cleanup Level
mg/L = milligrams per liter (parts per million [ppm])
B = The same analyte is found in the associated blank.
N/A = Not applicable

SGC = A silica gel wash as performed on the solvent extract before analysis. Silica gel cleanup was completed for samples with TPH-DRO and TPH-HO detections above the method reporting limit. All samples analyzed since September 2015 were performed with SGC for all TPH-DRO and TPH-HO analysis.

USEPA = United States Environmental Protection Agency

1. Total Petroleum Hydrocarbons (TPH) as gasoline range organics (GRO) - Analysis by Washington Method WTPH-G prior to 5/20/98; analysis by Northwest Method NWTPH-Gx from 5/20/98 through present.

2. Total Petroleum Hydrocarbons (TPH) as diesel range organics (DRO) and heavy oil range organics (HO) - Analysis by Washington Method WTPH-D+ extended prior to 5/20/98; analysis by Northwest Method NWTPH-Dx from 5/20/98 through present.

3. Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) Compounds - Analysis by EPA Method 8020 prior to 5/20/98; analysis by USEPA Method 8260B from 5/20/98 through present.

Table 4
Groundwater Geochemical Parameters
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

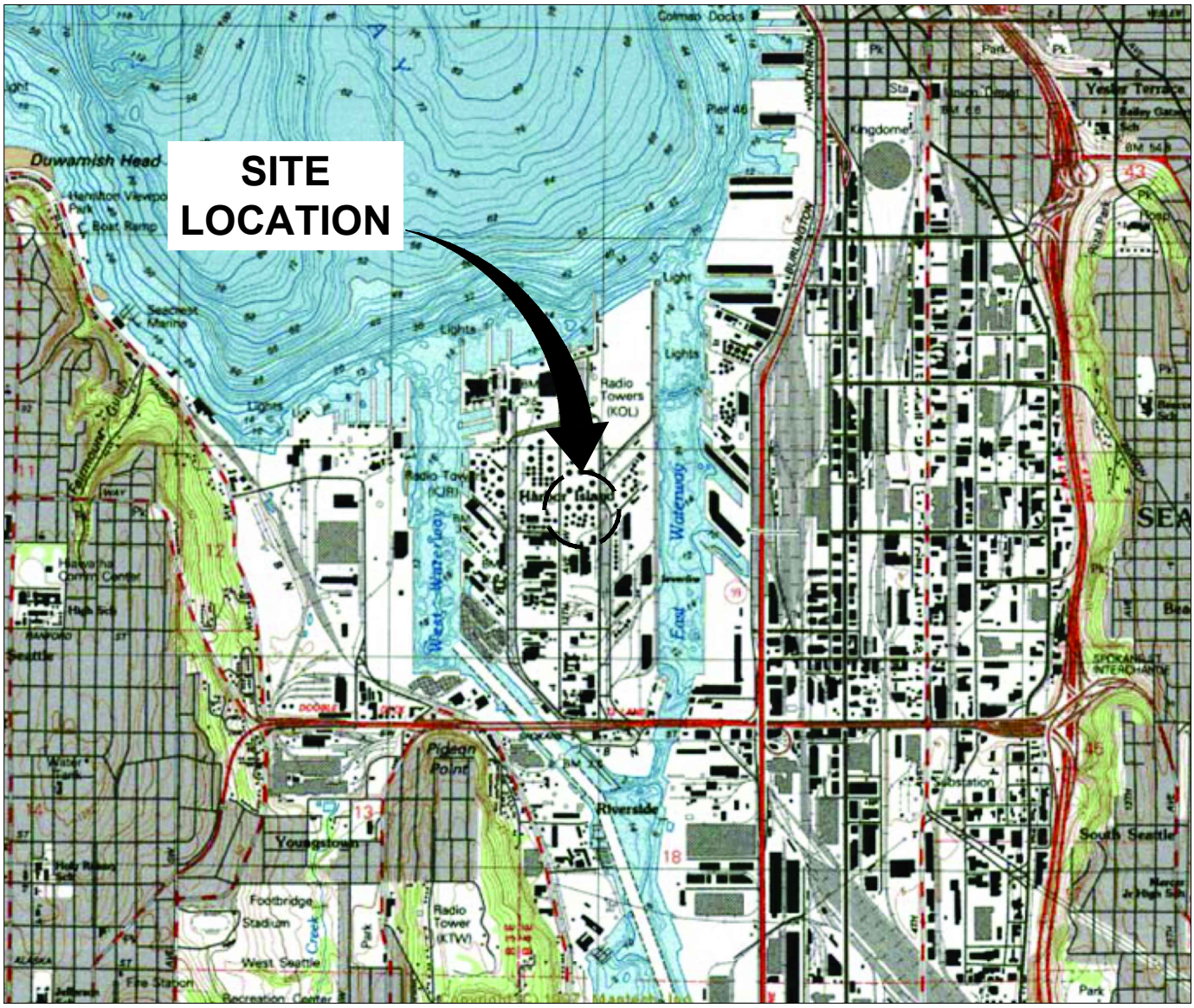
Well ID	Date Sampled	Dissolved Oxygen[1]	Methane	Total Iron	Dissolved Iron	Ferrous Iron	Nitrate	Sulfate	Sulfide
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
A-5	04/13/21	0.16	--	--	--	--	--	--	--
	10/12/21	0.00	--	--	--	--	--	--	--
A-8	10/12/21	0.00	--	--	--	--	--	--	--
A-10	10/12/21	0.07	--	--	--	--	--	--	--
A-14R	10/12/21	0.15	--	--	--	--	--	--	--
A-21	04/13/21	1.19	--	--	--	--	--	--	--
	10/12/21	0.39	--	--	--	--	--	--	--
A-23R	10/11/21	0.00	--	--	--	--	--	--	--
A-27	04/13/21	0.16	--	--	--	--	--	--	--
	10/13/21	0.27	**3.02**	--	--	**7.64 T8**	<0.100	<5.00	<0.0500
A-28R	04/13/21	0.12	--	--	--	--	--	--	--
	10/13/21	0.00	**4.15**	--	--	**37 T8**	<0.100	<5.00	<0.0500
11	04/14/21	6.99	--	--	--	--	--	**79.9**	--
	10/12/21	4.30	--	--	--	--	--	**45.1**	--
12	04/12/21	1.30	--	--	--	--	--	**691**	--
	10/12/21	0.06	--	--	--	--	--	**998**	--
MW-1	10/14/21	0.22	--	--	--	--	--	--	--
MW-2	10/14/21	2.17	--	--	--	--	--	--	--
MW-3	10/13/21	3.49	--	--	--	--	--	--	--
MW-4	10/14/21	0.07	--	--	--	--	--	--	--
MW-5	10/11/21	0.20	--	--	--	--	--	--	--
MW-6	10/14/21	0.30	--	--	--	--	--	--	--
MW-7	04/13/21	0.20	--	--	--	--	--	<500	--
	10/12/21	0.89	--	--	--	--	--	**2,550**	--
MW-7 (DUP)	04/13/21	0.20	--	--	--	--	--	**473**	--
	10/12/21	0.89	--	--	--	--	--	**2,690**	--
MW-07R	10/14/21	0.06	--	--	--	--	--	--	--
MW-8	10/13/21	3.78	--	--	--	--	--	--	--
MW-9	04/13/21	4.99	--	--	--	--	--	**16.8**	--
	10/13/21	0.60	--	--	--	--	--	**7.01**	--
MW-12R	10/14/21	0.01	--	--	--	--	--	--	--
MW-14	10/12/21	0.07	--	--	--	--	--	--	--
MW-18	04/13/21	1.21	--	--	--	--	--	--	--
	10/14/21	0.16	--	--	--	--	--	--	--
MW-19	04/12/21	0.15	--	--	--	--	--	**8.61**	--
	10/11/21	0.08	--	--	--	--	--	**468**	--
MW-20	10/13/21	0.15	--	--	--	--	--	--	--

Table 4
Groundwater Geochemical Parameters
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	Dissolved Oxygen[1]	Methane	Total Iron	Dissolved Iron	Ferrous Iron	Nitrate	Sulfate	Sulfide
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-21	04/14/21	0.90	--	--	--	--	--	--	--
	10/13/21	0.10	--	--	--	--	--	--	--
MW-21 (DUP)	04/14/21	0.90	--	--	--	--	--	--	--
	10/13/21	0.10	--	--	--	--	--	--	--
MW-22	10/14/21	0.17	--	--	--	--	--	--	--
MW-23	04/13/21	0.14	--	--	--	--	--	--	--
	10/13/21	0.13	**9.89**	--	--	**14.8 T8**	<0.100	<5.00	<0.0500
MW-24	04/13/21	0.09	--	--	--	--	--	--	--
	10/13/21	0.00	**11.8**	--	--	**56.7 T8**	<0.100	<5.00	<0.0500
MW-25	10/12/21	0.09	--	--	--	--	--	--	--
SH-02R	10/14/21	0.04	--	--	--	--	--	--	--
SH-05R	10/14/21	0.06	--	--	--	--	--	--	--
TMW-B1	10/13/21	0.01	**5.83**	--	--	**11.7 T8**	<0.100	<5.00	<0.0500
TMW-1	04/12/21	8.40	--	--	--	--	--	**963**	--
	10/11/21	0.01	--	--	--	--	--	**294**	--
TMW-2	04/12/21	1.03	--	--	--	--	--	**1,220**	--
	10/11/21	0.65	--	--	--	--	--	**1,030**	--
TMW-3	04/13/21	0.46	--	--	--	--	--	**1,120**	--
	10/12/21	0.29	--	--	--	--	--	**730**	--
TMW-4	04/13/21	0.19	--	--	--	--	--	**1,180**	--
	10/12/21	0.15	--	--	--	--	--	**805**	--
TMW-5	04/12/21	0.27	--	--	--	--	--	**763**	--
	10/12/21	0.10	--	--	--	--	--	**495**	--
TMW-6	04/13/21	0.30	--	--	--	--	--	**411**	--
	10/13/21	0.17	--	--	--	--	--	**622**	--

Notes:
< = Denotes compound was not detected above the designated detection limit.
-- = Not applicable/Sample not analyzed for this parameter
Bold = Analyte detected at a concentration above the laboratory reporting limit
mg/L = milligrams per liter (parts per million)
T8 = Sample was received by the lab outside the hold time for the analyte; value should be considered a minimum.
1. Dissolved oxygen measurements were collected in the field and reflect the final reading recorded following stabilization and prior to sample collection.

Figures



REFERENCE: BASE MAP USGS 7.5. MINUTE TOPOGRAPHIC MAP
SEATTLE SOUTH, WASHINGTON 1083

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.

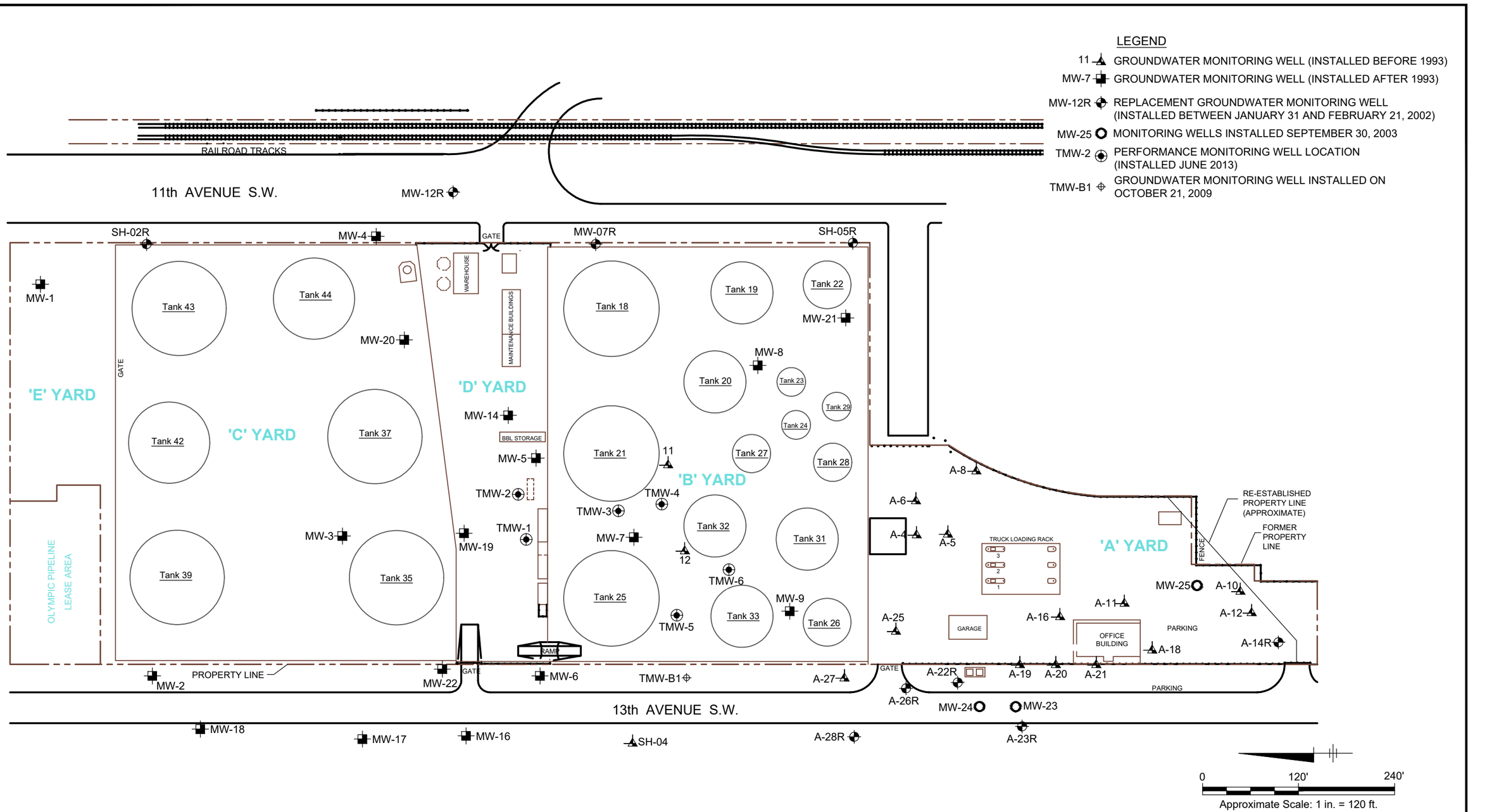
KINDER MORGAN LIQUIDS TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

SITE LOCATION MAP

ARCADIS

FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\Users\sm5228\OneDrive - ARCADIS\BIM360 - OneDrive Sync Location\AUS-KM-HARBOR ISLAND TERMINAL-SEATTLE Washington\2022\01-In Progress\01-DWG\GEN-F01-SLM.dwg LAYOUT: 1 SAVED: 2/1/2022 10:06 AM ACADVER: 24.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE:
ARCADIS.CTB PLOTTED: 2/1/2022 10:19 AM BY: S. MEGHASHREE
XREFS: IMAGES: PROJECTNAME: ---
WA000804 GoogleAerial.jpg
WA000804 USGS.jpg

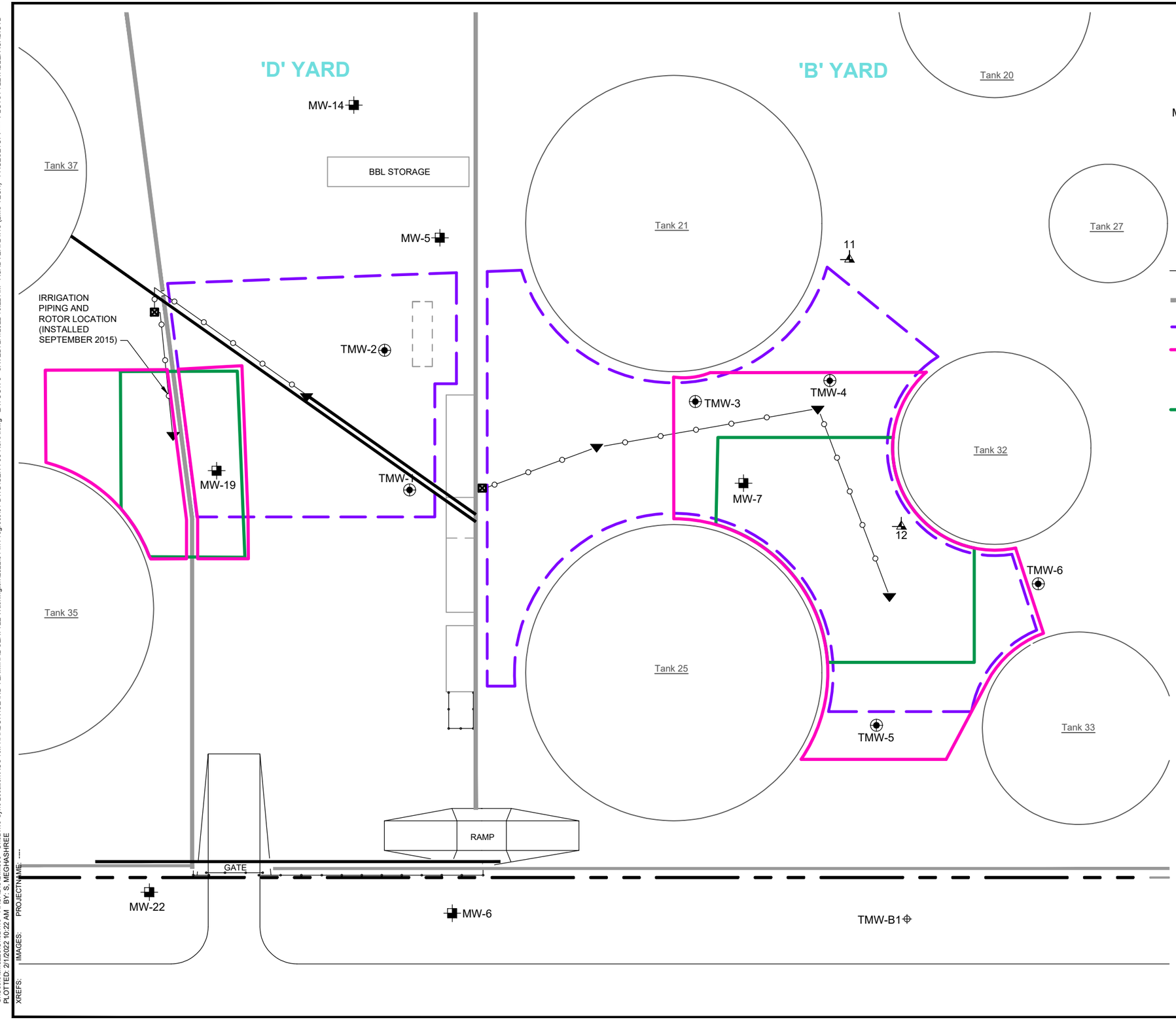


KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

SITE PLAN

ARCADIS

FIGURE
2



LEGEND

- SH-02 — GROUNDWATER MONITORING WELL (INSTALLED BEFORE 1993)
- MW-7 — GROUNDWATER MONITORING WELL (INSTALLED AFTER 1993)
- MW-12R — REPLACEMENT GROUNDWATER MONITORING WELL (INSTALLED BETWEEN JANUARY 31 AND FEBRUARY 21, 2002)
- WATER SOURCE LOCATION
- TMW-2 — PERFORMANCE MONITORING WELL LOCATION (INSTALLED JUNE 2013)
- TMW-B1 — GROUNDWATER MONITORING WELL INSTALLED ON OCTOBER 21, 2009
- IRRIGATION ROTOR LOCATION
- IRRIGATION PIPING
- CONCRETE WALL
- SULFATE APPLICATION AREA; JUNE 2013
- APPROXIMATE BOUNDARY OF THE SUPPLEMENTAL SULFATE APPLICATION AREA; APPLIED IN NOVEMBER 2018 AND DECEMBER 2019
- SULFATE APPLICATION AREA; JULY 2021

0 40' 80'

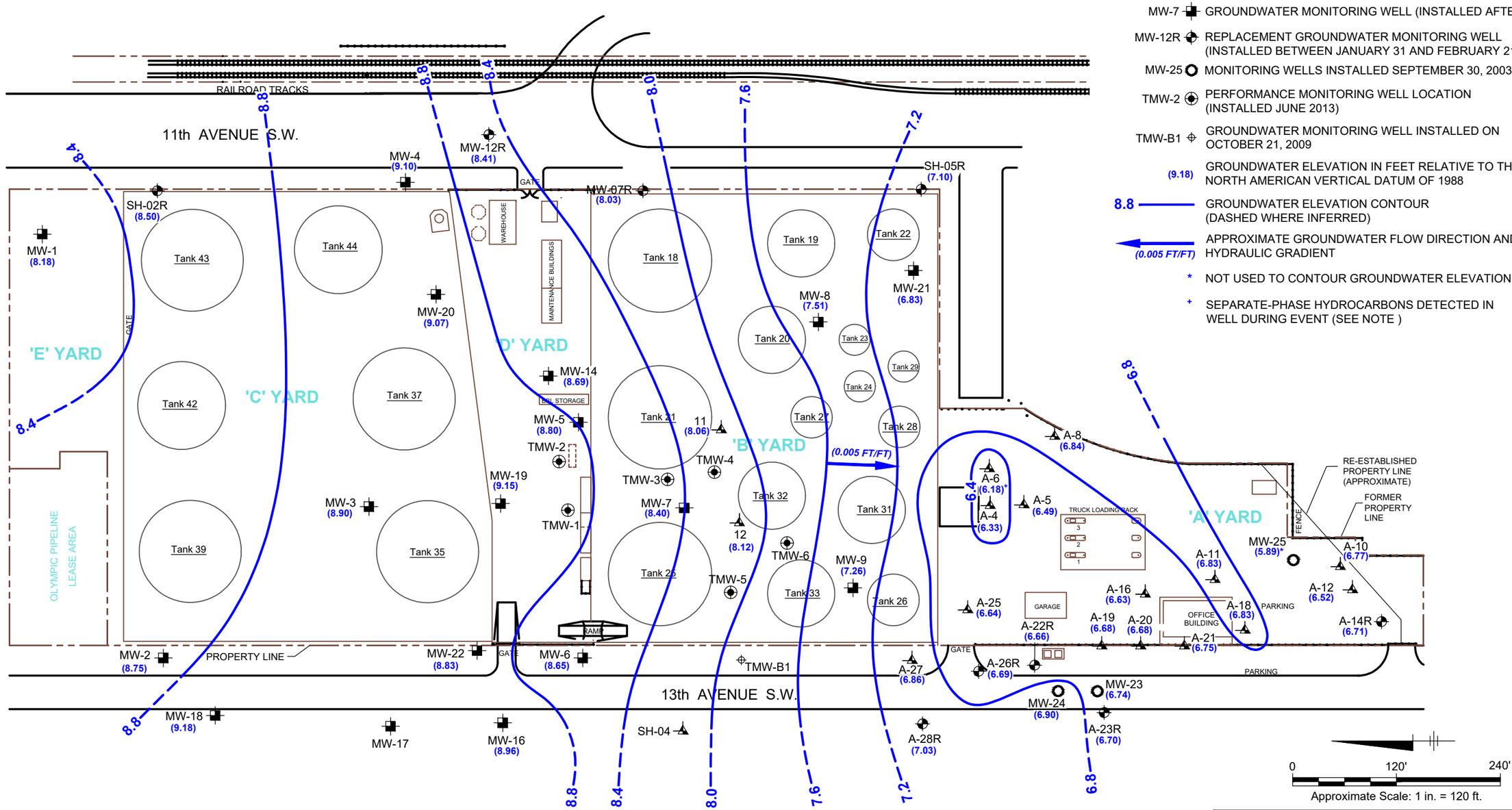
Approximate Scale: 1 in. = 40 ft.

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

REMEDIAL SULFATE APPLICATION AREA

ARCADIS

FIGURE 3



Approximate Scale: 1 in. = 120 ft.

LEGEND

- 11 — GROUNDWATER MONITORING WELL (INSTALLED BEFORE 1993)
- MW-7 — GROUNDWATER MONITORING WELL (INSTALLED AFTER 1993)
- MW-12R — REPLACEMENT GROUNDWATER MONITORING WELL (INSTALLED BETWEEN JANUARY 31 AND FEBRUARY 21, 2002)
- MW-25 — MONITORING WELLS INSTALLED SEPTEMBER 30, 2003
- TMW-2 — PERFORMANCE MONITORING WELL LOCATION (INSTALLED JUNE 2013)
- TMW-B1 — GROUNDWATER MONITORING WELL INSTALLED ON OCTOBER 21, 2009
- (9.18) — GROUNDWATER ELEVATION IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988
- 8.8 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (0.005 FT/FT) — APPROXIMATE GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT
- * — NOT USED TO CONTOUR GROUNDWATER ELEVATIONS
- + — SEPARATE-PHASE HYDROCARBONS DETECTED IN WELL DURING EVENT (SEE NOTE)

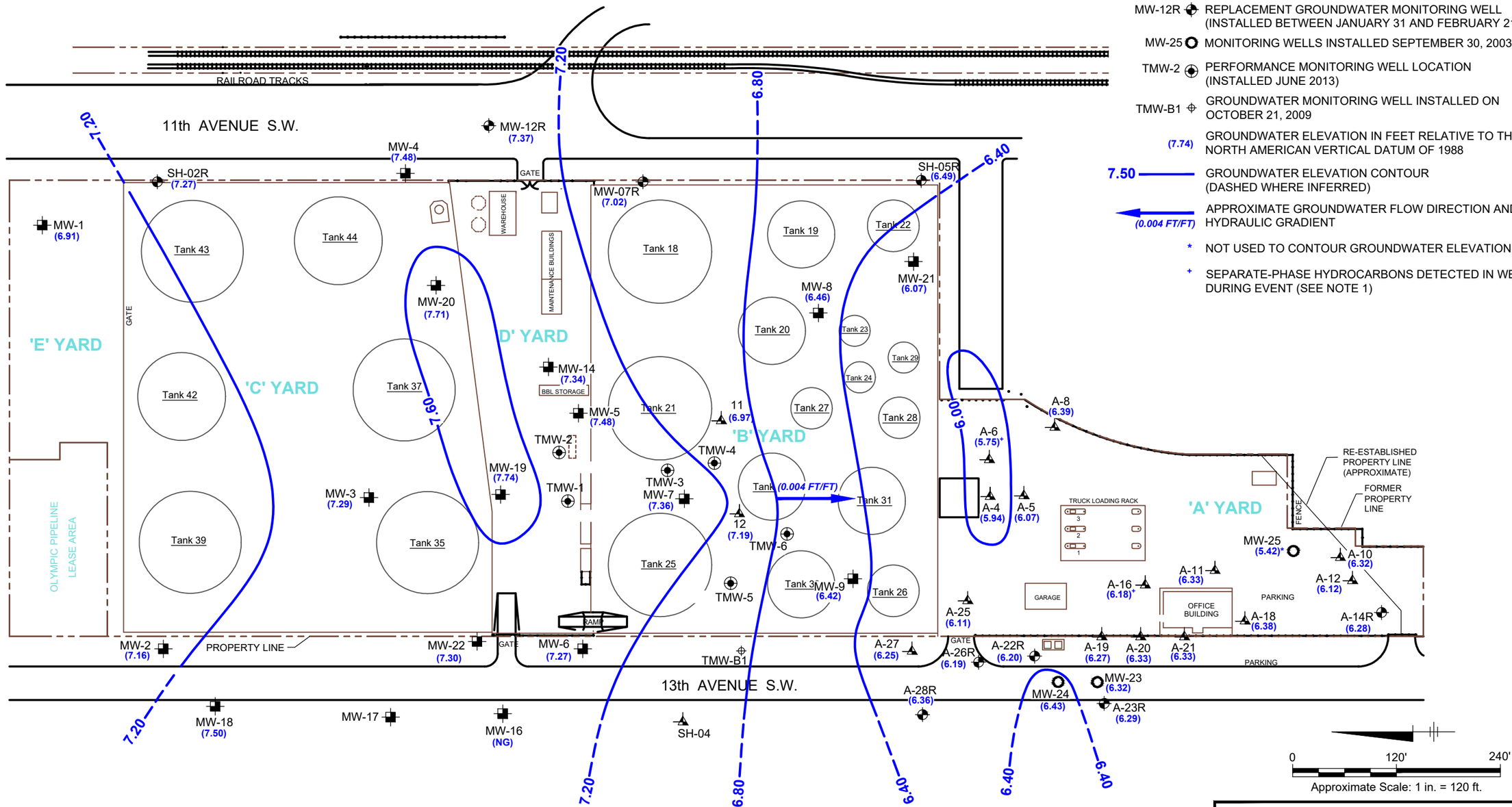
NOTE:
1. GROUNDWATER ELEVATION AT WELLS WITH SEPARATE-PHASE HYDROCARBON (SPH) CORRECTED FOR SPH THICKNESS USING THE SPECIFIC GRAVITY OF DIESEL (0.8).

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

GROUNDWATER ELEVATION CONTOURS APRIL 12, 2021

ARCADIS

FIGURE 4



LEGEND

- 11 — GROUNDWATER MONITORING WELL (INSTALLED BEFORE 1993)
- MW-7 — GROUNDWATER MONITORING WELL (INSTALLED AFTER 1993)
- MW-12R — REPLACEMENT GROUNDWATER MONITORING WELL (INSTALLED BETWEEN JANUARY 31 AND FEBRUARY 21, 2002)
- MW-25 — MONITORING WELLS INSTALLED SEPTEMBER 30, 2003
- TMW-2 — PERFORMANCE MONITORING WELL LOCATION (INSTALLED JUNE 2013)
- TMW-B1 — GROUNDWATER MONITORING WELL INSTALLED ON OCTOBER 21, 2009
- (7.74) — GROUNDWATER ELEVATION IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988
- 7.50 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (0.004 FT/FT) — APPROXIMATE GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT
- * — NOT USED TO CONTOUR GROUNDWATER ELEVATIONS
- + — SEPARATE-PHASE HYDROCARBONS DETECTED IN WELL DURING EVENT (SEE NOTE 1)

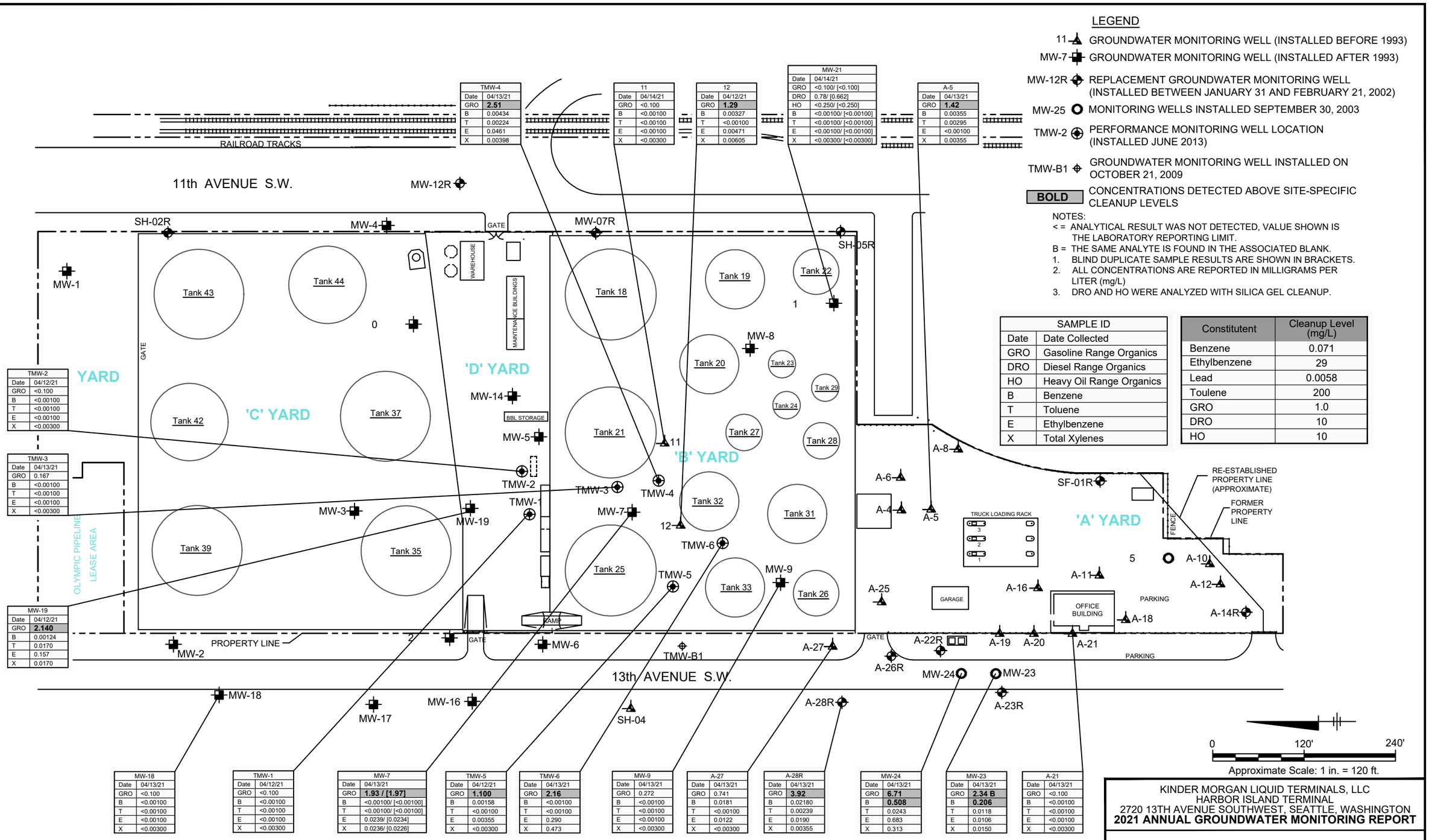
NOTE:
1. GROUNDWATER ELEVATION AT WELLS WITH SEPARATE-PHASE HYDROCARBON (SPH) CORRECTED FOR SPH THICKNESS USING THE SPECIFIC GRAVITY OF DIESEL (0.8).

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

GROUNDWATER ELEVATION CONTOURS OCTOBER 11, 2021

ARCADIS

FIGURE 5



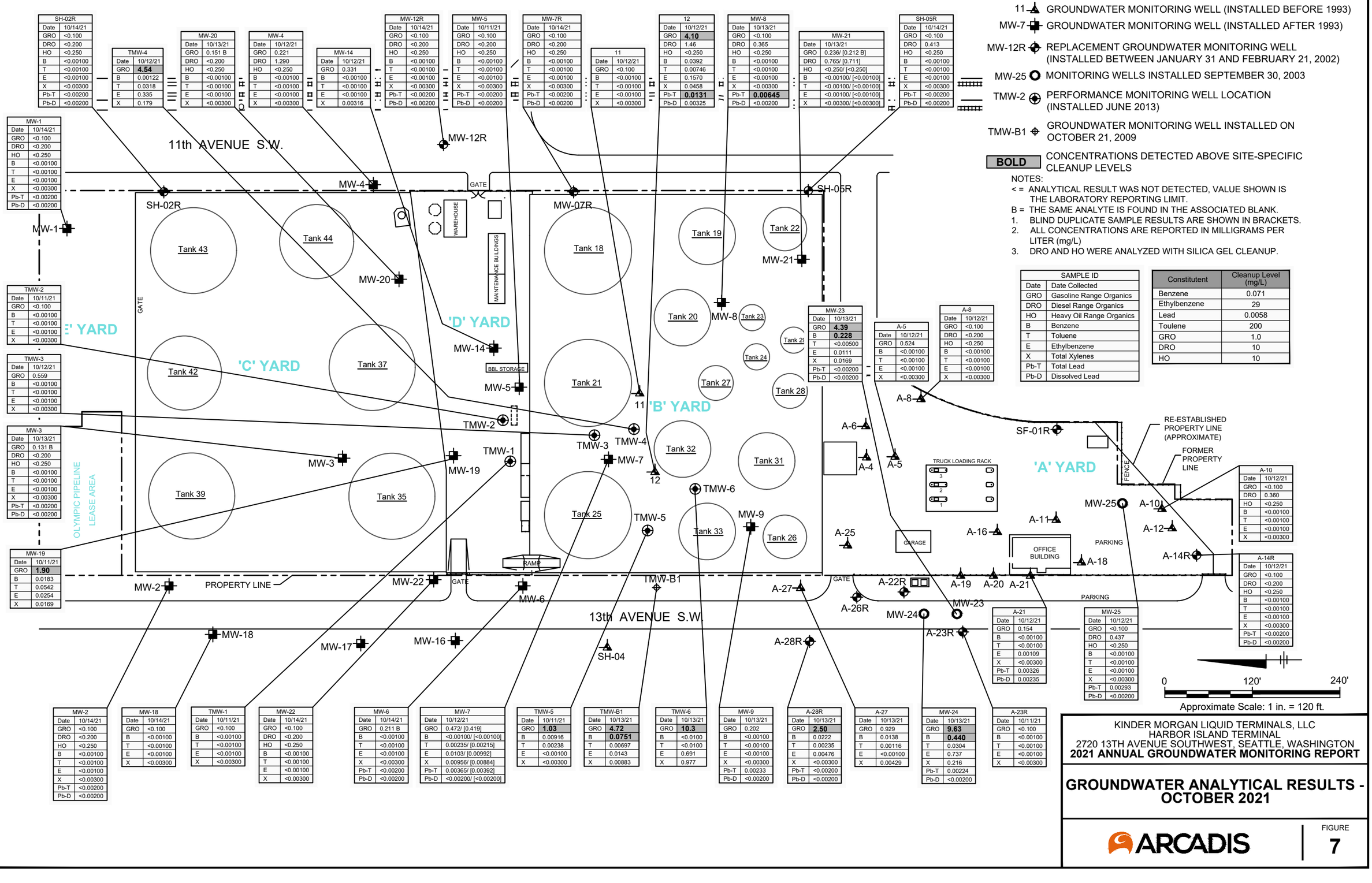
KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

GROUNDWATER ANALYTICAL RESULTS - APRIL 2021

ARCADIS

FIGURE 6

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(On|Off|*)=*OFF*=REF*
C:\Users\shankar4688\ACCDocs\Arcadis\AUS-KM-HARBOR ISLAND TERMINAL-SEATTLE Washington\Project Files\2022\01-In Progress\01-DWG\GWM-2021Q3-F06-2021Q3-F06-GWEAM.dwg LAYOUT: 6 SAVED: 2/17/2022 1:35 PM ACADVER: 24.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB
PLOTTED: 2/17/2022 1:53 PM BY: SHANKARAPPA, VASANTH KUMAR
XREFS: IMAGES: PROJECTNAME: ----
X-SITEBASE WA000804



Approximate Scale: 1 in. = 120 ft.

LEGEND

- 11 — GROUNDWATER MONITORING WELL (INSTALLED BEFORE 1993)
- MW-7 — GROUNDWATER MONITORING WELL (INSTALLED AFTER 1993)
- MW-12R — REPLACEMENT GROUNDWATER MONITORING WELL (INSTALLED BETWEEN JANUARY 31 AND FEBRUARY 21, 2002)
- MW-25 — MONITORING WELLS INSTALLED SEPTEMBER 30, 2003
- TMW-2 — PERFORMANCE MONITORING WELL LOCATION (INSTALLED JUNE 2013)
- TMW-B1 — GROUNDWATER MONITORING WELL INSTALLED ON OCTOBER 21, 2009
- **BOLD** — CONCENTRATIONS DETECTED ABOVE SITE-SPECIFIC CLEANUP LEVELS

NOTES:

< = ANALYTICAL RESULT WAS NOT DETECTED, VALUE SHOWN IS THE LABORATORY REPORTING LIMIT.
B = THE SAME ANALYTE IS FOUND IN THE ASSOCIATED BLANK.
1. BLIND DUPLICATE SAMPLE RESULTS ARE SHOWN IN BRACKETS.
2. ALL CONCENTRATIONS ARE REPORTED IN MILLIGRAMS PER LITER (mg/L)
3. DRO AND HO WERE ANALYZED WITH SILICA GEL CLEANUP.

SAMPLE ID	
Date	Date Collected
GRO	Gasoline Range Organics
DRO	Diesel Range Organics
HO	Heavy Oil Range Organics
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total Xylenes
Pb-T	Total Lead
Pb-D	Dissolved Lead

Constitutent	Cleanup Level (mg/L)
Benzene	0.071
Ethylbenzene	29
Lead	0.0058
Toulene	200
GRO	1.0
DRO	10
HO	10

SH-02R	
Date	10/14/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

TMW-4	
Date	10/12/21
GRO	**4.54**
B	0.00122
T	0.0318
E	0.335
X	0.179

MW-20	
Date	10/13/21
GRO	0.151 B
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

MW-4	
Date	10/12/21
GRO	0.221
DRO	1.290
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

MW-14	
Date	10/12/21
GRO	0.331
B	<0.00100
T	<0.00100
E	<0.00100
X	0.00316

MW-12R	
Date	10/14/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

MW-5	
Date	10/11/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

MW-7R	
Date	10/14/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

11	
Date	10/12/21
GRO	<0.100
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

12	
Date	10/12/21
GRO	**4.10**
DRO	1.46
HO	<0.250
B	0.0392
T	0.00746
E	0.1570
X	0.0458
Pb-T	**0.0131**
Pb-D	0.00325

MW-8	
Date	10/13/21
GRO	<0.100
DRO	0.365
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	**0.00645**
Pb-D	<0.00200

MW-21	
Date	10/13/21
GRO	0.236/ [0.212 B]
DRO	0.765/ [0.711]
HO	<0.250/ [<0.250]
B	<0.00100/ [<0.00100]
T	<0.00100/ [<0.00100]
E	<0.00100/ [<0.00100]
X	<0.00300/ [<0.00300]

SH-05R	
Date	10/14/21
GRO	<0.100
DRO	0.413
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

MW-1	
Date	10/14/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

TMW-2	
Date	10/11/21
GRO	<0.100
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

TMW-3	
Date	10/12/21
GRO	0.559
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

MW-3	
Date	10/13/21
GRO	0.131 B
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

MW-19	
Date	10/11/21
GRO	**1.90**
B	0.0183
T	0.0542
E	0.0254
X	0.0169

MW-23	
Date	10/13/21
GRO	**4.39**
B	**0.228**
T	<0.00500
E	0.0111
X	0.0169
Pb-T	<0.00200
Pb-D	<0.00200

A-5	
Date	10/12/21
GRO	0.524
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

A-8	
Date	10/12/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

A-10	
Date	10/12/21
GRO	<0.100
DRO	0.360
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

A-14R	
Date	10/12/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

A-21	
Date	10/12/21
GRO	0.154
B	<0.00100
T	<0.00100
E	0.00109
X	<0.00300
Pb-T	0.00326
Pb-D	0.00235

MW-25	
Date	10/12/21
GRO	<0.100
DRO	0.437
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	0.00293
Pb-D	<0.00200

MW-2	
Date	10/14/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

MW-18	
Date	10/14/21
GRO	<0.100
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

TMW-1	
Date	10/11/21
GRO	<0.100
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

MW-22	
Date	10/14/21
GRO	<0.100
DRO	<0.200
HO	<0.250
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

MW-6	
Date	10/14/21
GRO	0.211 B
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

MW-7	
Date	10/12/21
GRO	0.472/ [0.419]
B	<0.00100/ [<0.00100]
T	0.00235/ [0.00215]
E	0.0103/ [0.00992]
X	0.00956/ [0.00884]
Pb-T	0.00365/ [0.00392]
Pb-D	<0.00200/ [<0.00200]

TMW-5	
Date	10/11/21
GRO	**1.03**
B	0.00916
T	0.00238
E	<0.00100
X	<0.00300

TMW-B1	
Date	10/13/21
GRO	**4.72**
B	**0.0751**
T	0.00697
E	0.0143
X	0.00883

TMW-6	
Date	10/13/21
GRO	**10.3**
B	<0.0100
T	<0.0100
E	0.691
X	0.977

MW-9	
Date	10/13/21
GRO	0.202
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300
Pb-T	0.00233
Pb-D	<0.00200

A-28R	
Date	10/13/21
GRO	**2.50**
B	0.0222
T	0.00235
E	0.00476
X	<0.00300
Pb-T	<0.00200
Pb-D	<0.00200

A-27	
Date	10/13/21
GRO	0.929
B	0.0138
T	0.00116
E	<0.00100
X	0.00429

MW-24	
Date	10/13/21
GRO	**9.63**
B	**0.440**
T	0.0304
E	0.737
X	0.216
Pb-T	0.00224
Pb-D	<0.00200

A-23R	
Date	10/11/21
GRO	<0.100
B	<0.00100
T	<0.00100
E	<0.00100
X	<0.00300

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON

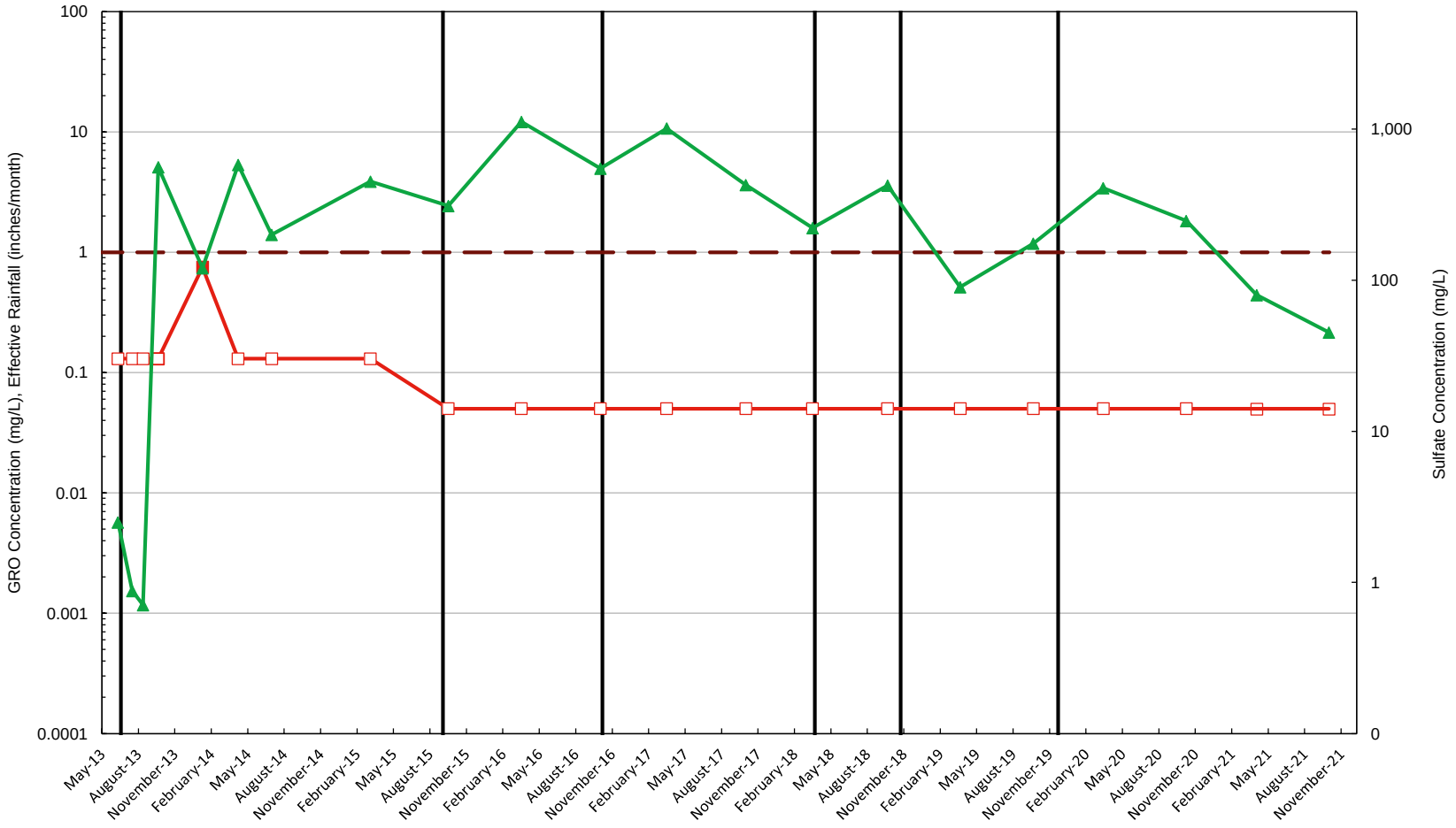
2021 ANNUAL GROUNDWATER MONITORING REPORT

GROUNDWATER ANALYTICAL RESULTS - OCTOBER 2021

ARCADIS

FIGURE 7

Graphs



- Sulfate Land Application
- GRO
- Site-Specific Cleanup Level; GRO
- Sulfate

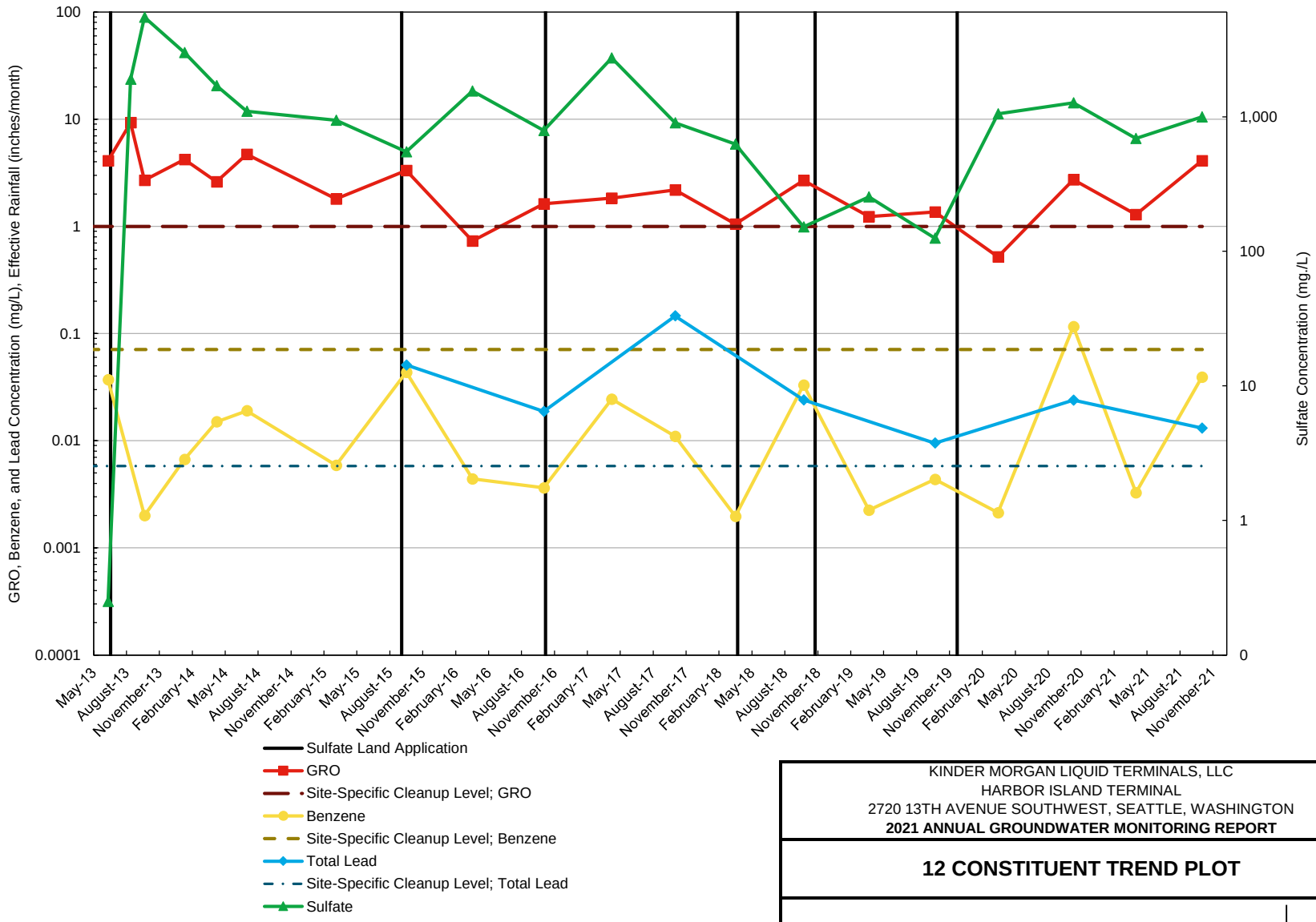
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

11 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
1



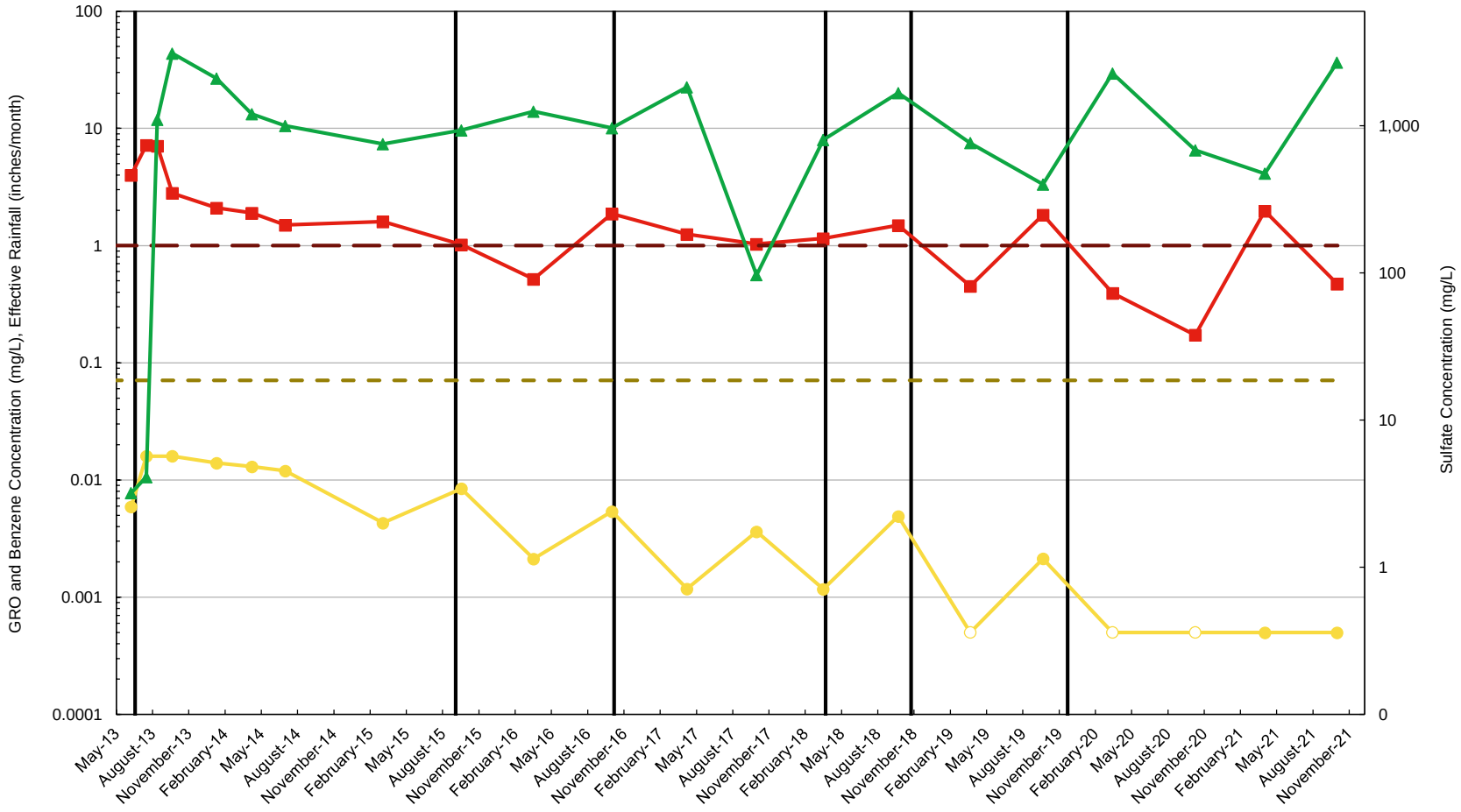
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

12 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
2



- Sulfate Land Application
- GRO
- Site-Specific Cleanup Level; GRO
- Benzene
- Site-Specific Cleanup Level; Benzene
- Sulfate

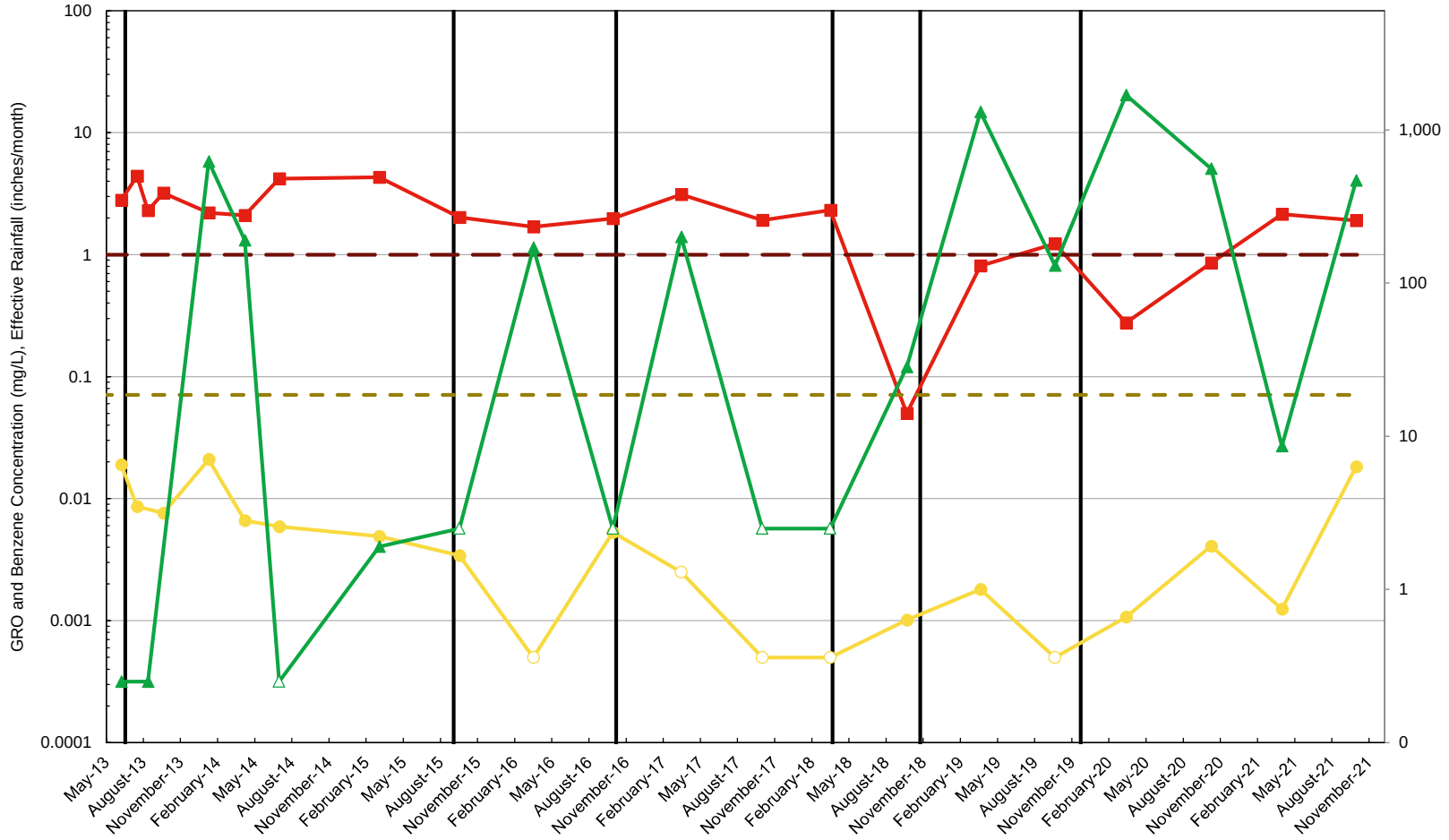
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

MW-7 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
3



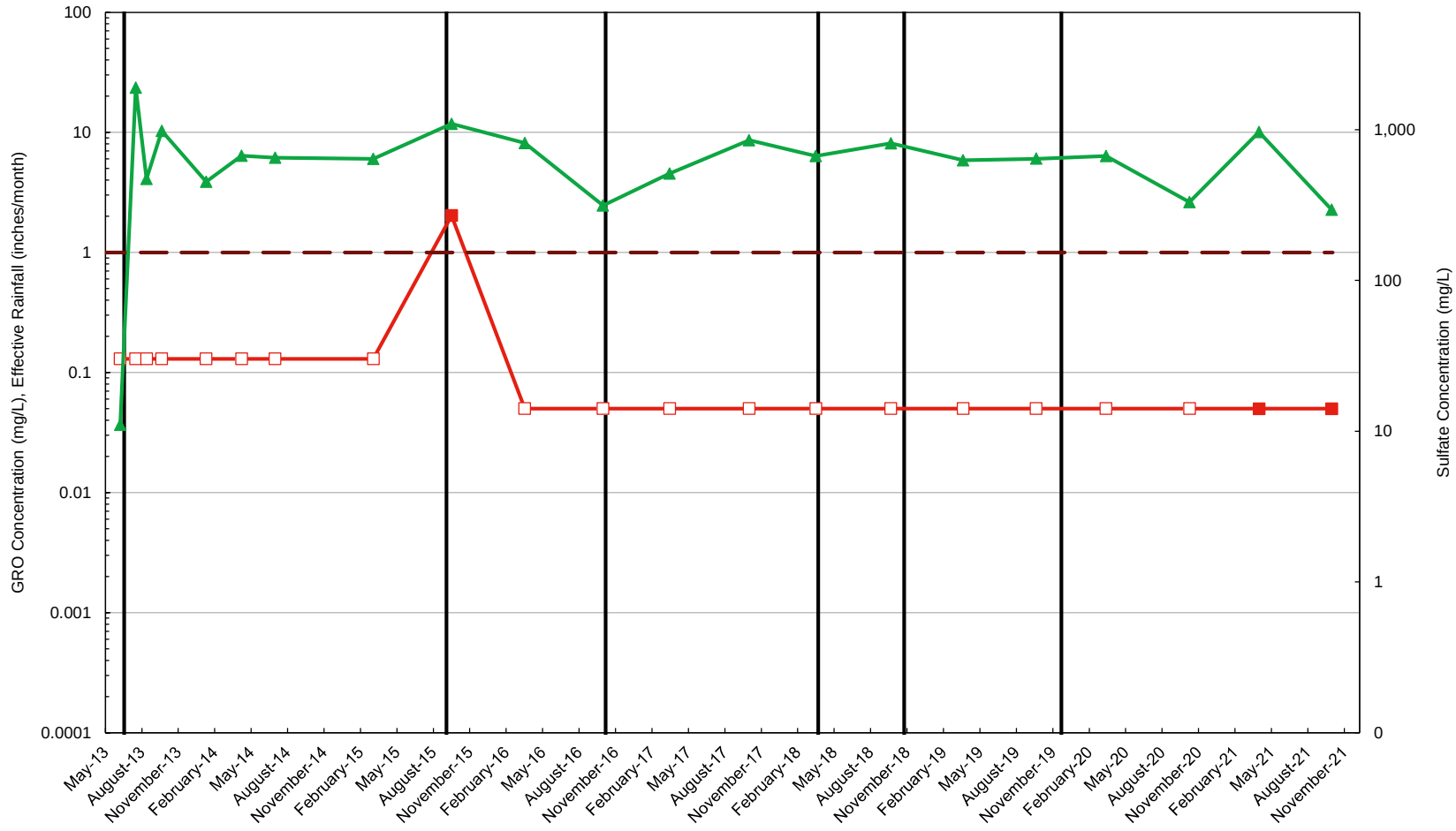
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

MW-19 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
4



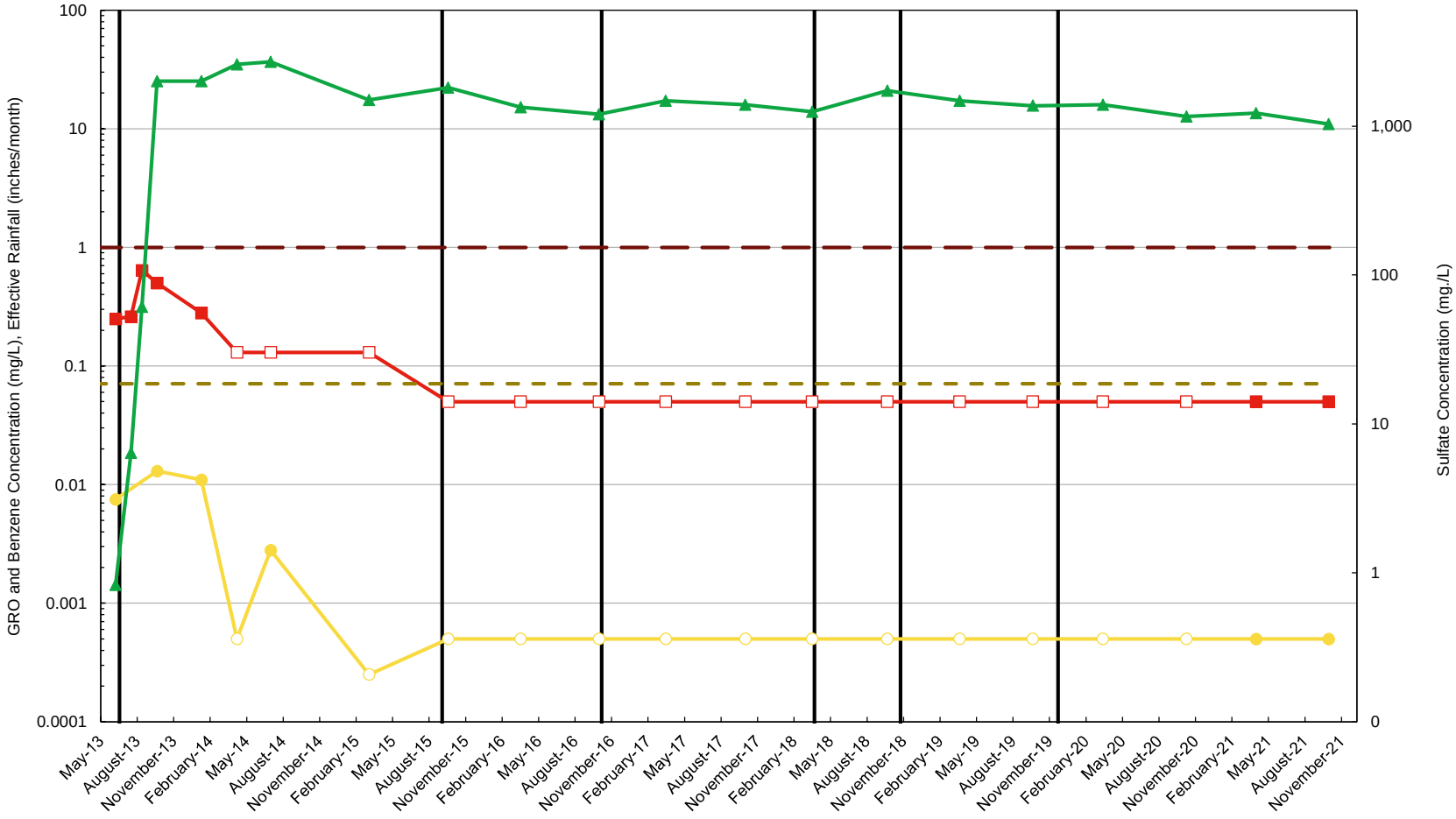
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

TMW-1 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
5



- Sulfate Land Application
- GRO
- Site-Specific Cleanup Level; GRO
- Benzene
- Site-Specific Cleanup Level; Benzene
- Sulfate

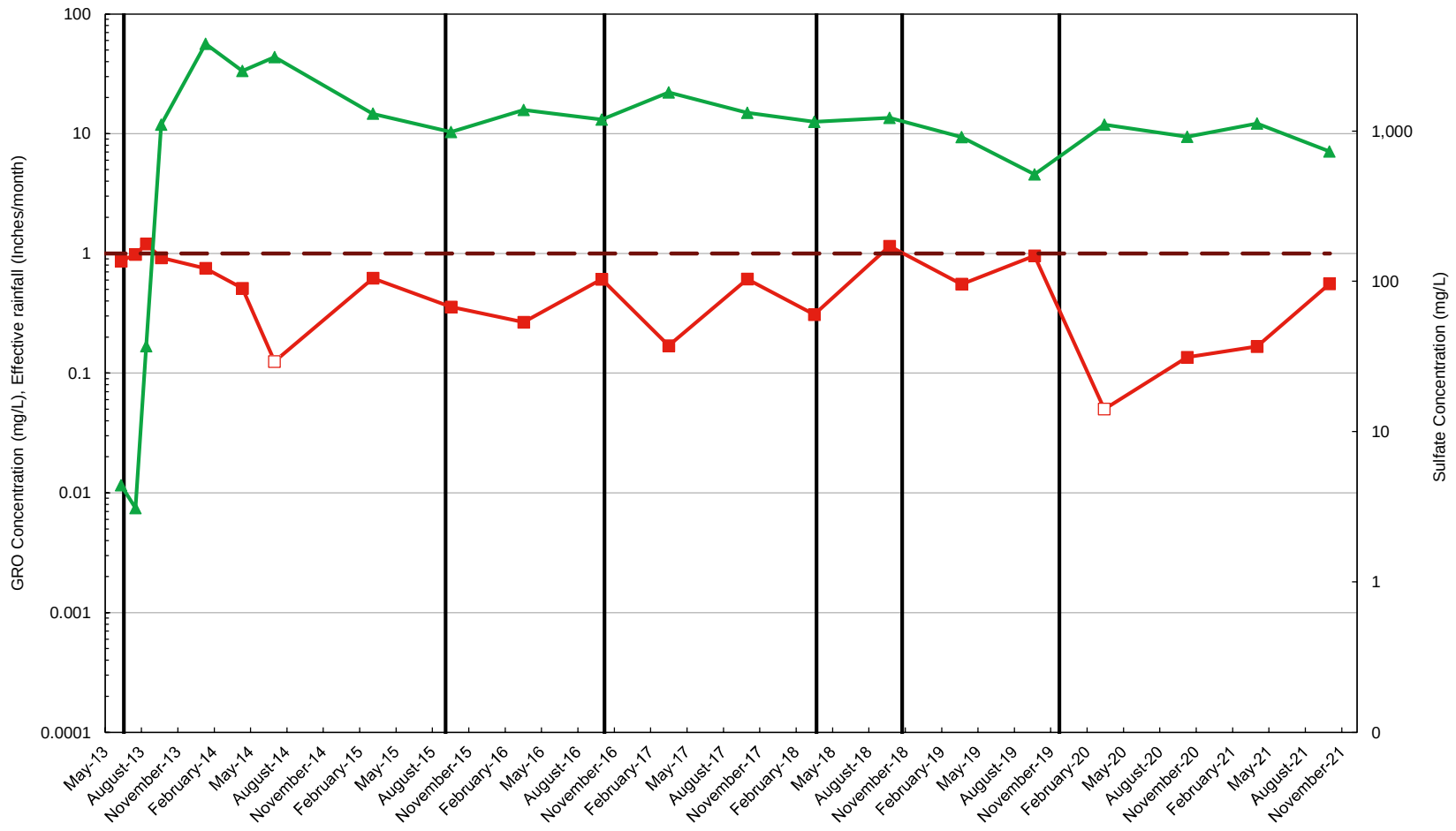
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

TMW-2 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
6



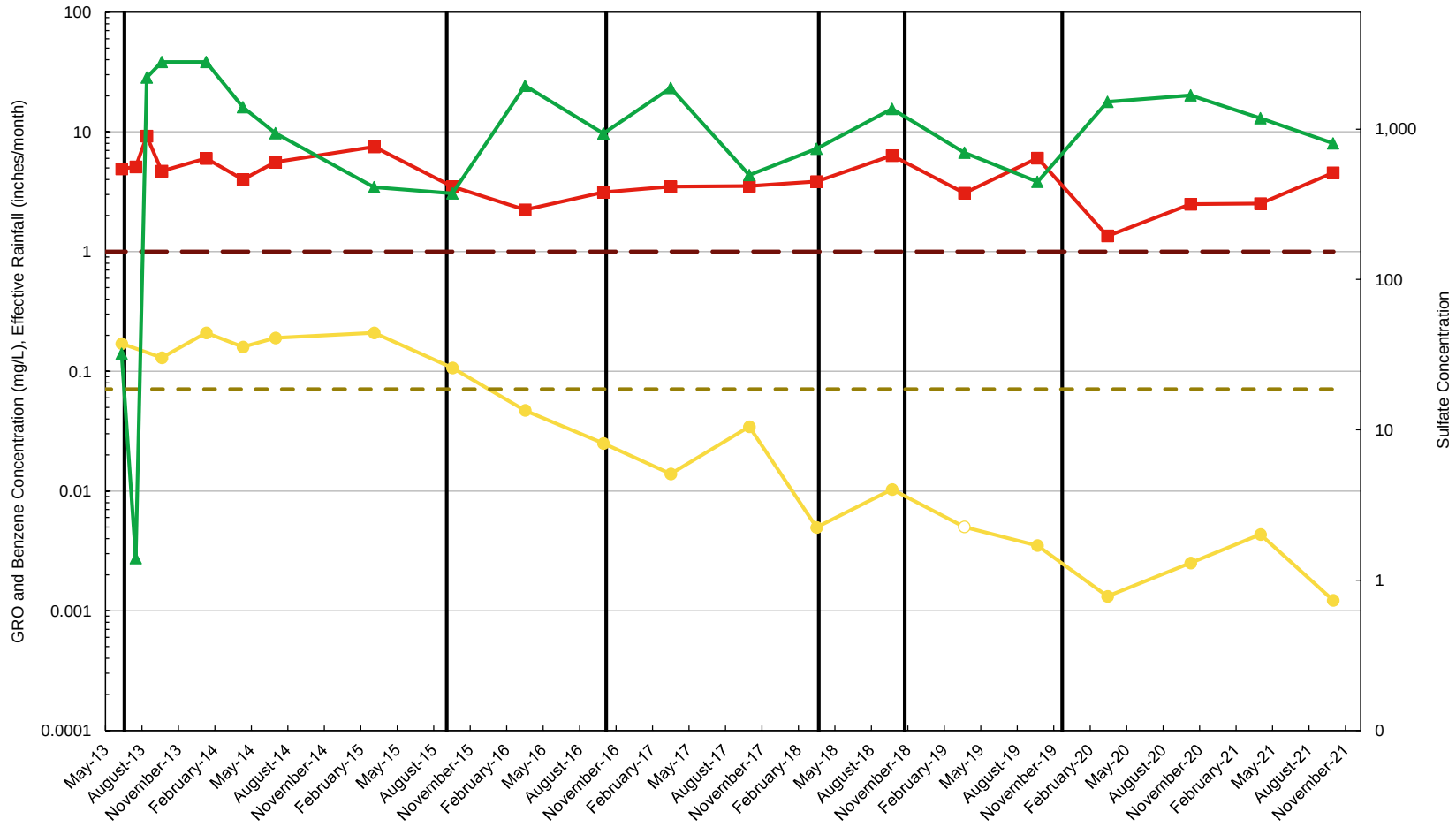
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

TMW-3 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
7



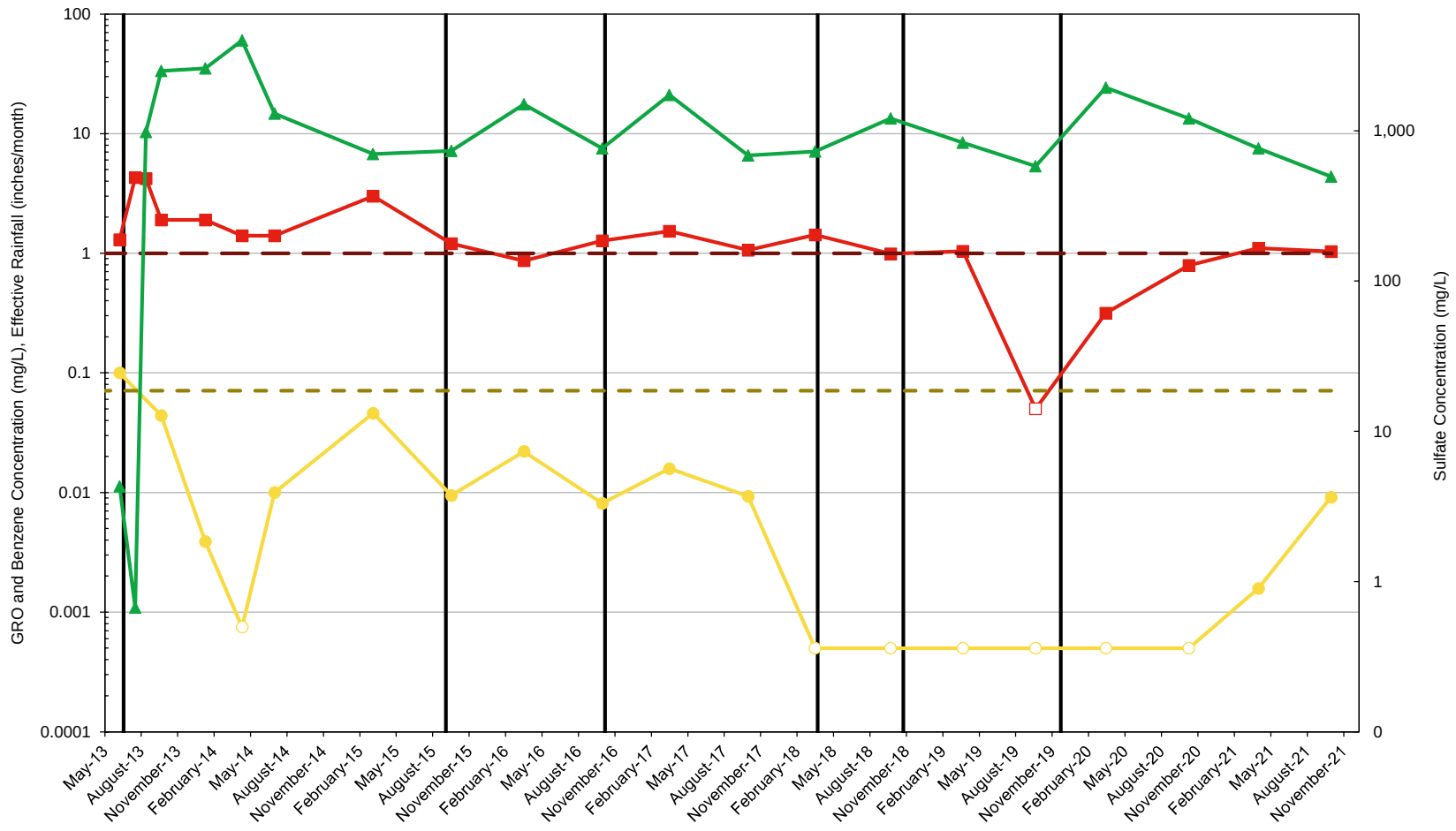
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

TMW-4 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
8



- Sulfate Land Application
- GRO
- Site-Specific Cleanup Level; GRO
- Benzene
- Site-Specific Cleanup Level; Benzene
- Sulfate

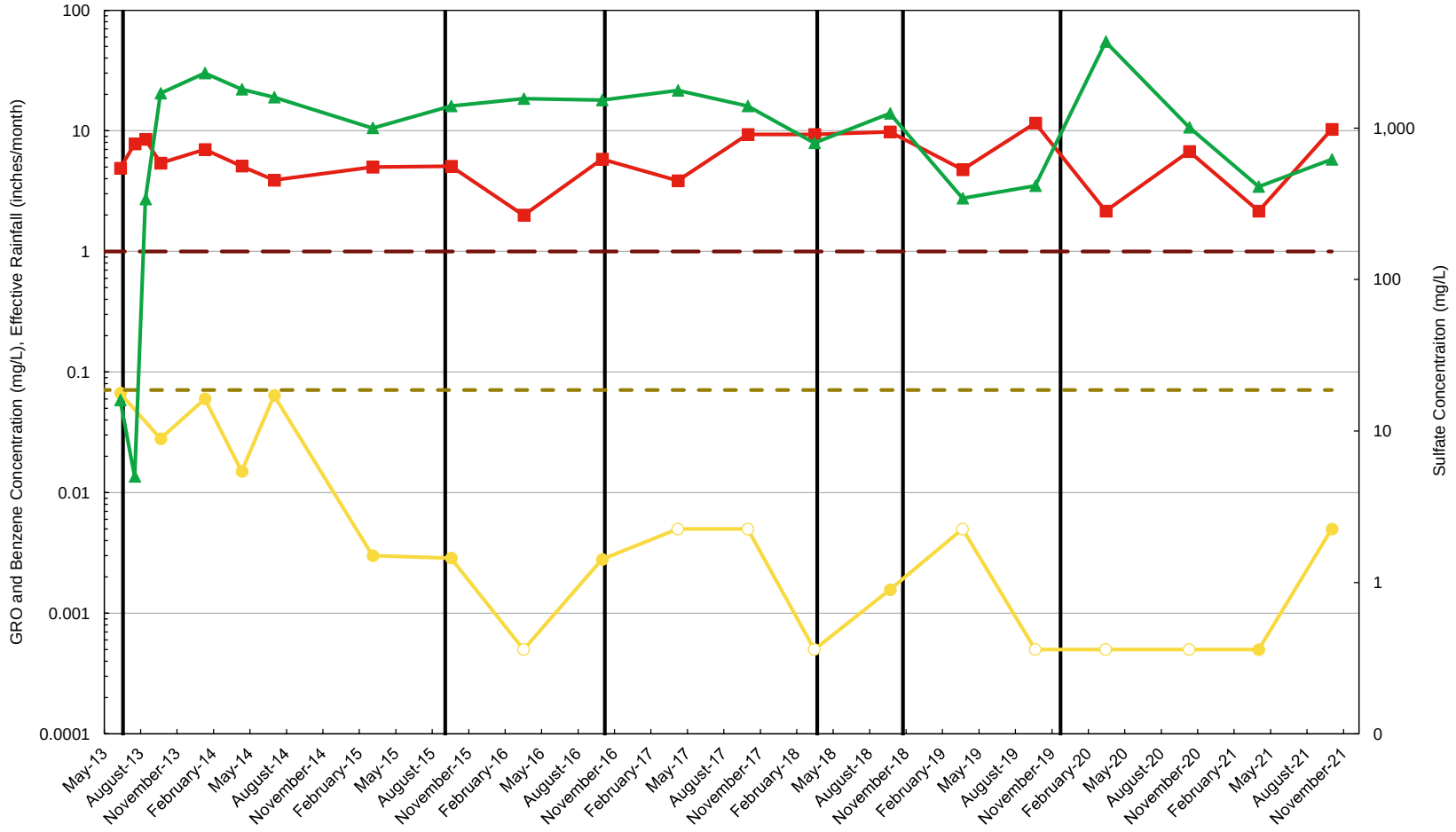
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

TMW-5 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
9



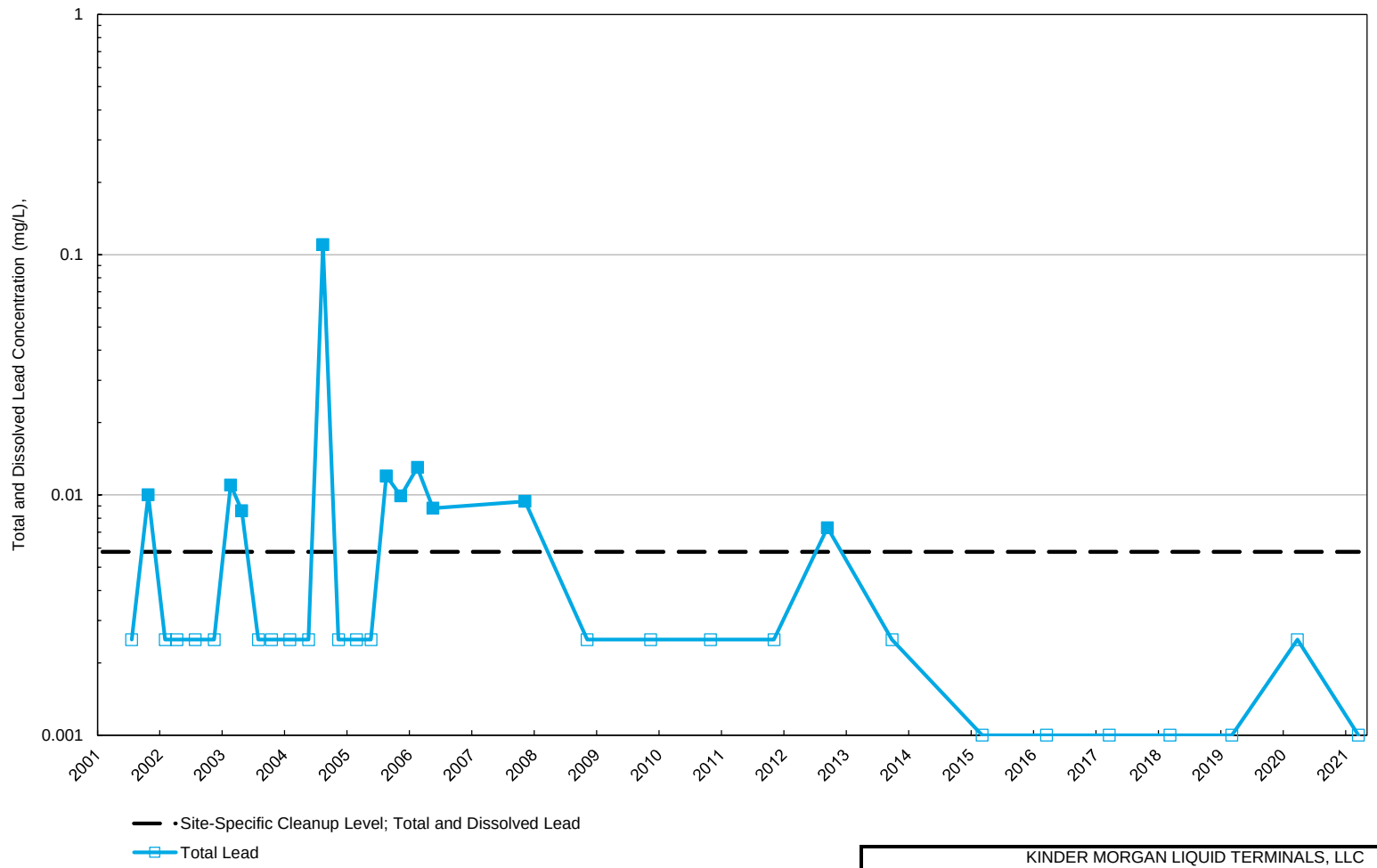
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

TMW-6 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
10



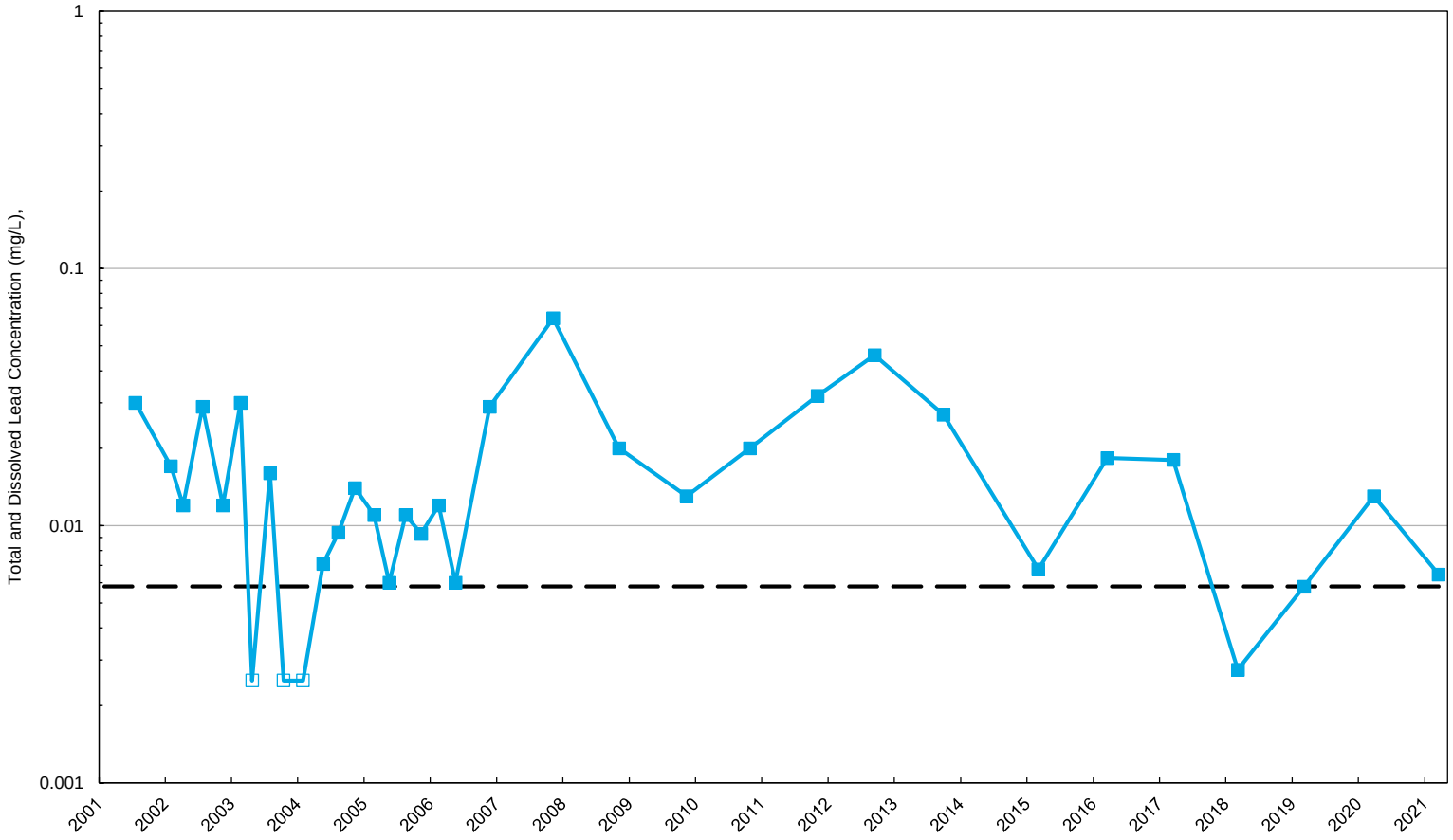
Notes:
1. mg/L = milligrams per liter
2. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL
3. Dissolved lead was analyzed prior to 2006 and in the 2015 and 2016 groundwater monitoring events. Concentrations were below the method detection limit.

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

MW-5 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
11



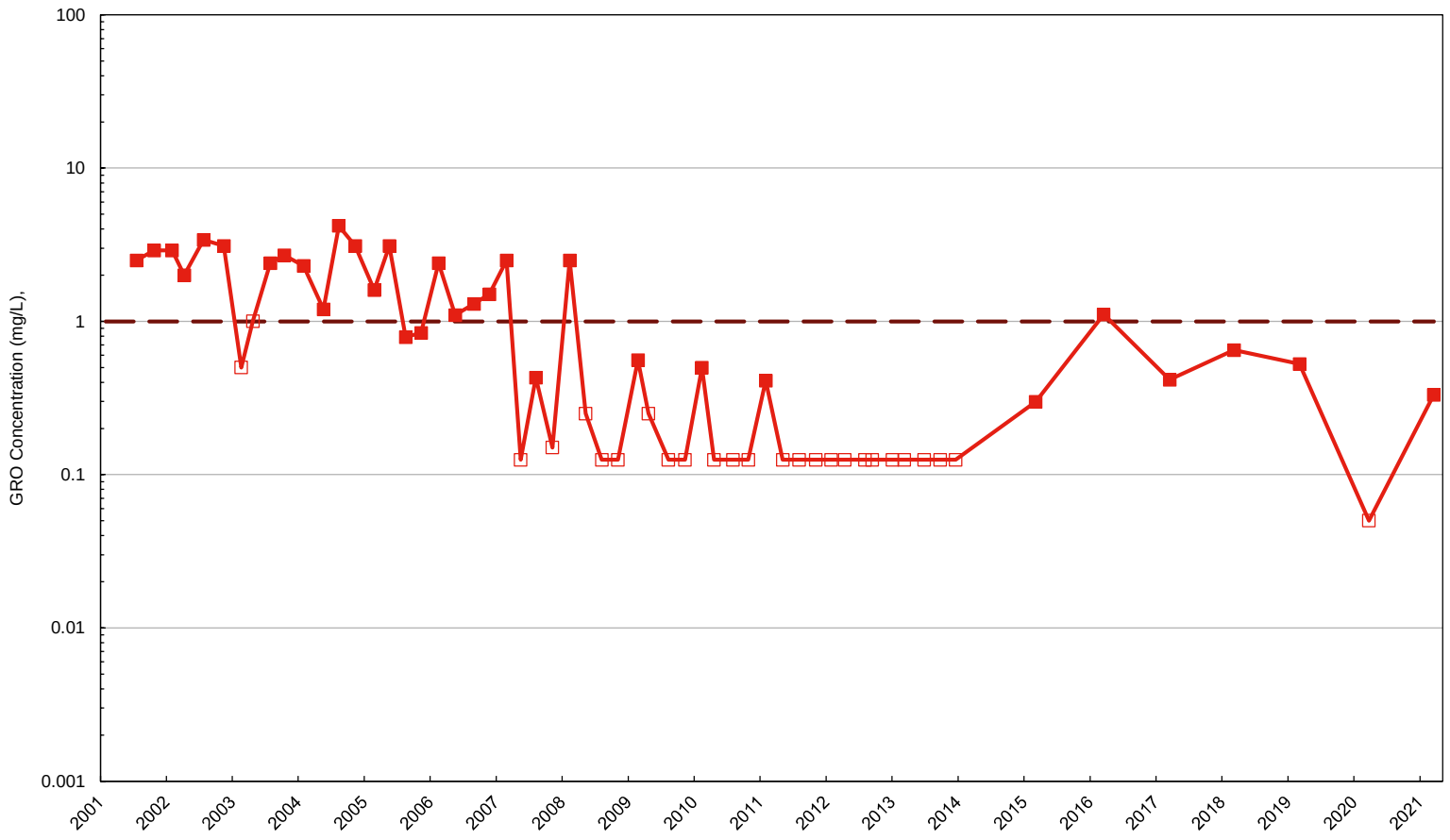
Notes:
1. mg/L = milligrams per liter
2. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL
3. Dissolved lead was analyzed prior to 2006 and in the 2015 and 2016 groundwater monitoring events. Concentrations were below the method detection limit.

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

MW-8 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
12



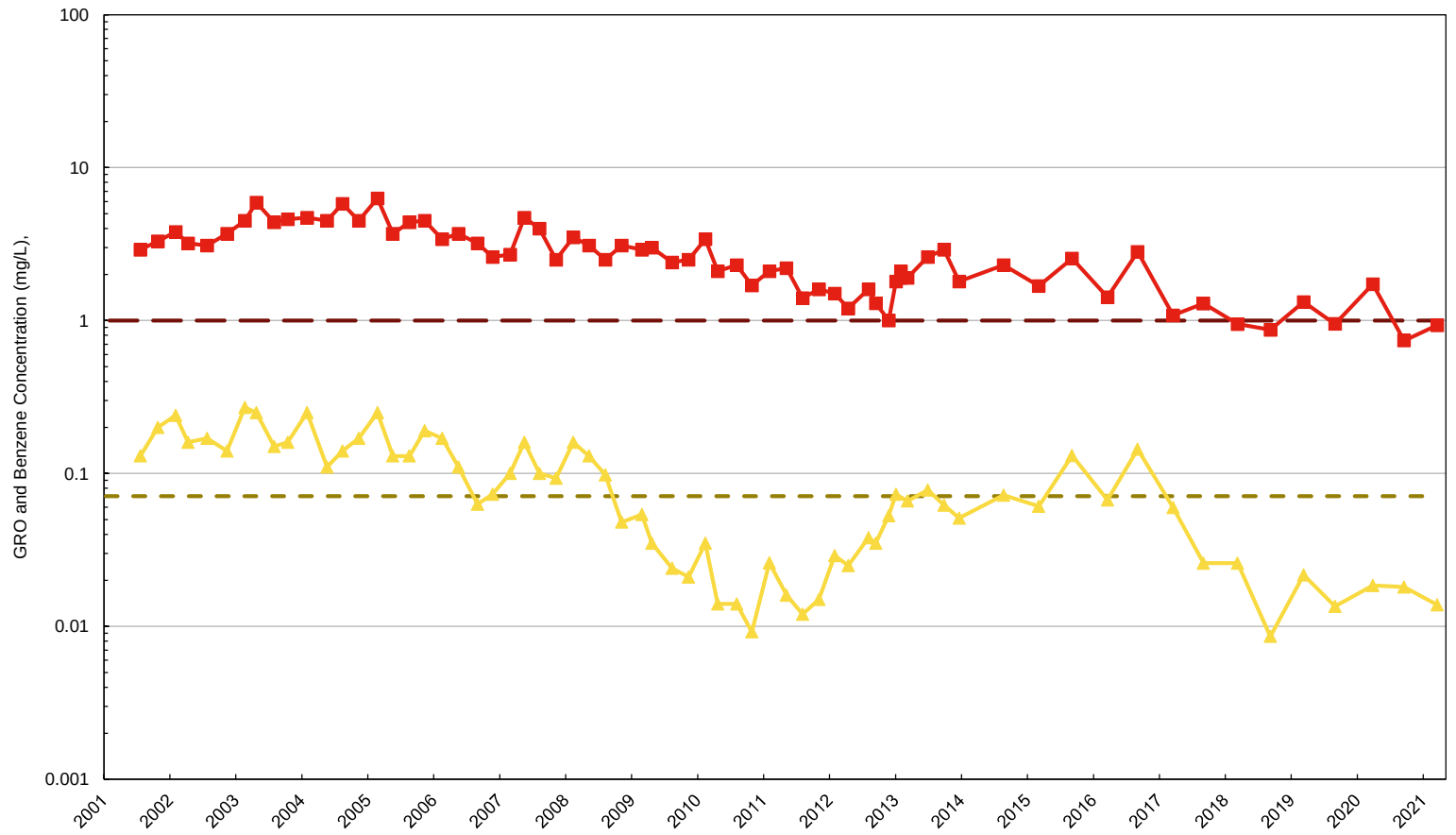
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

MW-14 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
13



- Site-Specific Cleanup Level; GRO
- GRO
- Site-Specific Cleanup Level; Benzene
- Benzene

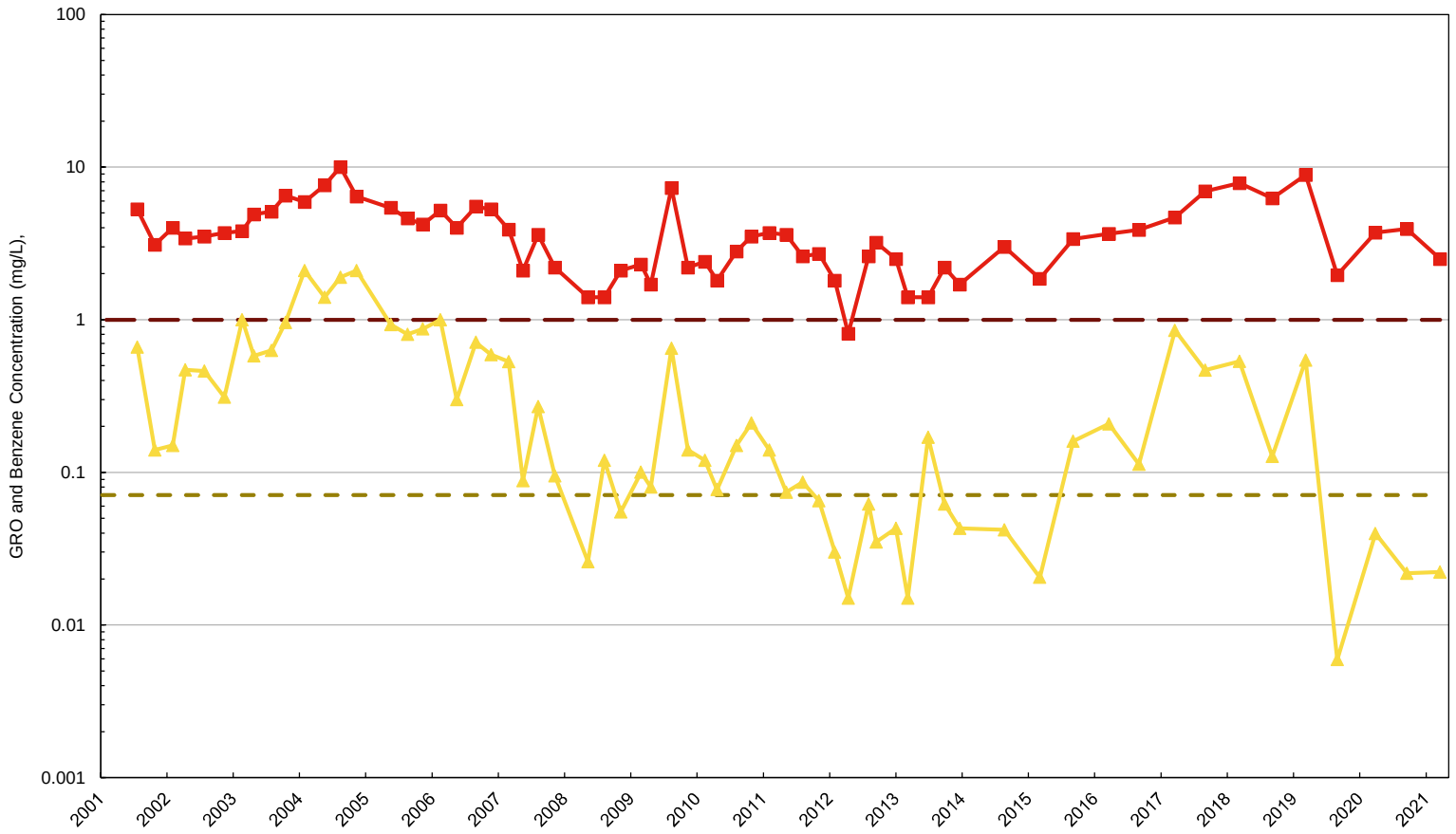
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

A-27 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
14



- Site-Specific Cleanup Level; GRO
- GRO
- Site-Specific Cleanup Level; Benzene
- Benzene

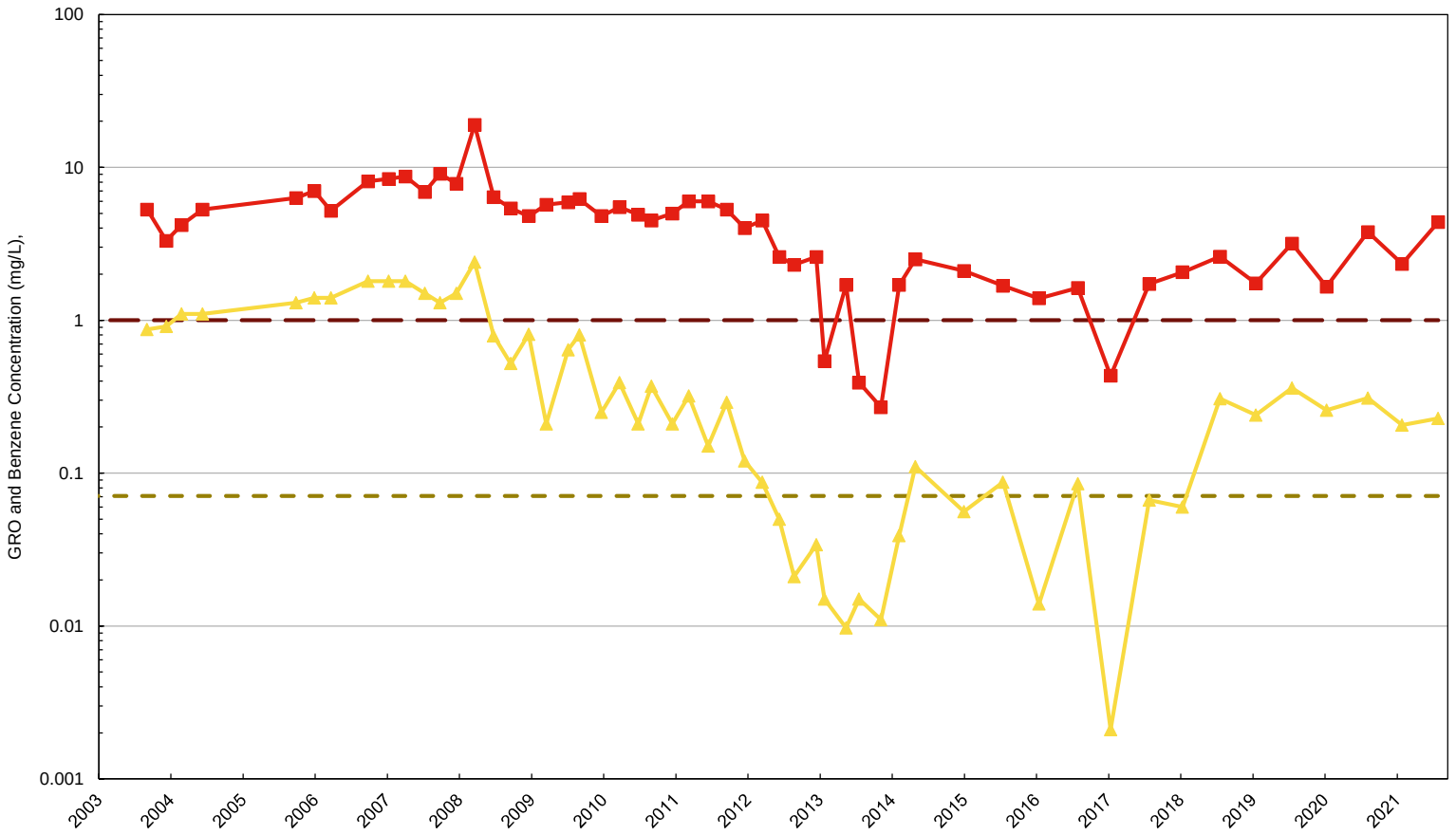
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

A-28R CONSTITUENT TREND PLOT

ARCADIS

GRAPH
15



- Site-Specific Cleanup Level; GRO
- GRO
- Site-Specific Cleanup Level; Benzene
- Benzene

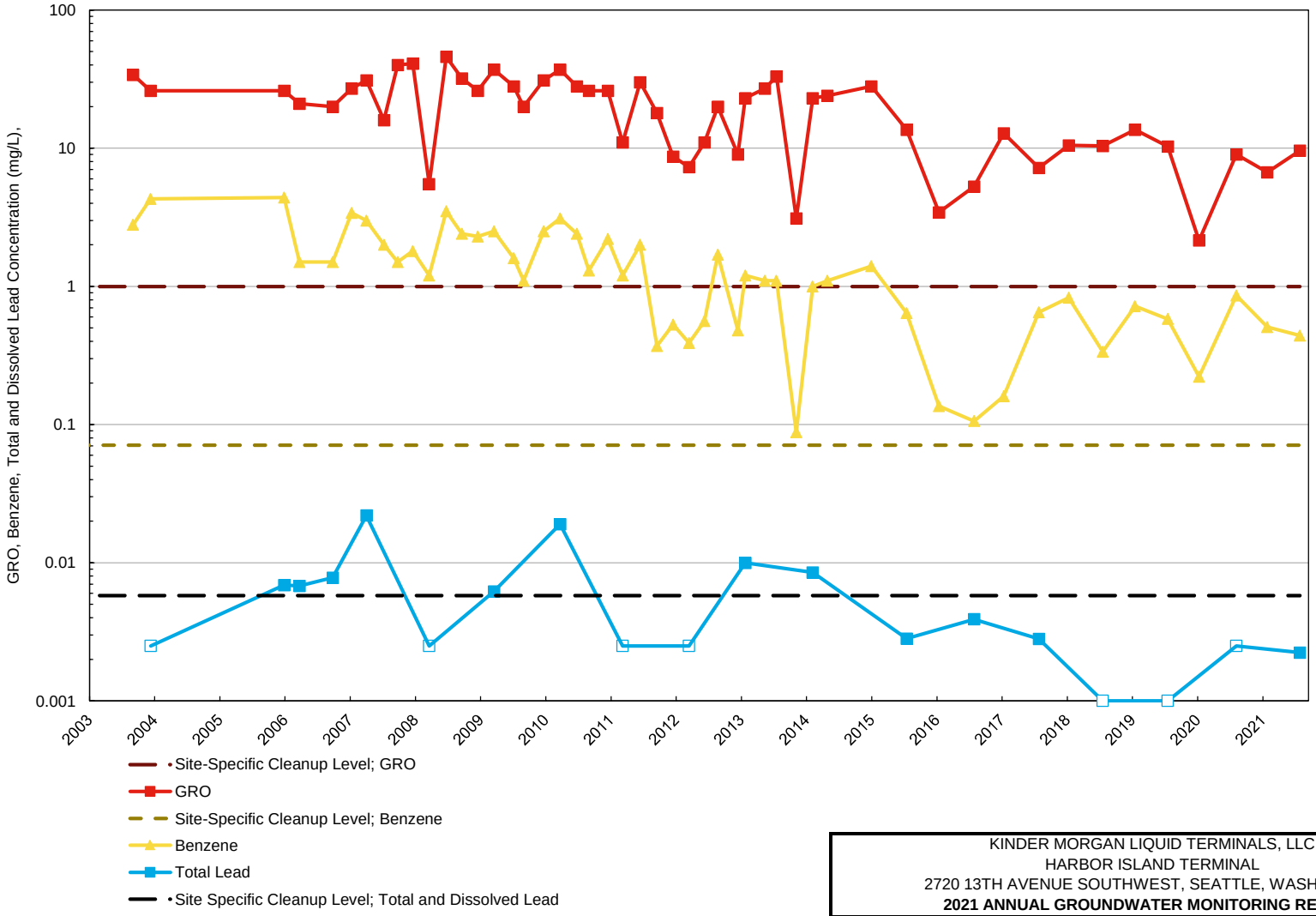
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

MW-23 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
16



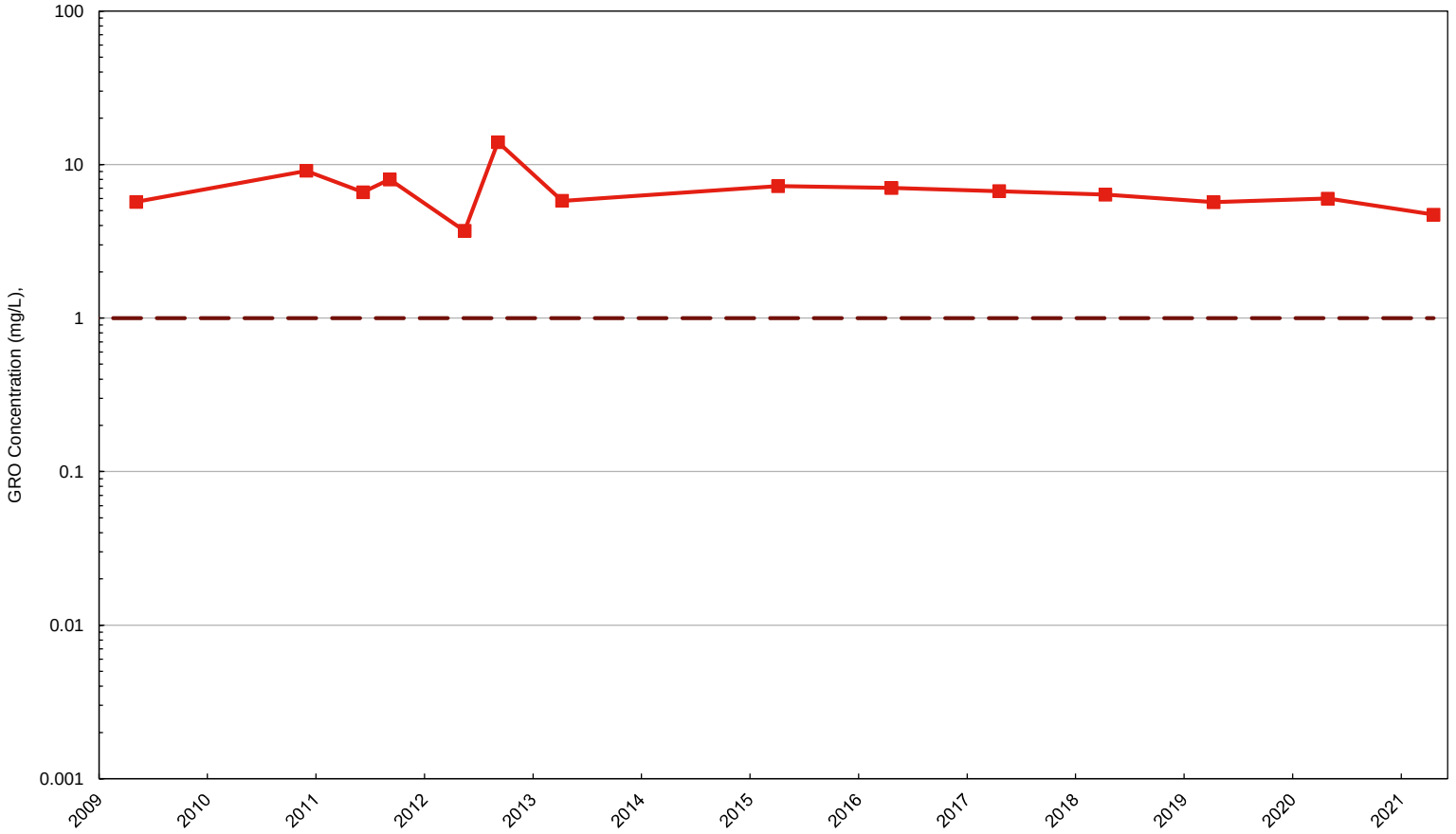
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter
3. Open data points indicate that concentrations were not measured above the laboratory reporting limit (RL), plotted at half the RL
4. Dissolved lead was analyzed in perodically prior to 2015 and in the 2015 and 2016 groundwater monitoring events. Concentrations were below the method detection limit.

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

MW-24 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
17



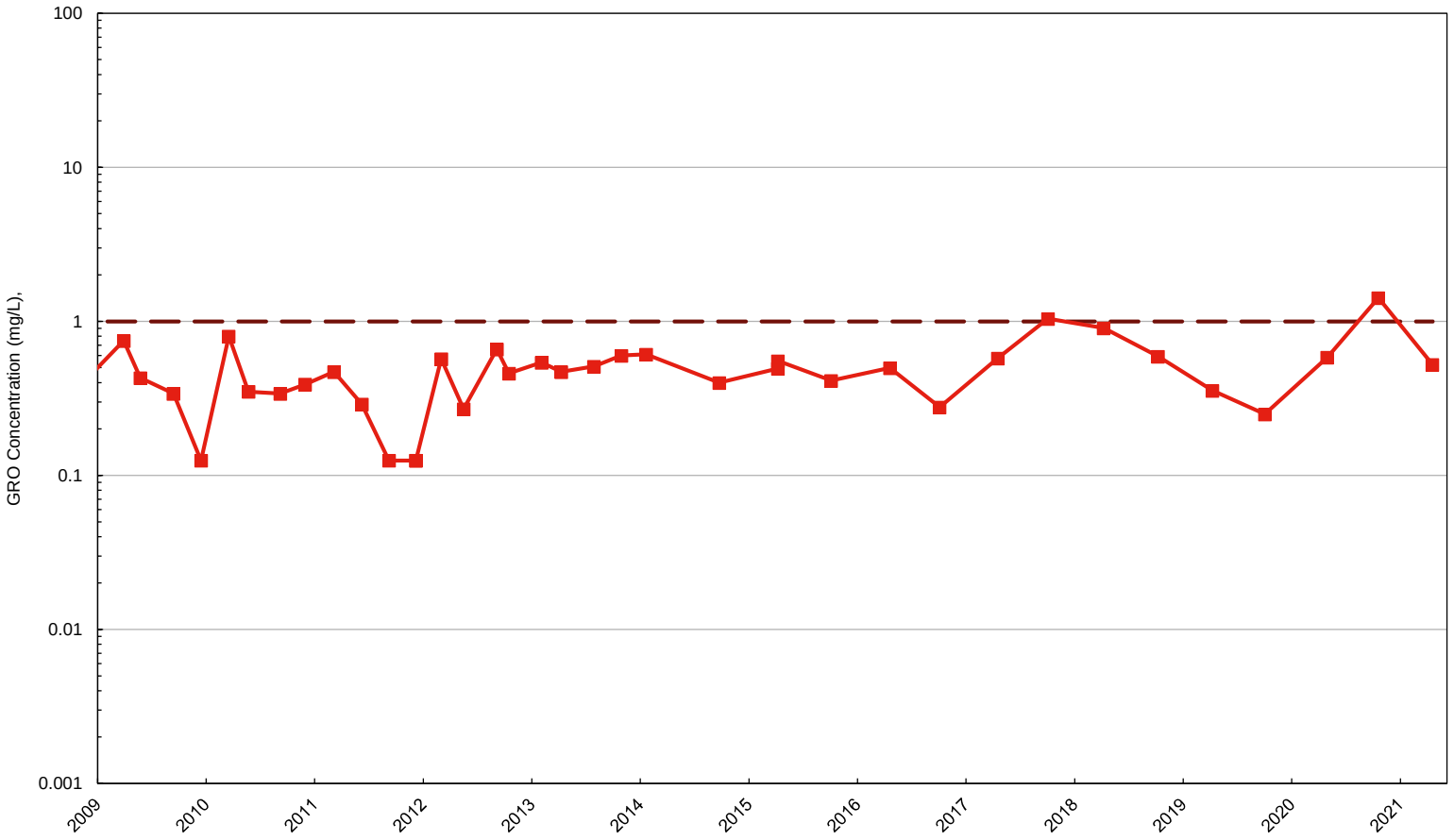
Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

TMW-B1 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
18



Notes:
1. GRO = gasoline range organics
2. mg/L = milligrams per liter

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2021 ANNUAL GROUNDWATER MONITORING REPORT

A-5 CONSTITUENT TREND PLOT

ARCADIS

GRAPH
19

Appendix A

Groundwater Monitoring Compliance Program

Compliance Monitoring Plan

Site-Wide Groundwater Compliance Monitoring Plan - Proposed Reduced Monitoring

Ecology Approval Letter

Technical Revision Request – Low-Flow Groundwater Sampling

Ecology Approval Letter

Revised Site Groundwater Monitoring Plan

Ecology Approval Emails

Groundwater Analytical Reduction Request

Ecology Approval Email

EXHIBIT F

COMPLIANCE MONITORING PLAN
GATX TERMINALS CORPORATION
HARBOR ISLAND TERMINAL
SEATTLE, WASHINGTON

ISSUED TO:

WASHINGTON STATE DEPARTMENT OF ECOLOGY

SUBMITTED BY:

GATX TERMINALS CORPORATION

October 27, 1999

PREPARED BY:

KHM ENVIRONMENTAL MANAGEMENT, INC.
16771 NE 80th Street, Suite 203
REDMOND, WASHINGTON 98052

Table of Contents

figures & Tables

Appendices

10 Introduction

This Compliance Monitoring Plan has been prepared to describe the protocol and procedures that will be used to confirm that cleanup requirements have been achieved at the GATX Harbor Island Terminal (Terminal) located in Seattle, Washington. The monitoring plan has been prepared to satisfy the requirements of the Model Toxics Control Act (MTCA) regulations WAC 173-340-410, -720, and -820. This plan was also prepared in accordance with requirements of the Consent Decree, cooperatively entered into between GATX Terminals Corporation (GATX) and the Washington State Department of Ecology (Ecology).

A variety of components included in this compliance monitoring plan address the requirements of WAC 173-340-410. These components include:

1) Introduction: Discuss site overview, hydrogeology, cleanup action summary, monitoring objectives and rationale, types of monitoring, monitoring locations, and schedule;

2) Protection Monitoring: Describe the criteria for protection monitoring under WAC 173-340-400;

3) Performance Monitoring: Describe the criteria and methodology for performance monitoring of free product recovery, natural attenuation, and other selected remedial technologies to document that the cleanup action is performing as anticipated;

4) Confirmation Monitoring: Describe the confirmation criteria which monitors the long-term effectiveness of the cleanup action once cleanup and performance standards have been attained;

5) Data Evaluation and Reporting: Discuss free product monitoring, groundwater sampling and analytical procedures, data validation, evaluation procedures, reporting, and monitoring schedules;

6) Criteria for Meeting Performance and Compliance Standards: Discuss criteria to be used to determine if performance and compliance standards have been met; and

7) Contingency Plans: Discuss the steps that will be implemented in the event the proposed cleanup actions are not effective.

1.1 SITE DESCRIPTION

The GATX Harbor Island Terminal is located at 2720 13th Avenue Southwest in Seattle, Washington and is part of a U.S. EPA Superfund Site, the Terminal Operable Unit. The facility, approximately 14 acres in size, is located in the highly industrialized north-central section of Harbor Island. The Terminal is situated on relatively level property, with surface elevations ranging between 6 to 11 feet above sea level. There are no surface water bodies within the Terminal property boundaries. The site is situated approximately 1,400 feet from the West Waterway and over 1,000 feet from the East Waterway. The site is zoned industrial and meets the industrial criteria established under WAC 173-340-745. It is likely that the site will remain an industrial facility in the foreseeable future because of the site zoning, and, perhaps more importantly, because of the substantial industrial improvements to Harbor Island (e.g., construction of cargo handling facilities and construction of major petroleum distribution pipelines for the island). Ecology and EPA have determined that there is no current or planned future use of groundwater beneath Harbor Island for drinking water purposes.

The Terminal is presently divided into five distinct areas. These areas include the A, B, C, D, and E Yards. The A Yard contains two fuel tanker truck-loading racks. The administrative office and maintenance building is also situated in the A Yard. The A Yard is entirely paved with asphalt or concrete. The A Yard is bounded by a containment dike for the B Yard on the north, and by chain-link fencing on the south, east, and west.

The B and C Yards are used as bulk fuel storage areas. Fifteen above ground storage tanks are located within the B Yard and six are situated within the C Yard. Both yards are mostly unpaved and are surrounded by concrete containment dikes. The D Yard is situated between the B and C Yards and has been used to route product and utility lines. Several maintenance buildings and material handling areas are also situated within the D Yard.

The Terminal is situated on the southeast portion of a groundwater mound which is centered on the northern half of Harbor Island. Groundwater flow migration is south and southeast across the site. The primary groundwater discharge point is the Duwamish River East and West Waterways. Due to the dampening effect of the bulkhead structures along the East and West Waterways of the Duwamish River, and the inland location of the site, water table fluctuations in response to tidal influence and seasonal fluctuations is less than one foot.

1.2 SELECTED CLEANUP ACTION SUMMARY

The selected cleanup action is designed to accomplish the following requirements: protect human health and the environment, comply with cleanup standards established in WAC 173-340-700, comply with applicable state and federal laws under WAC 173-340-710, provide compliance monitoring as set forth in WAC 173-340-410, use permanent solutions to the maximum extent practicable as mandated in WAC 173-340-360 (2), (3), (4), (5), (7), and (8), provide a reasonable time restoration in accordance with WAC 173-340-360 (6), and consider public concerns as designated in WAC 173-340-600.

Cleanup actions at the site include source removal in the soil and groundwater and recycling/off-site disposal, monitoring, natural attenuation, and institutional controls.

Soil. The goal of soil cleanup standards for petroleum hydrocarbons is to protect the beneficial use of groundwater (surface water quality and associated ecosystem). The preferred alternative will result in substantive compliance with the soil cleanup standards by reducing concentrations of contaminants in soils to levels that will support and maintain compliance with ground water quality standards.

The specific soil cleanup actions are:

- In-situ treatment of soil that includes soil vapor extraction (SVE),and natural attenuation/intrinsic biodegradation.
- Excavation of accessible total petroleum hydrocarbons (TPH) subsurface soil hot spots with concentrations above 10,000 milligrams per kilogram (mg/kg) to the extent practicable in the C Yard.
- Excavation of accessible TPH subsurface hot spots with concentrations above 20,000 mg/kg to the extent practicable in the A, B, and D Yards.
- In-situ treatment of inaccessible soil hot spots to the extent practicable in all Yards.
- Natural attenuation of the residual TPH in the subsurface soil.

- Excavation or capping of lead- and arsenic-impacted surface soil with concentrations above 1,000 mg/kg and 32.6 mg/kg, respectively, in the B and C Yards.

Groundwater. The achievement of cleanup levels in groundwater shall be measured at points of performance and compliance located within the product plume area and at the downgradient edge of the site. The wells at the downgradient edge of the site are considered conditional points of compliance wells. These points of compliance and performance shall consist of a network of monitoring wells located in the product plume area and on the downgradient property boundary. Other wells (sentry wells) situated off-site will also be used to document plume migration, performance standards, and to warn of any unanticipated change in off-site groundwater conditions. Exact locations of these wells are identified in the Section 2 of this plan.

The specific cleanup actions include:

- Active and passive free product recovery in the A, B, and C Yards,
- Dual-phase extraction of groundwater and product in the A and C Yards,
- Extraction of groundwater and/or free product,
- Active and passive point-source extraction in the A, B, and C Yards,
- Partially-penetrating down-gradient vertical barrier to stop product migration in the A and C Yards,
- Free product monitoring in the A, B, C, and D Yards,
- Groundwater monitoring in point of compliance (confirmation), performance and offsite (sentry) wells for the site, and
- Institutional control in the form of a deed restriction for the site.

1.3 Monitoring Objectives and Rationale

The cleanup action incorporates monitoring to determine that cleanup standards are achieved and maintained after remedial actions have been completed. During the remedial actions, performance monitoring will be conducted to confirm that cleanup actions have attained cleanup standards and treatment goals. After remedial actions are performed, performance monitoring will be conducted to confirm and document that cleanup actions have attained cleanup standards and performance standards. Protection monitoring will be used to adequately protect human health and the environment during construction and operation of the cleanup actions.

The achievement of cleanup levels in groundwater shall be measured at points of performance and compliance located within the free product plume area and at the downgradient edge of the site. The overall objective of the compliance monitoring wells downgradient of the free product plumes and on the property boundaries is to provide additional safeguards by providing both Ecology and GATX with early warning of potential contamination migration and basis for Contingency Plan reviews and implementation, if necessary. Sentry wells, situated off property limits and downgradient of dissolved petroleum hydrocarbon plumes, will also be used to monitor migration of dissolved petroleum constituents.

Monitoring methods, monitoring locations, and types of analyses were selected to monitor the effectiveness of the cleanup actions in attaining the soil, free product, and groundwater cleanup standards for the site. The specific details of these monitoring activities are described in subsequent sections of this document.

13.1 SOIL

TPH, arsenic, and lead concentrations were above levels requiring action at the site.

The determination of adequate soil treatment will be based on the ability to comply with the groundwater cleanup standards for the site, to meet performance standards designed to minimize human health or environmental exposure to soils above cleanup levels, and to provide practicable treatment of contaminated soils.

Monitoring objectives are based on the following site observations:

1. **TPH in the A Yard.** Soil TPH concentrations were above the cleanup action levels (20,000 mg/kg) north, northwest and west of the Garage Building Area.

2. **TPH, Arsenic, and Lead in the B Yard.** Soil TPH concentrations were above the cleanup action levels (20,000 mg/kg) between Tanks 18 and 21, and southwest of Tank 22. Concentrations of arsenic and lead in surface soil were above the cleanup levels (32.6 and 1,000 mg/kg, respectively) in unpaved soil covering roughly half of the B Yard.

3. **TPH, Arsenic, and Lead in the C Yard.** Soil TPH concentrations were above the cleanup action levels (10,000 mg/kg) at seven locations in the C Yard as follows: i) MW-4, SS-17, SS-18, which is southeast of Tank 44, ii) SS-2, which is northwest of Tank 44, iii) S-6, which is northwest of Tank 37, iv) SS-2 and SS-13, which is between Tanks 42 and 39, v) S-5 and S-8, which is between Tanks 35 and 37, vi) S-10, which is north of Tank 35, and vii) S-12, which is southwest of Tank 35. Concentrations of arsenic and lead in surface soil were above the cleanup levels (32.6 and 1,000 mg/kg, respectively) in unpaved soil covering roughly half of the C Yard.

13.2 GROUNDWATER

Groundwater will be monitored for benzene, toluene, ethylbenzene, TPH-G, TPH-D, TPH-O, free product, and lead in specific areas of the site

prior, during and after implementation of the cleanup action discussed in Section 1.2. The selected analysis and monitoring locations correspond to the soil cleanup areas identified in Section 1.3.1, areas of product recovery, and the water quality chemistry data for the site.

Wells Not Included in Compliance Monitoring Program. Monitoring wells not included in the confirmation, performance, or the sentry wells are excluded from this Compliance Groundwater Monitoring Program. After the one-year review of the site groundwater analytical data as discussed in Section 3.4.1, Ecology and GATX will review potential wells for abandonment as appropriate.

Damaged Wells Due To Cleanup Action Implementation. Monitoring wells designated for confirmation, performance or sentry wells that become disabled as a result of the cleanup action implementation must be replaced. Ecology must approve the new proposed location before replacement of the damaged groundwater monitoring well.

Areas Above Cleanup Levels

BTEX and TPH Areas. Shallow monitoring wells with periodic or consistent detection of BTEX constituents or TPH above the cleanup levels include, Well 24, T-10, T-17, T-11, MW-3, T-15, T-8, T-5, T-19, T-13, T-18, Well 17, MW-14, MW-7, Well 15, MW-9, A-27, A-28, A-26, A-24, A-3, A-21, A-23, A-15, and A-10. These wells are located in or around Yards A, B, C, and D and, due to historic detection of petroleum-hydrocarbon-related IHSs above cleanup levels (Table 2), these monitoring wells will be included in the compliance monitoring program. Monitoring in these wells will be focused on the IHSs for groundwater to provide water quality data for baseline data and trend analysis. Furthermore, a selection of these wells will be monitored for natural attenuation parameters (Table 3).

Lead Areas. Total lead was detected periodically above the cleanup level (0.0058 mg/l) in the following wells: MW-1, MW-2, MW-3, MW-5, MW-6, MW-7, MW-07, MW-8, MW-9, MW-11D, MW-12, MW-13, A-14, A-21, A-23, A-24, A-28, SF-01, SH-02, SH-04, and SH-05. Dissolved lead was detected periodically above the cleanup level (0.0058mg/l) in MW-7. These wells will be included in the compliance monitoring wells and analyzed for total and dissolved lead as part of the performance and confirmation monitoring of the surface cleanup action for the site as described in Section 1.2.

1.4 COMPLIANCE MONITORING CATEGORIES AND SCHEDULE

Groundwater compliance monitoring will consist of free product monitoring, groundwater elevation monitoring, and groundwater sampling.

- Free product monitoring will consist of measuring free product thickness in areas of the site as part of the performance standard evaluation after implementation of the preferred remedial alternative.

- Groundwater elevation monitoring will be performed during free product monitoring events and during groundwater sampling events.

- Groundwater samples will be collected from designated GATX compliance monitoring wells, performance monitoring wells, and sentry wells.

The monitoring objectives have been categorized as protection, confirmation, and performance monitoring. These three forms of compliance monitoring will be performed in accordance with WAC 173-340-410.

Protection Monitoring to confirm that human health and the environment are adequately protected during construction and the operation and maintenance period of the cleanup action.

Performance Monitoring to confirm that the cleanup action has attained cleanup standards and other performance standards.

Confirmation Monitoring (Confirmation and Sentry Wells) to confirm the long-term effectiveness of the cleanup action once cleanup actions and other performance standards have been attained.

Monitoring Schedule. Groundwater sampling will begin in the quarter that the Consent Decree is approved (December 1999) and will continue for five years (December 2004). Sampling will occur quarterly for the first year. Ecology and GATX will review the data after one year. If trends are declining, the sampling frequency and number of parameters may be reduced.

2.0 Compliance Monitoring

Compliance monitoring will begin within the quarter the Consent Decree is approved and will continue for five years. Figure 1 shows the locations of all wells in which product will be monitored, groundwater levels will be measured, and groundwater samples will be collected as part of the site compliance monitoring program. Table 1 provides a list of compliance monitoring wells, identifying the well location, monitoring objective, and well use. A summary of the analytical parameters to be used in compliance monitoring is presented in Tables 2 and 3. A detailed description of each compliance-monitoring component, including the media type, location, and schedule, is presented this section. Specific schedule details are discussed within Sections 2.2.3 and 2.3.3. and Table 1.

2.1 Protection Monitoring

The objective of protection monitoring is to confirm that human health and the environment are adequately protected during construction, operation and maintenance of the cleanup action [WAC 173-340-410(1)(a)]. Protection monitoring will be addressed in the health and safety plan prepared in conjunction with the engineering design report, construction plans and specifications, and operation and maintenance plan (WAC 173-340-400).

2.2 Performance Monitoring

The objective of performance monitoring is to confirm that the cleanup action has attained cleanup standards and other performance standards as appropriate [WAC 173-340-410(1)(b)]. Performance monitoring will consist of free product monitoring during product recovery activities and groundwater sampling to evaluate the effectiveness of soil and groundwater cleanup actions and natural attenuation.

2.2.1 Performance Monitoring Locations

Wells A-14, A-21, A-23, A-27, MW-3 through MW-9, MW-14, MW-07, SH-02, SH-05, and three new wells will be used for performance wells. These wells are located in or around Yards A, B, C, and D within groundwater plume. Due to historic detection of petroleum-hydrocarbon-related IHSs above cleanup levels, these monitoring wells will be included in the compliance monitoring program. Monitoring in these wells will be focused on the IHSs for groundwater to provide water quality data for baseline data

and trend analysis. These wells will also be monitored for natural attenuation parameters (Table 3).

Areas Below Cleanup Levels: IHSs were not detected above the groundwater cleanup levels (Table 2) more than once in shallow monitoring wells MW-1, MW-2, MW-5, MW-07, MW-8, MW-12, MW-13, MW-16, MW-17, MW-18, A-8, A-24, SH-02, SH-05, T-3, T-4, and T-12. Most of these wells are located at the downgradient sides of the C Yard and some are located in the A, B, and D Yards.

Free Product: Shallow wells located in or around a free product plume in the C Yard include Well 20, Well 21, Well 22, MW-4, Well 25 and Well 27. Shallow wells located in or around a free product plume within the A Yard, include, A-6, A-4, A-29, A-22, A-16, A-13, A-14, A-20 and A-19. A shallow well located in or around a free product plume within the B Yard is Well 12.

All monitoring wells where water level measurements are taken will be measured for free product. A measurable thickness of free product is defined as greater than or equal to 0.01 feet. There are presently 76 monitoring wells being used to develop groundwater elevation contours for the site.

A Yard: Shallow wells located in or around a free product plume at the A Yard with current free product detection include A-6, A-4, A-29, A-22, A-16, A-13, A-14, A-20 and A-19.

B Yard: Shallow well located in or around a free product plume at the B Yard with current free product detection is Well 12.

C Yard: Shallow wells located in or around a free product plume at the C Yard with historic and current free product detection include Well 20, Well 21, Well 22, MW-4, Well 25 and Well 27.

Product performance monitoring will be performed in these wells prior, during, and after implementation of the remedial action alternatives discussed in Section 1.2. The product performance standard is a "measurable product thickness", and the product cleanup standard is "no visible sheen." Sheen is defined as a visible display of iridescent colors on equipment or water removed from a monitoring well. After the performance standard has been met in these wells, they will be sampled for BTEX, TPH, (Table 2) and natural attenuation parameters (Table 3). Product shall be removed from the water table throughout the site, when ever present, to the extent technically feasible.

Dissolved TPH Constituents: Dissolved TPH constituents of TPH-G, -D, -O, and BTEX performance monitoring will be monitored in these wells prior, during and after implementation of the remedial action alternatives discussed in Section 1.2 for baseline data and trend analysis. Shallow monitoring wells with periodic or consistent detection of BTEX constituents or TPH above the cleanup levels include Wells 15, 17, 24, MW-3, MW-7, MW-9, MW-14, A-3, A-10, A-15, A-21, A-23, A-24, A-26, A-27, and A-28. These wells are located in or around Yards A, B, C, and D. Due to historic detection of petroleum-hydrocarbon-related IHSs above cleanup levels (Table 2), some of these monitoring wells will be included in the compliance monitoring program. Monitoring in these selected wells will be focused on the IHSs for groundwater to provide water quality data for baseline data and trend analysis. Additionally, these selected wells will be monitored for natural attenuation parameters (Table 3).

A Yard: Shallow well located adjacent to a free product plume at the A Yard with dissolved TPH constituents detected above cleanup standards (Table 2) include A-23 and A-28.

B Yard: Shallow well located adjacent to a free product plume at the B Yard with dissolved TPH constituents detected above cleanup standards (Table 2) is MW-7.

C Yard: Shallow wells located in or around a free product plume and soil TPH hot spots at the C Yard with dissolved TPH constituents detected above cleanup standards (Table 2) include MW-3, MW-4, Well 24, Well 25, T-5, T-18, and T-19.

D Yard: Shallow wells located adjacent to a free product plume and soil TPH hot spots at the D Yard with dissolved TPH constituents detected above cleanup standards (Table 2) include Wells MW-14, Well 17, T-13, T-15, and T-17.

Total and Dissolved Lead: Total lead was detected periodically above the cleanup level (Table 2) in Wells MW-6, MW-7, MW-07, MW-8, MW-9, MW-12, MW-13, A-21, A-23, A-24, A-28, SF-01, SH-02, SH-04, and SH-05. Dissolved lead was detected periodically above the cleanup level (Table 2) in MW-7. Performance monitoring will be performed in these wells, prior, during and after implementation of the remedial alternative discussed in Section 1.2 for total lead baseline data and trend analysis.

Off-site Sentry Monitoring wells: Wells A-23, A-28, MW-12, MW-13, MW-16, and MW-18 will serve as sentry wells. These wells will be included in the program due to their location adjacent to areas with soil cleanup

actions, free product plume or to provide off property boundary well network. Monitoring in these wells will be focused on the IHSs for groundwater to provide water quality data for baseline data and trend analysis.

Background wells: Wells MW-1 and MW-2 are located upgradient along a south/southeast groundwater flow direction for the site and will serve as the site background monitoring wells. These wells will be monitored for the IHSs for groundwater and natural attenuation parameters to establish baseline and background groundwater quality data. After one year, these wells will be monitored for the IHSs for groundwater only.

2.2.2 Performance Criteria

Separate-Phase Hydrocarbons: To monitor the effectiveness of the preferred remedial alternative discussed in Section 1.2 for free product, the performance criterion will be a lack of measurable product thickness in compliance monitoring wells.

Dissolved TPH Constituents and Lead: Groundwater cleanup levels (Table 2) are based on the protection of aquatic organisms and on human ingestion of such organisms. The Conditional Point of Compliance for the site groundwater is the property boundary.

Natural Attenuation: To demonstrate that natural attenuation is occurring to reduce contaminant concentrations, the performance criteria will be periodic monitoring of constituent plume data (i.e., BTEX and TPH) and a variety of other indicators of natural attenuation processes. These processes include physical, chemical, or biological processes in the form of biodegradation, dispersion, dilution, sorption, volatilization, and chemical or biological stabilization or destruction of contaminants. Following is the rationale for the selection of the natural attenuation monitoring parameters (from USEPA, 1994c).

Constituent Plume Characteristics

In the absence of natural attenuation mechanisms, constituent concentrations would remain relatively constant within the plume and then decrease rapidly at the edge of the plume. If natural attenuation is occurring, constituent concentrations will decrease with distance from the source along the flow path of the plume as a result of dispersion. If other natural attenuation mechanisms are occurring, the rate at which concentrations of constituents are reduced will be accelerated.

Monitoring of constituent concentrations in the groundwater over time will give the best indication of whether natural attenuation is occurring. If natural attenuation is occurring, the contaminant plume will migrate more slowly than expected based on the average groundwater velocity. Receding plumes typically occur when the

source has been eliminated. Natural attenuation may also be occurring in plumes that are expanding, but at a slower than expected rate. For example, in sandy soils [similar to Harbor Island] with relatively low organic carbon content (about 0.1 percent), BTEX constituents are expected to migrate at one-third to two-thirds of the average groundwater speed velocity (McAllister, 1994). Higher organic carbon content would further retard constituent migration. If constituents are migrating more slowly than expected based on groundwater flow rates and retardation factors, then other natural attenuation mechanisms (primarily biodegradation) are likely reducing constituent concentrations. For stable plumes, the rate at which contaminants are being added to the system at the source is equal to the rate of attenuation. A plume may be stable for a long period of time before it begins to recede, and in some cases, if the source is not eliminated, the plume may not recede.

Occurrence of biodegradation might also be deduced by comparison of the relative migration of individual constituents. The relative migration rates of BTEX constituents, based on the chemical properties, are expected to be in the following order:

benzene > toluene, o-xylene > ethylbenzene, m-xylene, p-xylene

If the actual migration rates do not follow this pattern, biodegradation may be responsible.

Dissolved Oxygen Indicators

The rate of biodegradation will depend, in part, on the supply of oxygen to the contaminated area. At levels of dissolved oxygen (D.O.) below 1 to 2 mg/L in the groundwater, aerobic biodegradation rates are very slow. If background D.O. levels (upgradient of the contaminant source) equal or exceed 1 to 2 mg/L, the flow of groundwater from the up-gradient source will supply D.O. to the contaminated area, and aerobic degradation is possible.

Where aerobic biodegradation is occurring, an inverse relationship between D.O. concentration and constituent concentrations can be expected (i.e., D.O. levels increase as constituent levels decrease). Thus, if D.O. is significantly below background within the plume, aerobic biodegradation is probably occurring at the perimeter of the plume.

Geochemical Indicators

Certain geochemical characteristics can also serve as indicators that natural attenuation, particularly biodegradation, is occurring. Aerobic biodegradation of petroleum products produces carbon dioxide and organic acids, both of which tend to cause a region of lower pH and increased alkalinity within the constituent plume.

Anaerobic biodegradation may result in different geochemical changes, such as increased pH. Under anaerobic conditions, biodegradation of aromatic hydrocarbons typically causes reduction of Fe^{3+} (insoluble) to Fe^{2+} (soluble), because iron is commonly used as an electron acceptor under anaerobic conditions. Thus, soluble iron concentrations in the groundwater tend to increase immediately downgradient of a petroleum source as the D.O. is depleted, and conditions change to be come anaerobic (i.e., reduced). The concentration of methane increases, another indication that anaerobic biodegradation is occurring.

Oxidation/Reduction Potential

The oxidation/reduction (redox) potential of groundwater is a measure of electron activity and is an indicator of the relative tendency of a solution to accept or transfer electrons. Because redox reactions in groundwater are biologically mediated, the rates of biodegradation both influence and depend on redox potential. Many biological processes operate only within a prescribed range of redox conditions. Redox potential also can be used as an indicator of certain geochemical activities (e.g., reduction of sulfate, nitrate, or iron). The redox potential of groundwater generally ranges from 800 millivolts to about -400 millivolts. The lower the redox potential, the more reducing and anaerobic the environment.

Measurement of redox potential of groundwater also allows for approximate delineation of the extent of the contaminant plume. Redox potential values taken from within the contaminant plume will be lower than background (upgradient) redox values and values from outside the plume. This is due in part to the anaerobic conditions that typically exist within the core of the dissolved hydrocarbon plume.

Methane. Methanogenesis has been determined to be a predominant biodegradation mechanism for fuel spills. During the aerobic biodegradation of petroleum constituents, methane is produced. Methane concentrations above background levels may indicate the occurrence of aerobic biodegradation of petroleum constituents.

Nitrate. After dissolved oxygen has been depleted, nitrate may be used as an electron acceptor for anaerobic biodegradation. Nitrate concentrations below background levels may indicate the occurrence of anaerobic biodegradation of petroleum compounds.

Sulfate. After dissolved oxygen and nitrate have been depleted, sulfate may be used as an electron acceptor for anaerobic biodegradation. Sulfate concentrations below background levels may indicate the occurrence of anaerobic biodegradation of petroleum compounds.

Based on this discussion (USEPA, 1994c), groundwater samples collected for natural attenuation evaluation will be analyzed for plume characterization parameters (BTEX, TPH-G, TPH-D, and TPH-O), dissolved oxygen, geochemical indicators (alkalinity, carbon dioxide, total iron (from which ferric iron [Fe^{3+}] can be calculated), ferrous iron (Fe^{2+}), hardness, methane, pH, and sulfate), and oxidation/reduction potential (Table 3).

2.2.3 Monitoring Schedule

Free product monitoring will be conducted at periodic intervals to allow product to accumulate in wells but no less frequently than once a month. The frequency of free product monitoring will also depend on the amount

and type of free product removed from the monitoring wells as well as the season and type of free product recovery activity.

Groundwater monitoring conducted to confirm the effectiveness of natural attenuation and to estimate the rate will be conducted quarterly for the first year and annually thereafter (Table 3). Natural attenuation monitoring will be performed in accordance with confirmation groundwater sampling described in Section 2.3.

2.3 CONFIRMATION MONITORING

The objective of confirmation monitoring is to confirm the long-term effectiveness of the cleanup action as discussed in Section 1.2, once performance and cleanup standards have been met [WAC 173-340-410(1)(c)]. Confirmation monitoring will include the sentry wells, and will consist of free product and groundwater monitoring for the IHS indicator parameters (Tables 2 and 3) as appropriate.

2.3.1 CONFIRMATION MONITORING LOCATIONS

All monitoring wells in which water level measurements are taken will be checked for free product. There are presently 76 monitoring wells being used to develop groundwater elevation contours for the site.

A total of 28 monitoring wells designated in Table 1 will be used as confirmation monitoring wells. These wells will be included in the program due to their location adjacent to areas with soil cleanup actions or to provide a property boundary well network. Monitoring in these wells will be focused on the IHSs (BTEX, TPH) to provide water quality data for baseline data and trend analysis. Some of these wells will also be monitored for natural attenuation parameters.

2.3.2 SENTRY-MONITORING WELLS

Wells A-23, A-28, MW-12, MW-13, MW-16, and MW-18 will serve as sentry wells. These wells will be included in the program due to their location adjacent to areas with soil cleanup actions, product plume, or to provide off property boundary well network. Monitoring in these wells will be focused on the IHSs (Table 2) for groundwater to provide water quality data for baseline data and trend analysis. Except for A-19, A-23, A-27, and A-28, the rest of these wells will not be monitored for natural attenuation parameters (Table 3) since cleanup levels have been already met in these wells.

Total and Dissolved Lead: Total lead was detected periodically above the cleanup level in the following wells MW-6, MW-7, MW-07, MW-8, MW-9, MW-12, MW-13, A-21, A-23, A-28, SH-02, and SH-05. Dissolved lead was detected periodically above the cleanup level (Table 2) in MW-7. Confirmation monitoring will be performed in these wells, prior, during, and after implementation of the remedial alternative discussed in Section 1.2 for total lead baseline data and trend analysis.

2.3.3 Compliance Criteria

Separate-Phase Hydrocarbons: To demonstrate that free product removal has been accomplished, the performance criterion will be a lack of sheen in compliance monitoring wells.

Groundwater: Cleanup levels are based on the protection of aquatic organisms and humans ingesting such organisms. The conditional point of compliance where these cleanup levels will be met is at the property boundary of the GATX site. The groundwater cleanup levels are presented in Table 2.

Groundwater compliance criteria will document that cleanup levels have been achieved. Groundwater analytical data will be evaluated using time-trend plots, data comparison to cleanup levels, and statistical analysis, if appropriate. Time-trend plots will be used to evaluate long-term analytical trends in relation to the associated cleanup levels. If statistical analysis is performed, the analysis will be conducted in accordance with WAC 173-340-720(8) and Ecology Guidance (1992, 1993, and 1995).

2.3.4 Monitoring Schedule

Confirmation free product monitoring will be conducted monthly for a period of one year after cessation of free product recovery activities as discussed in Section 1.2. The schedule will be reevaluated at that time as discussed in Section 3.4.1.

Monitoring of the confirmation, performance, and sentry groundwater monitoring wells will begin within the quarter the Consent Decree is approved. Confirmation monitoring will continue for five years after completion of the cleanup action. Sampling will occur quarterly for the first year. Ecology and GATX will review the data after one year. If monitoring data indicates that trends are declining, the sampling frequency and number of parameters may be reduced as warranted.

3.0 Data Evaluation

3.1 Data Validation

Analytical data will be validated according to United States Environmental Protection Agency (USEPA) data validation guidelines. Data validation will include evaluation of holding times, method blank results, surrogate recovery results, field and laboratory duplicate results, completeness, detection limits, laboratory control sample results, and chain-of-custody forms. Data validation procedures are further described in the Sampling and Analysis Plan (Appendix A).

3.2 Practical Quantitation Limits

Practical Quantitation Limits (PQLs) will be established for each analyte to determine whether any of the limits are above the corresponding cleanup level. The PQL will be determined by multiplying the lowest method detection limit (MDL) obtained by the laboratory for Terminal groundwater samples by a factor of ten (Ecology, 1993). If the PQL for any constituent is above the corresponding cleanup level, the cleanup level will be considered to be attained if the constituent is detected below the PQL [WAC 173-340-707(2)].

3.3 Product Monitoring Data

Product monitoring data will be reviewed as it is generated to determine the need for free product recovery system alterations or to determine changes in free product monitoring frequency. Quality control protocol will be followed to ensure that free product measurements are reliably obtained and consistently measured. Groundwater and product level data will be entered in spreadsheets for trend plots and analysis.

3.4 Groundwater Chemistry Data Review

Natural Attenuation Monitoring Data. Natural attenuation monitoring data will be reviewed to determine if the data is sufficient to evaluate natural attenuation processes at the site. If data gaps are identified, GATX may propose to add parameters as necessary to adequately evaluate natural attenuation.

Confirmation, Performance, and Sentry Monitoring Data. After each monitoring event, groundwater chemistry data will be reviewed once

it is validated. The data will be compared to groundwater cleanup levels. If a sample result is above a groundwater cleanup level and is also above the historic high concentration in that well, the well will be re-sampled to verify the result. Re-sampling will occur within one month of receiving the laboratory data. Groundwater chemistry and elevation data will be used in the one and five-year review as subsequently described.

3.4.1 One Year Site Review

Groundwater elevation and chemistry data will be evaluated after the first year of sampling. Natural attenuation monitoring well data will be evaluated as previously discussed in Section 2.2.2. Spatial and temporal changes in plume characterization parameters, dissolved oxygen, geochemical indicators, and oxidation/reduction potential (Table 3) will be evaluated to determine the effectiveness and rate of natural attenuation at the site.

Groundwater analytical results will be evaluated using time-trend plots and data comparison to cleanup levels. Time-trend plots will be prepared for each constituent detected above the PQL; trends will be identified by visual observation. The time-trend plots will be used to evaluate long-term trends in compliance wells and to compare groundwater conditions with cleanup levels. A groundwater contour map will be prepared to verify that the predominant groundwater flow directions at the Terminal remain relatively consistent.

The data evaluation will be submitted to Ecology for review. After the first year review, if the confirmation (and or sentry) wells exceed cleanup standards, Ecology and GATX (and the potentially affected adjacent property owner) will evaluate groundwater conditions prior to considering contingency plans. If monitoring data indicates that trends are declining, the sampling frequency and number of parameters may be reduced as warranted.

3.4.2 Five Year Site Review

Groundwater elevation and chemistry data will be evaluated after five years of monitoring. Groundwater contour maps will be prepared to verify that the groundwater flow directions at the Terminal have not changed significantly.

Natural Attenuation Monitoring Data. Natural attenuation monitoring data will be evaluated as previously described in Section 2.2.2.

The data evaluation will be documented and presented in the five-year review report.

Sentry Well Data: Groundwater analytical data will be evaluated using time-trend plots and data comparison to cleanup levels. Time-trend plots will be prepared for each constituent detected above the PQL and trends will be identified by visual observation.

Confirmation and Performance Well Data: Groundwater analytical data will be evaluated using time-trend plots, data comparison to cleanup levels, and, if appropriate, statistical analysis. Time-trend plots will be prepared for each constituent detected above the PQL and trends will be identified. Time-trend plots will be used to evaluate long-term analytical trends in relation to the associated cleanup levels. If statistical analysis is performed, the analysis will be conducted in accordance with WAC 173-340-720(8) and Ecology Guidance (1992, 1993, and 1995).

4.0 Compliance Evaluation Criteria

4.1 Performance Monitoring

Monitoring data will be evaluated to determine the effectiveness of the remedy, whether changes to the free product monitoring schedule and/or monitoring wells are warranted. Changes may be made in the frequency of free product monitoring to optimize free product removal or system efficiency. These changes may depend on the amount and type of free product removed from the monitoring wells, the season, and the type of free product recovery activity. Other changes in performance monitoring will be made as follows:

- Additional free product recovery activities and monitoring will be initiated immediately if free product is observed in wells that previously had not contained free product.

- An additional well or well point will be installed and monitored if free product is observed for the first time in a downgradient or cross-gradient well. The need for additional free product recovery activities will also be reviewed.

- Performance monitoring will continue as long as free product is observed in the area being monitored.

- Performance monitoring will end and confirmation monitoring will begin when free product has not been observed in any well in the area being monitored for a period of six months.

4.2 Confirmational Monitoring

4.2.1 Free Product

Free product confirmation monitoring will end and the area will be considered to be free of free product when no sheen is observed in any well in the area being monitored for a period of one year.

Free product recovery activities and performance monitoring will resume if measurable product is found in any well in an area being monitored.

4.2.2 GROUNDWATER

The review of groundwater quality data will be focused on evaluating groundwater quality trends and not on a single event or exceedance in a single well. Changes to the groundwater-monitoring program will be based on groundwater quality data review as described in Section 3.4.

Groundwater quality data will be tabulated and trend plots prepared as part of the one-year site review and five-year site review. If the chemistry results are all below cleanup levels for four consecutive quarters, then GATX will petition Ecology for site de-listing review and if Ecology concurs, the site shall be de-listed.

As part of the five-year site review, statistical analysis of the data will be performed if groundwater analytical results remain above cleanup levels. Alternatively, if the cleanup standards are met in 95 percent of the wells for four consecutive quarters, GATX will petition Ecology for site de-listing review and if Ecology concurs, the site shall be de-listed. In addition to reviewing chemistry data for the indicator hazardous substances (Table 2), natural attenuation parameters (Table 3) will also be evaluated to determine the effectiveness of natural attenuation at the site.

Data will be evaluated as described in Section 3.4.2. The contingency plan (summarized in Section 5.0) will be initiated if the five-year review identifies the following:

- There is an increasing trend in the groundwater quality data and the data trend exceeds the cleanup level in the performance, confirmation and sentry wells.

- An analyte is consistently above the cleanup level or statistically above the cleanup level with an increasing trend and with no evidence of natural attenuation.

5.0 Contingency Plan

A contingency plan sets forth a "backup" remediation technology in the event that a remedial technology within the Cleanup Plan fails or proves ineffective in a timely manner (five years after implementation of the preferred option discussed in Section 1.2). When evaluating the need to implement the contingency plan, all data will be evaluated as described in Section 3.4.2. A contingency plan will be initiated and implemented within 30 days of meeting any of the following criteria:

- If, after implementing the selective remedial action, the results of the groundwater monitoring program indicate elevated contaminant concentration over the specified restoration time frame of 5 years;
- If contaminants are newly identified in point of compliance wells located beyond the original plume boundary, indicating renewed contaminant migration; or
- If contaminant migration is not decreasing at a sufficient rate to ensure that the primary and secondary concerns identified for the site are being met.

The following actions will be initiated if the above criteria are triggered:

- Identification of the source(s) causing the criteria to be triggered. The highest priority in the compliance plan would be to identify and control the source. Accessible sources will be removed to the extent technically practicable without undermining the integrity of the adjacent above storage tanks, if present near the source area(s).
- Review Preferred Options Summary discussed in Section 1.2 and propose a supplemental remedy or combination of remedies, if needed, to prevent adverse impacts to offsite properties. (e.g., evaluation and potential expansion of the free product recovery system to ensure removal of free product from the water table if residual free product is identified beyond the capture zone of the system).

In the event that site conditions trigger a contingency plan implementation due to adverse impacts to offsite properties, Ecology, GATX, and the potential to be affected adjacent property owner will evaluate groundwater conditions prior to implementation of the contingency plan. In the event that site conditions trigger a contingency plan implementation other than considerations due to adverse impacts to offsite properties, Ecology and GATX will evaluate groundwater conditions prior to implementation of the contingency plan.

In the event that the contingency plan should be implemented, GATX will prepare a contingency work plan that contains engineering design criteria to address the remediation technology necessary to address the criteria triggering the contingency plan implementation. The contingency work plan will be approved by Ecology prior to its implementation.

6.0 Reporting

During the compliance-monitoring program, monitoring data will be submitted to Ecology on a periodic basis. Ecology will also be notified if new data indicates that a significant change in site conditions has occurred. Monitoring data and other information will be submitted in the following reports:

- **Quarterly Data Reports**. Laboratory analytical data reports will be submitted to Ecology after each round of monitoring has been completed.

- **Annual Monitoring Reports**. Monitoring reports will be prepared annually. The report will include a data validation memo, updated groundwater chemistry tables (including any well re-sampling results), and free product recovery data. Analytical time-trend plots will also be included in the reports. Analytical time-trends will be discussed when they are observed and other relevant data observations will be described. Any changes in the free product recovery system will also be discussed.

- **Five-year Review Report.** A report will be submitted to Ecology summarizing the five-year review of the compliance monitoring data. The report will include an updated groundwater elevation table, a representative groundwater contour map, time-trend plots for analytes detected above the PQL, and a comparison of the data to cleanup levels. Groundwater elevation and chemistry data will be evaluated. In addition to reviewing chemistry data relative to the indicator hazardous substances, natural attenuation parameters will also be evaluated to determine the effectiveness of natural attenuation and other cleanup action implementation at the site. As part of the five-year site review, statistical analysis of the data will be performed if analytical results remain above cleanup levels.

7.0 References

Ebasco. 1990. Final Phase I Remedial Investigation, Harbor Island Site, Seattle, Washington. Submitted to EPA, Region 10.

Ecology. 1991. The Model Toxics Control Act Cleanup Regulation, WAC Chapter 170-340. Washington State Dept. of Ecology, February.

Ecology. 1992. Statistical Guidance for Ecology Site Managers. Publication No. 92-54. August.

Ecology. 1993a. Statistical Guidance for Ecology Site Managers, Supplement S-6, Analyzing Site or Background Data with Below-detection Limit or Below PQL Values (Censored Data Sets). August.

Ecology. 1993b. Implementation Memo No. 3 (re: PQLs as Cleanup Standards) from S. Robb to interested Ecology staff. Ecology Publication 93-100. November 24.

Ecology. 1993. Groundwater Cleanup Standards for Harbor Island. Letter correspondence to Shell. April 20th.

Ecology. 1993. Soil and Groundwater Cleanup Levels for Harbor Island RI/FS. Letter correspondence to Shell. July 26th.

Ecology. 1995. Guidance on Sampling and Data Analysis Methods. Publication No. 94-49. January.

Hart Crowser. 1992. Final Background Summary Report, Shell Oil Company, Harbor Island Terminal, Seattle, Washington. Submitted to Ecology. August 6th.

Hart Crowser. 1992. Remedial Investigation Work Plan, Shell Oil Company, Harbor Island Terminal, Seattle, Washington. Submitted to Ecology. November 4th.

Galaster, R.W., and W.T. Laprade, 1991. Geology of Seattle, Washington, United States of America. Bull. Assoc. of Engineering Geologist, V. 28, No. 3.

Madakor, Nnamdi. 1997. Washington State Depart of Ecology, Toxics Cleanup Program. Analytical Fate and Transport Modeling, Harbor Island Tank Farms (ARCO, TEXACO, & GATX), "A decision making tool in the Cleanup Action Plan"

Pacific Environmental Group Inc. 1994. Remedial Investigation Report, Shell Oil Company, Harbor Island Terminal, Seattle Washington. Submitted to Ecology December 28th.

Pacific Environmental Group Inc. 1997. Focused Feasibility Study, GATX Terminals Corporation, Harbor Island Terminal, Seattle, Washington. Submitted to Ecology April 9th.

Pacific Environmental Group Inc. 1996. Supplemental Remedial Investigation, GATX Harbor Island Terminal, Seattle, Washington. Submitted to Ecology April 11th.

Pacific Environmental Group Inc. 1997. Supplemental Remedial Investigation, C Yard Fuel Spill, GATX Harbor Island Terminal, Seattle, Washington. Submitted to Ecology March 20th.

USEPA. 1993. Record of Decision; Declaration, Decision Summary, and Responsiveness Summary for Harbor Island Soil and Groundwater, Seattle, Washington. USEPA, Region 10. September 1994.

USEPA. 1994c. "Chapter IX, Natural Attenuation" in How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites, A Guide for Corrective Action Plan Reviewers. USEPA Office of Solid Waste and Emergency Response. EPA 510-B-94-003. October.

USEPA. 1995. A Guide for Corrective Action Plan Review, How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Site, 510-B-95-007. May.

USEPA. 1997. Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites, Draft Interim Final OSWER Directive 9200.4-17. USEPA Office of Solid Waste and Emergency Response. November.

Weston. 1993. Remedial Investigation Report; Remedial Investigation and Feasibility Study, Harbor Island. Prepared for USEPA, Region 10. February.

Table 1
Compliance Monitoring Wells
GATX Harbor Island Terminal
Seattle, Washington

Monitoring Well	Well Location	Compliance Monitoring Objective
A-5	A Yard	Confirmational
A-8	A Yard	Confirmational
A-10	A Yard	Confirmational
A-14	A Yard	Performance / Confirmational
A-21	A Yard	Performance / Confirmational
A-23	A Yard*	Performance / Confirmational / Sentry
MW-7	B Yard	Performance / Confirmational
MW-8	B Yard	Performance / Confirmational
MW-9	B Yard	Performance / Confirmational
MW-07	B Yard	Performance / Confirmational
A-27	B Yard	Performance / Confirmational
SH-05	B Yard	Performance / Confirmational
A-28	B Yard*	Confirmational / Sentry
New Well #2	B Yard	Confirmational
MW-2	C Yard	Background / Confirmational
MW-3	C Yard	Performance/ Confirmational
MW-4	C Yard	Performance / Confirmational
SH-02	C Yard	Performance / Confirmational
New Well #1	C Yard	Performance / Confirmational
New Well #4	C Yard	Performance / Confirmational
MW-12	D Yard*	Confirmational / Sentry
MW-13	C Yard*	Confirmational / Sentry
MW-16	C Yard*	Confirmational / Sentry
MW-18	C Yard*	Confirmational / Sentry
MW-5	D Yard	Performance / Confirmational
MW-6	D Yard	Performance / Confirmational
MW-14	D Yard	Performance
New Well #3	D Yard	Performance / Confirmational
MW-1	E Yard	Background / Confirmational

NOTES: All wells where water levels are measured serve as Performance or Confirmation wells for free product

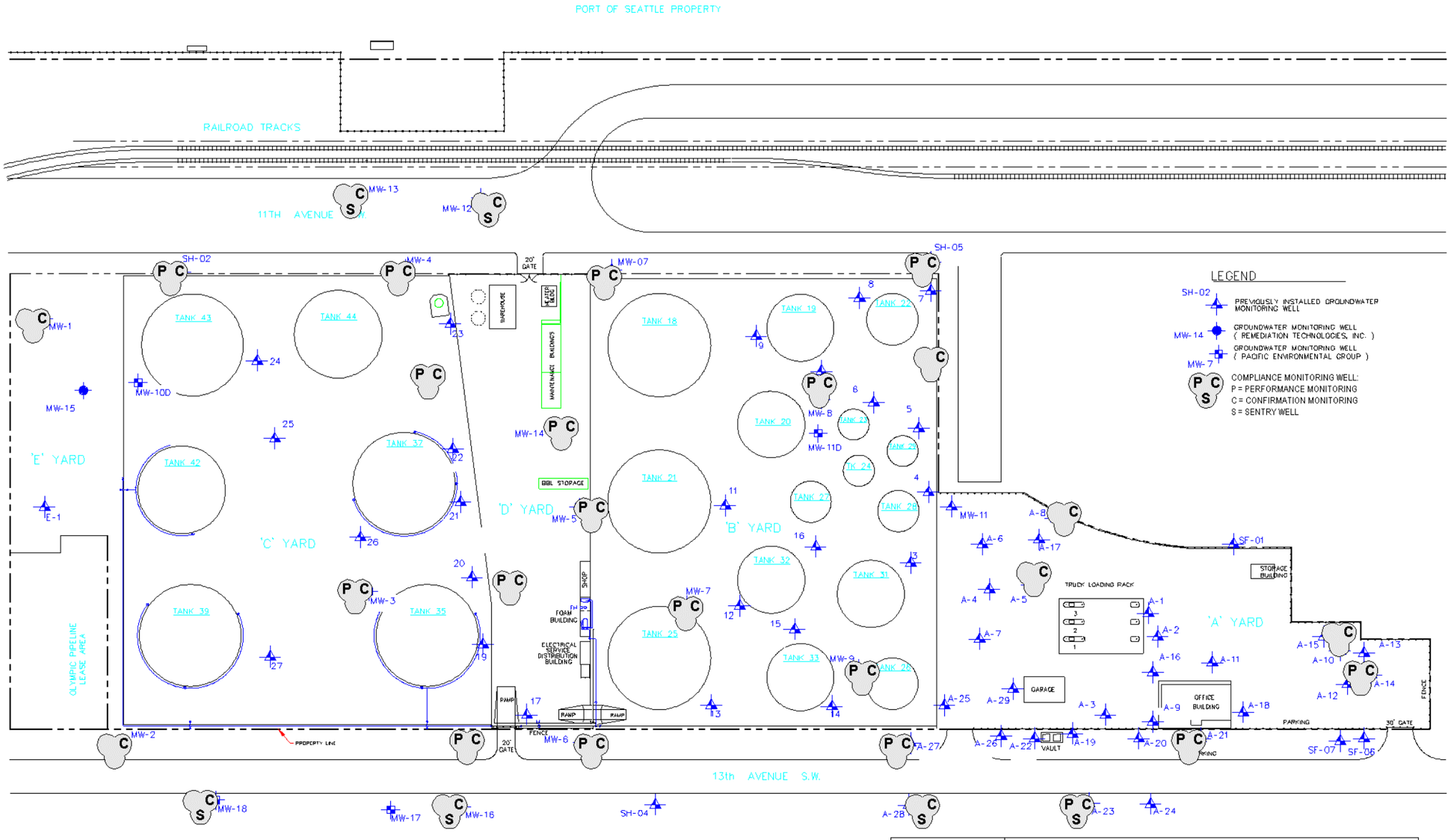
* Located Off-site

Table 2
Groundwater Cleanup Levels
GATX Harbor Island Terminal
Seattle, Washington

Constituent	Cleanup Level (mg/L)
Benzene	0.071
Toluene	200.0
Ethylbenzene	29.0
TPH-G	1
TPH-D	10
TPH-O	10
Lead	0.0058

Table 3
Natural Attenuation Indicator Parameters
GATX Harbor Island Terminal
Seattle, Washington

PARAMETER	METHOD / UNIT
Temperature, pH, alkalinity	Field / variable
Dissolved Oxygen (DO)	Field / mg/l
Carbon dioxide	Field / mg/l
Nitrate (NO_3)	Laboratory / mg/l
Nitrite (NO_2)	Laboratory / mg/l
Dissolved ferrous iron (Fe^{2+})	Laboratory / mg/l
Dissolved Methane (CH_4)	Laboratory / mg/l
Sulfate (SO_4)	Laboratory / mg/l
Sulfide (H_2S)	Laboratory / mg/l
Reduction/Oxidation potential (Redox, Eh)	Field / millivolts



KHM Environmental Management Inc.

TITLE: Compliance Well Location Map

GATX Terminals Corporation
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

DATE 10/26/99 | PROJECT A30-01A | FIGURE 1

June 21, 2007

Mr. Roger Nye
Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue N.E.
Bellevue, Washington 98008-5452

Sent via FedEx Saver

SUBJ: Site-Wide Groundwater Compliance Monitoring Plan – Proposed Reduced Monitoring
Kinder Morgan Harbor Island Terminal
Seattle, Washington
Delta Project No. STKM-001-M.0005

DELTA

Dear Mr. Nye:

This plan has been prepared on behalf of Kinder Morgan Liquid Terminals, LLC (KMLT) by Delta Environmental Consultants (Delta) and presents a proposed revision to the site-wide groundwater compliance monitoring program for the KMLT Harbor Island Terminal located at 2720 13th Avenue Southwest in Seattle, Washington ("the site"). The revisions included in this document supersede those revisions previously proposed in an August 2, 2006 letter to you, and in a second draft dated March 22, 2007. These plan revisions are proposed in accordance with Section 2.3.4 of the Compliance Monitoring Plan (Plan) developed for the site. Further modifications to the Draft Plan were discussed with you by telephone on June 13, 2007, and this Final Proposed Reduced Monitoring Plan incorporates those modifications.

PROPOSED SITE-WIDE COMPLIANCE MONITORING PLAN

The Plan was developed to describe the protocol and procedures used to confirm that cleanup requirements are achieved at the site. This monitoring plan was prepared to satisfy the requirements of the Model Toxics Control Act (MTCA) regulations WAC 173-340-410, -720, and -820 and in accordance with requirements from Exhibit F of the Consent Decree.

The achievement of cleanup levels in groundwater is measured at points of performance and compliance located within the hydrocarbon plume area and at the downgradient edge of the site. The wells at the downgradient edge of the site are considered conditional points of compliance wells. These points of compliance and performance consist of a network of monitoring wells located in the hydrocarbon plume area and on the downgradient property boundary. Sentry wells are also used to document plume migration, performance standards, and to warn of any unanticipated change in off-site groundwater conditions.

4006 148TH AVENUE NE REDMOND, WASHINGTON 98052 USA
PHONE 425.882.3528 / 800.477.7411 FAX 425.869.1892 WWW.DELTAENV.COM

The Compliance Monitoring Plan incorporated in the Consent Decree includes quarterly monitoring for free product, dissolved TPH constituents, total and dissolved lead, and natural attenuation parameters. In accordance with *Section 2.3.4 Monitoring Schedule* of the Plan, the sampling frequency and number of parameters may be reduced if monitoring data indicates that trends are declining. Following are the proposed revisions for each of these compliance monitoring criteria, and the rationale for each revision.

Free Product

As established in the Plan, KMLT currently performs quarterly gauging of 71 wells for monitoring of free product. KMLT proposes to continue monitoring of wells in which free product has been observed during the past 8 quarters, and the 29 wells which were identified as Compliance Monitoring Wells in Table 1 of the Plan. Accordingly, KMLT proposes to continue quarterly gauging of the following 43 wells: A-4, A-5, A-6, A-8, A-10, A-11, A-12, A-14R, A-16, A-18, A-19, A-20, A-21, A-22R, A-23R, A-25, A-26R, A-27, A-28R, 12, MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-12R, MW-13R, MW-14, MW-16, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, SH-02R, SH-05R, and MW-07R.

Dissolved TPH Constituents

The current compliance monitoring program for dissolved TPH constituents includes quarterly sampling of 32 monitoring wells (29 Compliance Monitoring Wells and 3 additional wells which were installed in September 2003 as part of a supplemental study to further characterize free product in the A Yard). A summary of monitoring wells and annual analyses included in the current dissolved TPH constituents compliance monitoring program is presented on Table 1. A site map showing locations of groundwater monitoring wells is included as Figure 2.

An evaluation of groundwater analytical data collected since the execution of the Consent Decree indicates that data collected from numerous monitoring wells have demonstrated that cleanup criteria have either been met from the outset of the program or have demonstrated at least 4 consecutive quarters meeting cleanup criteria. A summary of groundwater analytical results for 2000 through December 2006 are presented in Table 2.

An evaluation of historical groundwater analytical results with respect to established cleanup criteria is summarized in Table 3. Where applicable, wells and corresponding analytes which demonstrate a consistent trend of meeting cleanup criteria are noted. Wells and corresponding analytes are highlighted where historic monitoring indicates a reduction in monitoring frequency or analytes is warranted.

KMLT proposes a revision from quarterly monitoring for TPH parameters as follows. For wells which have demonstrated that cleanup criteria for TPH-G, BTEX, TPH-D, and TPH-O have been met from the outset of the program, KMLT proposes to reduce the frequency of quarterly monitoring to annual monitoring. For wells which have not met the criteria for TPH-G and BTEX, but have met the criteria for TPH-D and TPH-O, KMLT proposes to continue quarterly monitoring for TPH-G and BTEX and discontinue monitoring for TPH-D and TPH-O. Proposed compliance monitoring plan revisions are summarized in Table 4.

After the revised program is initiated, if results demonstrate that any TPH cleanup criteria has been exceeded in a well, KMLT will revert to quarterly monitoring for respective analytes that were exceeded for the well, and will resume quarterly monitoring for natural attenuation parameters.

Total and Dissolved Lead

As established in the Plan, KMLT currently monitors for total lead on a quarterly basis in 20 wells. The purpose of this monitoring is to demonstrate performance and confirmation monitoring of the surface cleanup action for the site. The surface cleanup action, which included removal of surface soils containing concentrations of total lead exceeding the hot-spot cleanup criteria, was executed and completed in April and May 2002. In accordance with *Section 2.2* of the Plan, performance monitoring for total lead has been performed on a quarterly basis since the completion of the surface cleanup action. Following the performance of the surface cleanup action, total lead has infrequently exceeded the cleanup criterion. KMLT proposes to continue monitoring for this parameter on an annual basis.

As required in the Plan, KMLT also currently monitors for dissolved lead on a quarterly basis in the same 20 wells which are monitored for total lead. Cleanup criteria for this parameter was not established in the Cleanup Action Plan. Dissolved lead has been detected in 4 of the 20 wells. Dissolved lead was detected in one or two instances in two wells, and was detected in two wells on a more frequent basis in two wells. Delta proposes to monitor for

dissolved lead in two wells (A-23R and MW-7) which have contained measurable concentrations on a periodic basis in the past.

A summary of monitoring wells and annual analyses included in the current total and dissolved lead compliance monitoring program is presented on Table 1. A summary of groundwater analytical results for 2000 through December 2006 are presented in Table 2. An evaluation of historical groundwater analytical results with respect to established cleanup criteria is summarized in Table 3. Proposed compliance monitoring plan revisions are summarized in Table 4.

Natural Attenuation Parameters

The current compliance monitoring program for natural attenuation parameters includes quarterly sampling of 26 monitoring wells (23 Compliance Monitoring Wells and 3 additional wells which were installed in September 2003 as part of a supplemental study to further characterize free product in the A Yard). In accordance with *Section 2.2.3 Monitoring Schedule* of the Plan which states that natural attenuation monitoring will be conducted quarterly for the first year and annually thereafter, KMLT proposes to discontinue monitoring of wells which have met the criteria for TPH-G, BTEX, TPH-D and TPH-O constituents, and continue monitoring on an annual basis those wells which have not met the criteria. Proposed compliance monitoring plan revisions are summarized in Table 4.

A summary of proposed compliance monitoring plan revisions are presented in Table 4. Wells which are designated for annual monitoring will be monitored during the second quarter event. A summary of monitoring wells and a tally of annual analyses for all parameters proposed in this compliance monitoring program revision is presented on Table 5.

KMLT proposes to incorporate the compliance monitoring plan revisions included herein during the third quarter 2007 monitoring event. Please call if you have any questions regarding the contents of this letter, or if you would like to discuss any aspect of the proposed compliance monitoring plan. Delta looks forward to your approval of this program.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

for Ward Crell
Principal Geologist

Enc: Table 1 – Summary of Current Annual Analyses, Groundwater Compliance Program
Table 2 – Groundwater Analytical Results
Table 3 – Analytical Summary 2000 – December 2006, Current Groundwater Compliance Program
Table 4 – Proposed Groundwater Compliance Program, Recommended Monitoring Frequency
Table 5 – Summary of Proposed Annual Analyses, Groundwater Compliance Program
Figure 1 – Site Plan – Groundwater Monitoring Well Locations

cc: Mr. Robert Truedinger, Kinder Morgan Energy Partners, L.P., Richmond, California
Ms. Kelsy Hardy, Kinder Morgan Energy Partners, L.P., Orange, California (File Copy - CD Only)

TABLE 1
CURRENT ANNUAL ANALYSES
GROUNDWATER COMPLIANCE PROGRAM
Kinder Morgan Harbor Island Terminal

	Indicator Hazardous Substances				Natural Attenuation Parameters				
Well ID	TPH-G/ BTEX	TPH-D+ extended	Total Lead	Dissolved Lead	Nitrate (NO3)	Ferrous Iron	Methane	Sulfate (SO4)	Sulfide (H2S)
A-5	4	4							
A-8	4	4							
A-10	4	4			4	4	4	4	4
A-14R	4	4	4	4	4	4	4	4	4
A-21	4	4	4	4	4	4	4	4	4
A-23R	4	4	4	4	4	4	4	4	4
A-27	4	4			4	4	4	4	4
A-28R	4	4	4	4	4	4	4	4	4
MW-1	4	4	4	4	4	4	4	4	4
MW-2	4	4	4	4	4	4	4	4	4
MW-3	4	4	4	4	4	4	4	4	4
MW-4	4	4			4	4	4	4	4
MW-5	4	4	4	4	4	4	4	4	4
MW-6	4	4	4	4	4	4	4	4	4
MW-7	4	4	4	4	4	4	4	4	4
MW-8	4	4	4	4	4	4	4	4	4
MW-9	4	4	4	4	4	4	4	4	4
MW-12R	4	4	4	4					
MW-13R	4	4	4	4					
MW-14	4	4			4	4	4	4	4
MW-16	4	4							
MW-18	4	4							
MW-19	4	4			4	4	4	4	4
MW-20	4	4			4	4	4	4	4
MW-21	4	4			4	4	4	4	4
MW-22	4	4			4	4	4	4	4
SH-02R	4	4	4	4	4	4	4	4	4
SH-05R	4	4	4	4	4	4	4	4	4
MW-07R	4	4	4	4	4	4	4	4	4
MW-23	4	4	4	4	4	4	4	4	4
MW-24	4	4	4	4	4	4	4	4	4
MW-25	4	4	4	4	4	4	4	4	4
ANNUAL TOTAL:	128	128	80	80	104	104	104	104	104

Notes: Number denotes number of quarters sampled annually

Parameter not analyzed

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
MW-1	02/13/02	<0.25	2.0	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	05/21/02	<0.25	1.9	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	08/28/02	<0.25	1.0	<0.5	0.0013	0.0067	0.00052	0.0016	<0.005*
	11/05/02	<0.25	0.87	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	0.021*
	02/19/03	<0.25	1.9	<0.5	<0.0005	0.00058	<0.0005	<0.0005	<0.005*
	06/10/03	<0.25	1.1	<0.25	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	09/16/03	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	11/19/03	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	02/25/04	<0.25	1.3	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	05/11/04	<0.25	0.87	<0.50	<0.0005	0.00068	<0.0005	<0.0005	<0.0050*
	08/25/04	0.83	0.40	<0.50	<0.0005	<0.0005	0.00065	<0.0005	<0.0050*
	12/15/04	<0.25	0.38	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/09/05	<0.25	0.63	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/05	<0.25	0.80	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/21/05	<0.25	0.40	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/14/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/07/06	<0.25	0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/13/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0052*
	12/13/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***
MW-2	02/13/02	<0.25	0.71	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	05/21/02	<0.25	0.66	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	08/29/02	<0.25	0.91	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	11/05/02	<0.25	0.73	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	02/19/03	<0.25	0.74	<0.5	<0.0005	0.00062	<0.0005	<0.0005	0.028*
	06/10/03	<0.25	0.61	<0.25	<0.0005	0.00071	<0.0005	<0.0005	0.026*[a]
	09/16/03	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.062*
	11/19/03	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.021*
	02/25/04	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.030*
	05/11/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/25/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/10/05	<0.25	0.29	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/07/05	<0.25	0.91	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.036*
	09/20/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/13/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.024*
	03/15/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0063*
	09/12/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/12/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***
MW-3	02/13/02	<0.25	1.8	<0.5	0.011	0.0015	0.0045	0.011	<0.005*
	05/20/02	0.38	1.9	<0.5	0.052	0.0028	0.025	0.02	0.01*
	08/28/02	0.62	2.5	<0.5	0.11	0.0071	0.021	0.030	<0.005*
	11/06/02	0.63	1.1	<0.5	0.14	0.0053	0.021	0.015	0.006*
	02/19/03	<0.25	1.8	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	0.014*
	06/11/03	<0.25	1.3	<0.25	<0.0005	<0.0005	<0.0005	<0.0005	0.019*
	09/17/03	<0.25	1.4	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.042*
	11/20/03	<0.25	2.4	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0063*
	02/25/04	<0.25	1.2	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.025*
	05/11/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/25/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0051*
	12/15/04	<0.25	0.33	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.018*
	03/09/05	<0.25	<0.25	<0.50	0.001	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/05	<0.25	<0.25	<0.50	0.0011	<0.0005	<0.0005	<0.0005	<0.0050*
	09/21/05	<0.25	<0.25	<0.50	0.00094	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/14/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/07/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/13/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/13/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***
Dup-2^	06/08/05	<0.25	<0.25	<0.50	0.0011	<0.0005	<0.0005	<0.0005	<0.0050*
	09/21/05	<0.25	0.27	<0.50	0.00098	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/14/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/07/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.010*
	09/13/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/13/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
MW-4	02/14/02	0.78	280	<50	0.3	0.0072	0.0023	0.0082	NA
	05/21/02	1.5	8.6	<0.5	0.43	0.023	0.034	0.13	NA
	08/28/02	3.3	30	2.6	1.1	0.016	0.016	0.024	NA
	11/04/02	NS	NS	NS	NS	NS	NS	NS	NA
	02/19/03	3.1	31	<0.5	0.056	0.0017	0.014	0.02	NA
	06/10/03	0.39	12	<0.25	0.031	0.0012	0.0091	0.0096	NA
	09/16/03	NS	NS	NS	NS	NS	NS	NS	NS
	11/19/03	0.25	19	<0.50	0.033	<0.001	0.0042	0.0069	NA
	02/25/04	0.36	15	<0.50	0.035	0.0014	0.0056	0.0094	NA
	05/12/04	0.33	7.4	<0.50	0.012	<0.001	0.0048	0.0058	NA
	08/26/04	<0.50	5.1	<0.50	0.014	<0.0025	0.0039	0.0069	NA
	12/15/04	NS	NS	NS	NS	NS	NS	NS	NA
	03/09/05	<2.0	11	<0.50	<0.01	<0.01	<0.01	0.013	NA
	06/08/05	<1.0	16	1.1	<0.005	<0.005	<0.005	<0.005	<0.0050
	09/21/05	<2.0	19	2.1	<0.010	<0.010	<0.010	<0.010	NA
	12/14/05	<0.50	6.2	0.81	0.012	<0.0025	0.0032	0.0084	NA
	03/14/06	<0.40	3.9	0.69	0.0063	<0.0020	0.0020	0.0062	NA
	06/07/06	<0.50	4.5	<0.50	0.0037	<0.0025	<0.0025	<0.0025	NA
	09/13/06	<0.50	2.7	<0.50	0.0034	<0.0025	<0.0025	0.0029	NA
	12/13/06	**<0.25**	**3.7**	**0.62**	**0.0012**	**<0.0005**	**<0.0005**	**0.0023**	**NA**
MW-5	02/13/02	<0.25	<0.25	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	05/21/02	<0.25	<0.5	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	0.01*
	08/29/02	<0.25	1.2	<0.5	<0.0005	0.0018	<0.0005	0.00063	<0.005*
	11/05/02	<0.25	1.6	<0.5	0.0055	0.0016	<0.0005	0.00056	<0.005*
	02/20/03	<0.25	<0.25	<0.5	<0.0005	0.00066	<0.0005	<0.0005	<0.005*
	06/11/03	<0.25	0.36	<0.25	<0.0005	0.00079	<0.0005	<0.0005	<0.005*
	09/16/03	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.011*
	11/20/03	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0086*
	02/24/04	<0.25	<0.50	<0.50	<0.0005	0.0014	<0.0005	<0.0005	<0.0050*
	05/11/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/26/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/15/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/09/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.11*
	06/08/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/21/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/14/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.012*
	06/07/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0099*
	09/13/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.013*
	12/13/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**0.0088***
MW-6	02/13/02	0.97	1.1	<0.5	0.014	0.0007	<0.0005	0.00065	<0.005*
	05/22/02	1.1	2.5	<0.5	0.035	0.0012	0.0024	0.00072	<0.005*
	08/29/02	0.58	6.4	<0.5	0.0014	<0.001	<0.001	<0.001	<0.005*
	11/05/02	0.59	7.3	<0.5	0.064	<0.001	<0.001	0.0016	0.02*
	02/19/03	0.54	1.7	<0.5	0.0062	<0.0005	<0.0005	<0.0005	<0.005*
	06/10/03	0.70	1.9	<0.25	0.025	0.0011	0.00052	0.00051	<0.005*
	09/16/03	0.68	<0.50	<0.50	<0.0005	<0.0005	0.00053	<0.0005	0.019*
	11/19/03	0.44	1.6	<0.50	0.0095	0.00067	<0.0005	0.00051	<0.0050*
	02/25/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	05/11/04	1.0	0.67	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/25/04	<0.25	0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/04	0.82	0.81	<0.50	0.008	<0.0005	<0.0005	<0.0005	0.011*
	03/10/05	1.0	0.42	<0.50	0.0011	<0.0005	<0.0005	<0.0005	<0.0050*
	06/07/05	0.9	<0.25	<0.50	0.0014	<0.0005	<0.0005	<0.0005	<0.0050*
	09/20/05	0.9	<0.25	<0.50	<0.0005	<0.0005	0.00062	<0.0005	<0.0050*
	12/13/05	1.2	0.38	<0.50	0.0032	<0.0005	0.0005	<0.0005	<0.0050*
	03/15/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/12/06	0.71	<0.25	<0.50	<0.0005	0.00055	<0.0005	<0.0005	<0.0050*
	12/12/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**0.00055**	**<0.0005**	**<0.0005**	**<0.0050***

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
MW-7	02/14/02	13	7.5	<0.5	0.20	0.24	0.57	1.8	0.035*
	05/21/02	6.6	11	<0.5	0.16	0.089	0.43	0.66	0.04*
	08/29/02	2.9	5.7	<0.5	0.12	0.042	0.24	0.11	0.047*
	11/05/02	0.9	5.9	<0.5	0.021	0.0022	0.004	0.0066	0.041*
	02/20/03	9.7	11	<0.5	0.12	0.13	0.33	1.4	0.11*[a]
	06/11/03	5.7	8.7	<0.25	0.13	0.092	0.26	0.52	0.081*[a]
	09/17/03	1.4	12	<0.50	0.078	0.031	0.15	0.089	0.11*[a]
	11/20/03	0.26	0.8	<0.50	<0.0005	<0.0005	<0.0005	0.035	0.019*[a]
	02/26/04	15	21	<0.50	0.11	0.34	0.63	3.8	0.034*[a]
	05/11/04	6.3	11	<0.50	0.059	0.15	0.31	1.3	0.0083*[a]
	08/26/04	7.1	20	<0.50	0.054	0.22	0.34	1.7	0.067*[a]
	12/15/04	18	4.4	<0.50	0.14	0.37	0.53	3	0.19*[a]
	03/09/05	3.5	2.1	<0.50	0.045	0.034	0.09	0.27	0.079*[a]
	06/08/05	2.9	2.3	<0.50	0.054	0.05	0.11	0.44	0.069*[a]
	09/20/05	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/05	8.8	0.59	<0.50	0.16	0.19	0.31	1.5	0.042*[a]
	03/14/06	15	0.50	<0.50	0.12	0.26	0.50	3.6	0.026*
	06/07/06	17	0.85	<0.50	0.12	0.35	0.69	4.5	0.023*
	09/13/06	2.4	0.32	<0.50	0.05	0.06	0.19	0.39	0.021*[a]
	12/13/06	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
MW-8	02/14/02	<0.25	8.1	<5.0	<0.0005	0.00086	<0.0005	<0.0005	0.03*
	08/29/02	<0.25	7.5	<0.5	<0.0005	0.00082	<0.0005	<0.0005	0.017*
	11/05/02	<0.25	1.7	1.2	<0.0005	<0.0005	<0.0005	<0.0005	0.012*
	02/20/03	<0.25	6.6	<0.5	<0.0005	0.00055	<0.0005	0.0024	0.029*
	06/11/03	<0.25	3.8	<0.25	0.0013	<0.001	<0.001	<0.001	0.012*
	09/17/03	<0.25	3.3	0.77	<0.0005	<0.0005	<0.0005	<0.0005	0.030*
	11/20/03	<0.25	2.5	<0.50	<0.001	<0.001	<0.001	<0.001	<0.0050*
	02/26/04	<0.25	2.7	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.016*
	05/11/04	<0.25	1.5	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/26/04	<0.25	1.0	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/15/04	<0.25	1.5	<0.50	<0.001	<0.001	<0.001	<0.001	0.0071*
	03/09/05	<0.25	1.6	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0094*
	06/08/05	<0.25	1.8	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.014*
	09/21/05	<0.25	1.0	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.011*
	12/14/05	<0.25	1.1	0.58	<0.001	<0.001	<0.001	0.0013	0.0060*
	03/14/06	<0.25	0.54	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.011*
	06/07/06	<0.25	0.88	0.61	<0.0005	<0.0005	<0.0005	<0.0005	0.0093*
	09/13/06	<0.25	0.35	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.012*
	12/13/06	**<0.25**	**0.82**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**0.0060***
MW-9	06/11/03	6.0	13	<0.50	0.0031	0.036	0.076	0.6	0.022*
	09/17/03	5.3	39	0.72	0.026	0.027	0.09	0.45	0.0095*
	11/20/03	8.5	19	<0.50	<0.005	0.018	0.14	1.1	0.0096*
	02/26/04	4.1	28	<0.50	0.022	0.0072	0.025	0.47	0.0083*
	05/11/04	4.1	5.8	<0.50	0.0023	0.0093	0.081	0.44	<0.0050*
	08/26/04	4.2	6.2	<0.50	0.0066	0.025	0.13	0.43	0.0099*
	12/15/04	5.4	7.6	<0.50	<0.0025	0.011	0.12	0.39	0.0094*
	03/09/05	4.5	3.5	<0.50	0.0037	0.0047	0.042	0.18	0.021*
	06/08/05	3.2	3.9	<0.50	0.0035	0.0087	0.069	0.17	0.0076*
	09/21/05	2.3	2.6	<0.50	0.007	0.0077	0.033	0.12	0.0076*
	12/14/05	4.7	1.2	<0.50	0.0078	0.010	0.12	0.38	0.0095*
	03/14/06	2.4	1.4	<0.50	0.0024	0.003	0.018	0.12	0.013*
	06/07/06	<0.25	1.0	<0.50	0.0011	0.023	0.049	0.21	0.021*
	09/13/06	1.8	0.46	<0.50	0.0044	0.016	0.063	0.06	0.010*
	12/13/06	**2.6**	**3.8**	**<0.50**	**<0.0025**	**<0.0025**	**0.024**	**0.190**	**0.025***

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
MW-12	06/20/01	<0.06	1.7	<0.5	<0.001	<0.001	<0.001	<0.003	<0.004
MW-12R	02/14/02	<0.25	1.4	<0.5	0.014	<0.0005	<0.0005	<0.0005	<0.005*
	05/21/02	<0.25	2.5	<0.5	0.08	0.0013	<0.0005	0.00066	<0.005*
	08/28/02	<0.25	2.1	<0.5	0.028	0.0059	<0.0005	0.0015	<0.005*
	11/05/02	<0.25	1.3	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	02/19/03	0.26	2.5	<0.5	0.19	0.0012	<0.001	<0.001	<0.005*
	06/10/03	0.41	1.3	<0.25	0.11	0.00055	<0.0005	<0.0005	<0.005*
	09/16/03	<0.25	0.67	<0.50	0.0021	<0.0005	<0.0005	<0.0005	0.013*
	11/19/03	0.42	<0.25	<0.50	0.26	<0.001	<0.001	<0.001	0.0078
	02/25/04	0.26	1.8	<0.50	0.099	0.0005	<0.0005	0.00076	0.010*
	05/12/04	0.56	0.74	<0.50	0.20	<0.001	<0.001	<0.001	<0.0050*
	08/26/04	0.35	0.50	<0.50	0.089	<0.001	<0.001	<0.001	<0.0050*
	12/15/04	<0.25	0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/09/05	<0.25	0.39	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/05	<0.25	0.39	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA*
	09/21/05	0.26	0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/14/06	<0.25	<0.25	<0.50	<0.001	<0.001	<0.001	<0.001	<0.0050*
	06/07/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/13/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/13/06	**<0.25**	**0.27**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***
	.								
MW-13	06/19/01	<0.05	1.3	<0.5	<0.001	<0.001	<0.001	<0.003	<0.004
MW-13R	02/14/02	<0.25	3.2	<0.5	0.056	<0.0005	<0.0005	0.00075	<0.005*
	05/21/02	<0.25	3.5	<0.5	0.0025	<0.0005	<0.0005	<0.0005	<0.005*
	08/28/02	<0.25	2.4	<0.5	<0.0005	0.0019	<0.0005	0.0007	<0.005*
	11/05/02	<0.25	2.0	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	02/19/03	<0.25	1.7	<0.5	0.00078	0.0032	<0.0005	0.00083	<0.005*
	06/10/03	<0.25	0.76	<0.25	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	09/16/03	<0.25	1.4	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0078*
	11/19/03	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0066
	02/25/04	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.012*
	05/12/04	<0.25	0.61	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/26/04	<0.25	0.49	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/15/04	<0.25	0.91	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/09/05	<0.25	0.35	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/05	<0.25	0.49	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA*
	09/21/05	<0.25	0.39	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/14/06	<0.25	<0.25	<0.50	<0.001	<0.001	<0.001	<0.001	<0.0050*
	06/07/06	<0.25	<0.25	<0.50	<0.005	<0.005	<0.005	<0.005	<0.0050*
	09/13/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/13/06	**<0.25**	**0.33**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0077***

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
MW-14	02/13/02	2.5	37	<5.0	0.01	0.0085	0.18	0.22	NA
	05/21/02	2.9	23	1.0	0.0093	0.0057	0.18	0.15	NA
	08/29/02	2.9	28	<0.5	0.017	0.0073	0.21	0.14	NA
	11/05/02	2.0	28	0.91	0.06	0.0059	0.12	0.076	NA
	02/20/03	3.4	18	<0.5	0.056	0.0062	0.14	0.11	NA
	06/11/03	3.1	28	<0.5	0.059	0.0098	0.23	0.13	NA
	09/16/03	<1.0	15	<0.50	0.13	<0.005	0.019	0.022	NA
	11/20/03	<2.0	29	0.70	0.12	<0.01	0.02	0.031	NA
	02/24/04	2.4	21	<0.50	0.061	0.014	0.25	0.2	NA
	05/11/04	2.7	27	<0.50	0.053	0.0092	0.21	0.16	NA
	08/26/04	2.3	11	0.53	0.024	<0.0025	0.16	0.19	NA
	12/15/04	1.2	9.6	<0.50	0.0084	<0.005	0.01	0.0055	NA
	03/09/05	4.2	7.7	<0.50	0.0053	0.0094	0.18	0.099	NA
	06/08/05	3.1	8.8	<0.50	0.0043	0.0069	0.17	0.11	NA
	09/21/05	1.6	10.0	1.1	0.012	0.0048	0.077	0.068	NA
	12/14/05	3.1	2.0	<0.50	0.0059	0.0075	0.120	0.068	NA
	03/14/06	0.79	2.1	<0.50	<0.0025	<0.0025	0.023	0.03	NA
	06/07/06	0.84	3.0	<0.50	<0.0025	<0.0025	0.061	0.033	NA
	09/13/06	2.4	1.8	<0.50	<0.0025	0.0060	0.100	0.056	NA
	12/13/06	**1.1**	**1.4**	**<0.50**	**<0.0025**	**<0.0025**	**0.044**	**0.029**	**NA**
MW-16	02/13/02	<0.25	<0.25	<0.5	0.0013	0.0037	<0.0005	0.0011	NA
	05/21/02	<0.25	<0.5	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
	08/29/02	<0.25	<0.5	<0.5	<0.0005	0.0022	<0.0005	0.00069	NA
	11/05/02	<0.25	0.29	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
	02/19/03	<0.25	<0.25	<0.5	<0.0005	0.0018	<0.0005	<0.0005	NA
	06/10/03	<0.25	<0.25	<0.25	<0.0005	<0.0005	<0.0005	<0.0005	NA
	09/16/03	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	11/19/03	<0.25	<0.25	<0.50	<0.0005	0.0013	<0.0005	0.00062	NA
	02/25/04	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	05/11/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	08/26/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	12/15/04	<0.25	<0.25	<0.50	0.029	<0.0005	<0.0005	<0.0005	NA
	03/10/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	06/07/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	09/20/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	12/13/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	03/15/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	06/08/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	09/12/06	<0.25	<0.25	<0.50	<0.0005	0.00062	0.0012	<0.0005	NA
	12/12/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**NA**
MW-18	02/13/02	7.6	0.77	<0.5	1.8	0.067	0.29	0.34	NA
	05/21/02	1.2	0.30	<0.5	0.25	0.016	0.068	0.068	NA
	08/29/02	1.6	<0.5	<0.5	0.45	0.014	0.032	0.044	NA
	11/05/02	1.1	<0.25	<0.5	<0.3	0.010	0.011	0.031	NA
	02/19/03	<0.25	<0.25	<0.5	0.0035	0.0047	<0.0005	0.0016	NA
	06/10/03	<0.25	<0.25	<0.25	0.022	0.0016	<0.0005	0.004	NA
	09/16/03	<0.25	<0.50	<0.50	0.036	0.0019	<0.0005	0.0075	NA
	11/19/03	<0.25	<0.25	<0.50	0.0042	<0.0005	<0.0005	0.0015	NA
	02/25/04	0.58	<0.25	<0.50	0.11	0.0048	0.00087	0.026	NA
	05/11/04	1.1	<0.25	<0.50	0.25	0.0073	0.0016	0.037	NA
	08/26/04	<0.25	<0.25	<0.50	0.003	<0.0005	<0.0005	<0.0005	NA
	12/15/04	0.84	<0.25	<0.50	0.14	0.006	0.0019	0.029	NA
	03/10/05	0.84	<0.25	<0.50	0.25	0.0049	0.002	0.021	NA
	06/07/05	0.68	<0.25	<0.50	0.17	0.0039	0.0019	0.0098	NA
	09/20/05	4.0	<0.25	<0.50	0.74	0.021	0.0091	0.09	NA
	12/13/05	2.3	<0.25	<0.50	0.45	0.015	0.0067	0.033	NA
	03/15/06	4.9	<0.25	<0.50	1.2	0.035	0.025	0.12	NA
	06/08/06	1.2	<0.25	<0.50	0.15	0.011	0.011	0.034	NA
	09/12/06	0.35	<0.25	<0.50	0.023	0.0021	0.0022	0.0047	NA
	12/12/06	**0.28**	**<0.25**	**<0.50**	**0.023**	**0.0018**	**0.0019**	**0.0060**	**NA**

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
MW-19	02/13/02	29	6.8	<2.5	0.057	0.73	0.58	6.5	NA
	05/21/02	30	7.7	<0.5	0.049	0.65	0.53	6.5	NA
	08/29/02	13	11	<0.5	0.14	0.29	0.20	2.1	NA
	11/05/02	8.2	3.0	<0.5	0.21	0.37	0.16	1.7	NA
	02/20/03	38	19	<0.5	0.091	1.2	0.80	8.0	NA
	06/11/03	32	15	<1.0	0.042	0.38	0.80	6.7	NA
	09/16/03	4.2	12	<0.50	0.19	0.043	0.19	1.1	NA
	11/20/03	22	10	<0.50	0.11	0.67	0.75	6.1	NA
	02/24/04	19	14	<0.50	<0.015	0.49	0.63	4.7	NA
	05/11/04	27	13	<0.50	<0.025	0.22	0.87	7.2	NA
	08/26/04	22	0.72	<0.50	0.042	0.26	0.64	4.6	NA
	12/15/04	15	7.6	<0.50	0.039	0.12	0.37	2.7	NA
	03/09/05	27	9.1	<0.50	0.073	0.18	0.56	3.4	NA
	06/08/05	17	6.3	<0.50	0.071	0.17	0.61	2.8	NA
	09/20/05	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/05	NS	NS	NS	NS	NS	NS	NS	NS
	03/14/06	NS	NS	NS	NS	NS	NS	NS	NS
	06/07/06	14	1.4	<0.50	<0.010	0.043	0.29	1.4	NA
	09/13/06	11	0.5	<0.50	0.032	0.047	0.41	1.1	NA
	12/13/06	**8.0**	**1.4**	**<0.50**	**0.016**	**0.052**	**0.30**	**1.4**	**NA**
MW-20	02/13/02	<0.25	0.64	<0.5	<0.001	<0.001	<0.001	<0.001	NA
	05/20/02	<0.25	1.3	<0.5	0.018	0.0012	0.0048	0.014	NA
	08/29/02	0.6	1.1	<0.5	0.057	0.0065	0.021	0.084	NA
	11/06/02	<0.25	0.81	<0.5	0.0023	0.00053	<0.0005	<0.0005	NA
	02/19/03	<0.25	<0.25	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
	06/11/03	<0.25	0.68	<0.25	<0.0005	<0.0005	<0.0005	<0.0005	NA
	09/17/03	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	11/20/03	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	0.00072	NA
	02/25/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	05/11/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	08/26/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	12/15/04	<0.25	0.30	<0.50	0.0013	<0.0005	<0.0005	<0.0005	NA
	03/09/05	<0.25	<0.25	<0.50	0.00074	<0.0005	<0.0005	<0.0005	NA
	06/08/05	<0.25	0.55	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	09/21/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	12/14/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	03/14/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	06/07/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	09/13/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	12/13/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**NA**
MW-21	06/11/03	NS	NS	NS	NS	NS	NS	NS	NS
	09/17/03	NS	NS	NS	NS	NS	NS	NS	NS
	11/20/03	0.97	19	<0.50	<0.0025	<0.0025	<0.0025	<0.0025	NA
	02/26/04	2.3	35	<0.50	<0.0025	<0.0025	<0.0025	<0.0025	NA
	05/11/04	1.2	29	<0.50	<0.0025	<0.0025	<0.0025	<0.0025	NA
	08/26/04	4.3	33	<0.50	<0.001	<0.001	0.0013	0.0014	NA
	12/15/04	NS	NS	NS	NS	NS	NS	NS	NA
	03/09/05	2.4	140	<5.0	<0.0015	<0.0015	0.0016	<0.0015	NA
	06/08/05	1.8	31	0.5	<0.002	<0.002	0.0026	<0.002	NA
	09/21/05	1.7	46	3.3	<0.0010	<0.0010	0.0013	<0.0010	NA
	12/14/05	1.0	6.1	0.54	<0.002	<0.002	0.0027	<0.002	NA
	03/14/06	<0.25	33	3.1	<0.0005	<0.0005	<0.0005	<0.0005	NA
	06/07/06	0.8	18	1.2	<0.0025	<0.0025	<0.0025	<0.0025	NA
	09/13/06	NS	NS	NS	NS	NS	NS	NS	NS
	12/13/06	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
MW-22	02/13/02	0.96	9.2	<0.5	0.012	0.0053	0.017	0.0097	NA
	05/21/02	1.1	7.7	<0.5	0.16	0.049	0.023	0.03	NA
	08/29/02	1.4	2.4	<0.5	0.5	0.0093	0.044	0.0066	NA
	11/05/02	0.49	1.7	<0.5	0.14	0.0031	0.025	<0.001	NA
	02/19/03	<0.25	9.1	<0.5	<0.001	<0.001	<0.001	<0.001	NA
	06/10/03	<0.25	7.4	0.87[a]	<0.001	<0.001	<0.001	<0.001	NA
	09/16/03	<0.25	2.7	<0.50	0.0018	<0.0005	<0.0005	<0.0005	NA
	11/19/03	<0.50	8.4	<0.50	<0.0025	<0.0025	<0.0025	<0.0025	NA
	02/25/04	<0.25	6.4	<0.50	<0.001	<0.001	<0.001	<0.001	NA
	05/11/04	<0.25	2.0	<0.50	<0.001	<0.001	<0.001	<0.001	NA
	08/25/04	<0.25	0.61	<0.50	<0.001	<0.001	<0.001	<0.001	NA*
	12/14/04	<0.25	1.1	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	03/10/05	<0.25	2.2	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	06/07/05	<0.25	3.0	<0.50	0.0049	<0.001	<0.001	<0.001	NA
	09/20/05	0.40	2.9	<0.50	<0.001	<0.001	<0.001	<0.001	NA
	12/13/05	<0.25	0.71	<0.50	<0.001	<0.001	<0.001	<0.001	NA
	03/15/06	<0.25	2.4	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	06/08/06	<0.25	0.89	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	09/12/06	<0.25	0.45	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	12/12/06	**<0.25**	**1.4**	**<0.50**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**NA**
MW-23	11/19/03	5.3	1.4	<0.50	0.87	0.016	0.098	0.23	NA
	02/25/04	3.3	0.85	<0.50	0.91	0.011	0.046	0.03	0.0052*
	05/12/04	4.2	1.3	<0.50	1.1	0.013	0.046	0.048	<0.0050*
	08/26/04	5.3	0.72	<0.50	1.1	0.023	0.2	0.17	0.014*
	12/14/04	NS	NS	NS	NS	NS	NS	NS	NS
	03/08/05	NS	NS	NS	NS	NS	NS	NS	NS
	06/07/05	NS	NS	NS	NS	NS	NS	NS	NS
	09/20/05	NS	NS	NS	NS	NS	NS	NS	NS
	12/13/05	6.3	<0.25	<0.50	1.3	0.014	0.048	0.044	<0.0050*
	03/15/06	7.0	0.28	<0.50	1.4	0.015	0.19	0.21	<0.0050*
	06/08/06	5.2	1.30	<0.50	1.4	0.014	0.11	0.11	<0.0050*
	09/12/06	NS	NS	NS	NS	NS	NS	NS	NS
	12/12/06	**8.1**	**<0.25**	**<0.50**	**1.8**	**0.020**	**0.11**	**0.16**	**<0.0050***
MW-24	11/19/03	34	6.4	0.54	2.8	0.54	1.4	6	NA
	02/25/04	26	3.0	<0.50	4.3	0.085	1.0	3.3	<0.0050*
	05/12/04	NS	NS	NS	NS	NS	NS	NS	NS
	08/26/04	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/04	NS	NS	NS	NS	NS	NS	NS	NS
	03/08/05	NS	NS	NS	NS	NS	NS	NS	NS
	06/07/05	NS	NS	NS	NS	NS	NS	NS	NS
	09/20/05	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/05	NS	NS	NS	NS	NS	NS	NS	NS
	03/15/06	26	0.34	<0.50	4.4	0.064	0.88	4.2	0.0069
	06/08/06	21	<0.25	<0.50	1.5	0.039	0.86	4.9	0.0068
	09/12/06	NS	NS	NS	NS	NS	NS	NS	NS
	12/12/06	**20**	**1.1**	**<0.50**	**1.5**	**0.037**	**0.69**	**3.2**	**0.0078***
MW-25	11/20/03	<0.25	1.3	<0.50	0.0061	<0.0005	<0.0005	<0.0005	NA
	02/26/04	0.38	8.9	<0.50	0.0011	<0.0005	0.0027	<0.0005	0.012*
	5/12/014	<0.25	1.6	<0.50	<0.0005	<0.0005	0.0034	<0.0005	<0.0050*
	08/26/04	<0.25	0.27	<0.50	0.013	<0.0005	<0.0005	<0.0005	0.034*[a]
	12/14/04	<0.25	1.4	<0.50	0.0035	<0.001	<0.001	<0.001	<0.0050*
	03/10/05	0.31	3.7	<0.50	0.0014	<0.0005	0.00064	<0.0005	<0.0050*
	06/07/05	0.40	3.2	<0.50	<0.001	<0.001	0.0014	<0.001	<0.0050*
	09/20/05	0.30	1.4	<0.50	0.0016	<0.0005	<0.0005	<0.0005	0.059*[a]
	12/13/05	<0.25	1.2	<0.50	<0.001	<0.001	<0.001	<0.001	<0.0050*
	03/15/06	<0.25	1.0	<0.50	0.0019	<0.001	<0.001	<0.001	<0.0050*
	06/08/06	<0.25	1.4	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/12/06	<0.25	0.31	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/12/06	**<0.25**	**0.86**	**<0.50**	**0.0052**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
A-5	02/14/02	<0.25	2.3	<0.5	0.00055	0.0017	<0.0005	<0.0005	NA
	05/22/02	<0.25	2.0	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
	08/29/02	<0.25	1.2	<0.5	0.0017	0.00062	<0.0005	0.00099	NA
	11/06/02	<0.25	1.2	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
	02/20/03	<0.25	<0.25	<0.5	0.00086	0.0019	<0.0005	0.001	NA
	06/10/03	0.26	0.4	<0.25	<0.0005	0.00067	<0.0005	0.0007	NA
	09/17/03	<0.25	0.60	<0.50	0.0042	<0.0005	<0.0005	<0.0005	NA
	11/20/03	<0.25	0.53	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	02/26/04	<0.25	3.3	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	05/12/04	0.27	0.43	<0.50	<0.0005	<0.0005	<0.0005	0.00057	NA
	08/25/04	<0.25	1.1	<0.50	0.0029	<0.0005	<0.0005	<0.0005	NA
	12/14/04	<0.25	0.43	<0.50	0.021	<0.001	<0.001	<0.001	NA
	03/10/05	0.43	5.2	<0.50	0.12	0.0025	<0.001	0.0012	NA
	06/07/05	0.54	2.4	1.70	0.12	0.0028	<0.001	0.0013	NA
	09/20/05	0.37	1.2	<0.50	0.037	0.0017	<0.001	0.0011	NA
	12/13/05	0.44	0.31	<0.50	0.049	0.0021	<0.0005	0.0013	NA
	03/15/06	0.36	0.45	<0.50	0.052	0.0017	<0.001	0.0017	NA
	06/08/06	0.91	0.55	<0.50	0.099	0.0036	0.00076	0.0034	NA
	09/12/06	0.46	0.43	<0.50	0.031	0.0016	<0.001	0.0014	NA
	12/12/06	**0.70**	**0.53**	**<0.50**	**0.079**	**0.0028**	**<0.001**	**0.0025**	**NA**
A-8	02/14/02	<0.25	1.6	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
	05/22/02	<0.25	0.51	<0.5	<0.0005	0.00058	<0.0005	<0.0005	NA
	08/28/02	<0.25	<0.5	<0.5	<0.0005	0.0014	<0.0005	0.00066	NA
	11/06/02	<0.25	0.43	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
	02/20/03	<0.25	<0.25	<0.5	<0.0005	0.00083	<0.0005	<0.0005	NA
	06/10/03	<0.25	<0.25	<0.25	<0.0005	0.00056	<0.0005	<0.0005	NA
	09/17/03	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	11/20/03	<0.25	1.4	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	02/26/04	0.35	1.0	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	05/12/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	08/25/04	<0.25	4.9	<0.50	<0.001	<0.001	<0.001	<0.001	NA
	12/14/04	<0.25	1.7	<0.50	0.00056	0.00052	<0.0005	0.00094	NA
	03/10/05	<0.25	2.1	<0.50	<0.0005	<0.0005	<0.0005	0.00055	NA
	06/07/05	<0.25	1.2	1.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
	09/20/05	<0.25	3.5	0.8	0.0012	<0.001	<0.001	0.0012	NA
	12/13/05	<0.25	0.54	<0.50	<0.0005	<0.0005	<0.0005	0.0011	NA
	03/15/06	<0.25	0.55	<0.50	<0.001	<0.001	<0.001	<0.001	NA
	06/08/06	<0.25	0.47	<0.50	<0.001	<0.001	<0.001	<0.001	NA
	09/12/06	<0.25	0.76	<0.50	<0.001	<0.001	<0.001	0.0011	NA
	12/12/06	**0.27**	**0.87**	**<0.50**	**<0.001**	**0.0011**	**<0.001**	**0.0015**	**NA**
A-10	02/14/02	<0.25	9.2	<0.5	<0.0005	0.00062	<0.0005	<0.0005	NA
	05/22/02	0.31	8.8	<0.5	<0.0005	0.00086	<0.0005	<0.0005	NA
	08/28/02	0.30	15	<0.5	<0.001	<0.001	<0.001	<0.001	NA
	11/06/02	0.37	13	<0.50	<0.0005	0.00057	<0.0005	<0.0005	NA
	02/20/03	<0.25	6.0	<0.5	0.0013	<0.0005	<0.0005	0.00055	NA
	06/10/03	0.45	19	<0.25	<0.001	<0.001	<0.001	<0.001	NA
	09/17/03	0.68	30	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	11/20/03	1.1	89	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	02/26/04	<0.25	35	0.74	<0.0005	<0.0005	<0.0005	<0.0005	NA
	05/12/04	<0.25	3.5	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	08/25/04	<0.25	5.1	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA*
	12/14/04	<0.25	1.1	<0.50	0.003	<0.001	<0.001	<0.001	NA
	03/10/05	<0.25	4.6	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	06/07/05	0.3	68.0	2.10	0.00069	<0.0005	<0.0005	<0.0005	NA
	09/20/05	0.6	1.5	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	12/13/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA
	03/15/06	<0.25	1.7	<0.50	<0.0005	<0.0005	<0.0005	0.0005	NA
	06/08/06	<0.25	0.7	<0.50	<0.0005	<0.0005	<0.0005	0.0005	NA
	09/12/06	<0.25	0.65	<0.50	<0.0005	<0.0005	<0.0005	0.0005	NA
	12/12/06	**<0.25**	**0.98**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**NA**

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
A-14	12/20/00	<0.05	<0.25	<0.5	<0.001	<0.001	<0.001	<0.003	0.65
A-14R	02/14/02	<0.25	<0.25	<0.5	0.00061	0.0021	<0.0005	<0.0005	0.005*
	05/22/02	<0.25	<0.5	<0.5	0.00053	0.0021	<0.0005	0.00054	0.02*
	08/28/02	<0.25	<0.5	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	11/06/02	<0.25	<0.25	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	02/20/03	<0.25	<0.25	<0.25	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	06/10/03	<0.25	<0.25	<0.25	<0.0005	<0.0005	<0.0005	<0.0005	0.02*
	09/17/03	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.025*
	11/20/03	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.032*
	02/26/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.018*
	05/12/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/25/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0072*
	03/10/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/07/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/20/05	NS	NS	NS	NS	NS	NS	NS	NS
	12/13/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/15/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/12/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/12/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***
A-21	02/14/02	<0.25	<0.25	<0.5	<0.0005	0.001	<0.0005	<0.0005	<0.005*
	05/22/02	<0.25	<0.5	<0.5	0.00061	0.0017	<0.0005	0.00057	<0.005*
	08/29/02	<0.25	0.76	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	11/06/02	<0.25	0.37	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	02/19/03	<0.25	<0.5	<0.5	0.0013	0.0018	<0.0005	0.00061	<0.005*
	06/10/03	0.25	<0.25	<0.25	0.0082	0.00058	<0.0005	<0.0005	0.062*
	09/16/03	<0.25	<0.25	<0.50	0.0034	<0.0005	<0.0005	<0.0005	0.0085*
	11/19/03	0.47	<0.25	<0.50	0.061	0.0019	<0.0005	0.0029	0.0067*
	02/25/04	0.63	<0.50	<0.50	0.013	0.00066	0.045	0.0016	<0.0050*
	05/12/04	0.50	<0.25	<0.50	0.0019	<0.0005	0.0042	0.00072	<0.0050*
	08/25/04	0.26	<0.25	<0.50	0.0015	<0.0005	<0.0005	0.0015	<0.0050*
	12/14/04	0.99	<0.25	<0.50	0.061	0.0025	0.022	0.0083	<0.0050*
	03/10/05	1.5	0.26	<0.50	0.024	0.0021	0.0025	0.011	0.020*
	06/07/05	1.2	0.35	<0.50	0.0076	0.00084	0.00077	0.0043	<0.0050*
	09/20/05	1.3	<0.25	<0.50	0.011	0.0012	0.00066	0.0048	<0.0050*
	12/13/05	1.6	<0.25	<0.50	0.017	0.0016	0.0015	0.0052	<0.0050*
	03/15/06	0.97	<0.25	<0.50	0.0098	0.00097	0.0023	0.0033	<0.0050*
	06/08/06	0.82	<0.25	<0.50	0.0023	0.00059	<0.0005	0.0019	<0.0050*
	09/12/06	0.85	<0.25	<0.50	0.0019	<0.0005	<0.0005	0.0016	<0.0050*
	12/12/06	**0.85**	**<0.25**	**<0.50**	**0.0071**	**<0.0005**	**0.0021**	**0.0014**	**<0.0050***
A-23R	02/14/02	0.26	2.1	<0.5	0.06	0.001	0.0099	0.0072	0.72*[a]
	05/20/02	0.74	6.9	<0.5	0.15	<0.001	0.088	0.0067	0.095*[a]
	08/28/02	0.62	2.1	<0.5	0.2	0.0035	0.021	0.0075	0.23*
	11/05/02	0.74	1.7	<0.5	0.22	<0.0015	0.0059	0.014	0.18*
	02/19/03	0.71	2.3	<0.5	0.26	0.0033	0.0054	0.0059	0.049*
	06/10/03	<0.25	1.8	<0.25	0.0073	<0.001	0.0028	<0.001	<0.005*
	09/16/03	0.70	1.3	<0.50	0.043	0.0029	0.057	0.0018	0.38*
	11/19/03	1.0	0.78	<0.50	0.08	0.0037	0.069	0.0035	0.13*
	02/25/04	1.6	0.78	<0.50	0.26	0.0072	0.061	0.015	0.081*
	05/12/04	0.28	0.45	<0.50	0.020	0.00075	0.0022	0.00082	<0.0050*
	08/25/04	2.3	0.35	<0.50	0.46	0.012	0.074	0.02	0.012*
	12/14/04	2.0	0.65	<0.50	0.37	0.0084	0.041	0.013	0.018*
	03/10/05	0.60	0.31	<0.50	0.035	0.0011	0.0045	0.0014	0.035*
	06/07/05	0.33	<0.25	<0.50	0.0080	<0.0005	0.0012	<0.0005	0.013*
	09/20/05	<0.25	<0.25	<0.50	0.00060	<0.0005	<0.0005	<0.0005	0.0096*[a]
	12/14/05	0.37	<0.25	<0.50	0.019	0.00056	0.00065	0.00058	0.032*
	03/15/06	1.1	<0.25	<0.50	0.34	0.0033	<0.0025	0.0051	<0.0050*
	06/08/06	0.34	<0.25	<0.50	0.033	<0.0005	<0.0005	0.031	0.0081*
	09/12/06	0.42	<0.25	<0.50	0.010	<0.0005	0.032	0.0013	0.035*
	12/12/06	**2.1**	**<0.25**	**<0.50**	**0.520**	**0.0066**	**0.053**	**0.021**	**<0.0050***
Dup-1^	09/20/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/05	0.42	<0.25	<0.50	0.020	0.00064	0.00081	0.00063	0.025*
	03/15/06	1.1	<0.25	<0.50	0.310	0.0036	0.0027	0.0052	0.0099*
	06/08/06	0.33	<0.25	<0.50	0.032	<0.0005	<0.0005	0.031	0.013*
	09/12/06	0.36	<0.25	<0.50	0.009	<0.0005	0.027	0.0011	0.12*
	12/12/06	**2.2**	**<0.25**	**<0.50**	**0.520**	**0.0076**	**0.061**	**0.024**	**0.0077***

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
A-27	02/14/02	2.9	11	<0.5	0.13	0.014	0.096	0.25	NA
	05/22/02	3.3	8.2	<0.5	0.2	0.016	0.14	0.38	NA
	08/29/02	3.8	8.1	<0.5	0.24	0.016	0.14	0.29	NA
	11/06/02	3.2	8.0	<0.5	0.16	0.016	0.065	0.14	NA
	02/19/03	3.1	6.8	<0.5	0.17	0.017	0.052	0.13	NA
	06/10/03	3.7	4.5	<0.25	0.14	0.013	0.11	0.23	NA
	09/16/03	4.5	5.6	<0.50	0.27	0.02	0.18	0.38	NA
	11/19/03	5.9	5.3	<0.50	0.25	0.023	0.13	0.33	NA
	02/25/04	4.4	16.0	<0.50	0.15	0.016	0.18	0.30	NA
	05/11/04	4.6	5.2	<0.50	0.16	0.017	0.23	0.38	NA
	08/25/04	4.7	2.5	<0.50	0.25	0.018	0.17	0.24	NA*
	12/14/04	4.5	4.4	<0.50	0.11	0.012	0.099	0.14	NA
	03/10/05	5.8	4.7	<0.50	0.14	0.015	0.16	0.22	NA
	06/07/05	4.5	7.8	<0.50	0.17	0.014	0.24	0.34	NA
	09/20/05	6.3	2.3	<0.50	0.25	0.019	0.18	0.22	NA
	12/13/05	3.7	0.83	<0.50	0.13	0.012	0.083	0.095	NA
	03/15/06	4.4	1.3	<0.50	0.13	0.017	0.19	0.24	NA
	06/08/06	4.5	1.1	<0.50	0.19	0.016	0.23	0.28	NA
	09/12/06	3.4	0.82	<0.50	0.17	0.011	0.12	0.12	NA
	12/12/06	**3.7**	**0.90**	**<0.50**	**0.110**	**0.0096**	**0.10**	**0.12**	**NA**
A-28R	02/14/02	5.3	2.7	<0.5	0.66	0.027	0.42	0.2	0.035*
	05/22/02	3.1	6.7	<0.5	0.14	0.01	0.2	0.092	0.05*
	08/29/02	4	6	<0.5	0.15	0.019	0.23	0.078	0.032*
	11/06/02	3.4	1.8	<0.5	0.47	0.015	0.053	0.05	0.028*
	02/19/03	3.5	4.6	<0.5	0.46	0.015	0.051	0.05	0.013*
	06/10/03	3.7	2.9	<0.25	0.31	0.0081	0.085	0.051	0.064*
	09/16/03	3.8	2.0	<0.50	1.0	0.013	0.075	0.048	0.17*
	11/19/03	4.9	<0.25	<0.50	0.58	0.012	0.059	0.064	0.11*
	02/25/04	5.1	1.7	<0.50	0.63	0.0093	0.19	0.076	0.0080*
	05/12/04	6.5	2.6	<0.50	0.96	0.012	0.20	0.058	<0.0050*
	08/25/04	5.9	0.88	<0.50	2.1	0.018	0.05	0.053	0.043*
	12/14/04	7.6	3.0	<0.50	1.4	0.015	0.073	0.062	0.025*
	03/10/05	10	0.76	<0.50	1.9	0.019	0.077	0.064	0.0078*
	06/07/05	6	1.20	<0.50	2.1	0.015	0.069	0.048	0.0068*
	09/20/05	NS	NS	NS	NS	NS	NS	NS	NS
	12/13/05	5.4	<0.25	<0.50	0.93	0.011	0.033	0.036	0.012*
	03/15/06	4.6	<0.25	<0.50	0.80	0.012	0.11	0.035	<0.0050*
	06/08/06	4.2	0.49	0.73	0.87	0.013	0.07	0.035	0.019*
	09/12/06	5.2	<0.25	<0.50	1.0	0.015	0.048	0.036	0.016*
	12/12/06	**4.0**	**0.57**	**<0.50**	**0.30**	**0.0095**	**0.027**	**0.028**	**<0.0050***
SH-02	12/20/00	0.078	<0.25	<0.5	0.001	<0.001	<0.001	<0.003	0.015**
SH-02R	02/13/02	<0.25	0.56	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	05/21/02	<0.25	2.4	<0.5	0.037	<0.0005	<0.0005	<0.0005	0.005*
	08/28/02	<0.25	4.3	<0.5	0.087	0.0038	0.00061	0.0023	0.006*
	11/05/02	<0.25	1.1	<0.5	0.016	<0.0005	<0.0005	<0.0005	0.005*
	02/19/03	<0.25	<0.5	<0.5	<0.0005	0.00086	<0.0005	<0.0005	<0.005*
	06/10/03	<0.25	0.97	<0.25	<0.0005	0.00051	<0.0005	<0.0005	0.0059*
	09/16/03	<0.25	3.0	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.010*
	11/19/03	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	02/25/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	05/12/04	<0.25	0.74	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/26/04	<0.25	0.58	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/15/04	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/09/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/05	<0.25	0.31	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/21/05	<0.25	0.58	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/05	<0.25	0.30	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0078*
	03/14/06	<0.25	0.30	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0072*
	06/07/06	<0.25	0.59	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050*
	09/13/06	<0.25	<0.25	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050*
	12/13/06	**<0.25**	**0.49**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Kinder Morgan Liquid Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest
Seattle, Washington

Sample I.D.	Date	TPH-Gasoline (ppm)	TPH-Diesel (ppm)	TPH-Oil (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
SH-05	12/20/00	<0.05	1.0	<0.5	<0.001	<0.001	<0.003	<0.001	0.017**
SH-05R	05/21/02	0.71	11	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	08/28/02	0.77	10	<0.5	<0.0005	0.0015	<0.0005	<0.0005	0.006*
	11/05/02	1.4	7.1	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	0.008*
	02/19/03	0.8	6.8	<0.5	<0.001	0.0016	<0.001	<0.001	<0.005*
	06/10/03	1.1	45	<0.25	<0.0005	<0.0005	<0.0005	<0.0005	0.04*
	09/16/03	<0.25	23	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.074*
	11/19/03	0.62	19	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.075*
	02/25/04	<0.25	5.3	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	05/12/04	0.43	4.3	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/26/04	0.63	3.0	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050
	12/15/04	0.30	10	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0056*
	03/09/05	0.78	4.3	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/05	0.32	4.0	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/21/05	0.61	2.8	1.0	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/05	0.78	1.3	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/14/06	<0.25	1.4	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0074*
	06/07/06	<0.25	1.4	<0.50	<0.001	<0.001	<0.001	<0.001	<0.0050*
	09/13/06	0.34	0.56	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/13/06	**<0.50**	**1.9**	**<0.50**	**<0.0025**	**<0.0025**	**<0.0025**	**<0.0025**	**<0.0050***
MW-07R	02/13/02	<0.25	1.2	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	0.035*
	05/21/02	<0.25	2.1	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	0.005*
	08/28/02	<0.25	2.4	<0.5	<0.0005	0.0028	<0.0005	0.0012	0.006*
	11/05/02	<0.25	3.7	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*
	02/19/03	NS	NS	NS	NS	NS	NS	NS	NS
	06/10/03	NS	NS	NS	NS	NS	NS	NS	NS
	09/16/03	<0.25	1.9	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.045*
	11/19/03	<0.25	2.1	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.020*
	02/25/04	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	05/12/04	<0.25	0.48	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	08/26/04	<0.25	0.42	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	NA*
	12/15/04	<0.25	0.85	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0076*
	03/09/05	<0.25	0.54	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/08/05	<0.25	0.46	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/21/05	<0.25	0.70	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	12/14/05	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	03/14/06	<0.25	0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	06/07/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*
	09/13/06	<0.25	<0.25	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	0.0065
	12/13/06	**<0.25**	**<0.25**	**<0.50**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0050***

Notes:
< = Denotes compound was not detected at designated detection limit.
NA = Not analyzed for this parameter
NS = Not sampled
^ = Dup-1 is a duplicate sample for A-23R; Dup-2 is a duplicate sample for MW-3.
* = Also tested for Dissolved Lead (EPA-200.8), results are below detection limit of 0.0050 ppm.
*[a] = Also tested for Dissolved Lead (EPA-200.8), results are at or above detection limit of 0.0050 ppm.
** = Also tested for Dissolved Lead (EPA-7421), results are below detection limit of 0.004 ppm.
[a] = Insulating oil range hydrocarbons were reported for MW-22 at concentration of 0.87 ppm.
TPH as gasoline - Analysis by Washington Method WTPH-G prior to 5/20/98; analysis by Northwest Method NWTPH-Gx from 5/20/98 through present.
TPH as diesel and oil - Analysis by Washington Method WTPH-D+ extended prior to 5/20/98; analysis by Northwest Method NWTPH-Dx from 5/20/98 through present.
BTEX Compounds - Analysis by EPA Method 8020 prior to 5/20/98; analysis by EPA Method 8021B from 5/20/98 through present.

TABLE 3
ANALYTICAL SUMMARY 2000 - DECEMBER 2006
CURRENT GROUNDWATER COMPLIANCE PROGRAM
Kinder Morgan Harbor Island Terminal

	Indicator Hazardous Substances, concentration in mg/L							
Well ID	TPH-G	Benzene	Ethylbenzene	Toluene	TPH-D	TPH-O	Total Lead	Dissolved Lead
Cleanup Criteria	**1.0**	**0.071**	**29.0**	**200.0**	**10**	**10**	**0.0058**	**--**
A-5	ND - 0.54	ND - 0.12, >0.071 on 12-06	ND	ND - 0.0036	ND - 5.2	ND - 1.7		
A-8	ND - 0.35	ND - 0.0012	ND	ND - 0.0014	ND - 4.9	ND - 1.5		
A-10	ND - 1.1, <1 since 02-04	ND - 0.0030	ND	ND - 0.00086	ND - 89, <10 since 09-05	ND - 2.1		
A-14R	ND	ND - 0.002	ND	ND - 0.0021	ND	ND	ND-0.032 <0.0058 since 06-05	ND
A-21	ND - 1.6, <1 since 03-06	ND - 0.061, <0.071 since 06-01	ND - 0.045	ND - 0.0025	ND - 0.76	ND	ND-0.062 <0.0058 since 06-05	ND
A-23R	ND - 2.3, >1 on 12-06	0.00060 - 0.46, >0.071 on 12-06	ND - 0.088	ND - 0.012	ND - 6.9	ND	ND - 0.72 <0.0058 since 09-06	detected
A-27	2.0 - 6.3, >1 on 12-06	0.11 - 0.27	0.04 - 0.24	0.009 - 0.023	0.83 - 16, <10 since 05-04	ND		
A-28R	3.1 - 10	0.14 - 2.1	0.033 - 0.42	0.0081 - 0.027	ND - 6.7	ND	ND - 0.17 <0.0058 since 12-06	ND
MW-1	ND - 0.83	ND - 0.0013	ND - 0.0020	ND - 0.0067	ND - 2.0	ND	ND - 0.021 <0.0058 since 02-03	ND
MW-2	ND	ND	ND	ND - 0.00071	ND - 0.91	ND	ND - 0.062 <0.0058 since 09-06	detected
MW-3	ND - 45, <1 since 02-02	ND - 0.36, <0.071 since 02-03	ND - 0.23	ND - 0.18	ND - 17, <10 since 12-00	ND - 0.68	ND - 0.042 <0.0058 since 03-05	ND
MW-4	ND - 3.3, <1 since 06-03*	ND - 1.1, <0.071 since 02-03	ND - 0.034	ND - 0.023	1.1 - 280, <10 since 12-05	ND - 2.6		
MW-5	ND - 0.13	ND - 0.019	ND	ND - 0.0018	ND - 1.6	ND	ND - 0.11 >0.0058 0n 12-06	ND
MW-6	ND - 1.1, <1 since 03-06	ND - 0.19, <0.071since 09-01	ND - 0.0050	ND - 0.0070	ND - 7.3	ND	ND - 0.052 <0.0058 since 03-05	ND
MW-7	0.26 - 18, >1 on 09-06	ND - 0.34, >0.071 on 09-06	ND - 0.69	ND - 0.37	ND - 21, <10 since 12-04	ND - 0.81	0.0083 - 0.23 >0.058 on 09-06	detected
MW-8	ND	ND - 0.0013	ND	ND - 0.00086	0.54 - 42, <10 since 03-01	ND - 2.9	ND - 0.069 <0.0058 since 12-06	ND
MW-9	ND - 10 >1 on 12-06	ND - 0.038	0.020 - 0.23	0.0034 - 0.049	1.2 - 39 <10 since 05-04	ND - 0.72	ND - 0.053 >0.0058 on 12-06	ND
MW-12R	ND - 0.56	ND - 0.26, <0.071 since 12-04	ND	ND - 0.0059	ND - 2.5	ND	ND - 0.013 <0.0058 since 05-04	ND
MW-13R	ND	ND - 0.056	ND	ND - 0.0032	ND - 3.5	ND	ND - 0.012 <0.0058 since 05-04	ND
MW-14	ND - 6.8, >1 on 12-06	ND - 0.48, <0.071 since 02-04	0.019 - 0.26	ND - 0.014	2.0 - 37, <10 since 12-05	ND - 1.1		
MW-16	ND - 0.88	ND - 0.029	ND - 0.0010	ND - 0.0037	ND - 1.7	ND		
MW-18	ND - 7.6, <1 since 09-06	ND - 1.8, <0.071 since 09-06	ND - 0.29	ND - 0.067	ND - 0.77	ND		
MW-19	4.2 - 68	ND - 1.4, <0.071 since 06-06	0.16 - 1.1	0.12 - 4.0	0.72 - 19 <10 since 08-04	ND		
MW-20	ND - 1.8, <1 since 03-01	ND - 0.68, <0.071 since 02-02	ND - 0.067	ND - 0.020	ND - 5.0	ND - 0.7		
MW-21	ND - 4.3, SPH on 12-06	ND	ND - 0.019	ND - 0.006	6.1 - 140, SPH on 12-06	ND - 3.3 SPH on 12-06		
MW-22	ND - 5.1, <1 since 11-02	ND - 1.9, <0.071 since 02-03	ND - 0.35	ND - 0.097	0.61 - 9.2	ND - 0.87		
SH-02R	ND - 0.078	ND - 0.087, <0.071 since 11-02	ND - 0.00061	ND - 0.0038	ND - 4.3	ND	ND - 0.010 <0.0058 since 06-06	ND
SH-05R	ND - 1.4, <1 since 09-03	ND	ND	ND - 0.0016	1.3 - 45, <10 since 03-05	ND - 1.0	ND - 0.075 <0.0058 since 03-05	ND
MW-07R	ND	ND	ND	ND - 0.0028	ND - 3.7	ND	ND - 0.045 <0.0058 since 12-06	ND
MW-23	SPH, 4.2 - 7.0 >1 on 12-06	0.87 - 1.4 >0.071 on 12-06	0.046 - 0.19	0.011 - 0.023	SPH, ND - 1.4	ND	ND - 0.014 <0.0058 since 12-05	ND
MW-24	SPH, 26 - 34	2.8 - 4.4	0.88 - 1.4	0.064 - 0.54	SPH, 0.34 - 6.4	ND - 0.54	ND - 0.0069 >0.0058 on 12-07	ND
MW-25	ND - 0.40	ND - 0.013	ND - 0.0034	ND	0.27 - 8.9	ND	ND - 0.034	detected

Notes: * ND but detection limit > 1 during 2 events in 2005

Recommend reduction in monitoring frequency and/or parameters

Parameter not analyzed

TABLE 4
PROPOSED GROUNDWATER COMPLIANCE PROGRAM
RECOMMENDED MONITORING FREQUENCY
Kinder Morgan Harbor Island Terminal

	Indicator Hazardous Substances				Natural Attenuation Parameters				
Well ID	TPH-G/ BTEX	TPH-D/TPH-O	Total Lead	Dissolved Lead	Nitrate (NO3)	Ferrous Iron	Methane	Sulfate (SO4)	Sulfide (H2S)
A-5	Quarterly	Discontinue							
A-8	Annual	Annual							
A-10	Annual	Annual			Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
A-14R	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
A-21	Quarterly	Discontinue	Annual	Discontinue	Annual	Annual	Annual	Annual	Annual
A-23R	Quarterly	Discontinue	Annual	Annual	Annual	Annual	Annual	Annual	Annual
A-27	Quarterly	Discontinue			Annual	Annual	Annual	Annual	Annual
A-28R	Quarterly	Discontinue	Annual	Discontinue	Annual	Annual	Annual	Annual	Annual
MW-1	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-2	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-3	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-4	Annual	Annual			Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-5	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-6	Quarterly	Discontinue	Annual	Discontinue	Annual	Annual	Annual	Annual	Annual
MW-7	Quarterly	Discontinue	Annual	Annual	Annual	Annual	Annual	Annual	Annual
MW-8	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-9	Quarterly	Discontinue	Annual	Discontinue	Annual	Annual	Annual	Annual	Annual
MW-12R	Annual	Annual	Annual	Discontinue					
MW-13R	Annual	Annual	Annual	Discontinue					
MW-14	Quarterly	Discontinue			Annual	Annual	Annual	Annual	Annual
MW-16	Annual	Annual							
MW-18	Quarterly	Discontinue							
MW-19	Quarterly	Discontinue			Annual	Annual	Annual	Annual	Annual
MW-20	Annual	Annual			Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-21	Quarterly	Quarterly			Annual	Annual	Annual	Annual	Annual
MW-22	Annual	Annual			Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
SH-02R	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
SH-05R	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-07R	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue
MW-23	Quarterly	Discontinue	Annual	Discontinue	Annual	Annual	Annual	Annual	Annual
MW-24	Quarterly	Discontinue	Annual	Discontinue	Annual	Annual	Annual	Annual	Annual
MW-25	Annual	Annual	Annual	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue	Discontinue

Notes: Recommended reduced monitoring frequency

Parameter not analyzed

TABLE 5
PROPOSED ANNUAL ANALYSES
GROUNDWATER COMPLIANCE PROGRAM
Kinder Morgan Harbor Island Terminal

	Indicator Hazardous Substances				Natural Attenuation Parameters				
Well ID	TPH-G/ BTEX	TPH-D+ extended	Total Lead	Dissolved Lead	Nitrate (NO3)	Ferrous Iron	Methane	Sulfate (SO4)	Sulfide (H2S)
A-5	4	0							
A-8	1	1							
A-10	1	1			0	0	0	0	0
A-14R	1	1	1	0	0	0	0	0	0
A-21	4	0	1	0	1	1	1	1	1
A-23R	4	0	1	1	1	1	1	1	1
A-27	4	0			1	1	1	1	1
A-28R	4	0	1	0	1	1	1	1	1
MW-1	1	1	1	0	0	0	0	0	0
MW-2	1	1	1	0	0	0	0	0	0
MW-3	1	1	1	0	0	0	0	0	0
MW-4	1	1			0	0	0	0	0
MW-5	1	1	1	0	0	0	0	0	0
MW-6	4	0	1	0	1	1	1	1	1
MW-7	4	0	1	1	1	1	1	1	1
MW-8	1	1	1	0	0	0	0	0	0
MW-9	4	0	1	0	1	1	1	1	1
MW-12R	1	1	1	0					
MW-13R	1	1	1	0					
MW-14	4	0			1	1	1	1	1
MW-16	1	1							
MW-18	4	0							
MW-19	4	0			1	1	1	1	1
MW-20	1	1			0	0	0	0	0
MW-21	4	4			1	1	1	1	1
MW-22	1	1			0	0	0	0	0
SH-02R	1	1	1	0	0	0	0	0	0
SH-05R	1	1	1	0	0	0	0	0	0
MW-07R	1	1	1	0	0	0	0	0	0
MW-23	4	0	1	0	1	1	1	1	1
MW-24	4	0	1	0	1	1	1	1	1
MW-25	1	1	1	0	0	0	0	0	0
Annual Total	74	22	20	2	12	12	12	12	12

North

RAILROAD TRACKS

11th AVENUE S.W.

MW-13 MW-13R MW-12 MW-12R

GATE

SH-02 SH-02R MW-4 MW-07 MW-07R SH-05 SH-05R

MW-1 MW-15 MW-10D

Tank 43 Tank 44 Tank 42 Tank 37 Tank 39 Tank 35 Tank 18 Tank 19 Tank 22 Tank 20 Tank 23 Tank 29 Tank 24 Tank 27 Tank 28 Tank 21 Tank 32 Tank 31 Tank 25 Tank 33 Tank 26

WAREHOUSE

MAINTENANCE BUILDINGS

BBL STORAGE

RAMP

'E' YARD

'C' YARD

'D' YARD

'B' YARD

'A' YARD

E-1

MW-20 MW-14 MW-5 MW-3 MW-19 MW-7 MW-21 MW-8 MW-11D MW-11 MW-25

SF-01 SF-01R

TRUCK LOADING RACK

GARAGE

OFFICE BUILDING

PARKING

VAULT

FENCE

RE-ESTABLISHED PROPERTY LINE (APPROXIMATE)

FORMER PROPERTY LINE

OLYMPIC PIPELINE LEASE AREA

PROPERTY LINE

MW-2 MW-22 MW-6 MW-18 MW-17 MW-16 SH-04 MW-24 MW-23 A-23R A-28R A-28 A-23 A-24

13th AVENUE S.W.

LEGEND

- SH-02 — GROUNDWATER MONITORING WELL (INSTALLED BEFORE 1993)
- MW-7 — GROUNDWATER MONITORING WELL (INSTALLED AFTER 1993)
- MW-12R — REPLACEMENT GROUNDWATER MONITORING WELL (INSTALLED BETWEEN JANUARY 31 AND FEBRUARY 21, 2002)
- MW-23 — MONITORING WELLS INSTALLED SEPTEMBER 30, 2003
- A-13 — DESTROYED, DAMAGED OR DECOMMISSIONED DUE TO CONSTRUCTION ACTIVITIES
- 3 — ABANDONED GROUNDWATER MONITORING WELL, JUNE 2003
- ✳ — WELL INACCESSIBLE OR DAMAGED

0 100 FT

APPROX. SCALE

FIGURE 1

SITE MAP

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13th AVENUE SOUTHWEST
SEATTLE, WASHINGTON

PROJECT NO. STKM-001-M.0005	DRAWN BY DL March 2007
FILE NO. STKM-001-M.0005	PREPARED BY DL March 2007
REVISION NO. 0	REVIEWED BY WC

DELTA

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

August 7, 2007

Robert Truedinger
Remediation Project Manager
Kinder Morgan Energy Partners
1140 Canal Boulevard
Richmond, CA 94804

Re: Reduced Groundwater Monitoring Plan

Dear Mr. Truedinger:

This letter is to indicate the Department of Ecology's approval of the Site-Wide Groundwater Compliance Monitoring Plan – Proposed Reduced Monitoring, as presented in Delta Environmental Consultants' submittal dated June 21, 2007.

Sorry that this approval has taken awhile. Further adjustments / reductions in the monitoring may be appropriate in the future.

Sincerely,

Roger K. Nye

Roger K. Nye
Project Coordinator

cc: Ward Crell, Dawna Leong: Delta Environmental Consultants

September 4, 2008

Mr. Roger Nye
Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue N.E.
Bellevue, Washington 98008-5452

Sent via FedEx Saver

SUBJ: Technical Revision Request – Low-Flow Groundwater Sampling
Kinder Morgan Harbor Island Terminal
Seattle, Washington
Delta Project No. STKM-001-P.0005

DELTA

Dear Mr. Nye:

Delta Consultants (Delta) has prepared this request on behalf of Kinder Morgan Liquid Terminals, LLC (KMLT) to propose a technical revision to Appendix A (Compliance Sampling and Analysis Plan) of the Compliance Monitoring Plan, dated October 27, 1999. This letter request supersedes a previous request, dated July 16, 2008. The Compliance Monitoring Plan was included as Appendix F of the Model Toxics Control Act (MTCA) Consent Decree 00-2-07760-25EA, which was executed to implement remedial actions for the site. As discussed in a March 31, 2008 telephone conversation with you, KMLT is proposing a revision to Section 2.3.2, Sampling Procedures, of the Compliance Sampling and Analysis Plan (Plan) to replace the purge-sampling methodology with low-flow sampling techniques.

CURRENT PURGE-SAMPLING PROCEDURES

Sampling ground water traditionally involves purging a monitoring well to remove stagnant water in the well casing prior to sampling. The current sampling procedure incorporated into the Plan includes purging three to five volumes of the well prior to collecting a groundwater sample. This well evacuation approach can pose several problems, including: 1) as the well recovers, groundwater cascading in the well screen can affect contaminant and dissolved gas concentrations; 2) draining water from the sand pack surrounding the screen can result in air being trapped in the pore spaces, also affecting dissolved gas concentrations; and 3) increased turbidity can affect total and dissolved metal concentrations.

In the Revised Site-Wide Groundwater Compliance Monitoring Plan, dated June 21, 2007, Delta presented an evaluation of historical groundwater analytical results with respect to established cleanup criteria. During the preparation of the Revised Plan, Delta and Ecology discussed the periodic occurrence of dissolved lead in the wells sampled. These occurrences appeared to be random, with no apparent trend to the occurrence.

4006 148TH AVENUE NE REDMOND, WASHINGTON 98052 USA
PHONE 425.882.3528 / 800.477.7411 FAX 425.869.1892 WWW.DELTAENV.COM

At the time, it was mentioned that turbulence created during sampling may have caused the occurrence of dissolved lead. Eliminating turbulence during sampling may end or reduce this occurrence.

PROPOSED LOW-FLOW SAMPLING PROCEDURES

Low-flow/low-volume sampling is a method that can be used to overcome many of the problems created by traditional purge-sampling. Low-flow sampling can minimize turbidity and minimize groundwater chemistry alteration. By pumping at very low flowrates from the well screen zone, disturbance to the water column in the well is significantly reduced and stress on the surrounding formation is minimized. Samples obtained in this manner will better reflect contaminant concentrations and ground-water chemistry at ambient flow conditions.

Sampling Procedures

KMLT proposes to replace Section 2.3.2 of the Compliance Sampling and Analysis Plan with the following low-flow procedures for sampling the site's compliance wells.

Water Level Measurements

Water level measurements will be taken prior to purging and will be recorded to the nearest 0.01 foot. Measurements will be taken from least contaminated wells first followed by wells in increasing order of contamination. If product is observed, the thickness will be measured with an electronic oil/water interface meter. Wells with measurable product will not be purged or sampled.

Monitoring Well Purging

Purging will be conducted in a manner such that water levels do not drop more that two feet below static. Wells will be purged using dedicated downhole tubing connected to a surface portable peristaltic pump. The pump rate will be monitored and set at a rate of less than 1,000 ml/min. During purging, the following parameters will be monitored: dissolved oxygen, pH, specific conductance, temperature, turbidity, and depth to water. Field parameters will be measured in a flow-through container. Water level data will be collected with an electronic indicator probe. Measurements will be taken beginning with the first water purged from the well. During purging, additional measurements will be taken and recorded as frequently as possible. Measurements will be recorded to the following standards: dissolved oxygen to 0.05 mg/L; pH to $\pm$ 0.01 units; specific conductance to $\pm$ uS/cm (measured specific conductance $\leq$ 99 uS/cm), to $\pm$ 10 uS/cm (99 uS/cm < specific conductance < 1,000 uS/cm), or to $\pm$100 uS/cm (measured specific conductance > 1,000 uS/cm); temperature to $\pm$ 0.5°C; and turbidity to 0.1 NTU. The meters will be calibrated near the beginning and end of each sampling day.

Groundwater samples will be collected after specific conductance and dissolved oxygen measurements are within 10 percent for 3 consecutive readings.

Sample Collection

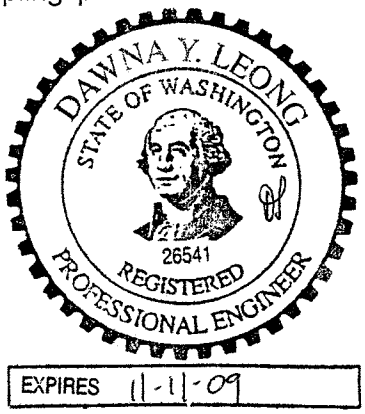
Following purging, samples will be collected for laboratory analyses. Samples will be pumped directly into laboratory-supplied sample containers, and each sample bottle will be labeled with the sample identification number, the sample date, the facility name, and the name of the technician who performed the sampling. Samples will be collected in the following order: TPH-G/BTEX, methane (if analyzed, TPH-Dx, metals (if analyzed), and field analytes (if analyzed). Duplicate samples will be collected by alternately filling the sample and the duplicate sample bottles.

KMLT proposes to implement the low-flow sampling procedures described herein upon approval from Ecology. Please call if you have any questions regarding the contents of this letter, or if you would like to discuss any aspect of the proposed sampling procedures. Delta looks forward to your approval of this proposal.

Sincerely,

DELTA CONSULTANTS, INC.

Dawna Leong
Senior Engineer



cc: Mr. Robert Truedinger, Kinder Morgan Energy Partners, L.P., Richmond, California (Electronic Copy)
Ms. Kelsy Hardy, Kinder Morgan Energy Partners, L.P., Orange, California (File Copy - CD Only)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

February 9, 2009

Dawna Leong
Delta Consultants, Inc.
4006 148th Avenue NE
Redmond, Washington 98052

Re: Technical Revision Request – Low-Flow Groundwater Sampling
Kinder Morgan Harbor Island Terminal
Seattle, Washington
Consent Decree No. 00-2-07760-2SEA

Dear Ms. Leong:

This letter indicates the Department of Ecology's approval of your proposal to replace the purge-sampling methodology with low-flow sampling techniques at the Kinder Morgan Harbor Island facility as described in your letter dated September 4, 2008.

The proposal constitutes a technical revision as allowed under Section XV of the Consent Decree, to Section 2.3.2 of the Compliance Sampling and Analysis Plan (Appendix A of the Compliance Monitoring Plan - Exhibit F). The Compliance Monitoring Plan is an attachment to the Cleanup Action Plan - Exhibit B under the Consent Decree.

This letter establishes a mutual written agreement between the Department of Ecology and Kinder Morgan Liquid Terminals LLC to implement the technical revision described above.

Sincerely,

Roger K. Nye
Site Manager

cc: Robert Truedinger, Remediation Project Manager,
Kinder Morgan Energy Partners, L.P.

ARCADIS
Infrastructure · Water · Environment · Buildings

ARCADIS U.S., Inc.
1100 Olive Way
Suite 800
Seattle
Washington 98101
Tel 206.325.5254
Fax 206.325.8218
www.arcadis-us.com

ENVIRONMENT

Ms. Maura O'Brien
Washington State Department of Ecology
Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008-5452

Subject:
Revised Site Groundwater Monitoring Plan
Kinder Morgan Harbor Island Terminal
KMLT File No. 29.79.02 (81171)
2720 13th Avenue Southwest
Seattle, Washington 98134

Date:
May 20, 2014

Contact:
Matt Annis

Phone:
206.726.4716

Email:
matt.annis@
arcadis-us.com

Our ref:
WA000804.2014

Dear Ms. O'Brien:

On behalf of Kinder Morgan Liquids Terminal, LLC (KMLT), ARCADIS US, Inc (ARCADIS) is pleased to submit this Revised Site Groundwater Monitoring Plan (Plan) for the KMLT Harbor Island Terminal located at 2720 13th Avenue Southwest in Seattle, Washington (site). The purpose of this Plan is to request and provide justification to support the reduction of groundwater sampling frequency at the site for the compliance and performance monitoring programs.

Reduced frequency of groundwater monitoring at the site is warranted due to:

- Quarterly groundwater quality data has been collected at the site since 2002
- Current groundwater conditions onsite are stable and not migrating offsite
- There have been no product releases reported at the site since 2010
- SPH has only been observed in one monitoring well (A-6) in the last 9 quarterly monitoring events.

Cleanup activities at the site are being conducted under a Consent Decree (CD) number 00-2-07760-2SEA between Washington State Department of Ecology (Ecology) and GATX Terminals Corporation (GATX) executed on April 4, 2000. KMLT assumed the obligations of the CD with the purchase of GATX Harbor Island Terminal in 2001. Compliance groundwater monitoring and sampling is currently

performed in accordance with the *Proposed Reduced Monitoring-Site-Wide Groundwater Compliance Monitoring Plan* (Reduced Monitoring Plan [Delta Consultants Inc. (Delta) 2007]). Additionally, low-flow groundwater sampling techniques are used in accordance with the Technical Revision Request (Delta 2008).

In addition, performance monitoring groundwater samples are collected in accordance with the letter Response to Comments - *B and D Yards Groundwater Remediation Engineering Design Report* dated December 12, 2012 (ARCADIS 2012) to evaluate the overall effectiveness of the sulfate land application.

Contaminants of Concern and Cleanup Levels

The approved Reduced Monitoring Plan (Delta 2007) outlines site-specific contaminants of concern (COCs) and applicable cleanup levels for groundwater. These site-specific COCs and their cleanup levels are as follows:

- Total Petroleum Hydrocarbons as Gasoline Range Organics at 1.0 milligrams per liter (mg/L)
- Total Petroleum Hydrocarbons as Diesel Range Organics at 10 mg/L
- Total Petroleum Hydrocarbons as Heavy Oil at 10 mg/L
- Benzene at 0.071 mg/L
- Toluene at 200 mg/L
- Ethylbenzene at 29 mg/L
- Total Lead at 0.0058 mg/L
- No Product Sheen

Current Groundwater Monitoring Plan

Compliance Monitoring

In accordance with the Reduced Monitoring Plan (Delta 2007) and Technical Revision Request (Delta 2008), the current groundwater compliance plan schedule is presented in Table 1 and Figure 2.

Performance Monitoring

In accordance with the Response to Comments - *B and D Yards Groundwater Remediation Engineering Design Report* dated December 12, 2012 (ARCADIS 2012), the current groundwater performance plan schedule is presented in Table 1.

Proposed Groundwater Monitoring Plan

The section below summarizes the proposed changes to the current groundwater monitoring plan. Groundwater gauging and sample collection protocols and procedures will continue to be implemented in accordance with the Ecology-approved plans mentioned above.

Compliance Monitoring

This proposed groundwater monitoring plan was prepared with consideration for the requirements of the Model Toxics Control Act (MTCA) regulations and requirements from Exhibit F of the CD. The achievement of cleanup levels in groundwater is measured at points of performance and compliance located within the hydrocarbon plume area and at the edges of the site in accordance with section 1.2 in Exhibit F of the CD. Points of compliance will not be altered for this plan and consist of the 44 wells presented in Table 2. Hydrograph and COC trend graphs for monitoring wells MW-7, MW-9, MW-14, and MW-19 are presented in Attachment A. The graphs are representative of the compliance points and indicate stable or decreasing groundwater conditions.

Future compliance groundwater monitoring events are proposed to be conducted on a semi-annual basis until the site has achieved compliance with the applicable cleanup levels. The proposed compliance groundwater monitoring plan is summarized in Table 2 and presented in Figure 3.

Proposed Performance Groundwater Monitoring Plan

In accordance with the Response to Comments letter dated December 20, 2012 and the KMLT *Remedial Action Report – B and D Yards* (RAP) [ARCADIS 2013]), the current groundwater performance monitoring plan will be conducted quarterly through third quarter 2014.

After the completion of the third quarter 2014 monitoring event KMLT proposes to alter the performance monitoring schedule to semi-annual monitoring which will be conducted concurrently with compliance monitoring activities. The proposed performance groundwater monitoring plan is summarized in Table 2 and presented in Figure 4.

Schedule

The proposed Plan would be initiated during the third quarter 2014 sampling event upon Ecology approval; annual sampling will be conducted in the third quarter of each year.

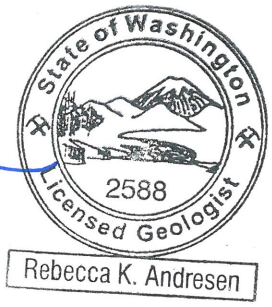
If you have any questions or comments, please contact Matt Annis at 206.726.4716 or by email at matt.annis@arcadis-us.com.

Sincerely,

ARCADIS

Jonathan Flomerfelt
Staff Scientist

Rebecca Andresen, L.G.
Associate Vice President



Copies:
Mr. Dave Rowland, KMLT, Seattle (CD Copy)
Mr. Robert Truedinger, c/o Stephanie Randall, KMLT, Orange, CA (CD copy)
Stephanie Randall, KMLT, Orange, CA (File Copy)

Tables

Table 1	Current Groundwater Monitoring
Table 2	Proposed Groundwater Monitoring Plan

Figures

Figure 1	Site Location
Figure 2	Current Groundwater Monitoring Plan
Figure 3	Proposed Groundwater Monitoring Plan
Figure 4	Proposed Performance Monitoring Plan

Attachments

Attachment A	Hydrographs and Trend Graphs

ARCADIS

Tables

Table 1
Current Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
A-4	1Q, 3Q, 4Q							X
	2Q							X
A-5	1Q, 3Q, 4Q	X			X			X
	2Q	X			X			X
A-6	1Q, 3Q, 4Q							X
	2Q							X
A-8	1Q, 3Q, 4Q							X
	2Q	X	X	X	X			X
A-10	1Q, 3Q, 4Q							X
	2Q	X	X	X	X			X
A-11	1Q, 3Q, 4Q							X
	2Q							X
A-12	1Q, 3Q, 4Q							X
	2Q							X
A-14R	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X		X
A-16	1Q, 3Q, 4Q							X
	2Q							X
A-18	1Q, 3Q, 4Q							X
	2Q							X
A-19	1Q, 3Q, 4Q							X
	2Q							X
A-20	1Q, 3Q, 4Q							X
	2Q							X

Table 1
Current Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
A-21	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X	X	X	X
A-22R	1Q, 3Q, 4Q							X
	2Q							X
A-23R	1Q, 3Q, 4Q	X			X			X
	2Q	X			X		X	X
A-25	1Q, 3Q, 4Q							X
	2Q							X
A-26R	1Q, 3Q, 4Q							X
	2Q							X
A-27	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X		X	X
A-28R	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X	X	X	X
12	1Q, 3Q, 4Q							X
	2Q							X
MW-1	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X		X
MW-2	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X	X	X
MW-3	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X		X
MW-4	1Q, 3Q, 4Q							X
	2Q	X	X	X	X			X

Table 1
Current Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
MW-5	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X		X
MW-6	1Q, 3Q, 4Q	X			X			X
	2Q	X			X	X	X	X
MW-7	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X	X	X	X
MW-8	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X		X
MW-9	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X	X	X	X
MW-12R	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X	X	X
MW-14	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X		X	X
MW-16	1Q, 3Q, 4Q							X
	2Q	X	X	X	X			X
MW-18	1Q, 3Q, 4Q	X			X			X
	2Q	X			X			X
MW-19	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X		X	X
MW-20	1Q, 3Q, 4Q							X
	2Q	X	X	X	X			X
MW-21	1Q, 3Q, 4Q	X	X	X	X		X	X
	2Q	X	X	X	X		X	X

Table 1
Current Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
MW-22	1Q, 3Q, 4Q							X
	2Q	X	X	X	X			X
MW-23	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X	X	X	X
MW-24	1Q, 3Q, 4Q	X			X		X	X
	2Q	X			X	X	X	X
MW-25	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X		X
MW-07R	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X	X	X
SH-02R	1Q, 3Q, 4Q							X
	2Q	X	X	X	X	X	X	X
SH-05R	1Q, 3Q, 4Q							X
	2Q							X
TMW-B1	1Q, 3Q, 4Q							X
	2Q	X			X			

Notes

1 Monitored Natural Attenuation (MNA) Geochemical Parameters include dissolved oxygen, methane, ferrous iron, nitrate, sulfate, and sulfide
GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics by Northwest Method NWTPH-Gx
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes by Environmental Protection Agency (EPA) Method 8260B.
1Q, 2Q, 3Q, 4Q = Denotes the quarter for each sampling event
-- Not Applicable

Table 2
Proposed Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
A-4	1Q							X
	3Q							X
A-5	1Q	X			X			X
	3Q	X			X			X
A-6	1Q							X
	3Q							X
A-8	1Q							X
	3Q	X	X	X	X			X
A-10	1Q							X
	3Q	X	X	X	X			X
A-11	1Q							X
	3Q							X
A-12	1Q							X
	3Q							X
A-14R	1Q							X
	3Q	X	X	X	X	X		X
A-16	1Q							X
	3Q							X
A-18	1Q							X
	3Q							X
A-19	1Q							X
	3Q							X
A-20	1Q							X
	3Q							X

Table 2
Proposed Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
A-21	1Q	X			X		X	X
	3Q	X			X	X	X	X
A-22R	1Q							X
	3Q							X
A-23R	1Q							X
	3Q	X			X		X	X
A-25	1Q							X
	3Q							X
A-26R	1Q							X
	3Q							X
A-27	1Q	X			X		X	X
	3Q	X			X		X	X
A-28R	1Q	X			X		X	X
	3Q	X			X	X	X	X
11 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
12 [2]	1Q	X			X		X	X
	3Q	X	X	X	X	X	X	X
MW-1	1Q							X
	3Q	X	X	X	X	X		X
MW-2	1Q							X
	3Q	X	X	X	X	X	X	X
MW-3	1Q							X
	3Q	X	X	X	X	X		X

Table 2
Proposed Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
MW-4	1Q							X
	3Q	X	X	X	X			X
MW-5	1Q							X
	3Q	X	X	X	X	X		X
MW-6	1Q							X
	3Q	X			X	X	X	X
MW-7 [2]	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-8	1Q							X
	3Q	X	X	X	X	X		X
MW-9 [2]	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-12R	1Q							X
	3Q	X	X	X	X	X	X	X
MW-14	1Q							X
	3Q	X			X		X	X
MW-16	1Q							X
	3Q	X	X	X	X			X
MW-18	1Q	X			X			X
	3Q	X			X			X
MW-19 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
MW-20	1Q							X
	3Q	X	X	X	X			X

Table 2
Proposed Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
MW-21	1Q	X	X	X	X		X	X
	3Q	X	X	X	X		X	X
MW-22	1Q							X
	3Q	X	X	X	X			X
MW-23	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-24	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-25	1Q							X
	3Q	X	X	X	X	X		X
MW-07R	1Q							X
	3Q	X	X	X	X	X	X	X
SH-02R	1Q							X
	3Q	X	X	X	X	X	X	X
SH-05R	1Q							X
	3Q	X	X	X	X	X		X
TMW-B1	1Q							X
	3Q	X			X			

Table 2
Proposed Monitoring Schedule
2014 Revised Groundwater Monitoring Plan
Kinder Morgan Liquids Terminals, LLC, Harbor Island Terminal
Seattle, Washington

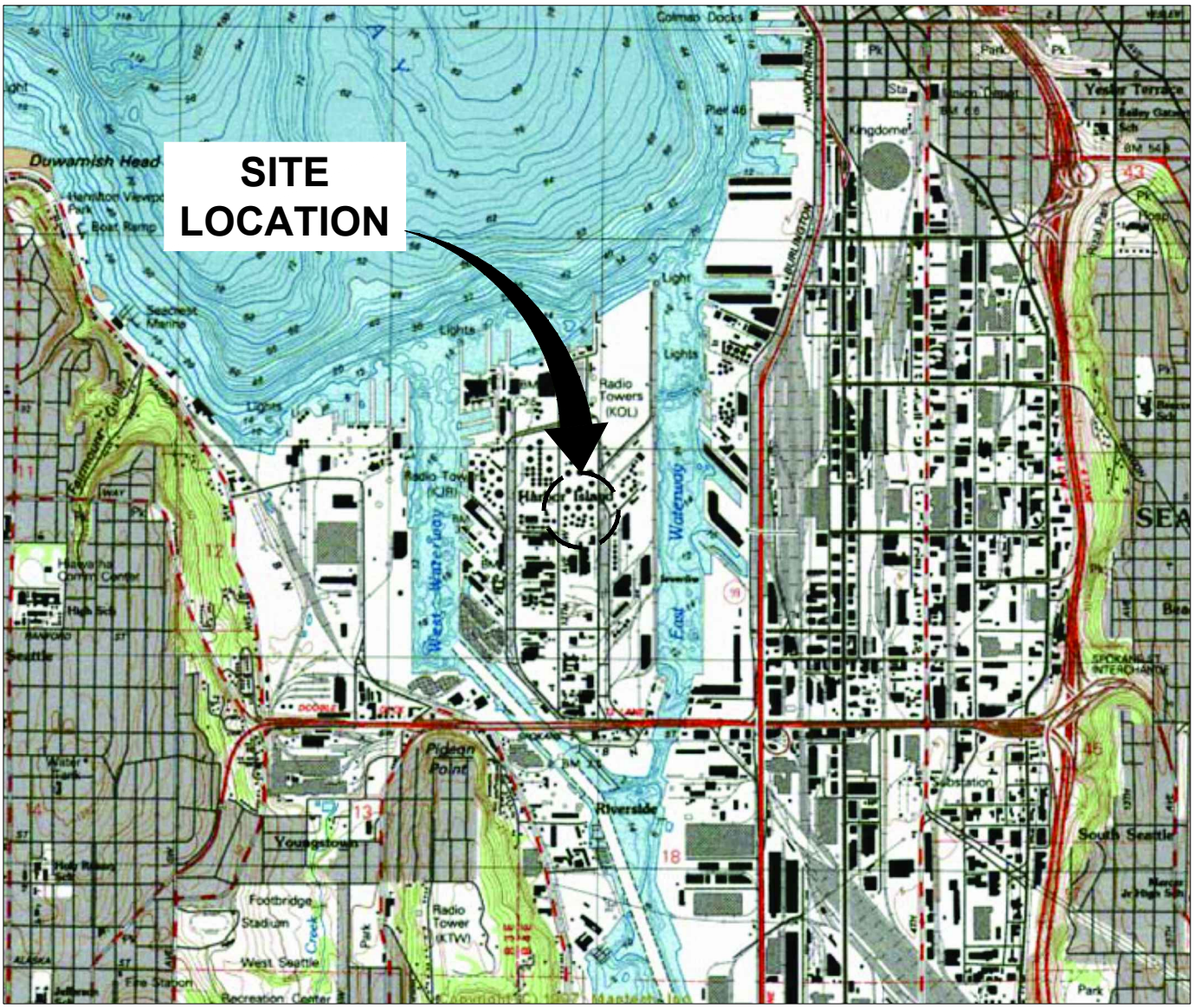
Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
TMW-1 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-2 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-3 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-4 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-5 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-6 [2]	1Q	X			X		X	X
	3Q	X			X		X	X

Notes

1 Monitored Natural Attenuation (MNA) Geochemical Parameters include dissolved oxygen, methane, ferrous iron, nitrate, sulfate, and sulfide
2 Performance monitoring locations
GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics by Northwest Method NWTPH-Gx
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes by Environmental Protection Agency (EPA) Method 8260B.
1Q, 2Q, 3Q, 4Q = Denotes the quarter for each sampling event
-- Not Applicable

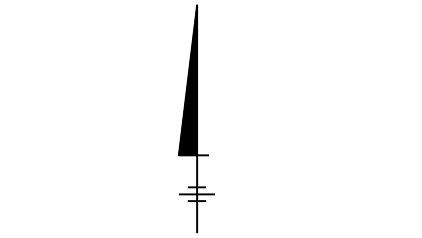
ARCADIS

Figures



REFERENCE: BASE MAP USGS 7.5. MINUTE TOPOGRAPHIC MAP
SEATTLE SOUTH, WASHINGTON 1083

WASHINGTON



Approximate Scale: 1 in. = 2000 ft.

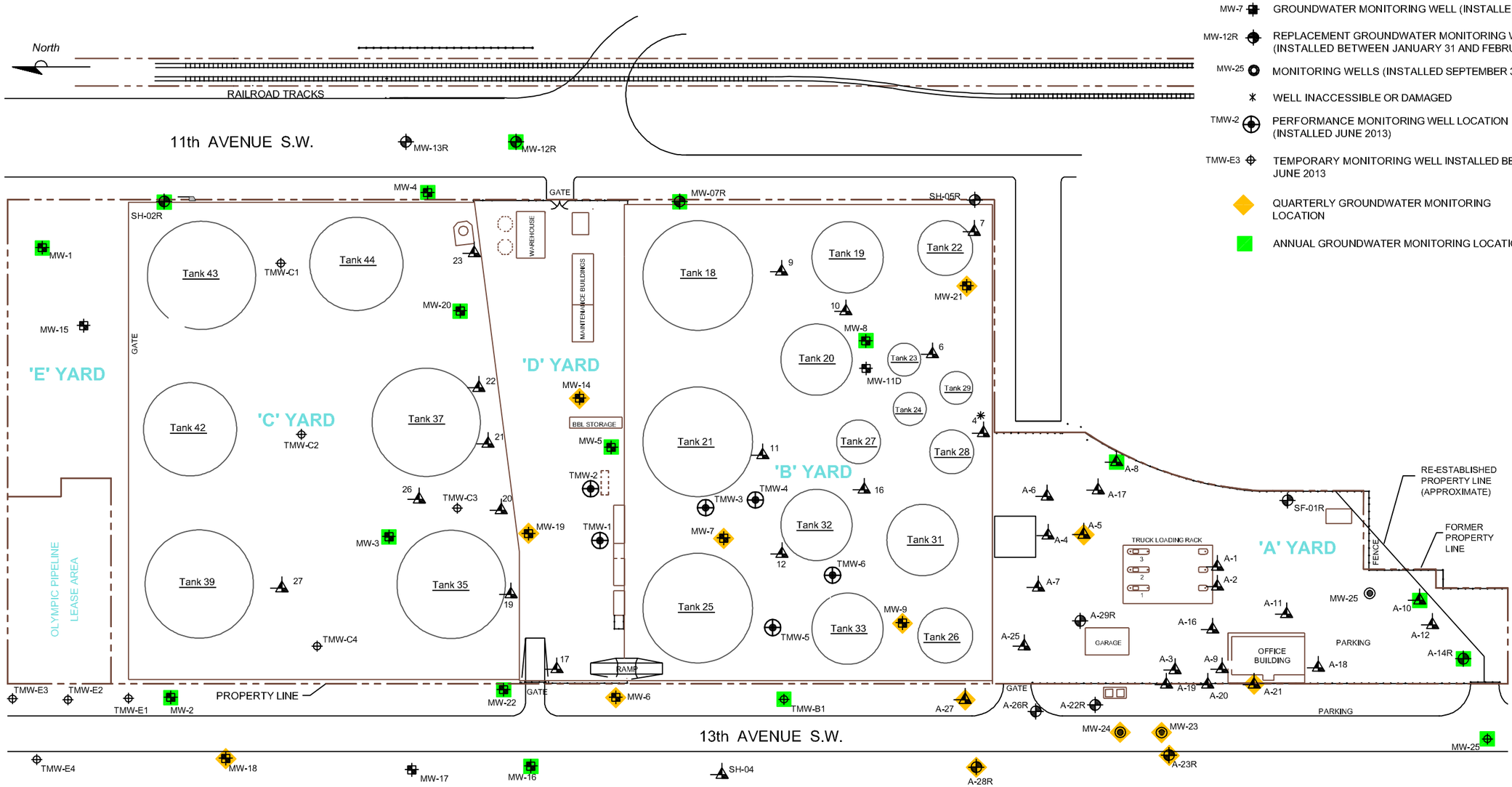
KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2014 REVISED GROUNDWATER MONITORING PLAN

SITE LOCATION MAP

ARCADIS

FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Emeryville\ACT\WA000804\2014\000032014 REV GWMP\DWG\WA000804 N01.dwg LAYOUT: 1 SAVED: 4/16/2014 4:42 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 4/16/2014 4:43 PM BY: REYES, ALEC
XREFS: IMAGES: PROJECTNAME: ----
WA000804 GoogleAerial.jpg
WA000804 USGS.jpg



LEGEND

- SH-02 — GROUNDWATER MONITORING WELL (INSTALLED BEFORE 1993)
- MW-7 — GROUNDWATER MONITORING WELL (INSTALLED AFTER 1993)
- MW-12R — REPLACEMENT GROUNDWATER MONITORING WELL (INSTALLED BETWEEN JANUARY 31 AND FEBRUARY 21, 2002)
- MW-25 — MONITORING WELLS (INSTALLED SEPTEMBER 30, 2003)
- WELL INACCESSIBLE OR DAMAGED
- TMW-2 — PERFORMANCE MONITORING WELL LOCATION (INSTALLED JUNE 2013)
- TMW-E3 — TEMPORARY MONITORING WELL INSTALLED BEFORE JUNE 2013
- QUARTERLY GROUNDWATER MONITORING LOCATION
- ANNUAL GROUNDWATER MONITORING LOCATION

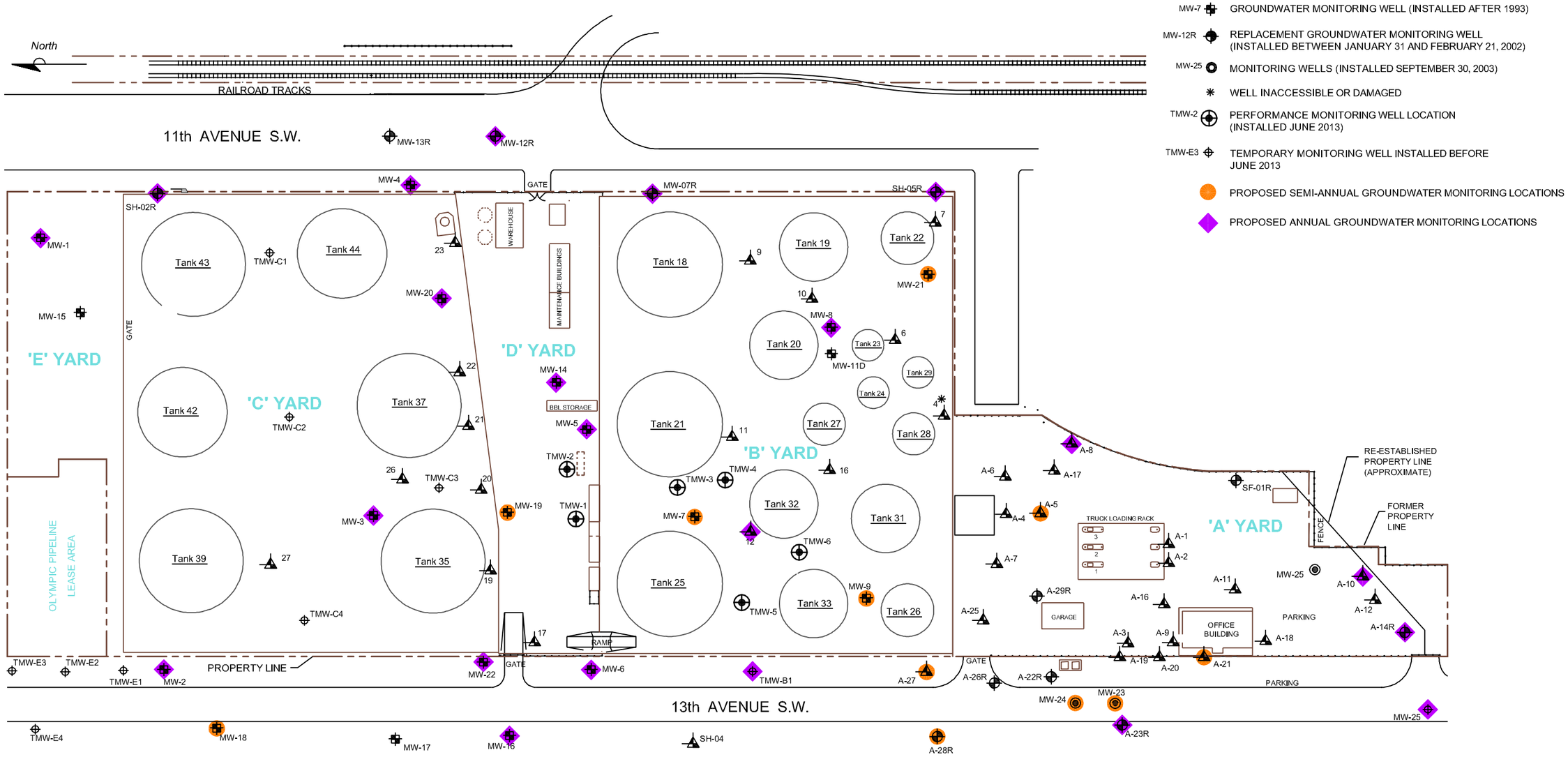
0 60' 120' 240'

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2014 REVISED GROUNDWATER MONITORING PLAN

CURRENT QUARTERLY AND ANNUAL GROUNDWATER MONITORING LOCATIONS

ARCADIS

FIGURE 2

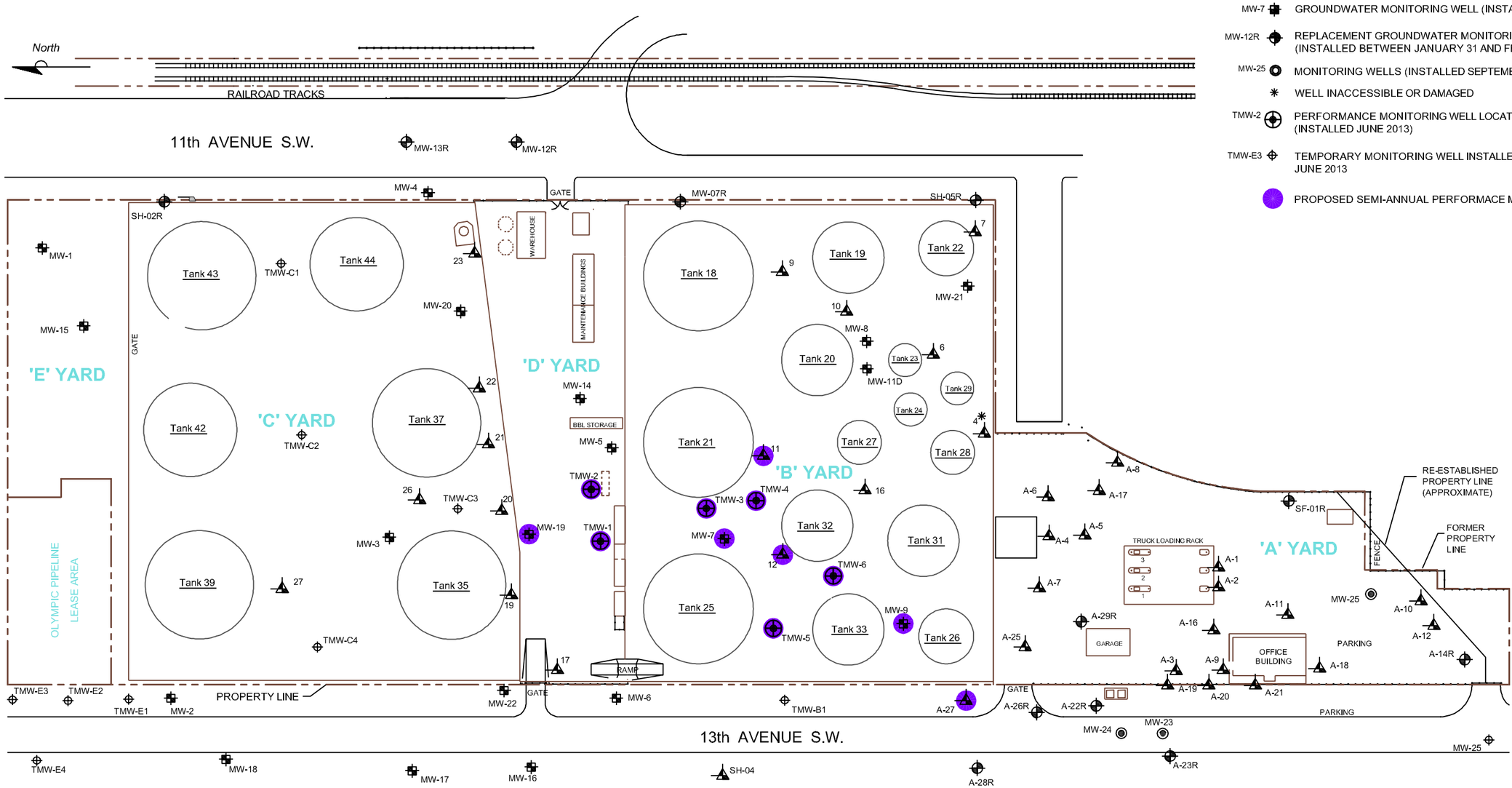


KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2014 REVISED GROUNDWATER MONITORING PLAN

PROPOSED SEMI-ANNUAL AND ANNUAL GROUNDWATER MONITORING LOCATIONS

ARCADIS

FIGURE
3



KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2014 REVISED GROUNDWATER MONITORING PLAN

PROPOSED PERFORMANCE MONITORING LOCATIONS

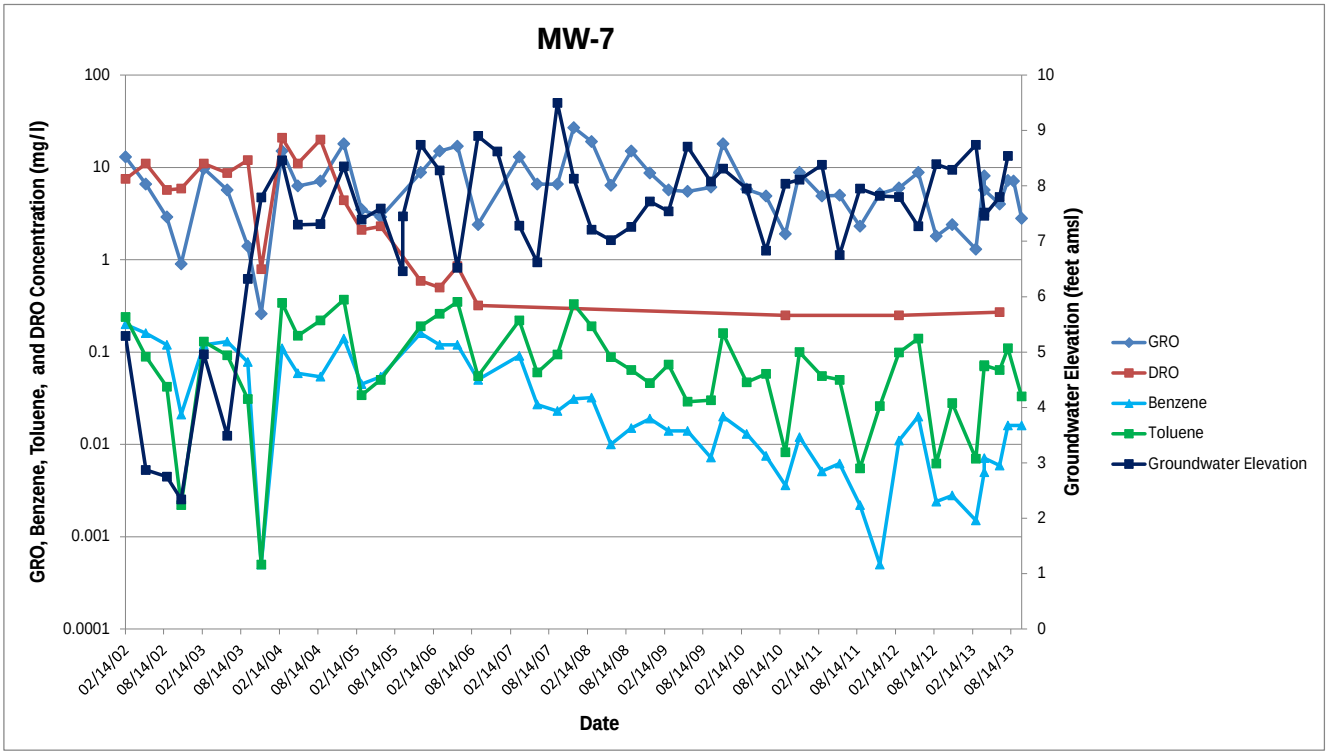
ARCADIS

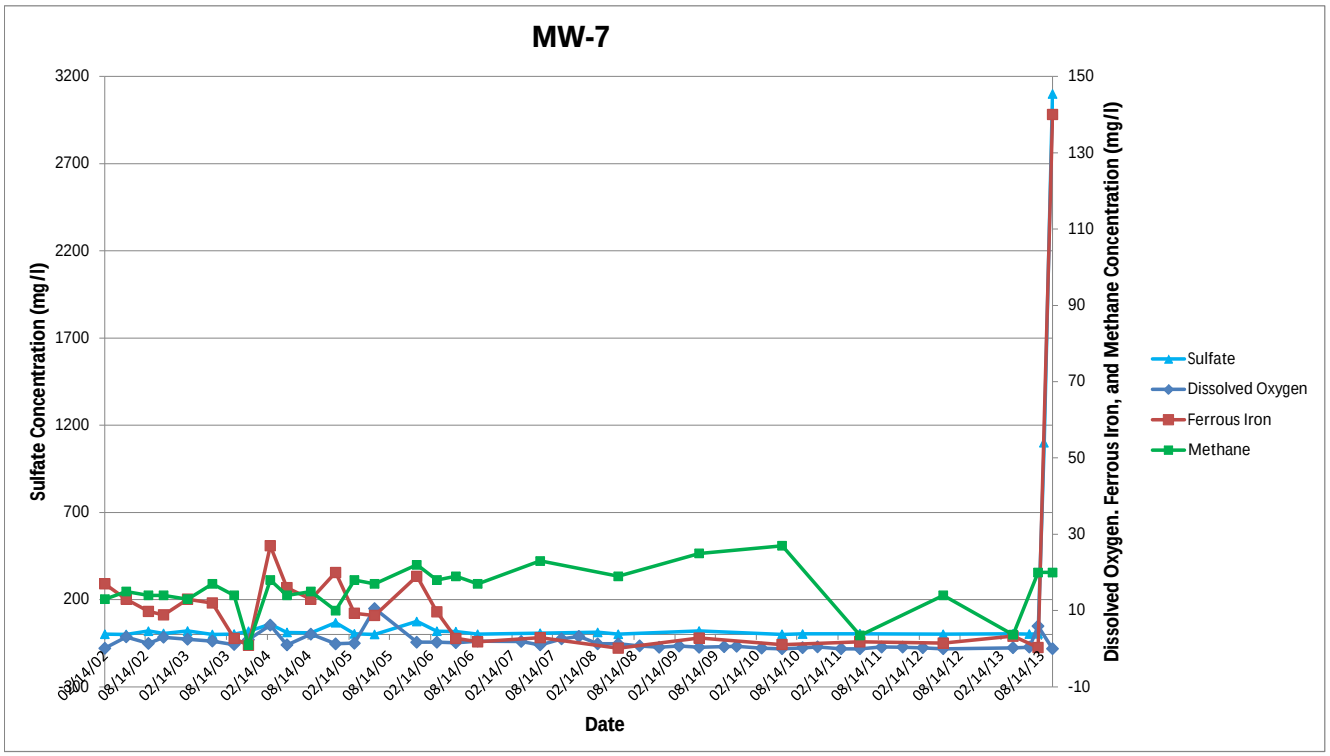
FIGURE 4

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Op)ON=*;OFF=*REF*
G:\ENV\CAD\Emeryville\ACT\WA0008042014\0000\32014 REV GWMP\DWG\WA0008042014.dwg LAYOUT: 4 SAVED: 3/18/2014 11:44 AM ACADVER: 18.1S (LMS TECH)
XREFS: IMAGES: PROJECTNAME: ---
X-SITEBASE WA0008042014
PAGESETUP: --- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 4/16/2014 4:37 PM BY: REYES, ALEC

ARCADIS

Attachment A

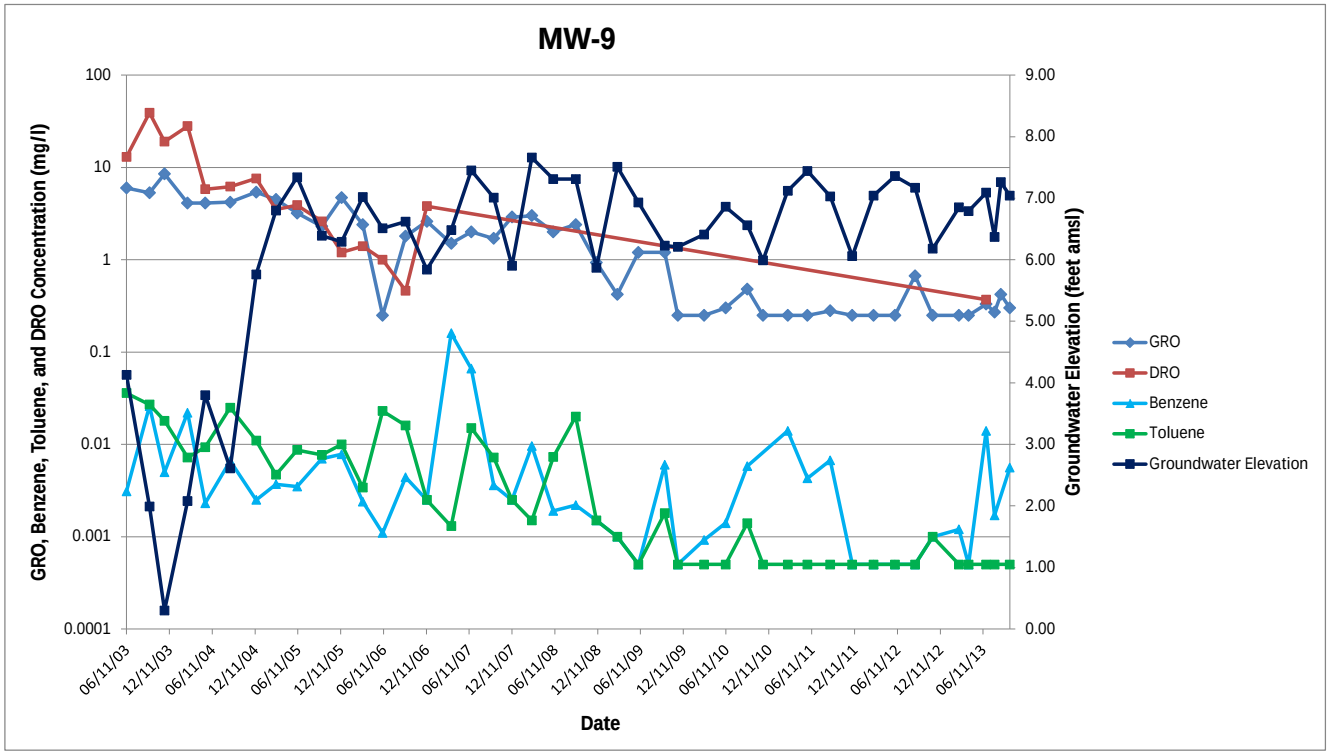


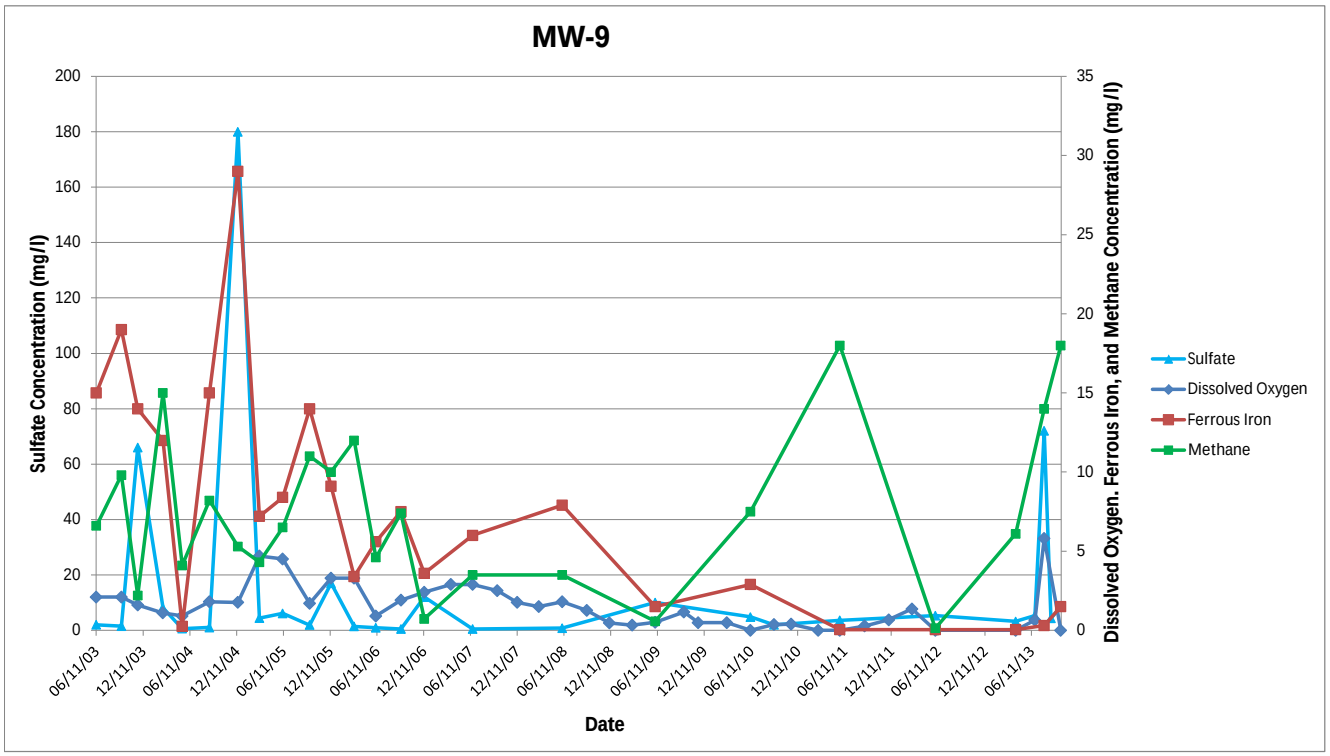


KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2014 REVISED GROUNDWATER MONITORING PLAN

ATTACHMENT A
HYDROGRAPH AND CONSTITUENT TREND GRAPHS

ARCADIS
Infrastructure · Water · Environment · Buildings

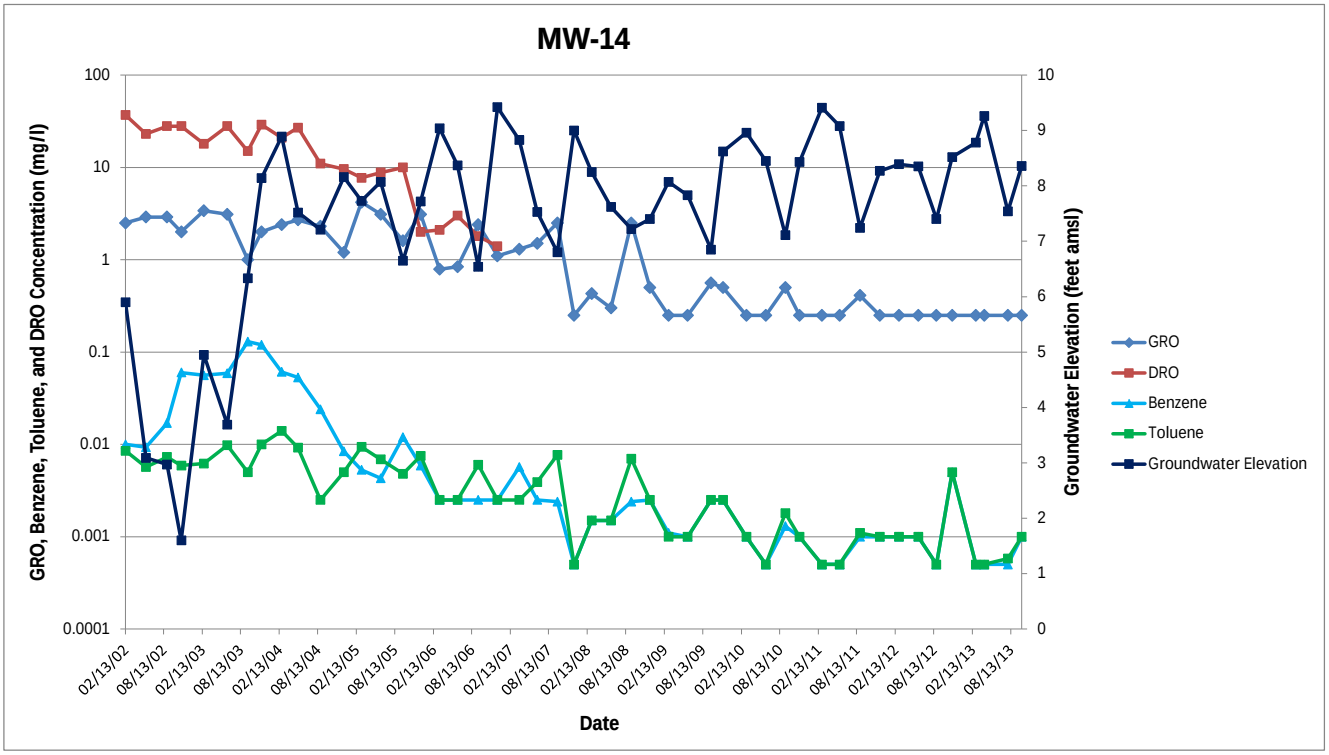


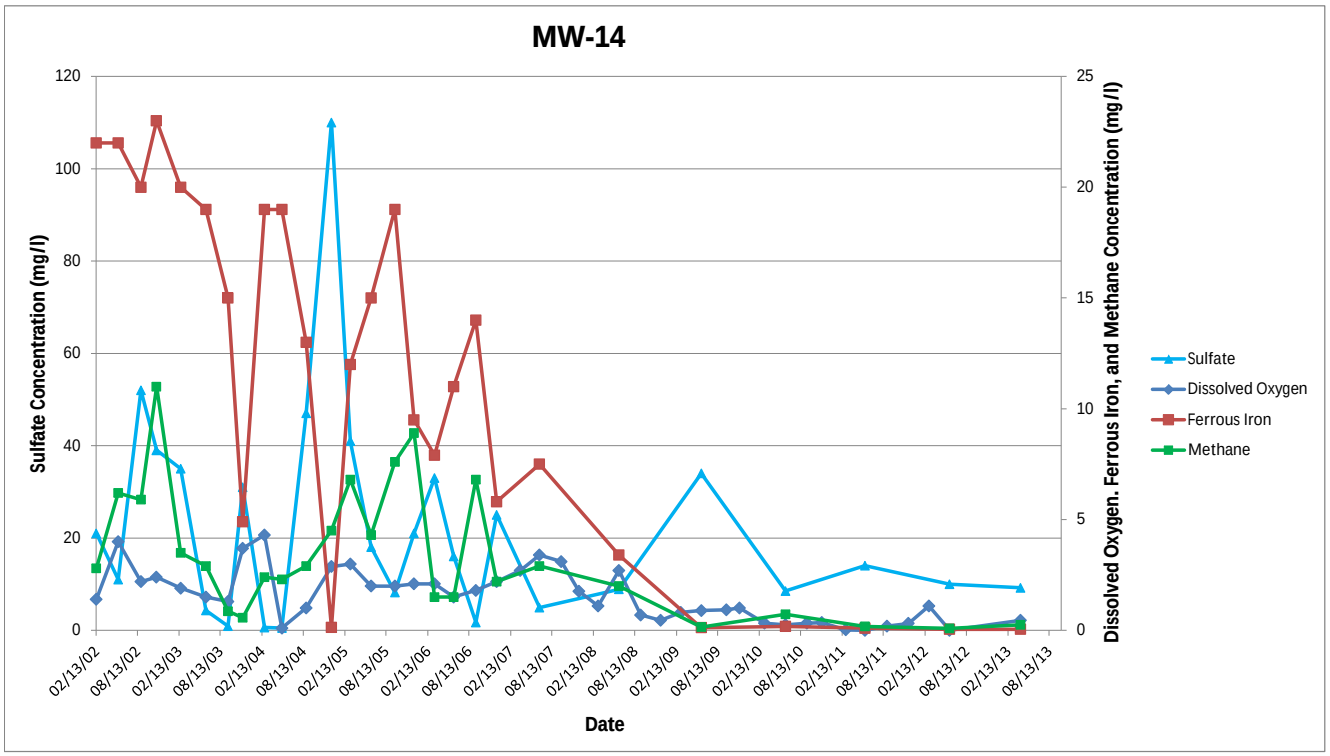


KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2014 REVISED GROUNDWATER MONITORING PLAN

ATTACHMENT A
HYDROGRAPH AND CONSTITUENT TREND GRAPHS

ARCADIS
Infrastructure · Water · Environment · Buildings

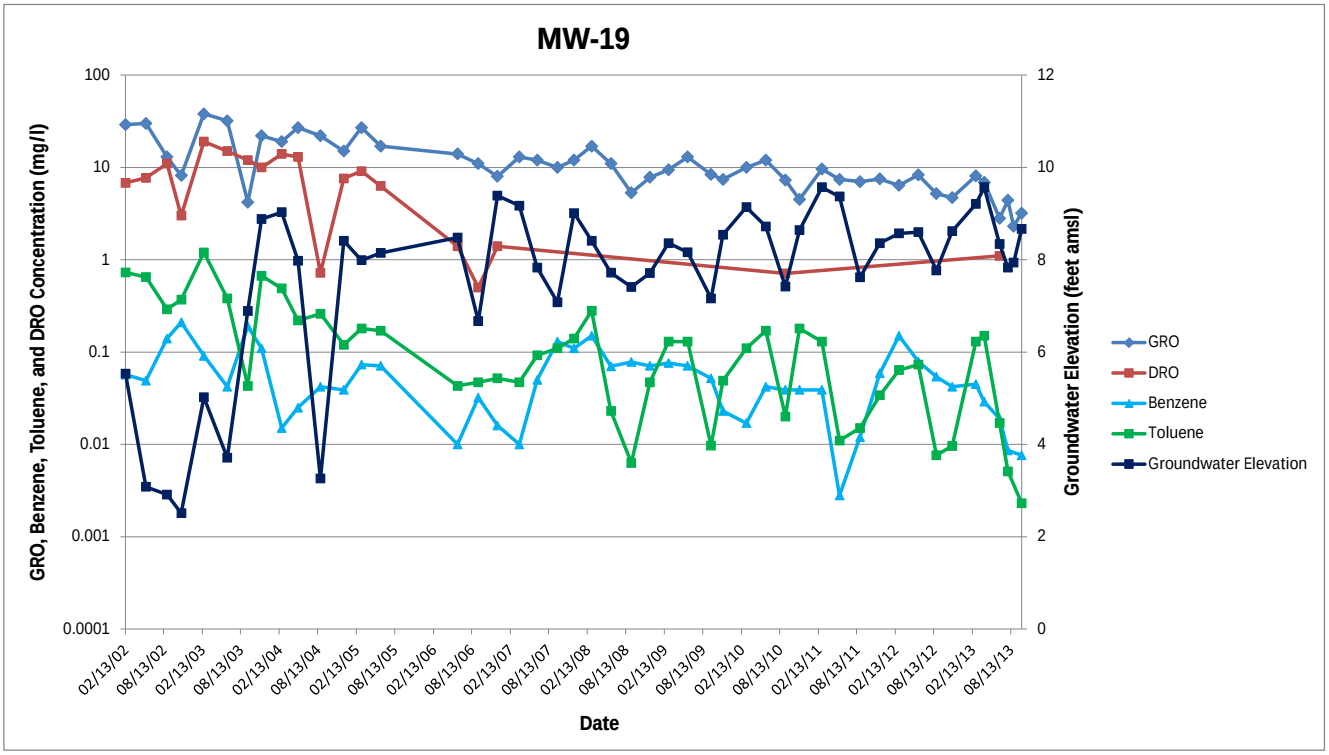


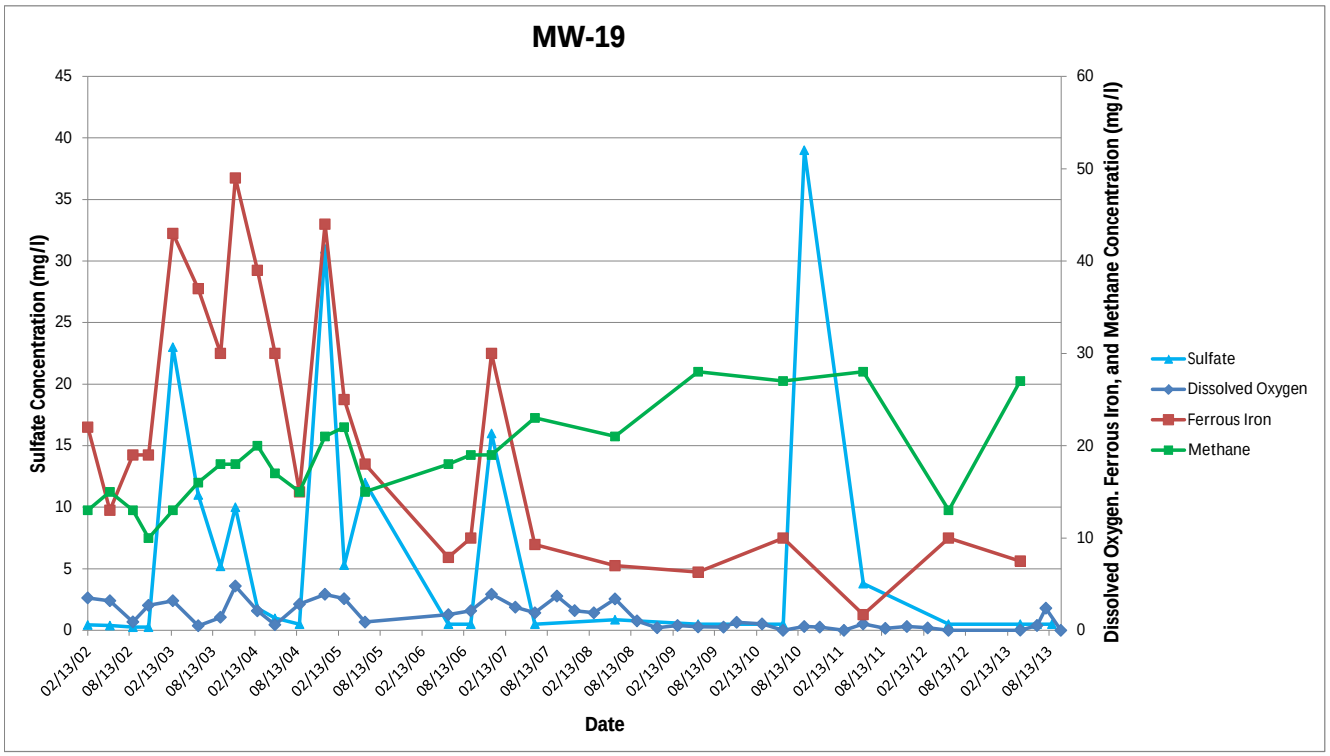


KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2014 REVISED GROUNDWATER MONITORING PLAN

ATTACHMENT A
HYDROGRAPH AND CONSTITUENT TREND GRAPHS

ARCADIS
Infrastructure · Water · Environment · Buildings





KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON
2014 REVISED GROUNDWATER MONITORING PLAN

ATTACHMENT A
HYDROGRAPH AND CONSTITUENT TREND GRAPHS

ARCADIS
Infrastructure · Water · Environment · Buildings

From:	Flomerfelt, Jonathan
To:	Wenning, Scott
Cc:	Annis, Matt
Subject:	FW: Kinder Morgan Harbor Island Terminal Proposed Revised Compliance Monitoring Plan
Date:	Wednesday, August 20, 2014 9:25:42 AM

Since there were some clarifications, lets use 8/13, email below as official approval

---

From: O'Brien, Maura (ECY) [mailto:MOBR461@ECY.WA.GOV]
Sent: Wednesday, August 13, 2014 4:50 PM
To: Annis, Matt; Flomerfelt, Jonathan; Truedinger, Robert
Cc: Wang, Ching-Pi (ECY)
Subject: RE: Kinder Morgan Harbor Island Terminal Proposed Revised Compliance Monitoring Plan

This is fine.

Maura

Maura S. O'Brien, PG/HG #869
Professional Geologist/Hydrogeologist
Toxics Cleanup Program - NWRO
Department of Ecology
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
Tele 425-649-7249
Fax 425-649-7098
Email mobr461@ecy.wa.gov

From: Annis, Matt [mailto:Matt.Annis@arcadis-us.com]
Sent: Wednesday, August 13, 2014 3:08 PM
To: O'Brien, Maura (ECY); Flomerfelt, Jonathan; Truedinger, Robert
Cc: Wang, Ching-Pi (ECY)
Subject: RE: Kinder Morgan Harbor Island Terminal Proposed Revised Compliance Monitoring Plan

Hi Maura – One last clarification. Please see below in red. Thanks.

Matt Annis | Principal Environmental Scientist | matt.annis@arcadis-us.com
ARCADIS U.S., Inc. | 1100 Olive Way, Suite 800 | Seattle, WA, 98101
T: 206.726.4716 | C: 206.434.1929 | F: 206.325.8218
www.arcadis-us.com

From: O'Brien, Maura (ECY) [mailto:MOBR461@ECY.WA.GOV]
Sent: Wednesday, August 13, 2014 2:07 PM
To: Annis, Matt; Flomerfelt, Jonathan; Truedinger, Robert
Cc: Wang, Ching-Pi (ECY)
Subject: RE: Kinder Morgan Harbor Island Terminal Proposed Revised Compliance Monitoring Plan

Rob Truedinger and Matt Annis,
Ecology approves the revised Kinder Morgan Harbor Island Terminal Proposed Revised Compliance Monitoring Plan for the KM Terminal prepared by Arcadis on May 20, 2014 and revised August 13, 2014. The revised plan is effective fall 2014 and the next monitoring ~~quarter~~ event will occur first quarter 2015.

Maura

Maura S. O'Brien, PG/HG #869
Professional Geologist/Hydrogeologist
Toxics Cleanup Program - NWRO
Department of Ecology
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
Tele 425-649-7249
Fax 425-649-7098
Email mobr461@ecy.wa.gov

From: Annis, Matt [mailto:Matt.Annis@arcadis-us.com]
Sent: Wednesday, August 13, 2014 12:50 PM
To: O'Brien, Maura (ECY); Flomerfelt, Jonathan; Truedinger, Robert
Cc: Wang, Ching-Pi (ECY)
Subject: RE: Kinder Morgan Harbor Island Terminal Proposed Revised Compliance Monitoring Plan

Hi Maura,

Below in red are responses/clarifications to your comments. Thank you for reviewing the Revised Site Groundwater Monitoring Plan so quickly.

Matt Annis | Principal Environmental Scientist | matt.annis@arcadis-us.com
ARCADIS U.S., Inc. | 1100 Olive Way, Suite 800 | Seattle, WA, 98101
T: 206.726.4716 | C: 206.434.1929 | F: 206.325.8218
www.arcadis-us.com

From: O'Brien, Maura (ECY) [mailto:MOBR461@ECY.WA.GOV]
Sent: Thursday, August 07, 2014 3:35 PM
To: Annis, Matt; Flomerfelt, Jonathan; Truedinger, Robert
Cc: Wang, Ching-Pi (ECY)
Subject: RE: Kinder Morgan Harbor Island Terminal Proposed Revised Compliance Monitoring Plan

Hello
Thank you for your proposed Revised Site Groundwater Monitoring Plan at the Kinder Morgan Harbor Island Terminal site prepared by Arcadis US dated May 20, 2014. Ecology approves this

revised compliance plan with two additions:

-If SPH or LNAPL occur at any well, then gauging and removal will be implemented quarterly for four quarters and then to re-evaluate. If SPH or LNAPL occur at any well, ARCADIS will gauge and remove quarterly. Removal will be performed using absorbent socks, which is consistent with recent SPH/LNAPL removal performed at the site.

-If any groundwater compliance well shows concentration increase for two consecutive events, then to discuss with Ecology if additional monitoring or cleanup action needs to be implemented at that location. OK

Starting third quarter 2014, this revised annual and semi-annual monitoring will begin. The next monitoring event will occur in 1Q2015 and moving forward reporting will be conducted semi-annually.

Thanks for your hard work and continued efforts to bring this site to completion under MTCA.

Maura

Maura S. O'Brien, PG/HG #869
Professional Geologist/Hydrogeologist
Toxics Cleanup Program - NWRO
Department of Ecology
3190 - 160th Avenue SE
Bellevue, WA 98008-5452
Tele 425-649-7249
Fax 425-649-7098
Email mobr461@ecy.wa.gov

From: Annis, Matt [mailto:Matt.Annis@arcadis-us.com]
Sent: Thursday, August 07, 2014 11:09 AM
To: O'Brien, Maura (ECY)
Cc: Flomerfelt, Jonathan
Subject: Kinder Morgan Harbor Island Periodic Review

Hi Maura,

Under Section 2.2 of the boilerplate you sent, are you looking for a summary of all site investigations and sample results to date or just those between the last 5-year review and present? Thanks.

Matt Annis | Senior Environmental Scientist | matt.annis@arcadis-us.com
ARCADIS U.S., Inc. | 1100 Olive Way, Suite 800 | Seattle, WA, 98101
T: 206.726.4716 | C: 206.434.1929 | F: 206.325.8218
www.arcadis-us.com

MEMO

ARCADIS Design & Consultancy for natural and built assets

SUBJECT
Kinder Morgan Harbor Island Terminal
Groundwater Analytical Reduction Request

DATE
February 11, 2016

TO
Maura O'Brien—Washington Department of Ecology

COPY
Rob Truedinger—Kinder Morgan

PROJECT NUMBER
WA000804.2016

FROM
Matt Annis—Arcadis U.S., Inc.
Kyle Haslam—Arcadis U.S., Inc.

Arcadis U.S., Inc. (Arcadis), on behalf of Kinder Morgan Energy Partners (Kinder Morgan), is requesting a revision to our current sampling scheme at the Kinder Morgan Harbor Island fuel terminal in Seattle, Washington (**Figure 1**). Kinder Morgan is currently analyzing samples from 24 wells for geochemical natural attenuation (NA) indicators (**Table 1**), such as ferrous iron and nitrate, in accordance with the Washington Department of Ecology (Ecology) approved Revised Site Groundwater Monitoring Plan (Arcadis 2014). Based on a review of recent data, it appears that a number of these 24 wells either have groundwater concentrations below site-specific cleanup levels for the constituents of concern (COCs) outlined in the Consent Decree (Ecology 2000), or are in a portion of the site undergoing remedial action via sulfate land application. Analyzing for natural attenuation indicators is not appropriate at these locations, as NA does not need to be demonstrated where groundwater concentrations are already below applicable cleanup levels and NA should not be evaluated in an area where remediation is ongoing. As such, Arcadis proposes to reduce the number of wells where full NA geochemical evaluations are performed from 24 to four (**Table 2**). The four well locations (A-27, A-28R, MW-23, and MW-24) proposed for continued evaluation of NA geochemical indicators are located within the 13th Avenue right-of-way, where NA is the approved remedy. We further propose to reduce the frequency of NA geochemical sample collection to annually, which would provide the ample data for continued NA evaluation in this area. Wells that are within the ongoing remedial area would be analyzed for facility COCs, in addition to sulfate, which is the primary remedial performance evaluation analyte. For wells outside of the ongoing remedial area and the 13th Avenue right-of-way, all of which have been below site-specific cleanup levels for at least 4 years[i] and a majority of which have been below site-specific cleanup levels for close to 10 years, Arcadis proposes to analyze for COCs only (gasoline-range organics, diesel-range organics, heavy oil, benzene, toluene, ethylbenzene, xylenes, and lead [total and dissolved]).

Arcadis would like to implement this reduced analyte sampling scheme beginning in the first quarter of 2016. Our proposed sampling start date is March 14, 2016. Please contact us if you would like any additional information regarding our request.

Enclosures:
Figure 1 – Site Plan
Table 1 – Current Groundwater Monitoring Plan
Table 2 – Proposed Groundwater Monitoring Plan

References:

Arcadis. 2014. Revised Wide Groundwater Monitoring Plan. Kinder Morgan Harbor Island Terminal. May 20.

Ecology. 2000. Consent Decree 00-2-07760-2SEA. April 12.

[i] Well MW-8 has exceeded the site-specific cleanup level for lead since sampling of this well began in 2002. Lead is not a constituent that is subject to NA through biological means, therefore collecting NA geochemical indicator samples would not provide any benefit at this location.

LEGEND

- SH-02 — GROUNDWATER MONITORING WELL (INSTALLED BEFORE 1993)
- MW-7 — GROUNDWATER MONITORING WELL (INSTALLED AFTER 1993)
- MW-12R — REPLACEMENT GROUNDWATER MONITORING WELL (INSTALLED BETWEEN JANUARY 31 AND FEBRUARY 21, 2002)
- MW-25 — MONITORING WELLS INSTALLED SEPTEMBER 30, 2003
- ✳ — WELL INACCESSIBLE OR DAMAGED
- TMW-2 — PERFORMANCE MONITORING WELL LOCATION (INSTALLED JUNE 2013)
- TMW-E3 — TEMPORARY MONITORING WELL INSTALLED BEFORE JUNE 2013

RAILROAD TRACKS

11th AVENUE S.W.

MW-12R

MW-4 SH-02R MW-07R SH-05R GATE

MW-1 MW-15 TMW-C1 MW-20 WAREHOUSE MAINTENANCE BUILDINGS

Tank 43 Tank 44 Tank 18 Tank 19 Tank 22 Tank 20 Tank 23 Tank 29 Tank 24 Tank 21 Tank 27 Tank 28 Tank 42 Tank 37 Tank 32 Tank 31 Tank 39 Tank 35 Tank 25 Tank 33 Tank 26

'E' YARD 'C' YARD 'D' YARD 'B' YARD 'A' YARD

GATE OLYMPIC PIPELINE LEASE AREA

MW-14 BBL STORAGE MW-5 TMW-2 TMW-C2 TMW-C3 MW-19 TMW-1 MW-3 TMW-3 TMW-4 MW-7 TMW-6 TMW-5 MW-9 MW-11D MW-21 MW-8 TMW-C4 RAMP

TRUCK LOADING RACK GARAGE OFFICE BUILDING PARKING

SF-01R RE-ESTABLISHED PROPERTY LINE (APPROXIMATE) FORMER PROPERTY LINE FENCE MW-25

TMW-E3 TMW-E2 TMW-E1 MW-2 PROPERTY LINE MW-22 GATE MW-6 TMW-B1 A-27 GATE A-26R A-22R MW-24 MW-23 A-23R PARKING

13th AVENUE S.W.

TMW-E4 MW-18 MW-17 MW-16 SH-04 A-28R

0 60' 120' 240'

KINDER MORGAN LIQUID TERMINALS, LLC
HARBOR ISLAND TERMINAL
2720 13TH AVENUE SOUTHWEST, SEATTLE, WASHINGTON

SITE PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

Table 1
Current Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
A-4	1Q							X
	3Q							X
A-5	1Q	X			X			X
	3Q	X			X			X
A-6	1Q							X
	3Q							X
A-8	1Q							X
	3Q	X	X	X	X			X
A-10	1Q							X
	3Q	X	X	X	X			X
A-11	1Q							X
	3Q							X
A-12	1Q							X
	3Q							X
A-14R	1Q							X
	3Q	X	X	X	X	X		X
A-16	1Q							X
	3Q							X
A-18	1Q							X
	3Q							X
A-19	1Q							X
	3Q							X
A-20	1Q							X
	3Q							X

Table 1
Current Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
A-21	1Q	X			X		X	X
	3Q	X			X	X	X	X
A-22R	1Q							X
	3Q							X
A-23R	1Q							X
	3Q	X			X		X	X
A-25	1Q							X
	3Q							X
A-26R	1Q							X
	3Q							X
A-27 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
A-28R	1Q	X			X		X	X
	3Q	X			X	X	X	X
11 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
12 [2]	1Q	X			X		X	X
	3Q	X	X	X	X	X	X	X
MW-1	1Q							X
	3Q	X	X	X	X	X		X
MW-2	1Q							X
	3Q	X	X	X	X	X	X	X
MW-3	1Q							X
	3Q	X	X	X	X	X		X

Table 1
Current Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
MW-4	1Q							X
	3Q	X	X	X	X			X
MW-5	1Q							X
	3Q	X	X	X	X	X		X
MW-6	1Q							X
	3Q	X			X	X	X	X
MW-7 [2]	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-8	1Q							X
	3Q	X	X	X	X	X		X
MW-9 [2]	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-12R	1Q							X
	3Q	X	X	X	X	X	X	X
MW-14	1Q							X
	3Q	X			X		X	X
MW-16	1Q							X
	3Q	X	X	X	X			X
MW-18	1Q	X			X			X
	3Q	X			X			X
MW-19 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
MW-20	1Q							X
	3Q	X	X	X	X			X

Table 1
Current Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
MW-21	1Q	X	X	X	X		X	X
	3Q	X	X	X	X		X	X
MW-22	1Q							X
	3Q	X	X	X	X			X
MW-23	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-24	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-25	1Q							X
	3Q	X	X	X	X	X		X
MW-07R	1Q							X
	3Q	X	X	X	X	X	X	X
SH-02R	1Q							X
	3Q	X	X	X	X	X	X	X
SH-05R	1Q							X
	3Q	X	X	X	X	X		X
TMW-B1	1Q							X
	3Q	X			X			X

Table 1
Current Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
TMW-1 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-2 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-3 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-4 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-5 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
TMW-6 [2]	1Q	X			X		X	X
	3Q	X			X		X	X

Notes

1 Monitored Natural Attenuation (MNA) Geochemical Parameters include dissolved oxygen, methane, ferrous iron, nitrate, sulfate, and sulfide
2 Performance monitoring locations
GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics by Northwest Method NWTPH-Gx
DRO = Total Petroleum Hydrocarbons - Diesel Range Organics by Northwest Method NWTPH-Dx
HO = Total Petroleum Hydrocarbons - Heavy Oil by Northwest Method NWTPH-Gx
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes by Environmental Protection Agency (EPA) Method 8260B.
1Q, 2Q, 3Q, 4Q = Denotes the quarter for each sampling event
-- Not Applicable

Table 2
Proposed Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
A-4	1Q							X
	3Q							X
A-5	1Q	X			X			X
	3Q	X			X			X
A-6	1Q							X
	3Q							X
A-8	1Q							X
	3Q	X	X	X	X			X
A-10	1Q							X
	3Q	X	X	X	X			X
A-11	1Q							X
	3Q							X
A-12	1Q							X
	3Q							X
A-14R	1Q							X
	3Q	X	X	X	X	X		X
A-16	1Q							X
	3Q							X
A-18	1Q							X
	3Q							X
A-19	1Q							X
	3Q							X
A-20	1Q							X
	3Q							X

Table 2
Proposed Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
A-21	1Q	X			X			X
	3Q	X			X	X		X
A-22R	1Q							X
	3Q							X
A-23R	1Q							X
	3Q	X			X			X
A-25	1Q							X
	3Q							X
A-26R	1Q							X
	3Q							X
A-27 [2]	1Q	X			X		X	X
	3Q	X			X		X	X
A-28R	1Q	X			X		X	X
	3Q	X			X	X	X	X
11 [2]	1Q	X			X		X [3]	X
	3Q	X			X		X [3]	X
12 [2]	1Q	X			X		X [3]	X
	3Q	X	X	X	X	X	X [3]	X
MW-1	1Q							X
	3Q	X	X	X	X	X		X
MW-2	1Q							X
	3Q	X	X	X	X	X		X
MW-3	1Q							X
	3Q	X	X	X	X	X		X

Table 2
Proposed Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
MW-4	1Q							X
	3Q	X	X	X	X			X
MW-5	1Q							X
	3Q	X	X	X	X	X		X
MW-6	1Q							X
	3Q	X			X	X		X
MW-7 [2]	1Q	X			X		X [3]	X
	3Q	X			X	X	X [3]	X
MW-8	1Q							X
	3Q	X	X	X	X	X		X
MW-9 [2]	1Q	X			X		X [3]	X
	3Q	X			X	X	X [3]	X
MW-12R	1Q							X
	3Q	X	X	X	X	X		X
MW-14	1Q							X
	3Q	X			X			X
MW-16	1Q							X
	3Q	X	X	X	X			X
MW-18	1Q	X			X			X
	3Q	X			X			X
MW-19 [2]	1Q	X			X		X [3]	X
	3Q	X			X		X [3]	X
MW-20	1Q							X
	3Q	X	X	X	X			X

Table 2
Proposed Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
MW-21	1Q	X	X	X	X			X
	3Q	X	X	X	X			X
MW-22	1Q							X
	3Q	X	X	X	X			X
MW-23	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-24	1Q	X			X		X	X
	3Q	X			X	X	X	X
MW-25	1Q							X
	3Q	X	X	X	X	X		X
MW-07R	1Q							X
	3Q	X	X	X	X	X		X
SH-02R	1Q							X
	3Q	X	X	X	X	X		X
SH-05R	1Q							X
	3Q	X	X	X	X	X		X
TMW-B1	1Q							X
	3Q	X			X		X	X

Table 2
Proposed Groundwater Monitoring Plan
2016 Analyte Reduction Request
Kinder Morgan Harbor Island Terminal
Seattle, Washington

Well	Sampling Schedule	GRO by NWTPH-GX	DRO by NWTPH-DX	HO by NWTPH-DX	BTEX by EPA 8260B	Total and Dissolved Lead by EPA 200.8	MNA Geochemical Parameters [1]	Depth to Water/SPH by downhole meter
TMW-1 [2]	1Q	X			X		X [3]	X
	3Q	X			X		X [3]	X
TMW-2 [2]	1Q	X			X		X [3]	X
	3Q	X			X		X [3]	X
TMW-3 [2]	1Q	X			X		X [3]	X
	3Q	X			X		X [3]	X
TMW-4 [2]	1Q	X			X		X [3]	X
	3Q	X			X		X [3]	X
TMW-5 [2]	1Q	X			X		X [3]	X
	3Q	X			X		X [3]	X
TMW-6 [2]	1Q	X			X		X [3]	X
	3Q	X			X		X [3]	X

Notes

1 = Monitored Natural Attenuation (MNA) Geochemical Parameters include dissolved oxygen, methane, ferrous iron, nitrate, sulfate, and sulfide
2 = Performance monitoring locations
3 = Sulfate is the only geochemical analysis to be run at this location
GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics by Northwest Method NWTPH-Gx
DRO = Total Petroleum Hydrocarbons - Diesel Range Organics by Northwest Method NWTPH-Dx
HO = Total Petroleum Hydrocarbons - Heavy Oil by Northwest Method NWTPH-Gx
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes by Environmental Protection Agency (EPA) Method 8260B.
1Q, 2Q, 3Q, 4Q = Denotes the quarter for each sampling event
-- Not Applicable

Ullery, Mark

From: Cruz, Jerome (ECY) <JCRU461@ECY.WA.GOV>
Sent: Thursday, September 15, 2016 4:15 PM
To: Annis, Matt
Cc: Haslam, Kyle; Truedinger, Robert (Robert_Truedinger@kindermorgan.com); Wang, Ching-Pi (ECY)
Subject: RE: Kinder Morgan Harbor Island Terminal - analyte frequency reduction request

Hi Rob, Matt, and Kyle,

Thank you for meeting with me today and for your patience while I get up to speed with the site issues and requests.

My understanding is that the reduction request will consist of eliminating only natural attenuation indicators such as ferrous iron and nitrate (with the exception of sulfate) from the list of analytes at select wells depicted in Figure 3 of the Proposed MNA Geochemical Parameters Analystical Reduction Plan. Site COCs will continue to be analyzed.

I concur with the analyte groundwater reduction request in your memo dated August 3, 2016. Please proceed in accordance with the revisions proposed in the memo.

Please also proceed with the proposed sulfate land reapplication in accordance with the August 31, 2016 field implementation memorandum.

Thanks,

Jerome

DEPARTMENT OF ECOLOGY
State of Washington

Jerome B. Cruz, Ph.D.
Toxics Cleanup Program, Northwest Regional Office
3190 - 160th SE Bellevue, WA 98008
Tel: (425) 649-7094 Fax: (425) 649-7098
Jerome.Cruz@ecy.wa.gov
http://www.ecy.wa.gov/programs/tcp/cleanup.html

From: Annis, Matt [mailto:Matt.Annis@arcadis.com]
Sent: Thursday, August 04, 2016 10:12 AM
To: Cruz, Jerome (ECY) <JCRU461@ECY.WA.GOV>
Cc: Haslam, Kyle <Kyle.Haslam@arcadis.com>; Truedinger, Robert (Robert_Truedinger@kindermorgan.com) <Robert_Truedinger@kindermorgan.com>
Subject: RE: Kinder Morgan Harbor Island Terminal - analyte frequency reduction request

Hi Jerome,

We have revised our analyte reduction request memo to incorporate the maps you requested below (see attached). For clarification, at this time we are not proposing to drop any wells from the program. This request is limited to dropping

NA analytical parameters from a handful of wells. Perhaps later this year we should take a look at dropping wells from the program that have been in compliance for several years. Please confirm the revisions meet the expectations of your request. Thanks.

Matt Annis | Principal Environmental Scientist | matt.annis@arcadis.com
Arcadis | Arcadis U.S., Inc.
1100 Olive Way, Suite 800 | Seattle, WA | 98101 | USA
T. +1 206 726 4716 | M. +1 206 434 1929

Connect with us! www.arcadis.com | LinkedIn | Twitter | Facebook

From: Cruz, Jerome (ECY) [mailto:JCRU461@ECY.WA.GOV]
Sent: Thursday, July 28, 2016 9:18 AM
To: Annis, Matt <Matt.Annis@arcadis.com>
Cc: Haslam, Kyle <Kyle.Haslam@arcadis.com>; Truedinger, Robert (Robert_Truedinger@kindermorgan.com) <Robert_Truedinger@kindermorgan.com>
Subject: RE: Kinder Morgan Harbor Island Terminal - analyte frequency reduction request

Hi Matt,
I started reviewing the analyrte reduction request and first semiannual 2016 GW monitoring report. In order to understand the nature of this request and evolution, I reviewed the past requests for reduced monitoring in the semiannual monitoring report. From what I could find, there were two requests:

- June 21, 2007 to Roger Nye, approved August 7, 2007
- May 20, 2014 to Maura O'Brien, approved ??

The May 2o request had maps showing current quarterly and annual GW monitoring locations (Fig. 2), proposed semi- and annual locations (Fig. 3), and propsoed performance monitorng locaitons (Fig. 4).

May I request similar maps for the current proposal? This will allow me to better understand the proposal, its variation from past/current monitoring, and its rationale. What might also help is to superimpose contaminant concentrations in the proposed monitoring network/frequency map for me to verify how the current proposal addresses the existing site conditions. I agree that if a well has been in compliance for several years, we should consider dropping it from the monitoring program, but I would like to identify where these are on the maps before I approve anything.

Please don't hesitate to contact me if you have questions or would like to discuss.

Thanks,

Jerome

Jerome B. Cruz, Ph.D.
Toxics Cleanup Program, Northwest Regional Office
3190 - 160th SE Bellevue, WA 98008
Tel: (425) 649-7094 Fax: (425) 649-7098
Jerome.Cruz@ecy.wa.gov
http://www.ecy.wa.gov/programs/tcp/cleanup.html

From: Annis, Matt [mailto:Matt.Annis@arcadis.com]
Sent: Wednesday, July 20, 2016 1:43 PM
To: Cruz, Jerome (ECY) <JCRU461@ECY.WA.GOV>
Cc: Haslam, Kyle <Kyle.Haslam@arcadis.com>; Truedinger, Robert (Robert_Truedinger@kindermorgan.com) <Robert_Truedinger@kindermorgan.com>
Subject: FW: Kinder Morgan Harbor Island Terminal - analyte frequency reduction request

Hi Jerome,

Please see below and attached. We are starting to plan for our Q3 monitoring event and were hoping Ecology would provide an opinion on our request before then. Please give me a call if you have questions or would like to discuss. Thanks.

Matt Annis | Principal Environmental Scientist | matt.annis@arcadis.com
Arcadis | Arcadis U.S., Inc.
1100 Olive Way, Suite 800 | Seattle, WA | 98101 | USA
T. +1 206 726 4716 | M. +1 206 434 1929

From: Annis, Matt
Sent: Wednesday, February 24, 2016 3:53 PM
To: 'mobr461@ecy.wa.gov' <mobr461@ecy.wa.gov>
Cc: Truedinger, Robert (Robert_Truedinger@kindermorgan.com) <Robert_Truedinger@kindermorgan.com>
Subject: FW: Kinder Morgan Harbor Island Terminal - analyte frequency reduction request

Hi Maura,

Thanks for taking the time to call me on 2/22 to discuss this request and your pending retirement (good for you!). You indicated you were in general agreement with our request to reduce the number of wells we have been performing natural attenuation analyses on and were also going to discuss with the new site manager (Jerome Cruz). As you suggested, we will push our Q1 sampling back to the week of 3/21 so Ecology has sufficient time to provide an opinion on our request.

Also, you mentioned having a transition meeting with Ecology, Kinder Morgan and Arcadis prior to your last day. Kinder Morgan and Arcadis definitely want to take you up on that offer. Are you and Jerome available for this transition meeting on the afternoon of 3/24? Please let us know as soon as you can as Rob will need to travel from Portland to attend. Thanks.

Matt Annis | Principal Environmental Scientist | matt.annis@arcadis.com
Arcadis | T. +1 206 726 4716 | M. +1 206 434 1929
www.arcadis.com

From: Annis, Matt
Sent: Thursday, February 11, 2016 2:23 PM
To: 'mobr461@ecy.wa.gov' <mobr461@ecy.wa.gov>
Cc: Truedinger, Robert (Robert_Truedinger@kindermorgan.com) <Robert_Truedinger@kindermorgan.com>; Haslam, Kyle <Kyle.Haslam@arcadis.com>
Subject: Kinder Morgan Harbor Island Terminal - analyte frequency reduction request

Hi Maura,

Attached is a memorandum that includes a request to cease the analysis of natural attenuation parameters in monitoring wells that are currently below site-specific cleanup levels (and have been for some time) at the Kinder Morgan terminal on Harbor Island. The memorandum also includes a request to temporarily cease the analysis of natural attenuation parameters (with the exception of sulfate) at the performance monitoring wells located with the sulfate land application. We are hoping to have an opinion from Ecology on this request prior to our first quarter sampling event, which is current scheduled for mid-March 2016. Please give me a call if you have any questions or would like to discuss. Thanks.

Matt Annis | Principal Environmental Scientist | matt.annis@arcadis.com
Arcadis | Arcadis U.S., Inc.
1100 Olive Way, Suite 800 | Seattle, WA | 98101 | USA
T. +1 206 726 4716 | M. +1 206 434 1929

This e-mail and any files transmitted with it are the property of Arcadis. All rights, including without limitation copyright, are reserved. This e-mail contains information which may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not the intended recipient(s) please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error please return it to the sender and then delete the e-mail and destroy any copies of it. Whilst reasonable precautions have been taken to ensure no software viruses are present in our emails we cannot guarantee that this e-mail or any attachment is virus-free or has not been intercepted or changed. Any opinions or other information in this e-mail that do not relate to the official business of Arcadis are neither given nor endorsed by it.

Appendix B

Groundwater Monitoring Field Data Sheets

Low-Flow Test Report:

Test Date / Time: 4/12/2021 2:16:19 PM
Project: 30018857
Operator Name: Morgan

Location Name: TMW-2 **Initial Depth to Water: 2.91 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 3150 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 2.91 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:
Sampled at 14:35

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/12/2021 2:16 PM	00:00	7.51 pH	54.06 °F	2,150.4 µS/cm	0.33 mg/L	0.08 NTU	-69.9 mV	2.91 ft	150.00 ml/min
4/12/2021 2:19 PM	03:00	7.52 pH	55.17 °F	2,140.8 µS/cm	0.32 mg/L	0.02 NTU	-80.7 mV	2.91 ft	150.00 ml/min
4/12/2021 2:22 PM	06:00	7.51 pH	55.39 °F	2,134.0 µS/cm	0.38 mg/L	0.26 NTU	-80.8 mV	2.91 ft	150.00 ml/min
4/12/2021 2:25 PM	09:00	7.52 pH	55.58 °F	2,126.4 µS/cm	0.58 mg/L	0.61 NTU	-78.7 mV	2.91 ft	150.00 ml/min
4/12/2021 2:28 PM	12:00	7.53 pH	55.54 °F	2,119.7 µS/cm	0.66 mg/L	1.17 NTU	-76.5 mV	2.91 ft	150.00 ml/min
4/12/2021 2:31 PM	15:00	7.53 pH	55.49 °F	2,108.8 µS/cm	0.70 mg/L	2.01 NTU	-75.8 mV	2.91 ft	150.00 ml/min
4/12/2021 2:34 PM	18:00	7.53 pH	55.50 °F	2,106.3 µS/cm	0.71 mg/L	3.05 NTU	-76.0 mV	2.91 ft	150.00 ml/min
4/12/2021 2:37 PM	21:00	7.51 pH	54.84 °F	1,012.9 µS/cm	1.03 mg/L	68.32 NTU	-77.6 mV	2.91 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-2	

Low-Flow Test Report:

Test Date / Time: 4/12/2021 3:01:48 PM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: TMW-1 **Initial Depth to Water: 2.79 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 2250 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 2.78 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/12/2021 3:01 PM	00:00	7.34 pH	59.52 °F	3.09 µS/cm	10.67 mg/L	79.61 NTU	26.9 mV	2.79 ft	150.00 ml/min
4/12/2021 3:04 PM	03:00	6.82 pH	53.94 °F	1,650.0 µS/cm	8.60 mg/L	10.17 NTU	53.9 mV	2.79 ft	150.00 ml/min
4/12/2021 3:07 PM	06:00	6.74 pH	53.33 °F	1,633.3 µS/cm	8.55 mg/L	2.02 NTU	62.8 mV	2.79 ft	150.00 ml/min
4/12/2021 3:10 PM	09:00	6.71 pH	53.28 °F	1,627.6 µS/cm	8.61 mg/L	3.68 NTU	69.0 mV	2.79 ft	150.00 ml/min
4/12/2021 3:13 PM	12:00	6.70 pH	52.90 °F	1,631.6 µS/cm	8.56 mg/L	0.86 NTU	73.4 mV	2.79 ft	150.00 ml/min
4/12/2021 3:16 PM	15:00	6.69 pH	52.84 °F	1,637.3 µS/cm	8.40 mg/L	0.38 NTU	76.6 mV	2.79 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-1	

Low-Flow Test Report:

Test Date / Time: 4/12/2021 3:40:43 PM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: MW-19 **Initial Depth to Water: 2.24 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 4950 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 2.28 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/12/2021 3:40 PM	00:00	6.89 pH	56.02 °F	280.03 µS/cm	3.28 mg/L	27.96 NTU	-26.5 mV	2.24 ft	150.00 ml/min
4/12/2021 3:43 PM	03:00	6.79 pH	56.84 °F	249.71 µS/cm	0.82 mg/L	25.59 NTU	-62.3 mV	2.24 ft	150.00 ml/min
4/12/2021 3:46 PM	06:00	6.80 pH	57.01 °F	251.92 µS/cm	1.00 mg/L	31.49 NTU	-69.5 mV	2.24 ft	150.00 ml/min
4/12/2021 3:49 PM	09:00	6.80 pH	56.49 °F	249.73 µS/cm	0.60 mg/L	37.64 NTU	-73.0 mV	2.24 ft	150.00 ml/min
4/12/2021 3:52 PM	12:00	6.81 pH	56.24 °F	250.40 µS/cm	0.42 mg/L	43.06 NTU	-74.6 mV	2.24 ft	150.00 ml/min
4/12/2021 3:55 PM	15:00	6.81 pH	56.42 °F	250.59 µS/cm	0.31 mg/L	28.50 NTU	-76.6 mV	2.24 ft	150.00 ml/min
4/12/2021 3:58 PM	18:00	6.81 pH	56.55 °F	249.96 µS/cm	0.29 mg/L	35.46 NTU	-78.1 mV	2.24 ft	150.00 ml/min
4/12/2021 4:01 PM	21:00	6.81 pH	56.56 °F	250.16 µS/cm	0.18 mg/L	43.32 NTU	-79.3 mV	2.24 ft	150.00 ml/min
4/12/2021 4:04 PM	24:00	6.83 pH	56.62 °F	250.05 µS/cm	0.18 mg/L	51.37 NTU	-80.4 mV	2.24 ft	150.00 ml/min
4/12/2021 4:07 PM	27:00	6.82 pH	56.47 °F	252.83 µS/cm	0.17 mg/L	66.15 NTU	-81.1 mV	2.24 ft	150.00 ml/min
4/12/2021 4:10 PM	30:00	6.83 pH	56.68 °F	251.58 µS/cm	0.16 mg/L	59.66 NTU	-81.8 mV	2.24 ft	150.00 ml/min
4/12/2021 4:13 PM	33:00	6.83 pH	56.75 °F	251.90 µS/cm	0.15 mg/L	67.23 NTU	-82.7 mV	2.24 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-19	

Low-Flow Test Report:

Test Date / Time: 4/12/2021 4:58:13 PM
Project: KMLT Harbor Island
Operator Name: L. Selleck

Location Name: TMW-5 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 2.73 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly** **Pump Intake From TOC: 9 ft** **Estimated Total Volume Pumped: 9012.5 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:
Final DTW 2.73

Weather Conditions:
55 sun

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/12/2021 4:58 PM	00:00	7.54 pH	54.04 °F	2,745.9 µS/cm	2.86 mg/L	0.34 NTU	-26.6 mV	2.73 ft	150.00 ml/min
4/12/2021 5:01 PM	03:00	7.65 pH	54.08 °F	2,705.5 µS/cm	0.48 mg/L	0.01 NTU	-79.7 mV	2.73 ft	150.00 ml/min
4/12/2021 5:04 PM	06:00	7.73 pH	53.99 °F	2,768.9 µS/cm	0.47 mg/L	0.00 NTU	-108.5 mV	2.73 ft	150.00 ml/min
4/12/2021 5:07 PM	09:00	7.75 pH	53.87 °F	2,762.7 µS/cm	0.44 mg/L	0.00 NTU	-119.2 mV	2.73 ft	150.00 ml/min
4/12/2021 5:10 PM	12:00	7.74 pH	53.91 °F	2,759.3 µS/cm	0.19 mg/L	0.06 NTU	-129.1 mV	2.73 ft	150.00 ml/min
4/12/2021 5:13 PM	15:00	7.75 pH	53.85 °F	2,722.9 µS/cm	0.18 mg/L	0.20 NTU	-142.0 mV	2.73 ft	150.00 ml/min
4/12/2021 5:16 PM	18:00	7.74 pH	53.74 °F	2,608.6 µS/cm	0.34 mg/L	0.13 NTU	-147.1 mV	2.73 ft	150.00 ml/min
4/12/2021 5:19 PM	21:00	7.73 pH	53.69 °F	2,515.6 µS/cm	0.18 mg/L	0.22 NTU	-152.0 mV	2.73 ft	150.00 ml/min
4/12/2021 5:22 PM	24:00	7.73 pH	53.65 °F	2,452.4 µS/cm	0.14 mg/L	0.23 NTU	-156.0 mV	2.73 ft	150.00 ml/min
4/12/2021 5:25 PM	27:00	7.73 pH	53.69 °F	2,376.2 µS/cm	0.22 mg/L	0.05 NTU	-164.1 mV	2.73 ft	150.00 ml/min
4/12/2021 5:28 PM	30:00	7.72 pH	53.77 °F	2,349.4 µS/cm	0.28 mg/L	0.18 NTU	-166.4 mV	2.73 ft	150.00 ml/min
4/12/2021 5:31 PM	33:00	7.71 pH	53.79 °F	2,288.5 µS/cm	0.13 mg/L	0.00 NTU	-171.1 mV	2.73 ft	150.00 ml/min
4/12/2021 5:34 PM	36:00	7.71 pH	53.80 °F	2,250.5 µS/cm	0.22 mg/L	0.00 NTU	-175.5 mV	2.73 ft	150.00 ml/min

4/12/2021 5:37 PM	39:00	7.71 pH	53.82 °F	2,221.0 µS/cm	0.25 mg/L	0.03 NTU	-177.3 mV	2.73 ft	150.00 ml/min
4/12/2021 5:40 PM	42:00	7.71 pH	53.77 °F	2,184.7 µS/cm	0.14 mg/L	0.04 NTU	-179.7 mV	2.73 ft	150.00 ml/min
4/12/2021 5:43 PM	45:05	7.71 pH	53.68 °F	2,170.8 µS/cm	0.12 mg/L	0.70 NTU	-182.6 mV	2.73 ft	150.00 ml/min
4/12/2021 5:46 PM	48:05	7.71 pH	53.70 °F	2,143.3 µS/cm	0.27 mg/L	90.24 NTU	-186.2 mV	2.73 ft	150.00 ml/min
4/12/2021 5:49 PM	51:05	7.71 pH	53.70 °F	2,119.2 µS/cm	0.17 mg/L	0.00 NTU	-188.2 mV	2.73 ft	150.00 ml/min
4/12/2021 5:52 PM	54:05	7.70 pH	53.85 °F	2,088.8 µS/cm	0.12 mg/L	0.00 NTU	-189.6 mV	2.73 ft	150.00 ml/min
4/12/2021 5:55 PM	57:05	7.70 pH	53.74 °F	2,063.4 µS/cm	0.29 mg/L	0.00 NTU	-192.4 mV	2.73 ft	150.00 ml/min
4/12/2021 5:58 PM	01:00:05	7.70 pH	53.68 °F	1,994.1 µS/cm	0.27 mg/L	0.35 NTU	-192.9 mV	2.73 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-5	ST 1500

Low-Flow Test Report:

Test Date / Time: 4/12/2021 6:23:00 PM
Project: KMLT Harbor Island
Operator Name: L. Selleck

Location Name: 12 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 10 ft** **Initial Depth to Water: 1.64 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly** **Pump Intake From TOC: 2 ft** **Estimated Total Volume Pumped: 9010 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:
Final DTW 3.64

Weather Conditions:
55 clear, windy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/12/2021 6:23 PM	00:00	7.31 pH	53.81 °F	1,556.8 µS/cm	3.89 mg/L	9.96 NTU	-52.8 mV	1.64 ft	150.00 ml/min
4/12/2021 6:26 PM	03:00	7.06 pH	55.72 °F	1,550.0 µS/cm	1.24 mg/L	3.14 NTU	-51.4 mV	1.64 ft	150.00 ml/min
4/12/2021 6:29 PM	06:00	7.03 pH	54.89 °F	1,548.0 µS/cm	0.66 mg/L	3.36 NTU	-51.7 mV	1.64 ft	150.00 ml/min
4/12/2021 6:32 PM	09:00	7.02 pH	55.25 °F	1,544.8 µS/cm	0.55 mg/L	2.83 NTU	-51.7 mV	1.64 ft	150.00 ml/min
4/12/2021 6:35 PM	12:00	7.00 pH	55.58 °F	1,559.9 µS/cm	0.52 mg/L	1.47 NTU	-51.9 mV	1.64 ft	150.00 ml/min
4/12/2021 6:38 PM	15:00	6.99 pH	54.51 °F	1,538.0 µS/cm	0.50 mg/L	9.80 NTU	-53.5 mV	1.64 ft	150.00 ml/min
4/12/2021 6:41 PM	18:00	6.98 pH	57.26 °F	1,549.9 µS/cm	0.41 mg/L	2.79 NTU	-55.1 mV	1.64 ft	150.00 ml/min
4/12/2021 6:44 PM	21:00	6.98 pH	55.48 °F	1,559.3 µS/cm	0.30 mg/L	1.89 NTU	-56.4 mV	1.64 ft	150.00 ml/min
4/12/2021 6:47 PM	24:00	6.97 pH	56.32 °F	1,549.8 µS/cm	0.26 mg/L	3.12 NTU	-56.7 mV	1.64 ft	150.00 ml/min
4/12/2021 6:50 PM	27:00	6.96 pH	56.92 °F	1,546.5 µS/cm	0.27 mg/L	2.76 NTU	-58.7 mV	1.64 ft	150.00 ml/min
4/12/2021 6:53 PM	30:00	6.96 pH	54.62 °F	1,566.3 µS/cm	0.33 mg/L	2.81 NTU	-59.8 mV	1.64 ft	150.00 ml/min
4/12/2021 6:56 PM	33:00	6.96 pH	55.84 °F	1,546.2 µS/cm	0.42 mg/L	5.19 NTU	-58.6 mV	1.64 ft	150.00 ml/min
4/12/2021 6:59 PM	36:00	6.97 pH	55.71 °F	1,560.4 µS/cm	0.43 mg/L	3.61 NTU	-58.9 mV	1.64 ft	150.00 ml/min

4/12/2021 7:02 PM	39:00	6.97 pH	56.93 °F	1,544.2 µS/cm	0.55 mg/L	3.91 NTU	-59.7 mV	1.64 ft	150.00 ml/min
4/12/2021 7:05 PM	42:00	6.97 pH	55.52 °F	1,558.8 µS/cm	0.69 mg/L	3.64 NTU	-60.4 mV	1.64 ft	150.00 ml/min
4/12/2021 7:08 PM	45:00	6.96 pH	54.44 °F	1,575.6 µS/cm	0.77 mg/L	4.47 NTU	-60.4 mV	1.64 ft	150.00 ml/min
4/12/2021 7:11 PM	48:00	6.98 pH	57.00 °F	1,551.1 µS/cm	0.90 mg/L	3.89 NTU	-68.8 mV	1.64 ft	150.00 ml/min
4/12/2021 7:14 PM	51:00	6.97 pH	55.11 °F	1,576.8 µS/cm	1.00 mg/L	15.73 NTU	-67.6 mV	1.64 ft	150.00 ml/min
4/12/2021 7:17 PM	54:00	7.00 pH	54.59 °F	1,289.0 µS/cm	3.07 mg/L	22.63 NTU	-60.1 mV	1.64 ft	150.00 ml/min
4/12/2021 7:20 PM	57:00	6.99 pH	54.11 °F	1,578.5 µS/cm	1.46 mg/L	9.36 NTU	-64.5 mV	1.64 ft	150.00 ml/min
4/12/2021 7:23 PM	01:00:04	7.01 pH	53.50 °F	1,601.2 µS/cm	1.30 mg/L	18.91 NTU	-74.8 mV	1.64 ft	150.00 ml/min

Samples

Sample ID:	Description:
12	ST 1625

Low-Flow Test Report:

Test Date / Time: 4/13/2021 8:52:57 AM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: A-28R **Initial Depth to Water: 7.9 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 4500 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 7.91 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 8:52 AM	00:00	6.44 pH	52.74 °F	696.86 µS/cm	10.63 mg/L	2.57 NTU	5.6 mV	7.90 ft	150.00 ml/min
4/13/2021 8:55 AM	03:00	6.57 pH	53.49 °F	671.50 µS/cm	0.52 mg/L	0.48 NTU	-70.1 mV	7.90 ft	150.00 ml/min
4/13/2021 8:58 AM	06:00	6.58 pH	53.82 °F	660.59 µS/cm	0.29 mg/L	0.46 NTU	-79.1 mV	7.90 ft	150.00 ml/min
4/13/2021 9:01 AM	09:00	6.58 pH	53.94 °F	664.45 µS/cm	0.24 mg/L	0.51 NTU	-83.3 mV	7.90 ft	150.00 ml/min
4/13/2021 9:04 AM	12:00	6.58 pH	54.16 °F	637.76 µS/cm	0.20 mg/L	0.52 NTU	-85.8 mV	7.90 ft	150.00 ml/min
4/13/2021 9:07 AM	15:00	6.58 pH	54.14 °F	630.73 µS/cm	0.19 mg/L	0.47 NTU	-87.4 mV	7.90 ft	150.00 ml/min
4/13/2021 9:10 AM	18:00	6.58 pH	54.26 °F	622.54 µS/cm	0.17 mg/L	0.43 NTU	-89.3 mV	7.90 ft	150.00 ml/min
4/13/2021 9:13 AM	21:00	6.59 pH	54.35 °F	625.33 µS/cm	0.14 mg/L	0.44 NTU	-90.0 mV	7.90 ft	150.00 ml/min
4/13/2021 9:16 AM	24:00	6.59 pH	54.36 °F	609.10 µS/cm	0.12 mg/L	0.45 NTU	-90.6 mV	7.90 ft	150.00 ml/min
4/13/2021 9:19 AM	27:00	6.59 pH	54.26 °F	604.12 µS/cm	0.11 mg/L	0.52 NTU	-91.4 mV	7.90 ft	150.00 ml/min
4/13/2021 9:22 AM	30:00	6.58 pH	54.45 °F	601.37 µS/cm	0.12 mg/L	0.64 NTU	-91.9 mV	7.90 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-28R	

Low-Flow Test Report:

Test Date / Time: 4/13/2021 9:53:31 AM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: A-27 **Initial Depth to Water: 10.5 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 3150 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 10.47 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 9:53 AM	00:00	6.39 pH	53.87 °F	271.70 µS/cm	0.69 mg/L	1.53 NTU	-25.7 mV	10.50 ft	150.00 ml/min
4/13/2021 9:56 AM	03:00	6.39 pH	53.57 °F	269.20 µS/cm	0.29 mg/L	0.94 NTU	-30.6 mV	10.50 ft	150.00 ml/min
4/13/2021 9:59 AM	06:00	6.40 pH	53.57 °F	272.08 µS/cm	0.22 mg/L	1.01 NTU	-33.4 mV	10.50 ft	150.00 ml/min
4/13/2021 10:02 AM	09:00	6.40 pH	53.48 °F	269.24 µS/cm	0.20 mg/L	0.96 NTU	-35.6 mV	10.50 ft	150.00 ml/min
4/13/2021 10:05 AM	12:00	6.41 pH	53.42 °F	267.12 µS/cm	0.19 mg/L	1.00 NTU	-37.8 mV	10.50 ft	150.00 ml/min
4/13/2021 10:08 AM	15:00	6.41 pH	53.38 °F	267.66 µS/cm	0.18 mg/L	0.86 NTU	-39.9 mV	10.50 ft	150.00 ml/min
4/13/2021 10:11 AM	18:00	6.41 pH	53.38 °F	269.52 µS/cm	0.17 mg/L	0.88 NTU	-41.3 mV	10.50 ft	150.00 ml/min
4/13/2021 10:14 AM	21:00	6.41 pH	53.39 °F	269.19 µS/cm	0.16 mg/L	0.89 NTU	-42.4 mV	10.50 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-27	

Low-Flow Test Report:

Test Date / Time: 4/13/2021 11:03:52 AM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: MW-24 **Initial Depth to Water: 7.45 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 5400 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 7.48 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 11:03 AM	00:00	6.41 pH	56.06 °F	808.92 µS/cm	1.33 mg/L	19.82 NTU	-44.4 mV	7.45 ft	150.00 ml/min
4/13/2021 11:06 AM	03:00	6.40 pH	56.74 °F	800.32 µS/cm	0.19 mg/L	17.52 NTU	-68.0 mV	7.45 ft	150.00 ml/min
4/13/2021 11:09 AM	06:00	6.42 pH	57.12 °F	798.20 µS/cm	0.24 mg/L	17.20 NTU	-73.7 mV	7.45 ft	150.00 ml/min
4/13/2021 11:12 AM	09:00	6.44 pH	57.04 °F	796.25 µS/cm	0.22 mg/L	21.57 NTU	-76.9 mV	7.45 ft	150.00 ml/min
4/13/2021 11:15 AM	12:00	6.45 pH	57.13 °F	799.33 µS/cm	0.17 mg/L	19.23 NTU	-78.9 mV	7.45 ft	150.00 ml/min
4/13/2021 11:18 AM	15:00	6.45 pH	56.94 °F	798.34 µS/cm	0.14 mg/L	17.90 NTU	-80.3 mV	7.45 ft	150.00 ml/min
4/13/2021 11:21 AM	18:00	6.45 pH	56.96 °F	799.83 µS/cm	0.13 mg/L	18.03 NTU	-81.4 mV	7.45 ft	150.00 ml/min
4/13/2021 11:24 AM	21:00	6.45 pH	56.97 °F	797.85 µS/cm	0.12 mg/L	20.21 NTU	-82.5 mV	7.45 ft	150.00 ml/min
4/13/2021 11:27 AM	24:00	6.45 pH	56.98 °F	798.49 µS/cm	0.12 mg/L	22.67 NTU	-83.3 mV	7.45 ft	150.00 ml/min
4/13/2021 11:30 AM	27:00	6.46 pH	57.02 °F	800.39 µS/cm	0.11 mg/L	23.30 NTU	-84.6 mV	7.45 ft	150.00 ml/min
4/13/2021 11:33 AM	30:00	6.46 pH	57.04 °F	802.05 µS/cm	0.10 mg/L	37.75 NTU	-85.6 mV	7.45 ft	150.00 ml/min
4/13/2021 11:36 AM	33:00	6.46 pH	56.91 °F	802.80 µS/cm	0.10 mg/L	35.82 NTU	-86.5 mV	7.45 ft	150.00 ml/min
4/13/2021 11:39 AM	36:00	6.46 pH	56.90 °F	809.55 µS/cm	0.09 mg/L	30.95 NTU	-87.4 mV	7.45 ft	150.00 ml/min

Samples

Sample ID:	Description:

MW-24	

Low-Flow Test Report:

Test Date / Time: 4/13/2021 11:55:22 AM
Project: KMLT Harbor Island
Operator Name: L. Selleck

Location Name: MW-7 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 13 ft** **Initial Depth to Water: 2.25 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly** **Pump Intake From TOC: 7.5 ft** **Estimated Total Volume Pumped: 9010 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:
Final DTW 2.42

Weather Conditions:
50, clear, sun

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 11:55 AM	00:00	7.33 pH	55.17 °F	1,337.8 µS/cm	1.98 mg/L	1.25 NTU	-92.4 mV	2.25 ft	150.00 ml/min
4/13/2021 11:58 AM	03:00	7.36 pH	53.99 °F	1,323.5 µS/cm	0.61 mg/L	0.00 NTU	-115.4 mV	2.25 ft	150.00 ml/min
4/13/2021 12:01 PM	06:00	7.37 pH	54.50 °F	1,319.1 µS/cm	0.48 mg/L	0.80 NTU	-132.3 mV	2.25 ft	150.00 ml/min
4/13/2021 12:04 PM	09:00	7.36 pH	54.59 °F	1,311.8 µS/cm	0.30 mg/L	0.01 NTU	-139.4 mV	2.25 ft	150.00 ml/min
4/13/2021 12:07 PM	12:00	7.36 pH	54.35 °F	1,315.3 µS/cm	0.34 mg/L	0.04 NTU	-145.8 mV	2.25 ft	150.00 ml/min
4/13/2021 12:10 PM	15:00	7.36 pH	54.36 °F	1,298.1 µS/cm	0.33 mg/L	0.17 NTU	-151.7 mV	2.25 ft	150.00 ml/min
4/13/2021 12:13 PM	18:00	7.36 pH	54.81 °F	1,286.6 µS/cm	0.24 mg/L	0.00 NTU	-156.6 mV	2.25 ft	150.00 ml/min
4/13/2021 12:16 PM	21:00	7.36 pH	54.69 °F	1,311.9 µS/cm	0.20 mg/L	0.57 NTU	-160.6 mV	2.25 ft	150.00 ml/min
4/13/2021 12:19 PM	24:00	7.35 pH	54.68 °F	1,299.6 µS/cm	0.20 mg/L	0.12 NTU	-162.7 mV	2.25 ft	150.00 ml/min
4/13/2021 12:22 PM	27:00	7.35 pH	54.61 °F	1,303.5 µS/cm	0.26 mg/L	0.12 NTU	-166.5 mV	2.25 ft	150.00 ml/min
4/13/2021 12:25 PM	30:04	7.34 pH	54.34 °F	1,306.7 µS/cm	0.29 mg/L	1.38 NTU	-168.4 mV	2.25 ft	150.00 ml/min
4/13/2021 12:28 PM	33:04	7.35 pH	54.36 °F	1,279.7 µS/cm	0.19 mg/L	0.49 NTU	-171.8 mV	2.25 ft	150.00 ml/min
4/13/2021 12:31 PM	36:04	7.33 pH	54.24 °F	1,285.1 µS/cm	0.28 mg/L	0.25 NTU	-174.2 mV	2.25 ft	150.00 ml/min

4/13/2021 12:34 PM	39:04	7.34 pH	54.17 °F	1,271.2 µS/cm	0.45 mg/L	0.64 NTU	-175.7 mV	2.25 ft	150.00 ml/min
4/13/2021 12:37 PM	42:04	7.34 pH	54.17 °F	1,255.5 µS/cm	0.17 mg/L	0.29 NTU	-178.4 mV	2.25 ft	150.00 ml/min
4/13/2021 12:40 PM	45:04	7.35 pH	54.12 °F	1,257.0 µS/cm	0.14 mg/L	0.69 NTU	-180.8 mV	2.25 ft	150.00 ml/min
4/13/2021 12:43 PM	48:04	7.35 pH	54.01 °F	1,161.1 µS/cm	0.31 mg/L	0.58 NTU	-181.9 mV	2.25 ft	150.00 ml/min
4/13/2021 12:46 PM	51:04	7.36 pH	54.02 °F	1,217.7 µS/cm	0.17 mg/L	0.61 NTU	-183.9 mV	2.25 ft	150.00 ml/min
4/13/2021 12:49 PM	54:04	7.36 pH	54.06 °F	1,214.1 µS/cm	0.17 mg/L	0.69 NTU	-184.3 mV	2.25 ft	150.00 ml/min
4/13/2021 12:52 PM	57:04	7.36 pH	53.88 °F	1,215.2 µS/cm	0.22 mg/L	0.40 NTU	-186.8 mV	2.25 ft	150.00 ml/min
4/13/2021 12:55 PM	01:00:04	7.36 pH	53.84 °F	1,215.9 µS/cm	0.20 mg/L	1.36 NTU	-187.4 mV	2.25 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-7	Sample time 955
DUP-1	Sample time 955

Low-Flow Test Report:

Test Date / Time: 4/13/2021 12:03:42 PM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: MW-23 **Initial Depth to Water: 7.44 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 4050 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 7.44 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 12:03 PM	00:00	6.54 pH	59.67 °F	916.39 µS/cm	7.02 mg/L	2.47 NTU	-40.4 mV	7.44 ft	150.00 ml/min
4/13/2021 12:06 PM	03:00	6.51 pH	59.08 °F	934.54 µS/cm	1.38 mg/L	0.49 NTU	-49.3 mV	7.44 ft	150.00 ml/min
4/13/2021 12:09 PM	06:00	6.51 pH	58.85 °F	935.41 µS/cm	0.78 mg/L	0.50 NTU	-49.2 mV	7.44 ft	150.00 ml/min
4/13/2021 12:12 PM	09:00	6.51 pH	58.59 °F	934.09 µS/cm	0.54 mg/L	0.45 NTU	-49.4 mV	7.44 ft	150.00 ml/min
4/13/2021 12:15 PM	12:00	6.51 pH	58.63 °F	937.03 µS/cm	0.25 mg/L	0.46 NTU	-51.5 mV	7.44 ft	150.00 ml/min
4/13/2021 12:18 PM	15:00	6.52 pH	58.55 °F	938.80 µS/cm	0.30 mg/L	0.70 NTU	-53.4 mV	7.44 ft	150.00 ml/min
4/13/2021 12:21 PM	18:00	6.51 pH	58.37 °F	938.36 µS/cm	0.19 mg/L	1.15 NTU	-54.6 mV	7.44 ft	150.00 ml/min
4/13/2021 12:24 PM	21:00	6.52 pH	58.30 °F	935.17 µS/cm	0.15 mg/L	1.69 NTU	-55.6 mV	7.44 ft	150.00 ml/min
4/13/2021 12:27 PM	24:00	6.52 pH	58.35 °F	930.50 µS/cm	0.14 mg/L	2.36 NTU	-56.9 mV	7.44 ft	150.00 ml/min
4/13/2021 12:30 PM	27:00	6.52 pH	58.44 °F	928.35 µS/cm	0.14 mg/L	3.11 NTU	-58.2 mV	7.44 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-23	

Low-Flow Test Report:

Test Date / Time: 4/13/2021 1:08:16 PM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: A-21 **Initial Depth to Water: 7.61 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 2700 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 7.61 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 1:08 PM	00:00	7.21 pH	69.16 °F	0.06 µS/cm	10.23 mg/L	4.42 NTU	-21.2 mV	7.61 ft	150.00 ml/min
4/13/2021 1:11 PM	03:00	6.52 pH	59.37 °F	428.86 µS/cm	3.64 mg/L	0.39 NTU	29.3 mV	7.61 ft	150.00 ml/min
4/13/2021 1:14 PM	06:00	6.49 pH	58.80 °F	428.17 µS/cm	4.61 mg/L	0.24 NTU	41.1 mV	7.61 ft	150.00 ml/min
4/13/2021 1:17 PM	09:00	6.49 pH	58.68 °F	428.28 µS/cm	2.90 mg/L	0.19 NTU	47.8 mV	7.61 ft	150.00 ml/min
4/13/2021 1:20 PM	12:00	6.49 pH	58.65 °F	427.65 µS/cm	1.24 mg/L	0.12 NTU	52.1 mV	7.61 ft	150.00 ml/min
4/13/2021 1:23 PM	15:00	6.49 pH	58.52 °F	427.39 µS/cm	1.27 mg/L	0.10 NTU	54.8 mV	7.61 ft	150.00 ml/min
4/13/2021 1:26 PM	18:00	6.49 pH	58.58 °F	427.16 µS/cm	1.19 mg/L	0.17 NTU	57.1 mV	7.61 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-21	

Low-Flow Test Report:

Test Date / Time: 4/13/2021 1:37:38 PM
Project: KMLT Harbor Island
Operator Name: L. Selleck

Location Name: TMW-3 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 3.13 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly** **Pump Intake From TOC: 9 ft** **Estimated Total Volume Pumped: 3600 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:
Final DTW 3.12

Weather Conditions:
55, wind

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 1:37 PM	00:00	7.15 pH	55.11 °F	2,180.7 µS/cm	3.50 mg/L	5.84 NTU	-34.4 mV	3.13 ft	150.00 ml/min
4/13/2021 1:40 PM	03:00	7.25 pH	53.38 °F	2,196.8 µS/cm	1.10 mg/L	67.38 NTU	-60.9 mV	3.13 ft	150.00 ml/min
4/13/2021 1:43 PM	06:00	7.26 pH	52.74 °F	2,267.8 µS/cm	0.66 mg/L	4.29 NTU	-65.4 mV	3.13 ft	150.00 ml/min
4/13/2021 1:46 PM	09:00	7.27 pH	53.79 °F	2,250.7 µS/cm	0.69 mg/L	1.93 NTU	-66.7 mV	3.13 ft	150.00 ml/min
4/13/2021 1:49 PM	12:00	7.30 pH	53.55 °F	2,260.3 µS/cm	0.62 mg/L	0.81 NTU	-73.8 mV	3.13 ft	150.00 ml/min
4/13/2021 1:52 PM	15:00	7.30 pH	53.13 °F	2,329.3 µS/cm	0.63 mg/L	4.69 NTU	-77.2 mV	3.13 ft	150.00 ml/min
4/13/2021 1:55 PM	18:00	7.32 pH	53.80 °F	2,289.7 µS/cm	0.45 mg/L	0.65 NTU	-81.0 mV	3.13 ft	150.00 ml/min
4/13/2021 1:58 PM	21:00	7.34 pH	53.56 °F	2,294.3 µS/cm	0.44 mg/L	2.00 NTU	-84.4 mV	3.13 ft	150.00 ml/min
4/13/2021 2:01 PM	24:00	7.34 pH	53.69 °F	2,301.2 µS/cm	0.46 mg/L	1.05 NTU	-87.5 mV	3.13 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-3	ST 1100

Low-Flow Test Report:

Test Date / Time: 4/13/2021 1:52:30 PM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: A-5 **Initial Depth to Water: 7.66 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 9000 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 7.67 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 1:52 PM	00:00	6.80 pH	67.91 °F	0.06 µS/cm	10.42 mg/L	0.00 NTU	43.9 mV	7.66 ft	150.00 ml/min
4/13/2021 1:55 PM	03:00	6.74 pH	59.74 °F	545.11 µS/cm	0.64 mg/L	2.50 NTU	-67.0 mV	7.66 ft	150.00 ml/min
4/13/2021 1:58 PM	06:00	6.73 pH	59.23 °F	545.21 µS/cm	0.26 mg/L	1.79 NTU	-72.9 mV	7.66 ft	150.00 ml/min
4/13/2021 2:01 PM	09:00	6.73 pH	59.00 °F	543.71 µS/cm	0.20 mg/L	1.79 NTU	-73.4 mV	7.66 ft	150.00 ml/min
4/13/2021 2:04 PM	12:00	6.74 pH	58.73 °F	545.45 µS/cm	0.18 mg/L	1.95 NTU	-83.9 mV	7.66 ft	150.00 ml/min
4/13/2021 2:07 PM	15:00	6.74 pH	58.79 °F	519.30 µS/cm	0.25 mg/L	1.68 NTU	-90.2 mV	7.66 ft	150.00 ml/min
4/13/2021 2:10 PM	18:00	6.75 pH	58.86 °F	465.65 µS/cm	0.41 mg/L	1.81 NTU	-94.5 mV	7.66 ft	150.00 ml/min
4/13/2021 2:13 PM	21:00	6.76 pH	58.74 °F	425.91 µS/cm	0.97 mg/L	1.86 NTU	-96.9 mV	7.66 ft	150.00 ml/min
4/13/2021 2:16 PM	24:00	6.77 pH	58.79 °F	508.42 µS/cm	1.98 mg/L	1.74 NTU	-98.8 mV	7.66 ft	150.00 ml/min
4/13/2021 2:19 PM	27:00	6.78 pH	58.65 °F	536.54 µS/cm	2.01 mg/L	1.86 NTU	-99.7 mV	7.66 ft	150.00 ml/min
4/13/2021 2:22 PM	30:00	6.79 pH	58.53 °F	524.17 µS/cm	1.02 mg/L	1.91 NTU	-101.2 mV	7.66 ft	150.00 ml/min
4/13/2021 2:25 PM	33:00	6.79 pH	58.56 °F	490.39 µS/cm	0.81 mg/L	2.06 NTU	-102.7 mV	7.66 ft	150.00 ml/min
4/13/2021 2:28 PM	36:00	6.80 pH	58.57 °F	536.34 µS/cm	1.12 mg/L	4.06 NTU	-103.6 mV	7.66 ft	150.00 ml/min
4/13/2021 2:31 PM	39:00	6.80 pH	58.49 °F	529.81 µS/cm	1.50 mg/L	2.67 NTU	-104.4 mV	7.66 ft	150.00 ml/min
4/13/2021 2:34 PM	42:00	6.80 pH	58.55 °F	529.14 µS/cm	0.65 mg/L	3.28 NTU	-105.1 mV	7.66 ft	150.00 ml/min
4/13/2021 2:37 PM	45:00	6.81 pH	58.52 °F	513.66 µS/cm	0.36 mg/L	3.82 NTU	-105.8 mV	7.66 ft	150.00 ml/min
4/13/2021 2:40 PM	48:00	6.81 pH	58.54 °F	512.05 µS/cm	0.28 mg/L	4.91 NTU	-106.0 mV	7.66 ft	150.00 ml/min

4/13/2021 2:43 PM	51:00	6.81 pH	58.55 °F	513.09 µS/cm	0.22 mg/L	5.54 NTU	-106.0 mV	7.66 ft	150.00 ml/min
4/13/2021 2:46 PM	54:00	6.82 pH	58.53 °F	510.29 µS/cm	0.15 mg/L	5.93 NTU	-106.5 mV	7.66 ft	150.00 ml/min
4/13/2021 2:49 PM	57:00	6.82 pH	58.50 °F	509.99 µS/cm	0.12 mg/L	15.50 NTU	-106.8 mV	7.66 ft	150.00 ml/min
4/13/2021 2:52 PM	01:00:00	6.82 pH	58.53 °F	501.05 µS/cm	0.16 mg/L	16.72 NTU	-106.5 mV	7.66 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-5	

Low-Flow Test Report:

Test Date / Time: 4/13/2021 2:37:10 PM
Project: KMLT Harbor Island
Operator Name: L. Selleck

Location Name: TMW-4 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 m** **Initial Depth to Water: 2.87 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly** **Pump Intake From TOC: 8 ft** **Estimated Total Volume Pumped: 9012.5 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:
Final DTW 2.89

Weather Conditions:
60, sunny, wind

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 2:37 PM	00:00	7.48 pH	56.94 °F	2,153.8 µS/cm	4.55 mg/L	1.48 NTU	-84.2 mV	2.87 ft	150.00 ml/min
4/13/2021 2:40 PM	03:00	7.57 pH	57.65 °F	2,472.0 µS/cm	1.12 mg/L	0.67 NTU	-132.3 mV	2.87 ft	150.00 ml/min
4/13/2021 2:43 PM	06:00	7.57 pH	56.56 °F	2,908.0 µS/cm	0.70 mg/L	0.40 NTU	-142.9 mV	2.87 ft	150.00 ml/min
4/13/2021 2:46 PM	09:00	7.58 pH	56.43 °F	2,911.0 µS/cm	0.41 mg/L	0.52 NTU	-148.7 mV	2.87 ft	150.00 ml/min
4/13/2021 2:49 PM	12:00	7.58 pH	56.39 °F	2,912.8 µS/cm	0.31 mg/L	0.52 NTU	-154.2 mV	2.87 ft	150.00 ml/min
4/13/2021 2:52 PM	15:00	7.58 pH	55.76 °F	2,983.5 µS/cm	0.27 mg/L	1.84 NTU	-159.5 mV	2.87 ft	150.00 ml/min
4/13/2021 2:55 PM	18:00	7.58 pH	55.98 °F	2,936.4 µS/cm	0.36 mg/L	0.52 NTU	-162.2 mV	2.87 ft	150.00 ml/min
4/13/2021 2:58 PM	21:00	7.59 pH	56.10 °F	2,923.6 µS/cm	0.25 mg/L	0.57 NTU	-165.9 mV	2.87 ft	150.00 ml/min
4/13/2021 3:01 PM	24:00	7.59 pH	56.00 °F	2,913.9 µS/cm	0.17 mg/L	0.68 NTU	-167.7 mV	2.87 ft	150.00 ml/min
4/13/2021 3:04 PM	27:00	7.59 pH	55.71 °F	2,928.0 µS/cm	0.30 mg/L	0.85 NTU	-170.6 mV	2.87 ft	150.00 ml/min
4/13/2021 3:07 PM	30:05	7.59 pH	55.27 °F	2,927.0 µS/cm	0.28 mg/L	38.96 NTU	-173.0 mV	2.87 ft	150.00 ml/min
4/13/2021 3:10 PM	33:05	7.59 pH	55.80 °F	2,890.1 µS/cm	0.15 mg/L	0.78 NTU	-174.5 mV	2.87 ft	150.00 ml/min
4/13/2021 3:13 PM	36:05	7.59 pH	55.58 °F	2,915.5 µS/cm	0.21 mg/L	0.66 NTU	-176.8 mV	2.87 ft	150.00 ml/min

4/13/2021 3:16 PM	39:05	7.60 pH	55.46 °F	2,900.6 µS/cm	0.27 mg/L	0.88 NTU	-177.8 mV	2.87 ft	150.00 ml/min
4/13/2021 3:19 PM	42:05	7.60 pH	55.43 °F	2,882.8 µS/cm	0.18 mg/L	0.70 NTU	-179.9 mV	2.87 ft	150.00 ml/min
4/13/2021 3:22 PM	45:05	7.60 pH	55.20 °F	2,902.3 µS/cm	0.16 mg/L	1.18 NTU	-182.1 mV	2.87 ft	150.00 ml/min
4/13/2021 3:25 PM	48:05	7.60 pH	55.26 °F	2,867.8 µS/cm	0.29 mg/L	0.90 NTU	-182.5 mV	2.87 ft	150.00 ml/min
4/13/2021 3:28 PM	51:05	7.60 pH	55.23 °F	2,862.7 µS/cm	0.17 mg/L	0.52 NTU	-184.6 mV	2.87 ft	150.00 ml/min
4/13/2021 3:31 PM	54:05	7.60 pH	55.23 °F	2,915.7 µS/cm	0.21 mg/L	0.63 NTU	-185.0 mV	2.87 ft	150.00 ml/min
4/13/2021 3:34 PM	57:05	7.60 pH	55.22 °F	2,921.2 µS/cm	0.25 mg/L	0.78 NTU	-187.0 mV	2.87 ft	150.00 ml/min
4/13/2021 3:37 PM	01:00:05	7.60 pH	55.29 °F	2,847.8 µS/cm	0.19 mg/L	0.61 NTU	-188.8 mV	2.87 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-4	ST 1240

Low-Flow Test Report:

Test Date / Time: 4/13/2021 3:30:23 PM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: MW-18 **Initial Depth to Water: 6.32 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 2700 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 6.32 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 3:30 PM	00:00	6.80 pH	66.07 °F	0.06 µS/cm	10.53 mg/L	398.97 NTU	23.6 mV	6.32 ft	150.00 ml/min
4/13/2021 3:33 PM	03:00	6.76 pH	56.33 °F	242.60 µS/cm	2.22 mg/L	218.43 NTU	-55.2 mV	6.32 ft	150.00 ml/min
4/13/2021 3:36 PM	06:00	6.77 pH	56.38 °F	242.88 µS/cm	1.33 mg/L	33.63 NTU	-62.4 mV	6.32 ft	150.00 ml/min
4/13/2021 3:39 PM	09:00	6.78 pH	55.92 °F	242.12 µS/cm	0.99 mg/L	28.55 NTU	-66.1 mV	6.32 ft	150.00 ml/min
4/13/2021 3:42 PM	12:00	6.80 pH	55.83 °F	241.73 µS/cm	1.12 mg/L	23.57 NTU	-70.1 mV	6.32 ft	150.00 ml/min
4/13/2021 3:45 PM	15:00	6.80 pH	55.84 °F	241.50 µS/cm	1.16 mg/L	28.44 NTU	-72.6 mV	6.32 ft	150.00 ml/min
4/13/2021 3:48 PM	18:00	6.81 pH	55.64 °F	240.72 µS/cm	1.21 mg/L	26.70 NTU	-74.1 mV	6.32 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-18	

Low-Flow Test Report:

Test Date / Time: 4/13/2021 4:16:10 PM
Project: KMLT Harbor Island
Operator Name: L. Selleck

Location Name: MW-9 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 2.51 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly** **Pump Intake From TOC: 9 ft** **Estimated Total Volume Pumped: 4957.5 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:
Final DTW 2.55

Weather Conditions:
55 clear, windy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 4:16 PM	00:00	7.97 pH	53.96 °F	129.63 µS/cm	6.99 mg/L	22.62 NTU	-12.2 mV	2.51 ft	150.00 ml/min
4/13/2021 4:19 PM	03:00	7.01 pH	53.36 °F	115.82 µS/cm	5.10 mg/L	11.65 NTU	27.5 mV	2.51 ft	150.00 ml/min
4/13/2021 4:22 PM	06:00	6.78 pH	52.30 °F	116.34 µS/cm	5.14 mg/L	13.19 NTU	40.3 mV	2.51 ft	150.00 ml/min
4/13/2021 4:25 PM	09:00	6.69 pH	52.28 °F	116.82 µS/cm	5.02 mg/L	10.83 NTU	41.8 mV	2.51 ft	150.00 ml/min
4/13/2021 4:28 PM	12:00	6.68 pH	52.12 °F	115.88 µS/cm	5.01 mg/L	8.55 NTU	42.4 mV	2.51 ft	150.00 ml/min
4/13/2021 4:31 PM	15:00	6.64 pH	51.51 °F	117.24 µS/cm	5.06 mg/L	8.37 NTU	34.4 mV	2.51 ft	150.00 ml/min
4/13/2021 4:34 PM	18:00	6.65 pH	51.81 °F	116.29 µS/cm	4.95 mg/L	8.76 NTU	22.4 mV	2.51 ft	150.00 ml/min
4/13/2021 4:37 PM	21:00	6.67 pH	51.66 °F	116.25 µS/cm	4.97 mg/L	12.93 NTU	19.5 mV	2.51 ft	150.00 ml/min
4/13/2021 4:40 PM	24:00	6.68 pH	51.79 °F	116.04 µS/cm	5.00 mg/L	7.24 NTU	16.2 mV	2.51 ft	150.00 ml/min
4/13/2021 4:43 PM	27:00	6.68 pH	51.55 °F	114.98 µS/cm	5.03 mg/L	6.69 NTU	9.5 mV	2.51 ft	150.00 ml/min
4/13/2021 4:46 PM	30:03	6.68 pH	51.34 °F	112.94 µS/cm	5.10 mg/L	7.59 NTU	4.8 mV	2.51 ft	150.00 ml/min
4/13/2021 4:49 PM	33:03	6.70 pH	51.59 °F	115.87 µS/cm	4.99 mg/L	7.07 NTU	5.6 mV	2.51 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-9	ST 1350

Low-Flow Test Report:

Test Date / Time: 4/13/2021 5:42:28 PM
Project: KMLT Harbor Island
Operator Name: L. Selleck

Location Name: TMW-6 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 2.11 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly** **Pump Intake From TOC: 9 ft** **Estimated Total Volume Pumped: 9000 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:
Final DTW 2.29

Weather Conditions:
55 clear, very windy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/13/2021 5:42 PM	00:00	6.62 pH	54.37 °F	1,109.0 µS/cm	4.53 mg/L	1.45 NTU	-33.7 mV	2.11 ft	150.00 ml/min
4/13/2021 5:45 PM	03:00	6.66 pH	53.29 °F	1,153.9 µS/cm	0.50 mg/L	1.60 NTU	-70.1 mV	2.11 ft	150.00 ml/min
4/13/2021 5:48 PM	06:00	6.66 pH	53.01 °F	1,153.5 µS/cm	0.64 mg/L	3.07 NTU	-80.5 mV	2.11 ft	150.00 ml/min
4/13/2021 5:51 PM	09:00	6.67 pH	52.81 °F	1,153.0 µS/cm	0.43 mg/L	12.05 NTU	-83.7 mV	2.11 ft	150.00 ml/min
4/13/2021 5:54 PM	12:00	6.67 pH	52.89 °F	1,161.4 µS/cm	0.26 mg/L	12.12 NTU	-87.8 mV	2.11 ft	150.00 ml/min
4/13/2021 5:57 PM	15:00	6.67 pH	52.71 °F	1,175.0 µS/cm	0.19 mg/L	19.32 NTU	-91.0 mV	2.11 ft	150.00 ml/min
4/13/2021 6:00 PM	18:00	6.67 pH	52.76 °F	1,191.9 µS/cm	0.29 mg/L	20.05 NTU	-90.6 mV	2.11 ft	150.00 ml/min
4/13/2021 6:03 PM	21:00	6.67 pH	52.81 °F	1,201.0 µS/cm	0.24 mg/L	25.49 NTU	-93.3 mV	2.11 ft	150.00 ml/min
4/13/2021 6:06 PM	24:00	6.68 pH	52.80 °F	1,219.4 µS/cm	0.21 mg/L	23.69 NTU	-94.7 mV	2.11 ft	150.00 ml/min
4/13/2021 6:09 PM	27:00	6.68 pH	53.03 °F	1,222.6 µS/cm	0.41 mg/L	22.81 NTU	-97.9 mV	2.11 ft	150.00 ml/min
4/13/2021 6:12 PM	30:00	6.69 pH	52.89 °F	1,185.5 µS/cm	0.53 mg/L	21.82 NTU	-98.0 mV	2.11 ft	150.00 ml/min
4/13/2021 6:15 PM	33:00	6.70 pH	52.86 °F	1,168.7 µS/cm	0.39 mg/L	19.08 NTU	-97.9 mV	2.11 ft	150.00 ml/min
4/13/2021 6:18 PM	36:00	6.71 pH	52.91 °F	1,151.6 µS/cm	0.54 mg/L	17.39 NTU	-100.0 mV	2.11 ft	150.00 ml/min

4/13/2021 6:21 PM	39:00	6.72 pH	52.81 °F	1,143.5 µS/cm	0.63 mg/L	16.74 NTU	-100.3 mV	2.11 ft	150.00 ml/min
4/13/2021 6:24 PM	42:00	6.72 pH	52.76 °F	1,141.3 µS/cm	0.38 mg/L	14.80 NTU	-101.6 mV	2.11 ft	150.00 ml/min
4/13/2021 6:27 PM	45:00	6.73 pH	52.80 °F	1,150.6 µS/cm	0.35 mg/L	16.96 NTU	-104.3 mV	2.11 ft	150.00 ml/min
4/13/2021 6:30 PM	48:00	6.73 pH	52.84 °F	1,150.0 µS/cm	0.42 mg/L	16.96 NTU	-105.0 mV	2.11 ft	150.00 ml/min
4/13/2021 6:33 PM	51:00	6.73 pH	52.81 °F	1,155.4 µS/cm	0.34 mg/L	14.67 NTU	-106.0 mV	2.11 ft	150.00 ml/min
4/13/2021 6:36 PM	54:00	6.73 pH	52.85 °F	1,171.7 µS/cm	0.28 mg/L	15.95 NTU	-105.9 mV	2.11 ft	150.00 ml/min
4/13/2021 6:39 PM	57:00	6.74 pH	52.87 °F	1,153.1 µS/cm	0.34 mg/L	16.14 NTU	-108.5 mV	2.11 ft	150.00 ml/min
4/13/2021 6:42 PM	01:00:00	6.74 pH	52.84 °F	1,152.4 µS/cm	0.30 mg/L	18.92 NTU	-109.2 mV	2.11 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-6	ST 1545

Low-Flow Test Report:

Test Date / Time: 4/14/2021 11:05:46 AM
Project: Kinder Morgan Harbor Island
Operator Name: Morgan

Location Name: 11 **Initial Depth to Water: 4.1 ft**	**Pump Type: Peristaltic pump** **Estimated Total Volume Pumped: 1350 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 4.29 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466586**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/14/2021 11:05 AM	00:00	6.90 pH	56.60 °F	234.64 µS/cm	8.86 mg/L	7.96 NTU	126.1 mV	4.10 ft	150.00 ml/min
4/14/2021 11:08 AM	03:00	6.90 pH	56.76 °F	234.62 µS/cm	7.08 mg/L	0.16 NTU	131.9 mV	4.10 ft	150.00 ml/min
4/14/2021 11:11 AM	06:00	6.89 pH	56.86 °F	234.17 µS/cm	7.21 mg/L	0.26 NTU	135.9 mV	4.10 ft	150.00 ml/min
4/14/2021 11:14 AM	09:00	6.88 pH	56.83 °F	233.89 µS/cm	6.99 mg/L	0.44 NTU	138.8 mV	4.10 ft	150.00 ml/min

Samples

Sample ID:	Description:
11	

Low-Flow Test Report:

Test Date / Time: 4/14/2021 2:06:22 PM
Project: KMLT Harbor Island
Operator Name: L. Selleck

Location Name: MW-21 **Well Diameter: 2 in** **Casing Type: PVC** **Initial Depth to Water: 2.62 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly** **Pump Intake From TOC: 9 ft** **Estimated Total Volume Pumped: 9010 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:
Final DTW 2.64

Weather Conditions:
60 sunny

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
4/14/2021 2:06 PM	00:00	6.16 pH	55.04 °F	53.30 µS/cm	2.32 mg/L	29.73 NTU	113.3 mV	2.62 ft	150.00 ml/min
4/14/2021 2:09 PM	03:00	5.88 pH	55.40 °F	45.87 µS/cm	0.87 mg/L	52.52 NTU	134.9 mV	2.62 ft	150.00 ml/min
4/14/2021 2:12 PM	06:00	5.84 pH	55.63 °F	46.02 µS/cm	0.77 mg/L	42.22 NTU	138.0 mV	2.62 ft	150.00 ml/min
4/14/2021 2:15 PM	09:00	5.81 pH	55.72 °F	45.90 µS/cm	0.60 mg/L	34.76 NTU	147.5 mV	2.62 ft	150.00 ml/min
4/14/2021 2:18 PM	12:00	5.81 pH	55.48 °F	46.19 µS/cm	0.58 mg/L	29.78 NTU	146.6 mV	2.62 ft	150.00 ml/min
4/14/2021 2:21 PM	15:04	5.75 pH	55.62 °F	46.47 µS/cm	0.40 mg/L	27.23 NTU	144.6 mV	2.62 ft	150.00 ml/min
4/14/2021 2:24 PM	18:04	5.76 pH	55.58 °F	47.16 µS/cm	0.66 mg/L	22.69 NTU	145.6 mV	2.62 ft	150.00 ml/min
4/14/2021 2:27 PM	21:04	5.78 pH	55.44 °F	46.88 µS/cm	0.64 mg/L	19.25 NTU	139.1 mV	2.62 ft	150.00 ml/min
4/14/2021 2:30 PM	24:04	5.79 pH	55.44 °F	47.52 µS/cm	0.78 mg/L	18.82 NTU	138.6 mV	2.62 ft	150.00 ml/min
4/14/2021 2:33 PM	27:04	5.74 pH	55.39 °F	47.32 µS/cm	1.03 mg/L	17.23 NTU	134.4 mV	2.62 ft	150.00 ml/min
4/14/2021 2:36 PM	30:04	5.70 pH	55.74 °F	47.47 µS/cm	0.89 mg/L	19.35 NTU	136.0 mV	2.62 ft	150.00 ml/min
4/14/2021 2:39 PM	33:04	5.78 pH	56.26 °F	47.37 µS/cm	0.76 mg/L	19.90 NTU	134.2 mV	2.62 ft	150.00 ml/min
4/14/2021 2:42 PM	36:04	5.79 pH	55.98 °F	47.62 µS/cm	0.76 mg/L	18.59 NTU	132.6 mV	2.62 ft	150.00 ml/min

4/14/2021 2:45 PM	39:04	5.79 pH	56.15 °F	48.40 µS/cm	1.13 mg/L	17.93 NTU	131.3 mV	2.62 ft	150.00 ml/min
4/14/2021 2:48 PM	42:04	5.77 pH	56.43 °F	48.03 µS/cm	0.88 mg/L	17.03 NTU	127.8 mV	2.62 ft	150.00 ml/min
4/14/2021 2:51 PM	45:04	5.73 pH	56.14 °F	48.86 µS/cm	0.74 mg/L	17.98 NTU	127.2 mV	2.62 ft	150.00 ml/min
4/14/2021 2:54 PM	48:04	5.79 pH	56.42 °F	48.42 µS/cm	0.91 mg/L	19.24 NTU	127.6 mV	2.62 ft	150.00 ml/min
4/14/2021 2:57 PM	51:04	5.77 pH	56.42 °F	48.40 µS/cm	0.76 mg/L	16.81 NTU	128.4 mV	2.62 ft	150.00 ml/min
4/14/2021 3:00 PM	54:04	5.76 pH	56.42 °F	48.89 µS/cm	0.75 mg/L	16.39 NTU	129.1 mV	2.62 ft	150.00 ml/min
4/14/2021 3:03 PM	57:04	5.76 pH	56.56 °F	48.72 µS/cm	0.99 mg/L	18.68 NTU	128.5 mV	2.62 ft	150.00 ml/min
4/14/2021 3:06 PM	01:00:04	5.68 pH	56.56 °F	48.97 µS/cm	0.90 mg/L	18.60 NTU	130.0 mV	2.62 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-21	ST 1210
DUP-2	ST 1210

Low-Flow Test Report:

Test Date / Time: 10/11/2021 1:15:56 PM
Project: Kinder Morgan Harbor Island
Operator Name: Joseph Sepiol

Location Name: A-23R **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 13 ft** **Top of Screen: 3 ft** **Total Depth: 15 ft** **Initial Depth to Water: 9.28 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12.5 ft** **Estimated Total Volume Pumped: 3150 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.02 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
62 F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/11/2021 1:15 PM	00:00	7.16 pH	60.23 °F	744.32 mS/cm	0.00 mg/L	0.00 NTU	-42.4 mV	9.28 ft	150.00 ml/min
10/11/2021 1:18 PM	03:00	7.17 pH	60.77 °F	739.00 mS/cm	0.00 mg/L	0.00 NTU	-86.1 mV	9.28 ft	150.00 ml/min
10/11/2021 1:21 PM	06:00	7.21 pH	60.97 °F	739.34 mS/cm	0.00 mg/L	0.00 NTU	-95.8 mV	9.28 ft	150.00 ml/min
10/11/2021 1:24 PM	09:00	7.25 pH	61.01 °F	737.68 mS/cm	0.00 mg/L	0.00 NTU	-99.5 mV	9.28 ft	150.00 ml/min
10/11/2021 1:27 PM	12:00	7.29 pH	61.00 °F	728.04 mS/cm	0.00 mg/L	0.00 NTU	-105.3 mV	9.28 ft	150.00 ml/min
10/11/2021 1:30 PM	15:00	7.30 pH	60.92 °F	739.67 mS/cm	0.00 mg/L	0.00 NTU	-107.4 mV	9.28 ft	150.00 ml/min
10/11/2021 1:33 PM	18:00	7.34 pH	60.64 °F	742.35 mS/cm	0.00 mg/L	0.00 NTU	-108.8 mV	9.28 ft	150.00 ml/min
10/11/2021 1:36 PM	21:00	7.36 pH	60.77 °F	746.36 mS/cm	0.00 mg/L	0.00 NTU	-110.8 mV	9.28 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-23R	Sample Time: 1340 Final DTW: 9.30

Low-Flow Test Report:

Test Date / Time: 10/11/2021 2:31:24 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: TMW-2 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 4.2 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 4500 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 4.20'

Weather Conditions:
Sunny, 58

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/11/2021 2:31 PM	00:00	7.23 pH	66.23 °F	1,694.2 µS/cm	5.11 mg/L	2.83 NTU	54.0 mV	4.20 ft	150.00 ml/min
10/11/2021 2:34 PM	03:00	7.37 pH	65.39 °F	1,729.1 µS/cm	0.96 mg/L	0.62 NTU	-27.8 mV	4.20 ft	150.00 ml/min
10/11/2021 2:37 PM	06:00	7.44 pH	65.20 °F	1,781.9 µS/cm	0.72 mg/L	0.13 NTU	-53.3 mV	4.20 ft	150.00 ml/min
10/11/2021 2:40 PM	09:00	7.48 pH	64.88 °F	1,794.9 µS/cm	0.38 mg/L	0.71 NTU	-71.8 mV	4.20 ft	150.00 ml/min
10/11/2021 2:43 PM	12:00	7.48 pH	64.64 °F	1,779.3 µS/cm	0.26 mg/L	0.67 NTU	-83.5 mV	4.20 ft	150.00 ml/min
10/11/2021 2:46 PM	15:00	7.44 pH	64.60 °F	1,742.0 µS/cm	0.23 mg/L	1.96 NTU	-90.2 mV	4.20 ft	150.00 ml/min
10/11/2021 2:49 PM	18:00	7.34 pH	64.58 °F	1,669.2 µS/cm	0.30 mg/L	0.82 NTU	-90.9 mV	4.20 ft	150.00 ml/min
10/11/2021 2:52 PM	21:00	7.19 pH	64.52 °F	1,588.0 µS/cm	0.53 mg/L	0.37 NTU	-81.7 mV	4.20 ft	150.00 ml/min
10/11/2021 2:55 PM	24:00	7.14 pH	64.56 °F	1,564.7 µS/cm	0.65 mg/L	0.17 NTU	-74.8 mV	4.20 ft	150.00 ml/min
10/11/2021 2:58 PM	27:00	7.14 pH	64.52 °F	1,571.8 µS/cm	0.66 mg/L	0.66 NTU	-78.4 mV	4.20 ft	150.00 ml/min
10/11/2021 3:01 PM	30:00	7.15 pH	64.45 °F	1,588.3 µS/cm	0.65 mg/L	0.07 NTU	-82.4 mV	4.20 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-2	1500

Low-Flow Test Report:

Test Date / Time: 10/11/2021 2:32:59 PM
Project: Kinder Morgan Harbor Island (2)
Operator Name: Joseph Sepiol

Location Name: TMW-1 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 7 ft** **Top of Screen: 3 ft** **Total Depth: 10 ft** **Initial Depth to Water: 4.09 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 7 ft** **Estimated Total Volume Pumped: 3600 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.02 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
68F partly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/11/2021 2:32 PM	00:00	8.00 pH	60.70 °F	400.13 mS/cm	0.27 mg/L	0.00 NTU	35.1 mV	4.09 ft	150.00 ml/min
10/11/2021 2:35 PM	03:00	7.92 pH	62.15 °F	461.33 mS/cm	0.09 mg/L	0.00 NTU	40.0 mV	4.09 ft	150.00 ml/min
10/11/2021 2:38 PM	06:00	7.90 pH	61.85 °F	519.61 mS/cm	0.03 mg/L	0.00 NTU	42.0 mV	4.09 ft	150.00 ml/min
10/11/2021 2:41 PM	09:00	7.88 pH	61.87 °F	539.60 mS/cm	0.02 mg/L	0.00 NTU	43.1 mV	4.09 ft	150.00 ml/min
10/11/2021 2:44 PM	12:00	7.88 pH	61.82 °F	557.23 mS/cm	0.01 mg/L	0.00 NTU	44.3 mV	4.09 ft	150.00 ml/min
10/11/2021 2:47 PM	15:00	7.86 pH	62.01 °F	561.39 mS/cm	0.01 mg/L	0.00 NTU	42.9 mV	4.09 ft	150.00 ml/min
10/11/2021 2:50 PM	18:00	7.85 pH	62.15 °F	561.87 mS/cm	0.01 mg/L	0.00 NTU	45.0 mV	4.09 ft	150.00 ml/min
10/11/2021 2:53 PM	21:00	7.87 pH	62.24 °F	573.09 mS/cm	0.01 mg/L	0.00 NTU	45.5 mV	4.09 ft	150.00 ml/min
10/11/2021 2:56 PM	24:00	7.87 pH	62.24 °F	576.72 mS/cm	0.01 mg/L	0.00 NTU	45.5 mV	4.09 ft	150.00 ml/min

Samples

Sample ID:	Description:

TMW-1	Sample time: 1500 Final DTW: 4.11

Low-Flow Test Report:

Test Date / Time: 10/11/2021 3:47:02 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-19 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 3.65 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 6750 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 3.67'

Weather Conditions:
Sunny 58

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/11/2021 3:47 PM	00:00	6.93 pH	70.44 °F	2,102.6 µS/cm	3.67 mg/L	1.70 NTU	-27.5 mV	3.65 ft	150.00 ml/min
10/11/2021 3:50 PM	03:00	6.94 pH	66.59 °F	2,271.7 µS/cm	0.40 mg/L	0.70 NTU	-90.0 mV	3.65 ft	150.00 ml/min
10/11/2021 3:53 PM	06:00	6.94 pH	65.90 °F	2,207.8 µS/cm	0.24 mg/L	0.94 NTU	-109.3 mV	3.65 ft	150.00 ml/min
10/11/2021 3:56 PM	09:00	6.95 pH	65.56 °F	2,064.6 µS/cm	0.19 mg/L	0.74 NTU	-114.8 mV	3.65 ft	150.00 ml/min
10/11/2021 3:59 PM	12:00	6.95 pH	65.65 °F	1,951.5 µS/cm	0.16 mg/L	0.36 NTU	-122.6 mV	3.65 ft	150.00 ml/min
10/11/2021 4:02 PM	15:00	6.95 pH	65.68 °F	1,836.6 µS/cm	0.17 mg/L	0.23 NTU	-128.7 mV	3.65 ft	150.00 ml/min
10/11/2021 4:05 PM	18:00	6.95 pH	65.44 °F	1,706.7 µS/cm	0.15 mg/L	0.17 NTU	-134.0 mV	3.65 ft	150.00 ml/min
10/11/2021 4:08 PM	21:00	6.96 pH	65.31 °F	1,565.8 µS/cm	0.14 mg/L	0.15 NTU	-135.8 mV	3.65 ft	150.00 ml/min
10/11/2021 4:11 PM	24:00	6.95 pH	65.26 °F	1,421.0 µS/cm	0.13 mg/L	0.24 NTU	-136.6 mV	3.65 ft	150.00 ml/min
10/11/2021 4:14 PM	27:00	6.95 pH	65.17 °F	1,307.7 µS/cm	0.12 mg/L	0.11 NTU	-141.5 mV	3.65 ft	150.00 ml/min
10/11/2021 4:17 PM	30:00	6.95 pH	65.09 °F	1,201.2 µS/cm	0.10 mg/L	0.24 NTU	-142.8 mV	3.65 ft	150.00 ml/min
10/11/2021 4:20 PM	33:00	6.94 pH	65.01 °F	1,132.6 µS/cm	0.09 mg/L	0.14 NTU	-146.3 mV	3.65 ft	150.00 ml/min
10/11/2021 4:23 PM	36:00	6.93 pH	64.93 °F	1,083.8 µS/cm	0.09 mg/L	0.17 NTU	-149.0 mV	3.65 ft	150.00 ml/min

10/11/2021 4:26 PM	39:00	6.93 pH	64.94 °F	1,056.6 µS/cm	0.09 mg/L	0.08 NTU	-149.4 mV	3.65 ft	150.00 ml/min
10/11/2021 4:29 PM	42:00	6.93 pH	64.80 °F	1,039.9 µS/cm	0.08 mg/L	0.20 NTU	-151.5 mV	3.65 ft	150.00 ml/min
10/11/2021 4:32 PM	45:00	6.95 pH	64.74 °F	1,034.5 µS/cm	0.08 mg/L	0.20 NTU	-153.4 mV	3.65 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-19	1635

Low-Flow Test Report:

Test Date / Time: 10/11/2021 3:53:30 PM
Project: Kinder Morgan Harbor Island (3)
Operator Name: Joseph Sepiol

Location Name: MW-5 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 7 m** **Top of Screen: 3 m** **Total Depth: 10 m** **Initial Depth to Water: 3.61 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 7 ft** **Estimated Total Volume Pumped: 6750 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.14 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/11/2021 3:53 PM	00:00	7.56 pH	61.20 °F	126.12 mS/cm	0.96 mg/L	0.00 NTU	47.6 mV	3.61 ft	150.00 ml/min
10/11/2021 3:56 PM	03:00	7.55 pH	61.58 °F	123.04 mS/cm	0.51 mg/L	0.00 NTU	33.9 mV	3.61 ft	150.00 ml/min
10/11/2021 3:59 PM	06:00	7.59 pH	61.55 °F	123.47 mS/cm	0.49 mg/L	0.00 NTU	17.0 mV	3.61 ft	150.00 ml/min
10/11/2021 4:02 PM	09:00	7.62 pH	61.64 °F	123.52 mS/cm	0.44 mg/L	0.00 NTU	4.8 mV	3.61 ft	150.00 ml/min
10/11/2021 4:05 PM	12:00	7.65 pH	61.45 °F	124.74 mS/cm	0.41 mg/L	0.00 NTU	-10.5 mV	3.61 ft	150.00 ml/min
10/11/2021 4:08 PM	15:00	7.69 pH	61.58 °F	124.55 mS/cm	0.39 mg/L	0.00 NTU	-26.4 mV	3.61 ft	150.00 ml/min
10/11/2021 4:11 PM	18:00	7.71 pH	61.51 °F	124.97 mS/cm	0.37 mg/L	0.00 NTU	-32.3 mV	3.61 ft	150.00 ml/min
10/11/2021 4:14 PM	21:00	7.73 pH	61.45 °F	126.37 mS/cm	0.34 mg/L	0.00 NTU	-38.0 mV	3.61 ft	150.00 ml/min
10/11/2021 4:17 PM	24:00	7.76 pH	61.49 °F	126.39 mS/cm	0.32 mg/L	0.00 NTU	-46.7 mV	3.61 ft	150.00 ml/min
10/11/2021 4:20 PM	27:00	7.78 pH	61.41 °F	126.58 mS/cm	0.31 mg/L	0.00 NTU	-50.9 mV	3.61 ft	150.00 ml/min
10/11/2021 4:23 PM	30:00	7.81 pH	61.61 °F	127.30 mS/cm	0.32 mg/L	0.00 NTU	-57.6 mV	3.61 ft	150.00 ml/min
10/11/2021 4:26 PM	33:00	7.82 pH	61.51 °F	128.21 mS/cm	0.27 mg/L	0.00 NTU	-61.9 mV	3.61 ft	150.00 ml/min
10/11/2021 4:29 PM	36:00	7.84 pH	61.73 °F	129.12 mS/cm	0.26 mg/L	0.00 NTU	-67.2 mV	3.61 ft	150.00 ml/min
10/11/2021 4:32 PM	39:00	7.85 pH	61.52 °F	129.12 mS/cm	0.25 mg/L	0.00 NTU	-68.1 mV	3.61 ft	150.00 ml/min
10/11/2021 4:35 PM	42:00	7.88 pH	61.57 °F	130.21 mS/cm	0.22 mg/L	0.00 NTU	-71.8 mV	3.61 ft	150.00 ml/min

10/11/2021 4:38 PM	45:00	7.91 pH	61.51 °F	131.07 mS/cm	0.20 mg/L	0.00 NTU	-75.8 mV	3.61 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-5	Sample time: 1640 Final DTW: 3.75 ft RDO did not stabilize

Low-Flow Test Report:

Test Date / Time: 10/12/2021 8:40:08 AM
Project: Kinder Morgan Harbor Island (4)
Operator Name: Joseph Sepiol

Location Name: MW-14 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 7 ft** **Top of Screen: 3 ft** **Total Depth: 10 ft** **Initial Depth to Water: 4.09 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 7 ft** **Estimated Total Volume Pumped: 6965 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.18 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
38F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 8:40 AM	00:00	6.92 pH	55.33 °F	179.74 mS/cm	4.05 mg/L	0.00 NTU	33.0 mV	4.09 ft	150.00 ml/min
10/12/2021 8:43 AM	03:00	7.04 pH	58.87 °F	177.86 mS/cm	3.10 mg/L	0.00 NTU	-60.1 mV	4.09 ft	150.00 ml/min
10/12/2021 8:46 AM	06:00	7.13 pH	59.67 °F	176.93 mS/cm	1.28 mg/L	0.00 NTU	-78.8 mV	4.09 ft	150.00 ml/min
10/12/2021 8:49 AM	09:00	7.19 pH	59.92 °F	176.11 mS/cm	0.41 mg/L	0.00 NTU	-85.2 mV	4.09 ft	150.00 ml/min
10/12/2021 8:52 AM	12:00	7.22 pH	60.21 °F	175.56 mS/cm	0.65 mg/L	0.00 NTU	-87.2 mV	4.09 ft	150.00 ml/min
10/12/2021 8:55 AM	15:00	7.29 pH	60.69 °F	174.65 mS/cm	0.40 mg/L	0.00 NTU	-87.6 mV	4.09 ft	150.00 ml/min
10/12/2021 8:58 AM	18:00	7.27 pH	60.85 °F	175.27 mS/cm	0.22 mg/L	0.00 NTU	-87.7 mV	4.09 ft	150.00 ml/min
10/12/2021 9:01 AM	21:00	7.32 pH	60.61 °F	174.64 mS/cm	0.30 mg/L	0.00 NTU	-87.9 mV	4.09 ft	150.00 ml/min
10/12/2021 9:04 AM	24:00	7.35 pH	60.82 °F	174.02 mS/cm	0.09 mg/L	0.00 NTU	-87.6 mV	4.09 ft	150.00 ml/min
10/12/2021 9:07 AM	27:00	7.37 pH	60.82 °F	174.11 mS/cm	0.08 mg/L	0.00 NTU	-86.6 mV	4.09 ft	150.00 ml/min
10/12/2021 9:10 AM	30:00	7.43 pH	61.16 °F	173.64 mS/cm	0.27 mg/L	0.00 NTU	-84.3 mV	4.09 ft	150.00 ml/min
10/12/2021 9:13 AM	33:00	7.42 pH	60.85 °F	173.69 mS/cm	0.15 mg/L	0.00 NTU	-82.9 mV	4.09 ft	150.00 ml/min
10/12/2021 9:16 AM	36:00	7.45 pH	60.99 °F	173.72 mS/cm	0.13 mg/L	0.00 NTU	-81.1 mV	4.09 ft	150.00 ml/min

10/12/2021 9:19 AM	39:00	7.47 pH	61.63 °F	174.10 mS/cm	0.28 mg/L	0.00 NTU	-79.5 mV	4.09 ft	150.00 ml/min
10/12/2021 9:20 AM	40:26	7.48 pH	61.25 °F	174.27 mS/cm	0.29 mg/L	0.00 NTU	-78.5 mV	4.09 ft	150.00 ml/min
10/12/2021 9:23 AM	43:26	7.50 pH	61.40 °F	174.23 mS/cm	0.04 mg/L	0.00 NTU	-79.0 mV	4.09 ft	150.00 ml/min
10/12/2021 9:26 AM	46:26	7.52 pH	61.74 °F	174.24 mS/cm	0.07 mg/L	0.00 NTU	-79.3 mV	4.09 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-14	Sample time: 0930 Final DTW: 4.27 ft RDO did not stabilize. Sheen in discharge

Low-Flow Test Report:

Test Date / Time: 10/12/2021 9:00:36 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: TMW-5 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 3.85 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 9 ft** **Estimated Total Volume Pumped: 6750 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 3.84'

Weather Conditions:
Cloudy 50

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 9:00 AM	00:00	7.57 pH	56.64 °F	1,472.5 µS/cm	1.18 mg/L	0.00 NTU	-169.5 mV	3.85 ft	150.00 ml/min
10/12/2021 9:03 AM	03:00	7.57 pH	59.57 °F	1,501.4 µS/cm	0.39 mg/L	0.00 NTU	-209.3 mV	3.85 ft	150.00 ml/min
10/12/2021 9:06 AM	06:00	7.58 pH	59.87 °F	1,480.6 µS/cm	0.30 mg/L	0.00 NTU	-223.6 mV	3.85 ft	150.00 ml/min
10/12/2021 9:09 AM	09:00	7.59 pH	60.52 °F	1,484.4 µS/cm	0.26 mg/L	0.00 NTU	-243.2 mV	3.85 ft	150.00 ml/min
10/12/2021 9:12 AM	12:00	7.59 pH	60.72 °F	1,466.8 µS/cm	0.21 mg/L	0.00 NTU	-249.1 mV	3.85 ft	150.00 ml/min
10/12/2021 9:15 AM	15:00	7.59 pH	60.98 °F	1,459.4 µS/cm	0.19 mg/L	0.00 NTU	-263.5 mV	3.85 ft	150.00 ml/min
10/12/2021 9:18 AM	18:00	7.58 pH	61.21 °F	1,424.5 µS/cm	0.17 mg/L	0.00 NTU	-262.8 mV	3.85 ft	150.00 ml/min
10/12/2021 9:21 AM	21:00	7.57 pH	61.40 °F	1,388.9 µS/cm	0.16 mg/L	0.00 NTU	-272.8 mV	3.85 ft	150.00 ml/min
10/12/2021 9:24 AM	24:00	7.56 pH	61.25 °F	1,368.4 µS/cm	0.14 mg/L	0.00 NTU	-267.8 mV	3.85 ft	150.00 ml/min
10/12/2021 9:27 AM	27:00	7.55 pH	61.40 °F	1,348.4 µS/cm	0.14 mg/L	0.00 NTU	-274.8 mV	3.85 ft	150.00 ml/min
10/12/2021 9:30 AM	30:00	7.54 pH	61.35 °F	1,331.0 µS/cm	0.12 mg/L	0.00 NTU	-264.1 mV	3.85 ft	150.00 ml/min
10/12/2021 9:33 AM	33:00	7.54 pH	61.49 °F	1,316.8 µS/cm	0.13 mg/L	0.00 NTU	-276.5 mV	3.85 ft	150.00 ml/min
10/12/2021 9:36 AM	36:00	7.53 pH	61.55 °F	1,305.6 µS/cm	0.11 mg/L	0.00 NTU	-266.6 mV	3.85 ft	150.00 ml/min

10/12/2021 9:39 AM	39:00	7.53 pH	61.55 °F	1,294.1 µS/cm	0.12 mg/L	0.00 NTU	-276.0 mV	3.85 ft	150.00 ml/min
10/12/2021 9:42 AM	42:00	7.52 pH	61.77 °F	1,284.9 µS/cm	0.10 mg/L	0.00 NTU	-268.0 mV	3.85 ft	150.00 ml/min
10/12/2021 9:45 AM	45:00	7.52 pH	61.82 °F	1,277.9 µS/cm	0.10 mg/L	0.00 NTU	-278.2 mV	3.85 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-5	945

Low-Flow Test Report:

Test Date / Time: 10/12/2021 10:07:46 AM
Project: Kinder Morgan Harbor Island (5)
Operator Name: Joseph Sepiol

Location Name: A-14R **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 13 ft** **Top of Screen: 3 ft** **Total Depth: 15 ft** **Initial Depth to Water: 7.92 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 6750 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
44F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 10:07 AM	00:00	7.82 pH	63.02 °F	3,831.2 mS/cm	1.47 mg/L	0.00 NTU	-145.5 mV	7.92 ft	150.00 ml/min
10/12/2021 10:10 AM	03:00	7.79 pH	64.38 °F	3,397.1 mS/cm	0.33 mg/L	0.00 NTU	-170.7 mV	7.92 ft	150.00 ml/min
10/12/2021 10:13 AM	06:00	7.72 pH	64.89 °F	3,245.3 mS/cm	0.28 mg/L	0.00 NTU	-168.8 mV	7.92 ft	150.00 ml/min
10/12/2021 10:16 AM	09:00	7.67 pH	65.00 °F	3,189.1 mS/cm	0.17 mg/L	0.00 NTU	-167.8 mV	7.92 ft	150.00 ml/min
10/12/2021 10:19 AM	12:00	7.63 pH	64.96 °F	3,160.4 mS/cm	0.16 mg/L	0.00 NTU	-169.3 mV	7.92 ft	150.00 ml/min
10/12/2021 10:22 AM	15:00	7.59 pH	65.55 °F	3,100.9 mS/cm	0.14 mg/L	399.38 NTU	-172.0 mV	7.92 ft	150.00 ml/min
10/12/2021 10:25 AM	18:00	7.57 pH	64.96 °F	3,221.2 mS/cm	0.13 mg/L	0.00 NTU	-171.8 mV	7.92 ft	150.00 ml/min
10/12/2021 10:28 AM	21:00	7.55 pH	64.08 °F	3,282.4 mS/cm	0.21 mg/L	63.98 NTU	-175.2 mV	7.92 ft	150.00 ml/min
10/12/2021 10:31 AM	24:00	7.53 pH	63.93 °F	3,237.1 mS/cm	0.25 mg/L	0.00 NTU	-177.1 mV	7.92 ft	150.00 ml/min
10/12/2021 10:34 AM	27:00	7.51 pH	64.13 °F	3,284.8 mS/cm	0.31 mg/L	305.72 NTU	-183.5 mV	7.92 ft	150.00 ml/min
10/12/2021 10:37 AM	30:00	7.49 pH	64.39 °F	3,267.6 mS/cm	0.27 mg/L	141.13 NTU	-190.5 mV	7.92 ft	150.00 ml/min
10/12/2021 10:40 AM	33:00	7.48 pH	64.19 °F	3,272.4 mS/cm	0.18 mg/L	0.00 NTU	-195.6 mV	7.92 ft	150.00 ml/min
10/12/2021 10:43 AM	36:00	7.46 pH	64.47 °F	3,294.2 mS/cm	0.19 mg/L	0.00 NTU	-199.5 mV	7.92 ft	150.00 ml/min

10/12/2021 10:46 AM	39:00	7.45 pH	64.39 °F	3,285.4 mS/cm	0.25 mg/L	317.28 NTU	-201.5 mV	7.92 ft	150.00 ml/min
10/12/2021 10:49 AM	42:00	7.44 pH	64.40 °F	3,285.8 mS/cm	0.15 mg/L	0.00 NTU	-206.6 mV	7.92 ft	150.00 ml/min
10/12/2021 10:52 AM	45:00	7.43 pH	64.74 °F	3,275.0 mS/cm	0.15 mg/L	0.00 NTU	-208.6 mV	7.92 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-14R	Sample time: 1055 Final DTW: 7.92 ft RDO did not stabilize Moderate odor and sheen in discharge

Low-Flow Test Report:

Test Date / Time: 10/12/2021 10:16:13 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-7 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 3.15 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 8 ft** **Estimated Total Volume Pumped: 7037.5 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 3.16'

Weather Conditions:
Cloudy 50

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 10:16 AM	00:00	7.17 pH	55.74 °F	4,442.6 µS/cm	7.99 mg/L	0.00 NTU	-27.1 mV	3.15 ft	150.00 ml/min
10/12/2021 10:17 AM	01:03	7.04 pH	57.13 °F	4,398.2 µS/cm	2.95 mg/L	0.00 NTU	-25.6 mV	3.15 ft	150.00 ml/min
10/12/2021 10:18 AM	01:55	7.01 pH	57.65 °F	4,380.0 µS/cm	2.20 mg/L	0.00 NTU	-22.3 mV	3.15 ft	150.00 ml/min
10/12/2021 10:21 AM	04:55	6.98 pH	58.17 °F	4,388.3 µS/cm	1.91 mg/L	0.00 NTU	-13.7 mV	3.15 ft	150.00 ml/min
10/12/2021 10:24 AM	07:55	6.97 pH	58.46 °F	4,369.4 µS/cm	1.85 mg/L	0.00 NTU	-8.6 mV	3.15 ft	150.00 ml/min
10/12/2021 10:27 AM	10:55	6.97 pH	58.74 °F	4,403.4 µS/cm	1.88 mg/L	0.00 NTU	-62.4 mV	3.15 ft	150.00 ml/min
10/12/2021 10:30 AM	13:55	6.97 pH	58.66 °F	4,361.2 µS/cm	1.91 mg/L	0.00 NTU	-76.2 mV	3.15 ft	150.00 ml/min
10/12/2021 10:33 AM	16:55	6.97 pH	59.12 °F	4,362.8 µS/cm	1.74 mg/L	0.00 NTU	-98.8 mV	3.15 ft	150.00 ml/min
10/12/2021 10:36 AM	19:55	6.96 pH	59.20 °F	4,347.1 µS/cm	1.79 mg/L	0.00 NTU	-118.9 mV	3.15 ft	150.00 ml/min
10/12/2021 10:39 AM	22:55	6.96 pH	59.33 °F	4,340.7 µS/cm	1.76 mg/L	0.00 NTU	-136.2 mV	3.15 ft	150.00 ml/min
10/12/2021 10:42 AM	25:55	6.96 pH	59.20 °F	4,317.2 µS/cm	1.67 mg/L	0.00 NTU	-146.8 mV	3.15 ft	150.00 ml/min
10/12/2021 10:45 AM	28:55	6.97 pH	59.38 °F	4,308.8 µS/cm	1.50 mg/L	0.00 NTU	-160.9 mV	3.15 ft	150.00 ml/min
10/12/2021 10:48 AM	31:55	6.97 pH	59.45 °F	4,277.1 µS/cm	1.48 mg/L	0.00 NTU	-166.9 mV	3.15 ft	150.00 ml/min

10/12/2021 10:51 AM	34:55	6.98 pH	59.47 °F	4,267.4 µS/cm	1.31 mg/L	0.00 NTU	-176.5 mV	3.15 ft	150.00 ml/min
10/12/2021 10:54 AM	37:55	6.98 pH	59.64 °F	4,240.9 µS/cm	1.20 mg/L	0.00 NTU	-180.4 mV	3.15 ft	150.00 ml/min
10/12/2021 10:57 AM	40:55	6.99 pH	59.77 °F	4,218.4 µS/cm	1.11 mg/L	0.00 NTU	-188.8 mV	3.15 ft	150.00 ml/min
10/12/2021 11:00 AM	43:55	7.00 pH	59.72 °F	4,183.7 µS/cm	0.99 mg/L	0.00 NTU	-191.5 mV	3.15 ft	150.00 ml/min
10/12/2021 11:03 AM	46:55	7.00 pH	59.85 °F	4,148.7 µS/cm	0.89 mg/L	0.00 NTU	-196.4 mV	3.15 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-7	1105
DUP-1	

Low-Flow Test Report:

Test Date / Time: 10/12/2021 11:29:07 AM
Project: Kinder Morgan Harbor Island (6)
Operator Name: Joseph Sepiol

Location Name: A-10 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 7.2 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 6750 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.01 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
45F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 11:29 AM	00:00	7.20 pH	65.90 °F	5,587.6 mS/cm	1.13 mg/L	0.00 NTU	-118.5 mV	7.20 ft	150.00 ml/min
10/12/2021 11:32 AM	03:00	7.21 pH	66.42 °F	5,665.5 mS/cm	0.17 mg/L	0.00 NTU	-144.5 mV	7.20 ft	150.00 ml/min
10/12/2021 11:35 AM	06:00	7.19 pH	66.41 °F	5,537.2 mS/cm	0.15 mg/L	0.00 NTU	-148.0 mV	7.20 ft	150.00 ml/min
10/12/2021 11:38 AM	09:00	7.19 pH	66.51 °F	5,445.8 mS/cm	0.11 mg/L	0.00 NTU	-146.5 mV	7.20 ft	150.00 ml/min
10/12/2021 11:41 AM	12:00	7.17 pH	66.59 °F	5,523.7 mS/cm	0.09 mg/L	0.00 NTU	-153.1 mV	7.20 ft	150.00 ml/min
10/12/2021 11:44 AM	15:00	7.15 pH	66.81 °F	5,480.4 mS/cm	0.08 mg/L	0.00 NTU	-154.1 mV	7.20 ft	150.00 ml/min
10/12/2021 11:47 AM	18:00	7.14 pH	66.72 °F	5,469.8 mS/cm	0.07 mg/L	0.00 NTU	-152.0 mV	7.20 ft	150.00 ml/min
10/12/2021 11:50 AM	21:00	7.13 pH	66.67 °F	5,515.0 mS/cm	0.08 mg/L	0.00 NTU	-150.0 mV	7.20 ft	150.00 ml/min
10/12/2021 11:53 AM	24:00	7.11 pH	66.81 °F	5,497.5 mS/cm	0.07 mg/L	0.00 NTU	-149.7 mV	7.20 ft	150.00 ml/min
10/12/2021 11:56 AM	27:00	7.10 pH	66.72 °F	5,300.0 mS/cm	0.06 mg/L	0.00 NTU	-148.2 mV	7.20 ft	150.00 ml/min
10/12/2021 11:59 AM	30:00	7.09 pH	66.56 °F	5,619.8 mS/cm	0.08 mg/L	0.00 NTU	-143.6 mV	7.20 ft	150.00 ml/min
10/12/2021 12:02 PM	33:00	7.07 pH	66.62 °F	5,294.1 mS/cm	0.08 mg/L	0.00 NTU	-141.4 mV	7.20 ft	150.00 ml/min
10/12/2021 12:05 PM	36:00	7.07 pH	66.67 °F	5,573.8 mS/cm	0.10 mg/L	0.00 NTU	-138.9 mV	7.20 ft	150.00 ml/min

10/12/2021 12:08 PM	39:00	7.06 pH	66.46 °F	5,547.4 mS/cm	0.07 mg/L	0.00 NTU	-134.3 mV	7.20 ft	150.00 ml/min
10/12/2021 12:11 PM	42:00	7.05 pH	66.54 °F	5,580.0 mS/cm	0.07 mg/L	0.00 NTU	-135.7 mV	7.20 ft	150.00 ml/min
10/12/2021 12:14 PM	45:00	7.04 pH	66.60 °F	5,589.3 mS/cm	0.07 mg/L	0.00 NTU	-134.5 mV	7.20 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-10	Sample time: 1215 Final DTW: 7.21 ft

Low-Flow Test Report:

Test Date / Time: 10/12/2021 12:03:19 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: 12 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 2.52 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 8 ft** **Estimated Total Volume Pumped: 5400 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 4.96

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 12:03 PM	00:00	7.34 pH	58.29 °F	1,982.7 µS/cm	4.51 mg/L	42.39 NTU	-229.2 mV	2.52 ft	150.00 ml/min
10/12/2021 12:06 PM	03:00	7.34 pH	59.03 °F	1,966.0 µS/cm	0.38 mg/L	29.37 NTU	-267.5 mV	2.52 ft	150.00 ml/min
10/12/2021 12:09 PM	06:00	7.33 pH	59.30 °F	1,965.9 µS/cm	0.20 mg/L	26.70 NTU	-275.5 mV	2.52 ft	150.00 ml/min
10/12/2021 12:12 PM	09:00	7.33 pH	59.46 °F	1,962.5 µS/cm	0.17 mg/L	27.44 NTU	-284.0 mV	2.52 ft	150.00 ml/min
10/12/2021 12:15 PM	12:00	7.33 pH	59.68 °F	1,961.8 µS/cm	0.12 mg/L	27.30 NTU	-285.2 mV	2.52 ft	150.00 ml/min
10/12/2021 12:18 PM	15:00	7.33 pH	59.63 °F	1,961.1 µS/cm	0.12 mg/L	25.31 NTU	-290.6 mV	2.52 ft	150.00 ml/min
10/12/2021 12:21 PM	18:00	7.33 pH	59.71 °F	1,961.4 µS/cm	0.10 mg/L	25.60 NTU	-289.7 mV	2.52 ft	150.00 ml/min
10/12/2021 12:24 PM	21:00	7.33 pH	59.72 °F	1,960.5 µS/cm	0.11 mg/L	27.35 NTU	-293.7 mV	2.52 ft	150.00 ml/min
10/12/2021 12:27 PM	24:00	7.32 pH	59.84 °F	1,961.8 µS/cm	0.09 mg/L	26.05 NTU	-290.3 mV	2.52 ft	150.00 ml/min
10/12/2021 12:30 PM	27:00	7.31 pH	59.82 °F	1,956.5 µS/cm	0.09 mg/L	29.64 NTU	-295.9 mV	2.52 ft	150.00 ml/min
10/12/2021 12:33 PM	30:00	7.30 pH	59.83 °F	1,954.7 µS/cm	0.07 mg/L	32.32 NTU	-292.1 mV	2.52 ft	150.00 ml/min
10/12/2021 12:36 PM	33:00	7.29 pH	59.79 °F	1,950.0 µS/cm	0.07 mg/L	33.90 NTU	-296.8 mV	2.52 ft	150.00 ml/min
10/12/2021 12:39 PM	36:00	7.29 pH	59.85 °F	1,951.7 µS/cm	0.06 mg/L	35.57 NTU	-292.1 mV	2.52 ft	150.00 ml/min

Samples

Sample ID:	Description:
12	1240

Low-Flow Test Report:

Test Date / Time: 10/12/2021 12:51:27 PM
Project: Kinder Morgan Harbor Island (7)
Operator Name: Joseph Sepiol

Location Name: MW-25 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 7.62 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 6750 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
48F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 12:51 PM	00:00	7.13 pH	63.85 °F	8,096.5 mS/cm	1.03 mg/L	0.00 NTU	-116.2 mV	7.62 ft	150.00 ml/min
10/12/2021 12:54 PM	03:00	7.12 pH	64.31 °F	7,374.7 mS/cm	0.34 mg/L	0.00 NTU	-126.9 mV	7.62 ft	150.00 ml/min
10/12/2021 12:57 PM	06:00	7.12 pH	63.45 °F	7,281.9 mS/cm	0.45 mg/L	0.00 NTU	-131.1 mV	7.62 ft	150.00 ml/min
10/12/2021 1:00 PM	09:00	7.12 pH	64.79 °F	6,983.7 mS/cm	0.23 mg/L	0.00 NTU	-137.5 mV	7.62 ft	150.00 ml/min
10/12/2021 1:03 PM	12:00	7.12 pH	64.91 °F	6,764.8 mS/cm	0.23 mg/L	0.00 NTU	-141.8 mV	7.62 ft	150.00 ml/min
10/12/2021 1:06 PM	15:00	7.12 pH	65.22 °F	6,437.8 mS/cm	0.18 mg/L	0.00 NTU	-145.4 mV	7.62 ft	150.00 ml/min
10/12/2021 1:09 PM	18:00	7.12 pH	65.27 °F	6,154.1 mS/cm	0.18 mg/L	0.00 NTU	-148.6 mV	7.62 ft	150.00 ml/min
10/12/2021 1:12 PM	21:00	7.12 pH	65.47 °F	5,966.5 mS/cm	0.16 mg/L	0.00 NTU	-151.2 mV	7.62 ft	150.00 ml/min
10/12/2021 1:15 PM	24:00	7.12 pH	65.57 °F	5,771.8 mS/cm	0.13 mg/L	0.00 NTU	-151.4 mV	7.62 ft	150.00 ml/min
10/12/2021 1:18 PM	27:00	7.12 pH	65.68 °F	5,566.4 mS/cm	0.13 mg/L	0.00 NTU	-153.4 mV	7.62 ft	150.00 ml/min
10/12/2021 1:21 PM	30:00	7.11 pH	65.85 °F	5,512.7 mS/cm	0.11 mg/L	0.00 NTU	-153.9 mV	7.62 ft	150.00 ml/min
10/12/2021 1:24 PM	33:00	7.11 pH	65.83 °F	5,411.1 mS/cm	0.10 mg/L	0.00 NTU	-155.1 mV	7.62 ft	150.00 ml/min
10/12/2021 1:27 PM	36:00	7.10 pH	66.10 °F	5,361.4 mS/cm	0.10 mg/L	0.00 NTU	-156.2 mV	7.62 ft	150.00 ml/min

10/12/2021 1:30 PM	39:00	7.10 pH	65.85 °F	5,244.6 mS/cm	0.09 mg/L	0.00 NTU	-156.0 mV	7.62 ft	150.00 ml/min
10/12/2021 1:33 PM	42:00	7.09 pH	66.08 °F	5,147.0 mS/cm	0.09 mg/L	0.00 NTU	-157.3 mV	7.62 ft	150.00 ml/min
10/12/2021 1:36 PM	45:00	7.09 pH	65.92 °F	5,161.1 mS/cm	0.09 mg/L	0.00 NTU	-157.8 mV	7.62 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-25	Sample time: 1340 Final DTW: 7.62 ft

Low-Flow Test Report:

Test Date / Time: 10/12/2021 1:24:48 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: TMW-3 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 4.08 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 2700 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 4.08'

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 1:24 PM	00:00	7.51 pH	58.75 °F	1,653.7 µS/cm	5.03 mg/L	1.89 NTU	-125.2 mV	4.08 ft	150.00 ml/min
10/12/2021 1:27 PM	03:00	7.46 pH	60.15 °F	1,636.1 µS/cm	0.47 mg/L	0.00 NTU	-159.8 mV	4.08 ft	150.00 ml/min
10/12/2021 1:30 PM	06:00	7.45 pH	60.59 °F	1,605.1 µS/cm	0.29 mg/L	0.00 NTU	-165.1 mV	4.08 ft	150.00 ml/min
10/12/2021 1:33 PM	09:00	7.45 pH	60.77 °F	1,610.9 µS/cm	0.25 mg/L	0.00 NTU	-166.8 mV	4.08 ft	150.00 ml/min
10/12/2021 1:36 PM	12:00	7.45 pH	60.82 °F	1,616.4 µS/cm	0.25 mg/L	0.00 NTU	-167.6 mV	4.08 ft	150.00 ml/min
10/12/2021 1:39 PM	15:00	7.44 pH	60.76 °F	1,625.2 µS/cm	0.28 mg/L	0.00 NTU	-164.1 mV	4.08 ft	150.00 ml/min
10/12/2021 1:42 PM	18:00	7.44 pH	60.79 °F	1,624.3 µS/cm	0.29 mg/L	0.00 NTU	-164.8 mV	4.08 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-3	1345

Low-Flow Test Report:

Test Date / Time: 10/12/2021 2:16:44 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: TMW-4 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 3.8 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 3150 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 2:16 PM	00:00	7.63 pH	59.37 °F	2,023.1 µS/cm	2.89 mg/L	0.10 NTU	-192.0 mV	3.80 ft	150.00 ml/min
10/12/2021 2:19 PM	03:00	7.63 pH	59.19 °F	1,961.1 µS/cm	0.88 mg/L	0.00 NTU	-230.6 mV	3.80 ft	150.00 ml/min
10/12/2021 2:22 PM	06:00	7.62 pH	59.29 °F	2,038.0 µS/cm	0.52 mg/L	0.00 NTU	-244.3 mV	3.80 ft	150.00 ml/min
10/12/2021 2:25 PM	09:00	7.62 pH	59.59 °F	2,032.9 µS/cm	0.31 mg/L	0.00 NTU	-251.5 mV	3.80 ft	150.00 ml/min
10/12/2021 2:28 PM	12:00	7.62 pH	59.51 °F	2,063.3 µS/cm	0.28 mg/L	0.00 NTU	-258.4 mV	3.80 ft	150.00 ml/min
10/12/2021 2:31 PM	15:00	7.61 pH	60.15 °F	2,065.6 µS/cm	0.19 mg/L	0.18 NTU	-263.7 mV	3.80 ft	150.00 ml/min
10/12/2021 2:34 PM	18:00	7.61 pH	60.28 °F	2,068.1 µS/cm	0.16 mg/L	0.00 NTU	-270.8 mV	3.80 ft	150.00 ml/min
10/12/2021 2:37 PM	21:00	7.61 pH	60.38 °F	2,076.2 µS/cm	0.15 mg/L	0.00 NTU	-271.9 mV	3.80 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-4	1440

Low-Flow Test Report:

Test Date / Time: 10/12/2021 2:19:49 PM
Project: Kinder Morgan Harbor Island (8)
Operator Name: Joseph Sepiol

Location Name: A-8 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 19 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 8.1 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 1800 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 2:19 PM	00:00	6.94 pH	66.26 °F	714.51 mS/cm	0.00 mg/L	0.00 NTU	-115.9 mV	8.10 ft	150.00 ml/min
10/12/2021 2:22 PM	03:00	6.94 pH	66.56 °F	695.77 mS/cm	0.00 mg/L	279.14 NTU	-124.0 mV	8.10 ft	150.00 ml/min
10/12/2021 2:25 PM	06:00	6.96 pH	65.91 °F	697.27 mS/cm	0.00 mg/L	401.04 NTU	-125.1 mV	8.10 ft	150.00 ml/min
10/12/2021 2:28 PM	09:00	6.97 pH	66.08 °F	697.71 mS/cm	0.00 mg/L	219.69 NTU	-129.3 mV	8.10 ft	150.00 ml/min
10/12/2021 2:31 PM	12:00	6.98 pH	65.91 °F	691.62 mS/cm	0.00 mg/L	506.71 NTU	-131.9 mV	8.10 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-8	Sample time: 1435 Final DTW: 8.10 ft Turbidity is stable - verified with stand alone turbidity meter

Low-Flow Test Report:

Test Date / Time: 10/12/2021 3:01:57 PM
Project: Kinder Morgan Harbor Island (9)
Operator Name: Joseph Sepiol

Location Name: A-5 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 8.03 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 2700 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.07 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
49F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 3:01 PM	00:00	6.96 pH	65.58 °F	741.28 mS/cm	0.00 mg/L	0.00 NTU	-86.3 mV	8.03 ft	150.00 ml/min
10/12/2021 3:04 PM	03:00	6.97 pH	65.74 °F	737.44 mS/cm	0.00 mg/L	0.00 NTU	-99.5 mV	8.03 ft	150.00 ml/min
10/12/2021 3:07 PM	06:00	6.96 pH	66.54 °F	729.32 mS/cm	0.00 mg/L	0.00 NTU	-106.7 mV	8.03 ft	150.00 ml/min
10/12/2021 3:10 PM	09:00	6.97 pH	66.45 °F	720.29 mS/cm	0.00 mg/L	0.00 NTU	-110.4 mV	8.03 ft	150.00 ml/min
10/12/2021 3:13 PM	12:00	6.98 pH	66.20 °F	733.88 mS/cm	0.00 mg/L	0.00 NTU	-113.7 mV	8.03 ft	150.00 ml/min
10/12/2021 3:16 PM	15:00	6.98 pH	66.32 °F	745.42 mS/cm	0.00 mg/L	0.00 NTU	-115.8 mV	8.03 ft	150.00 ml/min
10/12/2021 3:19 PM	18:00	6.99 pH	66.36 °F	735.08 mS/cm	0.00 mg/L	0.00 NTU	-115.2 mV	8.03 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-5	Sample time: 1525 Final DTW: 8.10 ft

Low-Flow Test Report:

Test Date / Time: 10/12/2021 3:15:08 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: 11 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 5.1 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 3600 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 5.17

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 3:15 PM	00:00	7.84 pH	60.59 °F	288.39 µS/cm	7.73 mg/L	11.11 NTU	-41.7 mV	5.10 ft	150.00 ml/min
10/12/2021 3:18 PM	03:00	7.35 pH	63.68 °F	271.72 µS/cm	5.17 mg/L	2.62 NTU	-41.5 mV	5.10 ft	150.00 ml/min
10/12/2021 3:21 PM	06:00	7.32 pH	64.31 °F	263.78 µS/cm	5.03 mg/L	12.70 NTU	-31.0 mV	5.10 ft	150.00 ml/min
10/12/2021 3:24 PM	09:00	7.31 pH	64.79 °F	259.43 µS/cm	4.86 mg/L	0.47 NTU	-22.2 mV	5.10 ft	150.00 ml/min
10/12/2021 3:27 PM	12:00	7.31 pH	65.04 °F	254.58 µS/cm	4.73 mg/L	0.56 NTU	-14.7 mV	5.10 ft	150.00 ml/min
10/12/2021 3:30 PM	15:00	7.30 pH	65.18 °F	251.57 µS/cm	4.62 mg/L	3.69 NTU	-8.2 mV	5.10 ft	150.00 ml/min
10/12/2021 3:33 PM	18:00	7.30 pH	65.25 °F	249.15 µS/cm	4.51 mg/L	0.00 NTU	-3.3 mV	5.10 ft	150.00 ml/min
10/12/2021 3:36 PM	21:00	7.29 pH	65.28 °F	247.47 µS/cm	4.43 mg/L	0.00 NTU	2.7 mV	5.10 ft	150.00 ml/min
10/12/2021 3:39 PM	24:00	7.28 pH	65.23 °F	243.18 µS/cm	4.30 mg/L	0.00 NTU	2.9 mV	5.10 ft	150.00 ml/min

Samples

Sample ID:	Description:
11	1540

Low-Flow Test Report:

Test Date / Time: 10/12/2021 3:57:39 PM
Project: Kinder Morgan Harbor Island (10)
Operator Name: Joseph Sepiol

Location Name: A-21 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 8.03 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 4050 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.01 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
49F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/12/2021 3:57 PM	00:00	7.53 pH	62.32 °F	1,738.6 mS/cm	0.70 mg/L	0.00 NTU	-110.2 mV	8.03 ft	150.00 ml/min
10/12/2021 4:00 PM	03:00	7.57 pH	62.24 °F	1,419.4 mS/cm	0.30 mg/L	0.00 NTU	-121.3 mV	8.03 ft	150.00 ml/min
10/12/2021 4:03 PM	06:00	7.60 pH	62.44 °F	1,231.2 mS/cm	0.23 mg/L	0.00 NTU	-127.9 mV	8.03 ft	150.00 ml/min
10/12/2021 4:06 PM	09:00	7.60 pH	62.35 °F	1,140.3 mS/cm	0.21 mg/L	0.00 NTU	-130.3 mV	8.03 ft	150.00 ml/min
10/12/2021 4:09 PM	12:00	7.61 pH	62.42 °F	906.60 mS/cm	0.16 mg/L	0.00 NTU	-133.5 mV	8.03 ft	150.00 ml/min
10/12/2021 4:12 PM	15:00	7.57 pH	62.58 °F	987.22 mS/cm	0.14 mg/L	0.00 NTU	-127.0 mV	8.03 ft	150.00 ml/min
10/12/2021 4:15 PM	18:00	7.59 pH	62.46 °F	996.03 mS/cm	0.16 mg/L	0.00 NTU	-129.7 mV	8.03 ft	150.00 ml/min
10/12/2021 4:18 PM	21:00	7.55 pH	62.71 °F	1,019.5 mS/cm	0.17 mg/L	0.00 NTU	-128.7 mV	8.03 ft	150.00 ml/min
10/12/2021 4:21 PM	24:00	7.55 pH	62.50 °F	1,003.3 mS/cm	0.14 mg/L	0.00 NTU	-127.7 mV	8.03 ft	150.00 ml/min
10/12/2021 4:24 PM	27:00	7.51 pH	62.58 °F	1,011.2 mS/cm	0.39 mg/L	0.00 NTU	-125.0 mV	8.03 ft	150.00 ml/min

Samples

Sample ID:	Description:

A-21	Sample time: 1625 Final DTW: 8.04 ft

Low-Flow Test Report:

Test Date / Time: 10/13/2021 8:25:00 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-9 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 3.33 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 9 ft** **Estimated Total Volume Pumped: 6750 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
910

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 8:25 AM	00:00	6.64 pH	55.00 °F	150.06 µS/cm	1.29 mg/L	3.48 NTU	160.0 mV	3.33 ft	150.00 ml/min
10/13/2021 8:28 AM	03:00	6.63 pH	57.65 °F	147.41 µS/cm	0.70 mg/L	0.47 NTU	129.1 mV	3.33 ft	150.00 ml/min
10/13/2021 8:31 AM	06:00	6.60 pH	58.59 °F	146.07 µS/cm	0.33 mg/L	0.00 NTU	113.5 mV	3.33 ft	150.00 ml/min
10/13/2021 8:34 AM	09:00	6.63 pH	58.79 °F	145.99 µS/cm	0.32 mg/L	0.00 NTU	100.4 mV	3.33 ft	150.00 ml/min
10/13/2021 8:37 AM	12:00	6.65 pH	58.89 °F	145.91 µS/cm	0.32 mg/L	0.00 NTU	94.3 mV	3.33 ft	150.00 ml/min
10/13/2021 8:40 AM	15:00	6.63 pH	59.10 °F	146.43 µS/cm	0.33 mg/L	0.00 NTU	79.2 mV	3.33 ft	150.00 ml/min
10/13/2021 8:43 AM	18:00	6.64 pH	59.27 °F	146.29 µS/cm	0.36 mg/L	0.00 NTU	70.0 mV	3.33 ft	150.00 ml/min
10/13/2021 8:46 AM	21:00	6.62 pH	59.44 °F	147.07 µS/cm	0.41 mg/L	0.00 NTU	59.1 mV	3.33 ft	150.00 ml/min
10/13/2021 8:49 AM	24:00	6.65 pH	59.57 °F	147.18 µS/cm	0.49 mg/L	0.00 NTU	59.3 mV	3.33 ft	150.00 ml/min
10/13/2021 8:52 AM	27:00	6.65 pH	59.60 °F	147.49 µS/cm	0.53 mg/L	0.00 NTU	52.2 mV	3.33 ft	150.00 ml/min
10/13/2021 8:55 AM	30:00	6.63 pH	59.56 °F	148.24 µS/cm	0.56 mg/L	0.00 NTU	49.1 mV	3.33 ft	150.00 ml/min
10/13/2021 8:58 AM	33:00	6.62 pH	59.82 °F	148.69 µS/cm	0.60 mg/L	0.00 NTU	34.1 mV	3.33 ft	150.00 ml/min
10/13/2021 9:01 AM	36:00	6.63 pH	59.76 °F	148.92 µS/cm	0.61 mg/L	0.00 NTU	22.9 mV	3.33 ft	150.00 ml/min
10/13/2021 9:04 AM	39:00	6.62 pH	59.78 °F	148.44 µS/cm	0.60 mg/L	0.00 NTU	12.9 mV	3.33 ft	150.00 ml/min
10/13/2021 9:07 AM	42:00	6.63 pH	59.75 °F	148.53 µS/cm	0.59 mg/L	0.62 NTU	8.6 mV	3.33 ft	150.00 ml/min

10/13/2021 9:10 AM	45:00	6.62 pH	59.74 °F	148.74 µS/cm	0.60 mg/L	0.00 NTU	0.9 mV	3.33 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-9	910

Low-Flow Test Report:

Test Date / Time: 10/13/2021 8:28:43 AM
Project: Kinder Morgan Harbor Island (11)
Operator Name: Joseph Sepiol

Location Name: MW-21 **Well Diameter: 2 in** **Casing Type: OVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 3.32 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 4050 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 1 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
62F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 8:28 AM	00:00	6.59 pH	59.09 °F	78.85 mS/cm	1.16 mg/L	0.00 NTU	46.9 mV	3.32 ft	150.00 ml/min
10/13/2021 8:31 AM	03:00	6.25 pH	60.21 °F	72.67 mS/cm	0.28 mg/L	0.00 NTU	40.0 mV	3.32 ft	150.00 ml/min
10/13/2021 8:34 AM	06:00	6.27 pH	60.43 °F	72.51 mS/cm	0.25 mg/L	0.00 NTU	35.3 mV	3.32 ft	150.00 ml/min
10/13/2021 8:37 AM	09:00	6.29 pH	60.12 °F	73.09 mS/cm	0.17 mg/L	0.00 NTU	29.7 mV	3.32 ft	150.00 ml/min
10/13/2021 8:40 AM	12:00	6.26 pH	60.60 °F	72.82 mS/cm	0.16 mg/L	0.00 NTU	25.0 mV	3.32 ft	150.00 ml/min
10/13/2021 8:43 AM	15:00	6.24 pH	60.90 °F	72.21 mS/cm	0.14 mg/L	0.00 NTU	23.2 mV	3.32 ft	150.00 ml/min
10/13/2021 8:46 AM	18:00	6.30 pH	61.17 °F	72.26 mS/cm	0.13 mg/L	0.00 NTU	15.0 mV	3.32 ft	150.00 ml/min
10/13/2021 8:49 AM	21:00	6.32 pH	61.18 °F	72.53 mS/cm	0.14 mg/L	0.00 NTU	9.7 mV	3.32 ft	150.00 ml/min
10/13/2021 8:52 AM	24:00	6.36 pH	61.22 °F	72.70 mS/cm	0.11 mg/L	0.00 NTU	6.0 mV	3.32 ft	150.00 ml/min
10/13/2021 8:55 AM	27:00	6.36 pH	61.30 °F	72.67 mS/cm	0.10 mg/L	0.00 NTU	1.2 mV	3.32 ft	150.00 ml/min

Samples

Sample ID:	Description:

MW-21	Sample time: 0900 Final DTW: 4.32 ft DUP-2 collected

Low-Flow Test Report:

Test Date / Time: 10/13/2021 9:25:09 AM
Project: Kinder Morgan Harbor Island (12)
Operator Name: Joseph Sepiol

Location Name: MW-8 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 4.14 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 2125 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.36 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
58F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 9:25 AM	00:00	6.55 pH	61.61 °F	62.83 mS/cm	7.07 mg/L	0.00 NTU	44.5 mV	4.14 ft	150.00 ml/min
10/13/2021 9:28 AM	03:00	6.55 pH	63.51 °F	58.57 mS/cm	3.95 mg/L	0.00 NTU	72.1 mV	4.14 ft	150.00 ml/min
10/13/2021 9:33 AM	08:10	6.60 pH	64.05 °F	58.53 mS/cm	3.92 mg/L	0.00 NTU	81.7 mV	4.14 ft	150.00 ml/min
10/13/2021 9:36 AM	11:10	6.63 pH	64.13 °F	58.46 mS/cm	3.88 mg/L	0.00 NTU	87.1 mV	4.14 ft	150.00 ml/min
10/13/2021 9:39 AM	14:10	6.65 pH	64.32 °F	59.01 mS/cm	3.78 mg/L	0.00 NTU	90.0 mV	4.14 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-8	Sample time: 0942 Final DTW: 4.50 ft

Low-Flow Test Report:

Test Date / Time: 10/13/2021 9:44:51 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: TMW-6 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 3.14 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 9 ft** **Estimated Total Volume Pumped: 4050 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 3.22

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 9:44 AM	00:00	7.10 pH	56.19 °F	1,325.3 µS/cm	4.46 mg/L	6.59 NTU	-46.8 mV	3.14 ft	150.00 ml/min
10/13/2021 9:47 AM	03:00	7.09 pH	57.80 °F	1,325.7 µS/cm	0.67 mg/L	7.18 NTU	-112.3 mV	3.14 ft	150.00 ml/min
10/13/2021 9:50 AM	06:00	7.10 pH	58.46 °F	1,334.7 µS/cm	0.35 mg/L	13.72 NTU	-131.3 mV	3.14 ft	150.00 ml/min
10/13/2021 9:53 AM	09:00	7.10 pH	58.97 °F	1,332.3 µS/cm	0.27 mg/L	15.01 NTU	-143.1 mV	3.14 ft	150.00 ml/min
10/13/2021 9:56 AM	12:00	7.11 pH	59.08 °F	1,335.7 µS/cm	0.22 mg/L	22.98 NTU	-154.3 mV	3.14 ft	150.00 ml/min
10/13/2021 9:59 AM	15:00	7.11 pH	59.30 °F	1,336.0 µS/cm	0.21 mg/L	13.79 NTU	-162.1 mV	3.14 ft	150.00 ml/min
10/13/2021 10:02 AM	18:00	7.11 pH	59.39 °F	1,343.9 µS/cm	0.18 mg/L	11.28 NTU	-173.1 mV	3.14 ft	150.00 ml/min
10/13/2021 10:05 AM	21:00	7.11 pH	59.52 °F	1,342.2 µS/cm	0.17 mg/L	8.82 NTU	-181.8 mV	3.14 ft	150.00 ml/min
10/13/2021 10:08 AM	24:00	7.11 pH	59.52 °F	1,353.3 µS/cm	0.16 mg/L	9.75 NTU	-187.5 mV	3.14 ft	150.00 ml/min
10/13/2021 10:11 AM	27:00	7.11 pH	59.55 °F	1,369.1 µS/cm	0.17 mg/L	5.57 NTU	-189.5 mV	3.14 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-6	1015

Low-Flow Test Report:

Test Date / Time: 10/13/2021 10:30:48 AM
Project: Kinder Morgan Harbor Island (13)
Operator Name: Joseph Sepiol

Location Name: TMW-B1 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 8.5 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 2700 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.05 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 10:30 AM	00:00	6.75 pH	61.34 °F	432.54 mS/cm	0.07 mg/L	0.00 NTU	-33.0 mV	8.50 ft	150.00 ml/min
10/13/2021 10:33 AM	03:00	6.97 pH	62.65 °F	433.23 mS/cm	0.01 mg/L	0.00 NTU	-72.9 mV	8.50 ft	150.00 ml/min
10/13/2021 10:36 AM	06:00	7.01 pH	62.84 °F	427.34 mS/cm	0.01 mg/L	0.00 NTU	-83.2 mV	8.50 ft	150.00 ml/min
10/13/2021 10:39 AM	09:00	7.04 pH	63.30 °F	427.03 mS/cm	0.01 mg/L	0.00 NTU	-89.3 mV	8.50 ft	150.00 ml/min
10/13/2021 10:42 AM	12:00	7.06 pH	63.35 °F	423.76 mS/cm	0.01 mg/L	0.00 NTU	-94.3 mV	8.50 ft	150.00 ml/min
10/13/2021 10:45 AM	15:00	7.08 pH	63.73 °F	416.55 mS/cm	0.01 mg/L	0.00 NTU	-97.4 mV	8.50 ft	150.00 ml/min
10/13/2021 10:48 AM	18:00	7.09 pH	63.70 °F	412.78 mS/cm	0.01 mg/L	0.00 NTU	-100.6 mV	8.50 ft	150.00 ml/min

Samples

Sample ID:	Description:
TMW-B1	Sample time: 1052 Final DTW: 8.55 ft

Low-Flow Test Report:

Test Date / Time: 10/13/2021 11:04:12 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: A-27 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 18 ft** **Initial Depth to Water: 10.94 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 15 ft** **Estimated Total Volume Pumped: 1800 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 10.93

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 11:04 AM	00:00	6.35 pH	58.96 °F	192.56 µS/cm	2.43 mg/L	10.34 NTU	-35.9 mV	10.94 ft	150.00 ml/min
10/13/2021 11:07 AM	03:00	6.28 pH	60.60 °F	184.55 µS/cm	0.57 mg/L	4.12 NTU	-78.8 mV	10.94 ft	150.00 ml/min
10/13/2021 11:10 AM	06:00	6.25 pH	60.89 °F	182.08 µS/cm	0.39 mg/L	4.64 NTU	-89.7 mV	10.94 ft	150.00 ml/min
10/13/2021 11:13 AM	09:00	6.24 pH	61.23 °F	181.70 µS/cm	0.31 mg/L	4.19 NTU	-93.5 mV	10.94 ft	150.00 ml/min
10/13/2021 11:16 AM	12:00	6.22 pH	61.44 °F	181.36 µS/cm	0.27 mg/L	2.66 NTU	-99.5 mV	10.94 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-27	1120

Low-Flow Test Report:

Test Date / Time: 10/13/2021 11:49:25 AM
Project: Kinder Morgan Harbor Island (14)
Operator Name: Joseph Sepiol

Location Name: MW-24 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 7.85 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 2250 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.03 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
65F partly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 11:49 AM	00:00	6.60 pH	60.96 °F	824.68 mS/cm	0.00 mg/L	0.00 NTU	-74.1 mV	7.85 ft	150.00 ml/min
10/13/2021 11:52 AM	03:00	6.66 pH	61.41 °F	839.60 mS/cm	0.00 mg/L	0.00 NTU	-99.7 mV	7.85 ft	150.00 ml/min
10/13/2021 11:55 AM	06:00	6.67 pH	62.06 °F	839.43 mS/cm	0.00 mg/L	0.00 NTU	-106.5 mV	7.85 ft	150.00 ml/min
10/13/2021 11:58 AM	09:00	6.69 pH	62.10 °F	838.14 mS/cm	0.00 mg/L	0.00 NTU	-109.2 mV	7.85 ft	150.00 ml/min
10/13/2021 12:01 PM	12:00	6.70 pH	62.13 °F	836.60 mS/cm	0.00 mg/L	0.00 NTU	-112.1 mV	7.85 ft	150.00 ml/min
10/13/2021 12:04 PM	15:00	6.70 pH	62.25 °F	835.94 mS/cm	0.00 mg/L	0.00 NTU	-112.3 mV	7.85 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-24	Sample time: 1210 Final DTW: 7.88 ft

Low-Flow Test Report:

Test Date / Time: 10/13/2021 11:51:26 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-23 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 7.82 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 11 ft** **Estimated Total Volume Pumped: 2905 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 7.82

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 11:51 AM	00:00	6.61 pH	59.99 °F	987.81 µS/cm	5.24 mg/L	0.00 NTU	-34.3 mV	7.82 ft	150.00 ml/min
10/13/2021 11:52 AM	01:22	6.63 pH	60.88 °F	984.19 µS/cm	1.23 mg/L	0.00 NTU	-53.3 mV	7.82 ft	150.00 ml/min
10/13/2021 11:55 AM	04:22	6.64 pH	61.45 °F	974.37 µS/cm	0.33 mg/L	0.00 NTU	-75.8 mV	7.82 ft	150.00 ml/min
10/13/2021 11:58 AM	07:22	6.64 pH	61.72 °F	976.53 µS/cm	0.23 mg/L	0.00 NTU	-91.1 mV	7.82 ft	150.00 ml/min
10/13/2021 12:01 PM	10:22	6.64 pH	61.87 °F	973.84 µS/cm	0.19 mg/L	0.00 NTU	-95.5 mV	7.82 ft	150.00 ml/min
10/13/2021 12:04 PM	13:22	6.63 pH	61.97 °F	974.99 µS/cm	0.16 mg/L	0.00 NTU	-104.7 mV	7.82 ft	150.00 ml/min
10/13/2021 12:07 PM	16:22	6.64 pH	62.07 °F	973.87 µS/cm	0.15 mg/L	0.00 NTU	-107.1 mV	7.82 ft	150.00 ml/min
10/13/2021 12:10 PM	19:22	6.64 pH	61.96 °F	973.88 µS/cm	0.13 mg/L	0.00 NTU	-112.5 mV	7.82 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-23	1215

Low-Flow Test Report:

Test Date / Time: 10/13/2021 12:53:13 PM
Project: Kinder Morgan Harbor Island (15)
Operator Name: Joseph Sepiol

Location Name: A-28R **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 8.55 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 3150 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.05 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
65F partly cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 12:53 PM	00:00	6.70 pH	64.08 °F	584.18 mS/cm	0.00 mg/L	0.00 NTU	-84.3 mV	8.55 ft	150.00 ml/min
10/13/2021 12:56 PM	03:00	6.73 pH	63.56 °F	583.74 mS/cm	0.00 mg/L	0.00 NTU	-94.0 mV	8.55 ft	150.00 ml/min
10/13/2021 12:59 PM	06:00	6.73 pH	64.06 °F	579.42 mS/cm	0.00 mg/L	0.00 NTU	-101.5 mV	8.55 ft	150.00 ml/min
10/13/2021 1:02 PM	09:00	6.73 pH	63.58 °F	576.52 mS/cm	0.00 mg/L	0.00 NTU	-102.9 mV	8.55 ft	150.00 ml/min
10/13/2021 1:05 PM	12:00	6.72 pH	63.83 °F	581.37 mS/cm	0.00 mg/L	0.00 NTU	-103.3 mV	8.55 ft	150.00 ml/min
10/13/2021 1:08 PM	15:00	6.71 pH	63.66 °F	581.84 mS/cm	0.00 mg/L	0.00 NTU	-103.1 mV	8.55 ft	150.00 ml/min
10/13/2021 1:11 PM	18:00	6.71 pH	64.53 °F	580.45 mS/cm	0.00 mg/L	0.00 NTU	-105.1 mV	8.55 ft	150.00 ml/min
10/13/2021 1:14 PM	21:00	6.70 pH	65.35 °F	578.75 mS/cm	0.00 mg/L	0.00 NTU	-106.0 mV	8.55 ft	150.00 ml/min

Samples

Sample ID:	Description:
A-28R	Sample time: 1320 Final DTW: 8.60 ft

Low-Flow Test Report:

Test Date / Time: 10/13/2021 1:21:15 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-20 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 4.03 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 2700 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 4.04

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 1:21 PM	00:00	6.88 pH	63.06 °F	175.72 µS/cm	2.54 mg/L	95.21 NTU	-72.0 mV	4.03 ft	150.00 ml/min
10/13/2021 1:24 PM	03:00	6.80 pH	64.30 °F	142.79 µS/cm	0.51 mg/L	9.20 NTU	-84.1 mV	4.03 ft	150.00 ml/min
10/13/2021 1:27 PM	06:00	6.78 pH	64.60 °F	137.29 µS/cm	0.28 mg/L	3.31 NTU	-91.0 mV	4.03 ft	150.00 ml/min
10/13/2021 1:30 PM	09:00	6.78 pH	64.70 °F	137.65 µS/cm	0.23 mg/L	2.43 NTU	-93.0 mV	4.03 ft	150.00 ml/min
10/13/2021 1:33 PM	12:00	6.74 pH	65.04 °F	136.17 µS/cm	0.19 mg/L	2.46 NTU	-93.7 mV	4.03 ft	150.00 ml/min
10/13/2021 1:36 PM	15:00	6.79 pH	64.87 °F	136.44 µS/cm	0.17 mg/L	2.48 NTU	-98.7 mV	4.03 ft	150.00 ml/min
10/13/2021 1:39 PM	18:00	6.78 pH	65.00 °F	136.14 µS/cm	0.15 mg/L	1.40 NTU	-97.4 mV	4.03 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-20	1340

Low-Flow Test Report:

Test Date / Time: 10/13/2021 2:17:11 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-3 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 4.08 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 3150 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 4.08

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/13/2021 2:17 PM	00:00	7.03 pH	60.55 °F	174.51 µS/cm	6.69 mg/L	0.21 NTU	20.9 mV	4.08 ft	150.00 ml/min
10/13/2021 2:20 PM	03:00	6.98 pH	60.21 °F	174.29 µS/cm	3.67 mg/L	0.00 NTU	47.0 mV	4.08 ft	150.00 ml/min
10/13/2021 2:23 PM	06:00	6.97 pH	60.18 °F	174.27 µS/cm	3.58 mg/L	0.00 NTU	57.3 mV	4.08 ft	150.00 ml/min
10/13/2021 2:26 PM	09:00	6.97 pH	60.25 °F	174.47 µS/cm	3.54 mg/L	0.00 NTU	67.6 mV	4.08 ft	150.00 ml/min
10/13/2021 2:29 PM	12:00	6.98 pH	60.34 °F	174.57 µS/cm	3.52 mg/L	5.77 NTU	74.2 mV	4.08 ft	150.00 ml/min
10/13/2021 2:32 PM	15:00	6.99 pH	60.48 °F	174.74 µS/cm	3.50 mg/L	0.00 NTU	78.9 mV	4.08 ft	150.00 ml/min
10/13/2021 2:35 PM	18:00	7.01 pH	60.44 °F	174.80 µS/cm	3.50 mg/L	0.00 NTU	88.0 mV	4.08 ft	150.00 ml/min
10/13/2021 2:38 PM	21:00	7.01 pH	60.53 °F	175.05 µS/cm	3.49 mg/L	0.00 NTU	84.7 mV	4.08 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-3	1440

Low-Flow Test Report:

Test Date / Time: 10/14/2021 8:16:04 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-6 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 7.88 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 11 ft** **Estimated Total Volume Pumped: 4950 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 7.88

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 8:16 AM	00:00	6.85 pH	59.18 °F	421.00 µS/cm	3.75 mg/L	0.00 NTU	156.0 mV	7.88 ft	150.00 ml/min
10/14/2021 8:19 AM	03:00	6.83 pH	60.92 °F	409.44 µS/cm	0.65 mg/L	0.00 NTU	100.0 mV	7.88 ft	150.00 ml/min
10/14/2021 8:22 AM	06:00	6.82 pH	61.54 °F	406.58 µS/cm	0.44 mg/L	0.00 NTU	78.1 mV	7.88 ft	150.00 ml/min
10/14/2021 8:25 AM	09:00	6.81 pH	61.88 °F	404.18 µS/cm	0.39 mg/L	6.86 NTU	56.1 mV	7.88 ft	150.00 ml/min
10/14/2021 8:28 AM	12:00	6.82 pH	62.03 °F	400.54 µS/cm	0.35 mg/L	0.38 NTU	39.5 mV	7.88 ft	150.00 ml/min
10/14/2021 8:31 AM	15:00	6.81 pH	62.31 °F	399.00 µS/cm	0.34 mg/L	1.74 NTU	26.1 mV	7.88 ft	150.00 ml/min
10/14/2021 8:34 AM	18:00	6.81 pH	62.39 °F	396.76 µS/cm	0.33 mg/L	0.00 NTU	16.2 mV	7.88 ft	150.00 ml/min
10/14/2021 8:37 AM	21:00	6.81 pH	62.48 °F	394.54 µS/cm	0.31 mg/L	0.00 NTU	5.3 mV	7.88 ft	150.00 ml/min
10/14/2021 8:40 AM	24:00	6.81 pH	62.44 °F	392.91 µS/cm	0.30 mg/L	0.00 NTU	-4.1 mV	7.88 ft	150.00 ml/min
10/14/2021 8:43 AM	27:00	6.82 pH	62.60 °F	391.41 µS/cm	0.30 mg/L	0.00 NTU	-10.7 mV	7.88 ft	150.00 ml/min
10/14/2021 8:46 AM	30:00	6.82 pH	62.68 °F	389.96 µS/cm	0.30 mg/L	0.00 NTU	-15.5 mV	7.88 ft	150.00 ml/min
10/14/2021 8:49 AM	33:00	6.82 pH	62.86 °F	389.56 µS/cm	0.30 mg/L	0.00 NTU	-20.6 mV	7.88 ft	150.00 ml/min

Samples

Sample ID:	Description:

MW-9	850

Low-Flow Test Report:

Test Date / Time: 10/14/2021 8:23:06 AM
Project: Kinder Morgan Harbor Island (16)
Operator Name: Joseph Sepiol

Location Name: SH-02R **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 6.13 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 3150 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.03 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 8:23 AM	00:00	6.59 pH	64.17 °F	280.95 mS/cm	0.95 mg/L	0.00 NTU	-46.7 mV	6.13 ft	150.00 ml/min
10/14/2021 8:26 AM	03:00	6.65 pH	66.32 °F	274.98 mS/cm	0.07 mg/L	0.00 NTU	-80.0 mV	6.13 ft	150.00 ml/min
10/14/2021 8:29 AM	06:00	6.65 pH	66.98 °F	274.01 mS/cm	0.06 mg/L	882.08 NTU	-87.6 mV	6.13 ft	150.00 ml/min
10/14/2021 8:32 AM	09:00	6.68 pH	67.31 °F	273.22 mS/cm	0.05 mg/L	720.65 NTU	-91.4 mV	6.13 ft	150.00 ml/min
10/14/2021 8:35 AM	12:00	6.70 pH	67.49 °F	271.51 mS/cm	0.05 mg/L	591.87 NTU	-94.6 mV	6.13 ft	150.00 ml/min
10/14/2021 8:38 AM	15:00	6.68 pH	67.72 °F	268.67 mS/cm	0.04 mg/L	733.61 NTU	-92.7 mV	6.13 ft	150.00 ml/min
10/14/2021 8:41 AM	18:00	6.72 pH	67.75 °F	268.44 mS/cm	0.05 mg/L	204.91 NTU	-97.9 mV	6.13 ft	150.00 ml/min
10/14/2021 8:44 AM	21:00	6.73 pH	68.08 °F	267.19 mS/cm	0.04 mg/L	13.93 NTU	-99.5 mV	6.13 ft	150.00 ml/min

Samples

Sample ID:	Description:
SH-02R	Sample time: 0846 Final DTW: 6.16 ft Turbidity is stable. Verified with stand alone meter. Final 2.92 NTU

Low-Flow Test Report:

Test Date / Time: 10/14/2021 9:17:10 AM
Project: Kinder Morgan Harbor Island (17)
Operator Name: Joseph Sepiol

Location Name: MW-4 **Well Diameter: 4 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 7.31 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 2700 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.49 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
58F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 9:17 AM	00:00	6.16 pH	66.28 °F	116.27 mS/cm	0.22 mg/L	0.00 NTU	-4.7 mV	7.31 ft	150.00 ml/min
10/14/2021 9:20 AM	03:00	6.22 pH	66.92 °F	116.21 mS/cm	0.11 mg/L	0.00 NTU	-15.3 mV	7.31 ft	150.00 ml/min
10/14/2021 9:23 AM	06:00	6.23 pH	67.00 °F	116.06 mS/cm	0.10 mg/L	0.00 NTU	-21.1 mV	7.31 ft	150.00 ml/min
10/14/2021 9:26 AM	09:00	6.26 pH	67.28 °F	116.12 mS/cm	0.08 mg/L	0.00 NTU	-25.3 mV	7.31 ft	150.00 ml/min
10/14/2021 9:29 AM	12:00	6.28 pH	67.18 °F	115.94 mS/cm	0.07 mg/L	0.00 NTU	-29.4 mV	7.31 ft	150.00 ml/min
10/14/2021 9:32 AM	15:00	6.28 pH	67.02 °F	115.86 mS/cm	0.07 mg/L	0.00 NTU	-31.3 mV	7.31 ft	150.00 ml/min
10/14/2021 9:35 AM	18:00	6.33 pH	66.89 °F	115.61 mS/cm	0.07 mg/L	0.00 NTU	-35.0 mV	7.31 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-4	Sample time: 0942 Final DTW: 7.80 ft

Low-Flow Test Report:

Test Date / Time: 10/14/2021 9:21:49 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-22 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 9.05 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 4050 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 9.05

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 9:21 AM	00:00	6.31 pH	61.02 °F	212.87 µS/cm	1.33 mg/L	50.26 NTU	63.4 mV	9.05 ft	150.00 ml/min
10/14/2021 9:24 AM	03:00	6.32 pH	63.76 °F	209.12 µS/cm	0.27 mg/L	6.12 NTU	15.0 mV	9.05 ft	150.00 ml/min
10/14/2021 9:27 AM	06:00	6.32 pH	64.17 °F	204.71 µS/cm	0.20 mg/L	1.04 NTU	3.9 mV	9.05 ft	150.00 ml/min
10/14/2021 9:30 AM	09:00	6.33 pH	64.40 °F	198.39 µS/cm	0.17 mg/L	0.00 NTU	-6.2 mV	9.05 ft	150.00 ml/min
10/14/2021 9:33 AM	12:00	6.35 pH	64.51 °F	191.90 µS/cm	0.16 mg/L	0.00 NTU	-12.5 mV	9.05 ft	150.00 ml/min
10/14/2021 9:36 AM	15:00	6.38 pH	63.98 °F	184.88 µS/cm	0.18 mg/L	0.00 NTU	-15.6 mV	9.05 ft	150.00 ml/min
10/14/2021 9:39 AM	18:00	6.40 pH	63.90 °F	180.37 µS/cm	0.18 mg/L	0.00 NTU	-17.4 mV	9.05 ft	150.00 ml/min
10/14/2021 9:42 AM	21:00	6.42 pH	63.84 °F	172.79 µS/cm	0.19 mg/L	0.00 NTU	-24.1 mV	9.05 ft	150.00 ml/min
10/14/2021 9:45 AM	24:00	6.43 pH	63.85 °F	170.12 µS/cm	0.17 mg/L	0.00 NTU	-24.7 mV	9.05 ft	150.00 ml/min
10/14/2021 9:48 AM	27:00	6.43 pH	63.85 °F	168.14 µS/cm	0.17 mg/L	0.00 NTU	-28.5 mV	9.05 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-22	950

Low-Flow Test Report:

Test Date / Time: 10/14/2021 10:01:41 AM
Project: Kinder Morgan Harbor Island (18)
Operator Name: Joseph Sepiol

Location Name: MW-07R **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 6.91 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 4050 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.04 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
58F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 10:01 AM	00:00	6.37 pH	64.46 °F	141.12 mS/cm	0.41 mg/L	0.00 NTU	26.4 mV	6.91 ft	150.00 ml/min
10/14/2021 10:04 AM	03:00	6.51 pH	64.91 °F	143.21 mS/cm	0.10 mg/L	0.00 NTU	-2.1 mV	6.91 ft	150.00 ml/min
10/14/2021 10:07 AM	06:00	6.56 pH	64.83 °F	146.25 mS/cm	0.10 mg/L	0.00 NTU	-17.2 mV	6.91 ft	150.00 ml/min
10/14/2021 10:10 AM	09:00	6.64 pH	64.77 °F	147.85 mS/cm	0.07 mg/L	0.00 NTU	-31.3 mV	6.91 ft	150.00 ml/min
10/14/2021 10:13 AM	12:00	6.68 pH	64.82 °F	149.23 mS/cm	0.06 mg/L	0.00 NTU	-36.7 mV	6.91 ft	150.00 ml/min
10/14/2021 10:16 AM	15:00	6.71 pH	65.00 °F	152.29 mS/cm	0.05 mg/L	0.00 NTU	-43.6 mV	6.91 ft	150.00 ml/min
10/14/2021 10:19 AM	18:00	6.76 pH	64.94 °F	153.33 mS/cm	0.05 mg/L	0.00 NTU	-52.1 mV	6.91 ft	150.00 ml/min
10/14/2021 10:22 AM	21:00	6.80 pH	65.00 °F	153.80 mS/cm	0.06 mg/L	0.00 NTU	-56.7 mV	6.91 ft	150.00 ml/min
10/14/2021 10:25 AM	24:00	6.83 pH	64.68 °F	155.16 mS/cm	0.06 mg/L	0.00 NTU	-60.2 mV	6.91 ft	150.00 ml/min
10/14/2021 10:28 AM	27:00	6.83 pH	64.61 °F	157.80 mS/cm	0.06 mg/L	0.00 NTU	-61.6 mV	6.91 ft	150.00 ml/min

Samples

Sample ID:	Description:

MW-07R	Sample time: 1035 Final DTW: 6.95 ft

Low-Flow Test Report:

Test Date / Time: 10/14/2021 10:32:02 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-2 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 8.09 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 11 ft** **Estimated Total Volume Pumped: 2250 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 8.09

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 10:32 AM	00:00	6.41 pH	60.32 °F	57.46 µS/cm	6.39 mg/L	5.45 NTU	84.2 mV	8.09 ft	150.00 ml/min
10/14/2021 10:35 AM	03:00	6.20 pH	61.74 °F	56.06 µS/cm	2.72 mg/L	0.00 NTU	109.1 mV	8.09 ft	150.00 ml/min
10/14/2021 10:38 AM	06:00	6.19 pH	62.08 °F	55.57 µS/cm	2.49 mg/L	0.00 NTU	122.8 mV	8.09 ft	150.00 ml/min
10/14/2021 10:41 AM	09:00	6.17 pH	62.37 °F	55.10 µS/cm	2.36 mg/L	0.00 NTU	129.7 mV	8.09 ft	150.00 ml/min
10/14/2021 10:44 AM	12:00	6.17 pH	62.53 °F	54.66 µS/cm	2.27 mg/L	0.00 NTU	135.3 mV	8.09 ft	150.00 ml/min
10/14/2021 10:47 AM	15:00	6.16 pH	62.52 °F	54.43 µS/cm	2.17 mg/L	0.00 NTU	136.3 mV	8.09 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-2	1050

Low-Flow Test Report:

Test Date / Time: 10/14/2021 11:31:32 AM
Project: Kinder Morgan Harbor Island (19)
Operator Name: Joseph Sepiol

Location Name: MW-12R **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 8.1 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 2250 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
60F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 11:31 AM	00:00	7.14 pH	63.09 °F	346.44 mS/cm	0.08 mg/L	0.00 NTU	-30.3 mV	8.10 ft	150.00 ml/min
10/14/2021 11:34 AM	03:00	7.37 pH	63.45 °F	346.56 mS/cm	0.02 mg/L	0.00 NTU	-84.2 mV	8.10 ft	150.00 ml/min
10/14/2021 11:37 AM	06:00	7.44 pH	63.65 °F	343.99 mS/cm	0.02 mg/L	0.00 NTU	-97.2 mV	8.10 ft	150.00 ml/min
10/14/2021 11:40 AM	09:00	7.48 pH	63.71 °F	339.10 mS/cm	0.01 mg/L	132.93 NTU	-103.2 mV	8.10 ft	150.00 ml/min
10/14/2021 11:43 AM	12:00	7.52 pH	63.76 °F	336.71 mS/cm	0.01 mg/L	0.00 NTU	-108.2 mV	8.10 ft	150.00 ml/min
10/14/2021 11:46 AM	15:00	7.51 pH	63.86 °F	339.14 mS/cm	0.01 mg/L	0.00 NTU	-108.7 mV	8.10 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-12R	Sample time: 1154 Final DTW: 8.10 ft

Low-Flow Test Report:

Test Date / Time: 10/14/2021 11:35:05 AM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-18 **Well Diameter: 2 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 8 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 11 ft** **Estimated Total Volume Pumped: 6300 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 8.00

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 11:35 AM	00:00	5.93 pH	59.91 °F	236.11 µS/cm	3.11 mg/L	177.60 NTU	177.7 mV	8.00 ft	150.00 ml/min
10/14/2021 11:38 AM	03:00	5.84 pH	61.28 °F	184.10 µS/cm	3.15 mg/L	150.43 NTU	167.4 mV	8.00 ft	150.00 ml/min
10/14/2021 11:41 AM	06:00	6.10 pH	61.88 °F	211.72 µS/cm	0.77 mg/L	109.93 NTU	118.2 mV	8.00 ft	150.00 ml/min
10/14/2021 11:44 AM	09:00	6.18 pH	61.93 °F	203.74 µS/cm	0.57 mg/L	80.70 NTU	102.8 mV	8.00 ft	150.00 ml/min
10/14/2021 11:47 AM	12:00	6.22 pH	62.01 °F	196.33 µS/cm	0.43 mg/L	64.65 NTU	85.1 mV	8.00 ft	150.00 ml/min
10/14/2021 11:50 AM	15:00	6.29 pH	62.03 °F	191.50 µS/cm	0.38 mg/L	54.44 NTU	72.0 mV	8.00 ft	150.00 ml/min
10/14/2021 11:53 AM	18:00	6.32 pH	62.03 °F	186.10 µS/cm	0.31 mg/L	52.44 NTU	59.1 mV	8.00 ft	150.00 ml/min
10/14/2021 11:56 AM	21:00	6.37 pH	62.05 °F	185.19 µS/cm	0.27 mg/L	38.26 NTU	49.8 mV	8.00 ft	150.00 ml/min
10/14/2021 11:59 AM	24:00	6.40 pH	62.06 °F	182.78 µS/cm	0.23 mg/L	32.25 NTU	37.9 mV	8.00 ft	150.00 ml/min
10/14/2021 12:02 PM	27:00	6.47 pH	61.99 °F	181.11 µS/cm	0.20 mg/L	24.54 NTU	27.4 mV	8.00 ft	150.00 ml/min
10/14/2021 12:05 PM	30:00	6.49 pH	62.02 °F	179.76 µS/cm	0.19 mg/L	19.39 NTU	17.7 mV	8.00 ft	150.00 ml/min
10/14/2021 12:08 PM	33:00	6.53 pH	61.96 °F	181.20 µS/cm	0.17 mg/L	15.96 NTU	12.0 mV	8.00 ft	150.00 ml/min
10/14/2021 12:11 PM	36:00	6.52 pH	61.93 °F	183.20 µS/cm	0.17 mg/L	16.39 NTU	6.1 mV	8.00 ft	150.00 ml/min
10/14/2021 12:14 PM	39:00	6.55 pH	61.95 °F	184.70 µS/cm	0.16 mg/L	17.04 NTU	0.1 mV	8.00 ft	150.00 ml/min
10/14/2021 12:17 PM	42:00	6.59 pH	62.03 °F	185.42 µS/cm	0.16 mg/L	13.38 NTU	-3.8 mV	8.00 ft	150.00 ml/min

Low-Flow Test Report:

Test Date / Time: 10/14/2021 12:18:28 PM
Project: Kinder Morgan Harbor Island (20)
Operator Name: Joseph Sepiol

Location Name: SH-05R **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 5 ft** **Total Depth: 15 ft** **Initial Depth to Water: 7.4 ft**	**Pump Type: Peristaltic** **Tubing Type: .170x1/4 polyethylene** **Pump Intake From TOC: 12 ft** **Estimated Total Volume Pumped: 4050 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.3 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 697450**

Test Notes:

Weather Conditions:
60F overcast

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 12:18 PM	00:00	7.14 pH	62.20 °F	155.29 mS/cm	2.63 mg/L	0.00 NTU	6.2 mV	7.40 ft	150.00 ml/min
10/14/2021 12:21 PM	03:00	6.32 pH	62.61 °F	150.18 mS/cm	0.17 mg/L	0.00 NTU	42.8 mV	7.40 ft	150.00 ml/min
10/14/2021 12:24 PM	06:00	6.27 pH	62.79 °F	148.71 mS/cm	0.14 mg/L	0.00 NTU	48.7 mV	7.40 ft	150.00 ml/min
10/14/2021 12:27 PM	09:00	6.28 pH	62.92 °F	147.37 mS/cm	0.10 mg/L	0.00 NTU	50.6 mV	7.40 ft	150.00 ml/min
10/14/2021 12:30 PM	12:00	6.28 pH	63.04 °F	146.39 mS/cm	0.10 mg/L	0.00 NTU	52.0 mV	7.40 ft	150.00 ml/min
10/14/2021 12:33 PM	15:00	6.27 pH	63.19 °F	145.73 mS/cm	0.08 mg/L	0.00 NTU	53.3 mV	7.40 ft	150.00 ml/min
10/14/2021 12:36 PM	18:00	6.32 pH	63.30 °F	144.58 mS/cm	0.06 mg/L	0.00 NTU	50.5 mV	7.40 ft	150.00 ml/min
10/14/2021 12:39 PM	21:00	6.33 pH	63.29 °F	143.14 mS/cm	0.07 mg/L	0.00 NTU	49.1 mV	7.40 ft	150.00 ml/min
10/14/2021 12:42 PM	24:00	6.36 pH	63.37 °F	140.47 mS/cm	0.06 mg/L	0.00 NTU	45.0 mV	7.40 ft	150.00 ml/min
10/14/2021 12:45 PM	27:00	6.40 pH	63.44 °F	136.24 mS/cm	0.06 mg/L	0.00 NTU	36.6 mV	7.40 ft	150.00 ml/min

Samples

Sample ID:	Description:

MW-12R	Sample time: 1250 Final DTW: 7.70 ft

Samples

Sample ID:	Description:
MW-18	1220

Low-Flow Test Report:

Test Date / Time: 10/14/2021 12:56:33 PM
Project: Kinder Morgan Harbor Island
Operator Name: L.Selleck

Location Name: MW-1 **Well Diameter: 4 in** **Casing Type: PVC** **Total Depth: 15 ft** **Initial Depth to Water: 6.32 ft**	**Pump Type: Peristaltic pump** **Tubing Type: Poly** **Pump Intake From TOC: 10 ft** **Estimated Total Volume Pumped: 4050 ml** **Flow Cell Volume: 130 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 600 Vented** **Serial Number: 466619**

Test Notes:
Final DTW 6.34

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10		
10/14/2021 12:56 PM	00:00	6.42 pH	61.73 °F	411.02 µS/cm	3.93 mg/L	192.29 NTU	26.1 mV	6.32 ft	150.00 ml/min
10/14/2021 12:59 PM	03:00	6.43 pH	61.77 °F	411.86 µS/cm	0.57 mg/L	54.02 NTU	-0.8 mV	6.32 ft	150.00 ml/min
10/14/2021 1:02 PM	06:00	6.42 pH	61.77 °F	412.26 µS/cm	0.39 mg/L	18.00 NTU	-6.2 mV	6.32 ft	150.00 ml/min
10/14/2021 1:05 PM	09:00	6.46 pH	61.72 °F	133.19 µS/cm	6.51 mg/L	379.27 NTU	4.3 mV	6.32 ft	150.00 ml/min
10/14/2021 1:08 PM	12:00	6.45 pH	61.83 °F	413.29 µS/cm	0.78 mg/L	21.19 NTU	-6.8 mV	6.32 ft	150.00 ml/min
10/14/2021 1:11 PM	15:00	6.43 pH	61.93 °F	414.09 µS/cm	0.30 mg/L	31.57 NTU	-14.7 mV	6.32 ft	150.00 ml/min
10/14/2021 1:14 PM	18:00	6.44 pH	61.87 °F	413.35 µS/cm	0.28 mg/L	1.94 NTU	-16.5 mV	6.32 ft	150.00 ml/min
10/14/2021 1:17 PM	21:00	6.44 pH	61.85 °F	415.12 µS/cm	0.25 mg/L	2.69 NTU	-19.7 mV	6.32 ft	150.00 ml/min
10/14/2021 1:20 PM	24:00	6.44 pH	61.94 °F	415.67 µS/cm	0.23 mg/L	1.02 NTU	-21.0 mV	6.32 ft	150.00 ml/min
10/14/2021 1:23 PM	27:00	6.44 pH	61.97 °F	418.11 µS/cm	0.22 mg/L	0.52 NTU	-23.6 mV	6.32 ft	150.00 ml/min

Samples

Sample ID:	Description:
MW-1	1325

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: TMW-2
Date: 04/12

Elapsed Time	NTU	Elapsed Time	NTU
0	[illegible]	24	
3	2.32	27	
6	1.61	30	
9	1.54	33	
12	0.73	36	
15	0.22	39	
18	0.74	42	
21	—	45	

ignore Test at 21:00 →

Well ID: A-28R
Date: 04/13

Elapsed Time	NTU	Elapsed Time	NTU
0	2.82	24	1.82
3	1.24	27	1.76
6	1.58	30	0.02
9	1.48	33	
12	2.59	36	
15	1.11	39	
18	1.15	42	
21	1.40	45	

Well ID: ~~04/12~~ TMW-1
Date: 04/12

Elapsed Time	NTU	Elapsed Time	NTU
0	40.6	24	
3	15.9	27	
6	8.20	30	
9	3.28	33	
12	1.59	36	
15	0.83	39	
18		42	
21		45	

Well ID: A-27
Date: 04/13

Elapsed Time	NTU	Elapsed Time	NTU
0	5.21	24	
3	1.90	27	
6	3.10	30	
9	1.02	33	
12	1.12	36	
15	0.58	39	
18	1.07	42	
21	1.10	45	

Well ID: MW-19
Date: 04/12

Elapsed Time	NTU	Elapsed Time	NTU
0	17.6	24	11.2
3	10.5	27	10.0
6	9.76	30	12.5
9	11.1	33	11.6
12	15.4	36	
15	10.2	39	
18	10.5	42	
21	10.5	45	

Well ID: MW-24
Date: 04/13

Elapsed Time	NTU	Elapsed Time	NTU
0	8.51	24	8.52
3	9.70	27	8.56
6	9.17	30	8.53
9	9.97	33	8.27
12	9.06	36	8.39
15	8.60	39	
18	8.76	42	
21	8.72	45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: MW-23

Date: 04/13

Elapsed Time	NTU	Elapsed Time	NTU
0	6.09	24	0.79
3	4.14	27	
6	1.24	30	
9	0.02	33	
12	0.91	36	
15	0.80	39	
18	1.82	42	
21	1.61	45	

Well ID: MW-18

Date: 04/13

Elapsed Time	NTU	Elapsed Time	NTU
0	207	24	
3	82.7	27	
6	33.9	30	
9	25.4	33	
12	26.1	36	
15	21.4	39	
18	23.2	42	
21		45	

Well ID: A-21

Date: 04/13

location labeled M-23 on data sheet

Elapsed Time	NTU	Elapsed Time	NTU
0	4.88	24	
3	1.17	27	
6	0.30	30	
9	0.02	33	
12	0.35	36	
15	0.14	39	
18	0.02	42	
21		45	

Well ID: 11

Date: 04/14

Elapsed Time	NTU	Elapsed Time	NTU
0	4.69	24	
3	1.35	27	
6	1.01	30	
9	1.05	33	
12		36	
15		39	
18		42	
21		45	

Well ID: A-5

Date: 04/13

- RDO did not stabilize

Elapsed Time	NTU	Elapsed Time	NTU
0	6.99	24	4.18
3	3.49	27	4.17
6	3.89	30	4.68
9	3.88	33	4.37
12	4.91	36	5.22
15	4.37	39	5.97
18	5.56	42	6.44
21	4.75	45	4.92
		48	4.41
		51	3.45
		54	5.08
		57	6.66
		60	8.76

Well ID:

Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: TMW-5
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0	5.96	24	0.95
3	2.07	27	0.02
6	2.64	30	0.91
9	2.68	33	0.02
12	1.80	36	0.02
15	2.31	39	0.02
18	1.94	42	0.02
21	0.02	45	0.02

time	NTU
48	0.02
51	0.02
54	0.92
57	1.04
60	

Well ID: 12
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0	13.1	24	4.42
3	10.08	27	5.27
6	7.16	30	5.68
9	7.07	33	5.27
12	3.53	36	3.43
15	3.64	39	3.69
18	4.07	42	3.60
21	4.74	45	4.00

time	NTU
48	4.37
51	10.6
54	12.8
57	7.17
60	7.75

Well ID: [redacted] MW-7 / DUP-1
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0	5.68	24	0.06
3	1.09	27	0.02
6	0.02	30	0.02
9	0.02	33	0.02
12	0.25	36	0.02
15	0.02	39	0.02
18	0.02	42	0.02
21	0.02	45	0.02

time	NTU
48	0.02
51	0.87
54	0.58
57	0.02
60	0.02

Well ID: TMW-3
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0	8.03	24	3.03
3	4.32	27	
6	4.93	30	
9	1.99	33	
12	2.99	36	
15	2.16	39	
18	3.91	42	
21	3.82	45	

Well ID: TMW-4
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0	4.98	24	0.02
3	5.33	27	0.02
6	2.49	30	1.02
9	6.00	33	0.90
12	1.67	36	0.02
15	1.83	39	2.64
18	0.02	42	0.02
21	1.44	45	0.62

time	NTU
48	1.17
51	1.55
54	0.38
57	1.33
60	0.05

Well ID: MW-9
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0	10.5	24	7.24
3	6.89	27	6.69
6	10.1	30	7.59
9	10.1	33	7.07
12	[redacted]	36	
15	5.03	39	
18	8.76	42	
21	12.93	45	

7.03

meter died - using ATV00 readings

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: TMW-6
Date:

Elapsed Time	NTU	Elapsed Time	NTU	time	NTU
0	6.57	24	16.6	48	15.9
3	4.37	27	19.3	51	16.2
6	4.82	30	18.5	54	15.5
9	9.43	33	16.6	57	16.4
12	12.1	36	13.6	60	17.9
15	15.2	39	11.7		
18	16.8	42	12.2		
21	18.9	45	14.1		

Well ID: MW-21 / DUP-2
Date:

Elapsed Time	NTU	Elapsed Time	NTU	time	NTU
0	21.6	24	23.9	48	18.7
3	31.2	27	23.7	51	21.6
6	36.2	30	18.6	54	21.9
9	32.5	33	18.6	57	24.9
12	32.3	36	18.3	60	18.8
15	28.5	39	18.5		
18	26.2	42	22.4		
21	23.4	45	19.2		

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: A-23R
Date: 10/11

S 9.28
E 9.30

Elapsed Time	NTU	Elapsed Time	NTU
0	0.02	24	
3	13.9	27	
6	14.9	30	
9	14.4	33	
12	11.1	36	
15	12.0	39	
18	11.9	42	
21	12.0	45	

Well ID: MW-14 0930 ST
Date: 10/12

S 4.09
E 4.27

Elapsed Time	NTU	Elapsed Time	NTU
0	13.8	24	2.74
3	4.83	27	3.10
6	4.24	30	2.11
9	2.57	33	2.46
12	2.25	36	2.10
15	5.16	39	3.12
18	3.50	42	3.61
21	2.40	45	3.39

Well ID: ~~TMW-1~~ TMW-1
Date: 10/11

S 4.09
E 4.11

Elapsed Time	NTU	Elapsed Time	NTU
0	22.5	24	5.54
3	14.8	27	1.97
6	17.9	30	
9	12.2	33	
12	9.96	36	
15	13.6	39	
18	7.48	42	
21	6.06	45	

Well ID: A-14R 1055 ST
Date: 10/12

S 7.92
E 7.92

Elapsed Time	NTU	Elapsed Time	NTU
0	15.1	24	0.02
3	4.85	27	0.02
6	0.78	30	2.32
9	0.61	33	0.88
12	0.02	36	0.02
15	0.28	39	0.02
18	1.27	42	0.02
21	0.61	45	0.02

Well ID: MW-5
Date: 10/11

S 3.61
E 3.75

Elapsed Time	NTU	Elapsed Time	NTU
0	28.9	24	4.75
3	13.2	27	1.74
6	7.15	30	3.13
9	3.67	33	2.13
12	6.36	36	0.02
15	5.19	39	0.02
18	2.74	42	0.02
21	2.59	45	0.02

Well ID: A-10 1215 ST
Date: 10/12

S 7.20
E 7.21

Elapsed Time	NTU	Elapsed Time	NTU
0	28.2	24	0.12
3	3.65	27	0.18
6	2.25	30	0.02
9	1.60	33	0.02
12	0.82	36	0.02
15	0.70	39	0.02
18	0.62	42	0.02
21	0.04	45	0.02

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: MW-25 1340 ST

Date: 10/12

S 7.62
E 7.62

Elapsed Time	NTU	Elapsed Time	NTU
0	31.9	24	5.48
3	38.1	27	4.62
6	12.8	30	4.80
9	5.28	33	4.41
12	5.61	36	4.40
15	4.78	39	4.31
18	4.60	42	1.8
21	5.01	45	0.2

Well ID: A-21 1625

Date: 10/12

S 8.03
E 8.04

Elapsed Time	NTU	Elapsed Time	NTU
0	21.9	24	3.91
3	14.4	27	4.12
6	4.53	30	
9	4.65	33	
12	4.40	36	
15	4.03	39	
18	4.62	42	
21	5.01	45	

Well ID: A-8 1435

Date: 10/12

S 8.10
E 8.10

Elapsed Time	NTU	Elapsed Time	NTU
0	0.02	24	
3	0.02	27	
6	0.02	30	
9	0.02	33	
12	0.02	36	
15	~~0.02~~	39	
18	~~0.02~~	42	
21		45	

Well ID: MW-21 / DUP-2 0900

Date: 10/13

S-3.32
E-4.32

Elapsed Time	NTU	Elapsed Time	NTU
0	21.8	24	7.57
3	14.9	27	7.85
6	11.4	30	
9	12.0	33	
12	9.19	36	
15	9.08	39	
18	9.00	42	
21	7.73	45	

Well ID: A-5 ST 1525

Date: 10/12

S 8.03 FT
E 8.10

Elapsed Time	NTU	Elapsed Time	NTU
0	43.0	24	
3	5.46	27	
6	5.36	30	
9	2.86	33	
12	0.02	36	
15	0.02	39	
18	0.02	42	
21		45	

34.14
E4.50

Well ID: MW-8 ~~@~~ 0942

Date: 10/13

Elapsed Time	NTU	Elapsed Time	NTU
0	28.4	24	
3	19.7	27	
6	21.2	30	
9	21.6	33	
12	21.6	36	
15		39	
18		42	
21		45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: TMW-B1 1052
Date: 10/13

S 8.50
E 8.55

Elapsed Time	NTU	Elapsed Time	NTU
0	6.38	24	
3	5.56	27	
6	7.58	30	
9	5.88	33	
12	2.75	36	
15	3.72	39	
18	2.81	42	
21		45	

Well ID: SH-02R 0846
Date: 10/14

S 6.13
E 6.16

Elapsed Time	NTU	Elapsed Time	NTU
0	21.8	24	
3	5.95	27	
6	5.00	30	
9	2.58	33	
12	2.32	36	
15	3.02	39	
18	2.81	42	
21	2.92	45	

Well ID: A-28R 1320
Date: 10/13

S 8.55
E 8.60

Elapsed Time	NTU	Elapsed Time	NTU
0	2.83	24	
3	0.20	27	
6	0.02	30	
9	0.02	33	
12	0.02	36	
15	0.02	39	
18	0.02	42	
21	0.02	45	

Well ID: MW-4 0942
Date: 10/14

S 7.31
E 7.80

Elapsed Time	NTU	Elapsed Time	NTU
0	20.3	24	
3	12.5	27	
6	9.45	30	
9	8.15	33	
12	8.02	36	
15	8.88	39	
18	8.54	42	
21		45	

Well ID: MW-24 1210
Date: 10/13

S 7.85
E 7.88

Elapsed Time	NTU	Elapsed Time	NTU
0	13.0	24	
3	2.23	27	
6	3.07	30	
9	4.48	33	
12	3.52	36	
15	3.37	39	
18		42	
21		45	

Well ID: MW-07R 1035
Date: 10/14

S 6.91
E 6.95

Elapsed Time	NTU	Elapsed Time	NTU
0	117	24	18.1
3	117	27	17.8
6	52.6	30	
9	39.8	33	
12	35.5	36	
15	25.9	39	
18	23.2	42	
21	21.0	45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

S 8.10
E 8.10

Well ID: MW-12R 1154
Date: 10/14

Elapsed Time	NTU	Elapsed Time	NTU
0	15.2	24	
3	1.71	27	
6	1.45	30	
9	1.22	33	
12	1.56	36	
15	1.32	39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

7.40
S
E 7.70

Well ID: SH-05R 1250
Date: 10/14

Elapsed Time	NTU	Elapsed Time	NTU
0	~~3.32~~ 400.0	24	14.6
3	22.0	27	13.8
6	18.5	30	12.9
9	16.2	33	
12	16.2	36	
15	16.4	39	
18	15.8	42	
21	14.4	45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: TMW-2
Date: 10.11.21

Elapsed Time	NTU	Elapsed Time	NTU
0	5.96	24	0.42
3	3.13	27	1.37
6	3.36	30	1.40
9	1.80	33	
12	0.69	36	
15	0.97	39	
18	0.51	42	
21	1.40	45	

Well ID: MW-19
Date: 10.11.21

Elapsed Time	NTU	Elapsed Time	NTU
0	2.04	24	1.08
3	1.24	27	1.32
6	1.01	30	1.11
9	0.42	33	1.65
12	0.61	36	1.01
15	0.63	39	1.06
18	0.97	42	0.81
21	1.83	45	0.76

Well ID: TMW-5
Date: 10.12.21

Elapsed Time	NTU	Elapsed Time	NTU
0	3.70	24	2.90
3	3.46	27	3.32
6	2.77	30	3.91
9	2.87	33	3.29
12	3.18	36	2.70
15	3.34	39	1.85
18	3.72	42	2.14
21	3.57	45	2.07

Well ID: MW-7 / DUP-1
Date: 10.12.21

Elapsed Time	NTU	Elapsed Time	NTU
2 ~~0~~	2.77	26 ~~24~~	~~0.02~~ 1.20
5 ~~3~~	0.87	29 ~~27~~	0.07
8 ~~6~~	0.02	32 ~~30~~	0.02
11 ~~9~~	0.01	35 ~~33~~	0.02
14 ~~12~~	0.02	38 ~~36~~	0.02
17 ~~15~~	0.02	41 ~~39~~	0.02
20 ~~18~~	0.02	44 ~~42~~	0.02
23 ~~21~~	0.02	47 ~~45~~	0.02

Well ID: 12
Date: 10.12.21

Elapsed Time	NTU	Elapsed Time	NTU
0	9.48	24	9.96
3	9.84	27	9.85
6	9.27	30	10.4
9	9.55	33	11.0
12	9.21	36	11.4
15	9.65	39	
18	9.92	42	
21	9.29	45	

Well ID: TMW-3
Date: 10.12.21

Elapsed Time	NTU	Elapsed Time	NTU
0	3.18	24	
3	1.58	27	
6	0.60	30	
9	1.65	33	
12	1.15	36	
15	0.48	39	
18	0.42	42	
21		45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: TMW-4
Date: 10.12.21

Elapsed Time	NTU	Elapsed Time	NTU
0	2.85	24	
3	2.10	27	
6	2.23	30	
9	1.81	33	
12	1.41	36	
15	0.85	39	
18	1.06	42	
21	1.23	45	

Well ID: 11
Date: 10.12.21

Elapsed Time	NTU	Elapsed Time	NTU
0	11.10	24	2.88
3	5.74	27	
6	3.97	30	
9	4.71	33	
12	3.26	36	
15	2.68	39	
18	3.26	42	
21	3.77	45	

Well ID: MW-9
Date: 10.13.21

Elapsed Time	NTU	Elapsed Time	NTU
0	6.30	24	4.85
3	6.49	27	4.25
6	5.56	30	4.02
9	6.48	33	4.29
12	5.38	36	4.34
15	5.20	39	4.88
18	5.39	42	4.25
21	4.68	45	3.98

Well ID: TMW-6
Date: 10.13.21

Elapsed Time	NTU	Elapsed Time	NTU
0	7.55	24	10.4
3	7.78	27	
6	11.9	30	
9	12.5	33	
12	14.2	36	
15	13.2	39	
18	11.1	42	
21	10.8	45	

Well ID: A-27
Date: 10.13.21

Elapsed Time	NTU	Elapsed Time	NTU
0	8.80	24	
3	7.57	27	
6	9.39	30	
9	9.66	33	
12	9.68	36	
15		39	
18		42	
21		45	

Well ID: MW-23
Date: 10.13.21

Elapsed Time	NTU	Elapsed Time	NTU
0	6.58	24	
4 8	4.62	27	
7 6	0.68	30	
10 9	1.05	33	
13 12	1.27	36	
16 15	0.89	39	
19 18	0.43	42	
22 21		45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: MW-20
Date: 10.13.21

Elapsed Time	NTU	Elapsed Time	NTU
0	41.3	24	
3	12.1	27	
6	9.42	30	
9	8.24	33	
12	5.46	36	
15	5.50	39	
18	4.68	42	
21		45	

Well ID: MW-3
Date: 10.13.21

Elapsed Time	NTU	Elapsed Time	NTU
0	0.02	24	
3	0.02	27	
6	0.02	30	
9	0.02	33	
12	0.02	36	
15	0.02	39	
18	0.02	42	
21	0.02	45	

Well ID: MW-6
Date: 10.14.21

Elapsed Time	NTU	Elapsed Time	NTU
0	5.26	24	1.75
3	3.26	27	1.03
6	1.08	30	0.51
9	0.92	33	0.32
12	4.55	36	
15	2.22	39	
18	1.60	42	
21	2.30	45	

Well ID: MW-22
Date: 10.14.21

Elapsed Time	NTU	Elapsed Time	NTU
0	21.3	24	0.12
3	7.68	27	0.98
6	4.44	30	
9	3.75	33	
12	4.32	36	
15	0.78	39	
18	0.50	42	
21	0.02	45	

Well ID: MW-2
Date: 10.14.21

Elapsed Time	NTU	Elapsed Time	NTU
0	4.84	24	
3	4.41	27	
6	1.61	30	
9	1.37	33	
12	1.00	36	
15	0.85	39	
18		42	
21		45	

Well ID: MW-19
Date: 10.14.21

Elapsed Time	NTU	Elapsed Time	NTU
0	101	24	23.4
3	95.9	27	19.6
6	66.0	30	16.9
9	51.4	33	14.4
12	41.9	36	14.6
15	36.0	39	12.6
18	30.9	42	11.9
21	28.1	45	

PN: 30018857

Turbidity Readings

KMLT Harbor Island

Well ID: MW-1
Date: 10.14.21

Elapsed Time	NTU	Elapsed Time	NTU
0	98.4	24	5.76
3	35.9	27	4.83
6	16.9	30	
9	103	33	
12	32.6	36	
15	10.9	39	
18	7.75	42	
21	4.80	45	

pump stopped

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

Well ID:
Date:

Elapsed Time	NTU	Elapsed Time	NTU
0		24	
3		27	
6		30	
9		33	
12		36	
15		39	
18		42	
21		45	

ARCADIS Design & Consultancy for natural and built assets

Site ID: **KMLT Harbor Island Terminal** Project #: 30050809

Site Address: **2720 13th Ave SW, Seattle, WA** Date: ~~10/19/2020~~ 4/12/2021

Well ID	Time	Sheen/ Odor	LNAPL Depth (ft btoc)	LNAPL Thickness (feet)	DTW (feet btoc)	TD (feet btoc)	Notes
A-4	1010	—	—	—	6.89		
A-5	1013	—	—	—	7.104		
A-6	1005	—	6.62	0.03	6.65		
A-8	1000	—	—	—	7.77		
A-10	947	—	—	—	6.74		
A-11	935	—	—	—	7.57		
A-12	940	—	—	—	6.43		
A-14R	944	—	—	—	7.50		
A-16	930	odor	—	—	7.76		
A-18	955	—	—	—	7.91		
A-19	1039	—	—	—	7.89		
A-20	1043	—	—	—	7.51		
A-21	1045	—	—	—	7.60		
A-22R	1048	—	—	—	7.45		
A-23R	1138	—	—	—	8.87		
A-25	1030	—	—	—	7.26		
A-26R	1052	—	—	—	7.50		
A-27	1117	—	—	—	10.36		
A-28R	1113	—	—	—	7.90		
11	1218	—	—	—	4.02		
12	1223	—	—	—	1.67		
MW-07R	928				5.89		
MW-1	1012				5.03		
MW-2	1023				6.47		some sort of stick lodged in well
MW-3	1129				2.49		

ARCADIS Design & Consultancy for natural and built assets

Site ID: **KMLT Harbor Island Terminal** Project #: 30050809

Site Address: **2720 13th Ave SW, Seattle, WA** Date: ~~10/19/2020~~ 4/12/2021

Well ID	Time	Sheen/ Odor	LNAPL Depth (ft btoc)	LNAPL Thickness (feet)	DTW (feet btoc)	TD (feet btoc)	Notes
MW-4	946	—	—	—	5.59		
MW-5	1136	—	—	—	2.33		
MW-6	1109	—	—	—	6.52		
MW-7	1212	—	—	—	2.22		
MW-8	1218	—	—	—	3.12		
MW-9	1204	—	—	—	2.49		
MW-12R	952	—	—	—	7.06		
MW-14	1134	—	—	—	2.75		
MW-16	1055	—	—	—	6.27		
MW-18	1048	—	—	—	6.31		
MW-19	1140	slight odor	—	—	2.24		
MW-20	1126	—	—	—	2.65		
MW-21	1222	—	—	—	2.58		
MW-22	1038	—	—	—	7.49		
MW-23	1102	—	—	—	7.41		
MW-24	1056	—	—	—	7.44		
MW-25	950	—	—	—	7.16		
SH-02R	1003	—	—	—	4.90		
SH-05R	1040	—	—	—	6.79		
TMW-B1	1103	slight odor	—	—	7.37		
TMW-1	1140	—	—	—	2.79		
TMW-2	1138	—	—	—	2.91		
TMW-3	1214	—	—	—	3.11		
TMW-4	1220	—	—	—	2.83		
TMW-5	1208	—	—	—	2.70		
TMW-6	1201	—	—	—	2.01		

ARCADIS Design & Consultancy for natural and built assets

Site ID: **KMLT Harbor Island Terminal** Project #: 30050809

Site Address: **2720 13th Ave SW, Seattle, WA** Date: 10/19/2020

Well ID	Time	Sheen/ Odor	LNAPL Depth (ft btoc)	LNAPL Thickness (feet)	DTW (feet btoc)	TD (feet btoc)	Notes
✓ A-4	0925	mild odor	—	—	7.28	—	vault 22 ppm
✓ A-5	0922	—	—	—	8.06		no threaded bolts
✓ A-6	0920	product on probe mod odor	7.06	0.01	7.07	—	vault 19 ppm
✓ A-8	0919	odor	—	—	8.22		no bolts
✓ A-10	0915	—	—	—	7.19		no bolts
✓ A-11	0855	odor	—	—	8.07		no threaded bolts
✓ A-12	0906	odor	—	—	6.83		no threaded bolts
✓ A-14R	0902	—	—	—	7.93		no threaded
✓ A-16	0850	sheen + odor	8.21	0.01	8.22		no vthreaded bolts
✓ A-18	0858	—	—	—	8.36		2 vthreaded bolts, 1 missing
✓ A-19	0823				8.30		no 2 bolts, not threaded
✓ A-20	0820 0821	—	—	—	8.02 7.86 LRS		no vthreaded bolts
✓ A-21	0820	—	—	—	8.02		no vthreaded bolts
✓ A-22R	0827	—	—	—	7.91		no vthreaded bolts
A-23R	1257	—	—	—	9.28		no threaded bolts
✓ A-25	0928	—	—	—	7.79		~~2 bolts, threaded~~ no threaded bolts
✓ A-26R	0832	odor	—	—	8.00		not threaded
✓ A-27	0834	mild odor			10.97		42 ppm stick up
✓ A-28R	0838	—	—	—	8.57		threaded bolts
✓ 11	1038	—	—	—	5.11		stick up
✓ 12	1041	—	—	—	2.60		vault
✓ MW-07R	0949	—	—	—	6.90		no threaded bolts
✓ MW-1	1125	—	—	—	6.30		low O2 no threaded bolts
✓ MW-2	0857	—	—	—	8.06		no threaded bolts
MW-3	1049	—	—	—	4.10		missing 2 (3) bolts no cap

ARCADIS | Design & Consultancy for natural and built assets

Site ID: **KMLT Harbor Island Terminal** Project #: 30050809

Site Address: **2720 13th Ave SW, Seattle, WA** Date: 10/19/2020

Well ID	Time	Sheen/ Odor	LNAPL Depth (ft btoc)	LNAPL Thickness (feet)	DTW (feet btoc)	TD (feet btoc)	Notes
MW-4	0956	—	—	—	7.21		
MW-5	1032	—	—	—	3.65		3 stripped bolts no seal
MW-6	0846	—	—	—	7.90		1 bolt missing 2 stripped
MW-7	1028	—	—	—	3.26		no threaded bolts
MW-8	1058	—	—	—	4.17		no threaded bolts. broken casing
MW-9	1046	—	—	—	3.33		vault
MW-12R	0954	—	—	—	8.10	—	damaged vault, no seal missing bolt
MW-14	1030	—	—	—	4.10	—	missing 2 bolts no seal
MW-16							
MW-18	1014	—	—	—	7.99		no threaded bolts
MW-19	1040	mild odor	—	—	3.65		8 ppm 3 bolts damaged
MW-20	1056	—	—	—	4.01		15 ppm
MW-21	1052	—	—	—	3.34		vault
MW-22	0850	—	—	—	9.02	—	3 stripped bolts
MW-23	0936	—	—	—	7.83	—	1 bolt missing, 2 stripped 490 ppm
MW-24	0934	—	—	—	7.91		133 ppm no threaded bolts
MW-25	0915	—	—	—	7.63		3 missing bolts, no seal
SH-02R	1000	—	—	—	6.13		no threaded bolts
SH-05R	0948	—	—	—	7.40		missing 2 bolts, 1 stripped no seal
TMW-B1	0842	moderate odor	—	—	8.51		74.1 ppm bad seal missing 3 bolts
TMW-1	1036	—	—	—	4.11		missing 2 bolts
TMW-2	1034	—	—	—	4.15		inner casing leak surface thru — well cap too high to close
TMW-3	1031	—	—	—	4.16		no threaded bolts
TMW-4	1035	—	—	—	3.87		no threaded bolts
TMW-5	1103	—	—	—	3.87		bad seal 5 ppm
TMW-6	1105	—	—	—	3.21		no threaded bolts

Appendix C

Laboratory Reports and Chain-of-Custody Documentation

ANALYTICAL REPORT

April 26, 2021

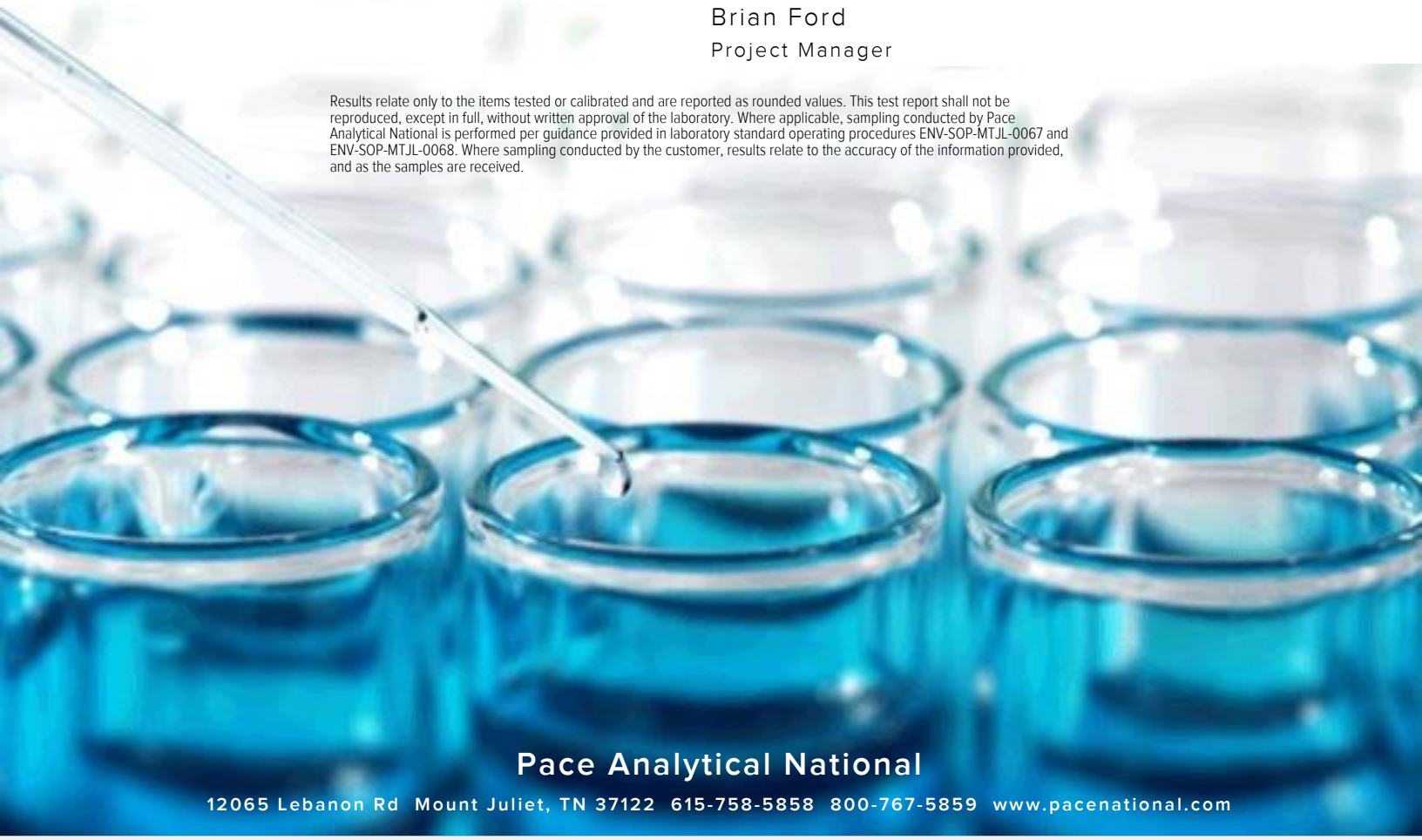
Kinder Morgan- Houston, TX(Scott Martin)

Sample Delivery Group:	L1339565
Samples Received:	04/15/2021
Project Number:	30065856
Description:	KMEP Harbor Island
Site:	2720 13TH AVENUE SW SEATTLE,WA
Report To:	Kyle Haslam 1100 Olive Way, Suite 800 Seattle, WA 98101

Entire Report Reviewed By:

Brian Ford

Project Manager



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-21 L1339565-01 GW

Collected by: LS/MM | Collected date/time: 04/14/21 12:10 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 15:42	04/21/21 15:42	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 20:25	04/18/21 20:25	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1655639	1	04/21/21 07:15	04/21/21 19:38	DMG	Mt. Juliet, TN

TMW-3 L1339565-02 GW

Collected by: LS/MM | Collected date/time: 04/13/21 11:00 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1655769	100	04/22/21 12:19	04/22/21 12:19	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 16:03	04/21/21 16:03	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 20:45	04/18/21 20:45	ACG	Mt. Juliet, TN

MW-9 L1339565-03 GW

Collected by: LS/MM | Collected date/time: 04/13/21 13:50 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1655769	1	04/22/21 12:32	04/22/21 12:32	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 16:25	04/21/21 16:25	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 21:05	04/18/21 21:05	ACG	Mt. Juliet, TN

DUP-2 L1339565-04 GW

Collected by: LS/MM | Collected date/time: 04/14/21 00:00 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 16:47	04/21/21 16:47	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 21:26	04/18/21 21:26	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1655639	1	04/21/21 07:15	04/21/21 19:59	DMG	Mt. Juliet, TN

11 L1339565-05 GW

Collected by: LS/MM | Collected date/time: 04/14/21 11:16 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1655769	5	04/22/21 12:45	04/22/21 12:45	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 17:09	04/21/21 17:09	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 21:46	04/18/21 21:46	ACG	Mt. Juliet, TN

A-28R L1339565-06 GW

Collected by: LS/MM | Collected date/time: 04/13/21 09:25 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 17:31	04/21/21 17:31	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 22:07	04/18/21 22:07	ACG	Mt. Juliet, TN

A-5 L1339565-07 GW

Collected by: LS/MM | Collected date/time: 04/13/21 14:55 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	5	04/21/21 18:36	04/21/21 18:36	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 22:27	04/18/21 22:27	ACG	Mt. Juliet, TN

A-27 L1339565-08 GW

Collected by: LS/MM | Collected date/time: 04/13/21 10:15 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1657067	1	04/23/21 12:36	04/23/21 12:36	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 22:47	04/18/21 22:47	ACG	Mt. Juliet, TN

DUP-1 L1339565-09 GW

Collected by: LS/MM | Collected date/time: 04/13/21 00:00 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656344	20	04/22/21 17:58	04/22/21 17:58	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 17:53	04/21/21 17:53	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 23:07	04/18/21 23:07	ACG	Mt. Juliet, TN

MW-7 L1339565-10 GW

Collected by: LS/MM | Collected date/time: 04/13/21 09:55 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656344	100	04/22/21 18:11	04/22/21 18:11	GB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 18:14	04/21/21 18:14	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654121	1	04/19/21 03:28	04/19/21 03:28	DWR	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/21/2021 15:42	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*99.3*		*78.0-120*		*04/21/2021 15:42*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/18/2021 20:25	WG1654102
Toluene	ND		1.00	1	04/18/2021 20:25	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 20:25	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 20:25	WG1654102
(S) Toluene-d8	*105*		*80.0-120*		*04/18/2021 20:25*	WG1654102
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*04/18/2021 20:25*	WG1654102
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*04/18/2021 20:25*	WG1654102

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	780		200	1	04/21/2021 19:38	WG1655639
Residual Range Organics (RRO)	ND		250	1	04/21/2021 19:38	WG1655639
(S) o-Terphenyl	*100*		*52.0-156*		*04/21/2021 19:38*	WG1655639

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	1120000		500000	100	04/22/2021 12:19	WG1655769

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	167		100	1	04/21/2021 16:03	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*101*		*78.0-120*		*04/21/2021 16:03*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	04/18/2021 20:45	WG1654102
Toluene	ND		1.00	1	04/18/2021 20:45	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 20:45	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 20:45	WG1654102
(S) Toluene-d8	*105*		*80.0-120*		*04/18/2021 20:45*	WG1654102
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/18/2021 20:45*	WG1654102
(S) 1,2-Dichloroethane-d4	*100*		*70.0-130*		*04/18/2021 20:45*	WG1654102

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	16800		5000	1	04/22/2021 12:32	WG1655769

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	272		100	1	04/21/2021 16:25	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*98.6*		*78.0-120*		*04/21/2021 16:25*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	04/18/2021 21:05	WG1654102
Toluene	ND		1.00	1	04/18/2021 21:05	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 21:05	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 21:05	WG1654102
(S) Toluene-d8	*106*		*80.0-120*		*04/18/2021 21:05*	WG1654102
(S) 4-Bromofluorobenzene	*106*		*77.0-126*		*04/18/2021 21:05*	WG1654102
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*04/18/2021 21:05*	WG1654102

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/21/2021 16:47	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*99.3*		*78.0-120*		*04/21/2021 16:47*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/18/2021 21:26	WG1654102
Toluene	ND		1.00	1	04/18/2021 21:26	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 21:26	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 21:26	WG1654102
(S) Toluene-d8	*105*		*80.0-120*		*04/18/2021 21:26*	WG1654102
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*04/18/2021 21:26*	WG1654102
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*04/18/2021 21:26*	WG1654102

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	662		200	1	04/21/2021 19:59	WG1655639
Residual Range Organics (RRO)	ND		250	1	04/21/2021 19:59	WG1655639
(S) o-Terphenyl	*94.2*		*52.0-156*		*04/21/2021 19:59*	WG1655639

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	79900		25000	5	04/22/2021 12:45	WG1655769

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	04/21/2021 17:09	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*99.6*		*78.0-120*		*04/21/2021 17:09*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	04/18/2021 21:46	WG1654102
Toluene	ND		1.00	1	04/18/2021 21:46	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 21:46	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 21:46	WG1654102
(S) Toluene-d8	*106*		*80.0-120*		*04/18/2021 21:46*	WG1654102
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/18/2021 21:46*	WG1654102
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*04/18/2021 21:46*	WG1654102

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	3920		100	1	04/21/2021 17:31	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*04/21/2021 17:31*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	21.8		1.00	1	04/18/2021 22:07	WG1654102
Toluene	2.39		1.00	1	04/18/2021 22:07	WG1654102
Ethylbenzene	19.0		1.00	1	04/18/2021 22:07	WG1654102
Total Xylenes	3.55		3.00	1	04/18/2021 22:07	WG1654102
(S) Toluene-d8	*103*		*80.0-120*		*04/18/2021 22:07*	WG1654102
(S) 4-Bromofluorobenzene	*109*		*77.0-126*		*04/18/2021 22:07*	WG1654102
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*04/18/2021 22:07*	WG1654102

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	1420		500	5	04/21/2021 18:36	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*98.6*		*78.0-120*		*04/21/2021 18:36*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	3.55		1.00	1	04/18/2021 22:27	WG1654102
Toluene	2.95		1.00	1	04/18/2021 22:27	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 22:27	WG1654102
Total Xylenes	3.55		3.00	1	04/18/2021 22:27	WG1654102
(S) Toluene-d8	*105*		*80.0-120*		*04/18/2021 22:27*	WG1654102
(S) 4-Bromofluorobenzene	*105*		*77.0-126*		*04/18/2021 22:27*	WG1654102
(S) 1,2-Dichloroethane-d4	*111*		*70.0-130*		*04/18/2021 22:27*	WG1654102

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	741		100	1	04/23/2021 12:36	WG1657067
(S) a,a,a-Trifluorotoluene(FID)	*100*		*78.0-120*		*04/23/2021 12:36*	WG1657067

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	18.1		1.00	1	04/18/2021 22:47	WG1654102
Toluene	ND		1.00	1	04/18/2021 22:47	WG1654102
Ethylbenzene	12.2		1.00	1	04/18/2021 22:47	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 22:47	WG1654102
(S) Toluene-d8	*100*		*80.0-120*		*04/18/2021 22:47*	WG1654102
(S) 4-Bromofluorobenzene	*99.7*		*77.0-126*		*04/18/2021 22:47*	WG1654102
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*04/18/2021 22:47*	WG1654102

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	473000		100000	20	04/22/2021 17:58	WG1656344

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	1970		100	1	04/21/2021 17:53	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*97.2*		*78.0-120*		*04/21/2021 17:53*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	04/18/2021 23:07	WG1654102
Toluene	ND		1.00	1	04/18/2021 23:07	WG1654102
Ethylbenzene	23.4		1.00	1	04/18/2021 23:07	WG1654102
Total Xylenes	22.6		3.00	1	04/18/2021 23:07	WG1654102
(S) Toluene-d8	*98.0*		*80.0-120*		*04/18/2021 23:07*	WG1654102
(S) 4-Bromofluorobenzene	*98.0*		*77.0-126*		*04/18/2021 23:07*	WG1654102
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*04/18/2021 23:07*	WG1654102

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	ND		500000	100	04/22/2021 18:11	WG1656344

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	1930		100	1	04/21/2021 18:14	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*98.1*		*78.0-120*		*04/21/2021 18:14*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	04/19/2021 03:28	WG1654121
Toluene	ND		1.00	1	04/19/2021 03:28	WG1654121
Ethylbenzene	23.9		1.00	1	04/19/2021 03:28	WG1654121
Total Xylenes	23.6		3.00	1	04/19/2021 03:28	WG1654121
(S) Toluene-d8	*103*		*80.0-120*		*04/19/2021 03:28*	WG1654121
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*04/19/2021 03:28*	WG1654121
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*04/19/2021 03:28*	WG1654121

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3645224-1 04/21/21 09:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		594	5000

L1341754-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1341754-05 04/21/21 21:40 • (DUP) R3645224-5 04/21/21 21:53

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	8430	8150	1	3.37		15

Laboratory Control Sample (LCS)

(LCS) R3645224-2 04/21/21 09:29

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Sulfate	40000	38100	95.1	80.0-120	

L1339297-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1339297-03 04/21/21 16:23 • (MS) R3645224-3 04/21/21 17:01 • (MSD) R3645224-4 04/21/21 17:14

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	ND	47400	48100	94.8	96.2	1	80.0-120			1.43	15

L1341837-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1341837-03 04/22/21 10:03 • (MS) R3645252-1 04/22/21 10:16 • (MSD) R3645252-2 04/22/21 10:29

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	431000	468000	466000	73.1	70.8	1	80.0-120	E V	E V	0.249	15

QUALITY CONTROL SUMMARY

L1339565-09,10

Method Blank (MB)

(MB) R3645468-1 04/22/21 15:33

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		594	5000

L1339469-29 Original Sample (OS) • Duplicate (DUP)

(OS) L1339469-29 04/22/21 17:31 • (DUP) R3645468-3 04/22/21 17:45

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	ND	ND	1	0.000		15

L1339706-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1339706-01 04/22/21 22:18 • (DUP) R3645468-6 04/22/21 22:31

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	24800	24800	1	0.220		15

Laboratory Control Sample (LCS)

(LCS) R3645468-2 04/22/21 15:46

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	39400	98.6	80.0-120	

L1339592-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1339592-02 04/22/21 20:47 • (MS) R3645468-4 04/22/21 21:00 • (MSD) R3645468-5 04/22/21 21:13

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	6430	58200	58300	103	104	1	80.0-120			0.226	15

L1339706-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1339706-01 04/22/21 22:18 • (MS) R3645468-7 04/22/21 22:44

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	24800	74800	100	1	80.0-120	

Method Blank (MB)

(MB) R3644742-2 04/21/21 11:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3644742-1 04/21/21 10:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4770	86.7	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*112*	*78.0-120*	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3645681-2 04/23/21 09:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*99.0*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3645681-1 04/23/21 08:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4790	87.1	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*78.0-120*	

Method Blank (MB)

(MB) R3645262-2 04/18/21 13:45

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.3*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3645262-1 04/18/21 13:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	4.92	98.4	70.0-123	
Ethylbenzene	5.00	4.88	97.6	79.0-123	
Toluene	5.00	5.07	101	79.0-120	
Xylenes, Total	15.0	14.5	96.7	79.0-123	
(S) Toluene-d8			*103*	*80.0-120*	
(S) 4-Bromofluorobenzene			*102*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*106*	*70.0-130*	

Method Blank (MB)

(MB) R3644698-2 04/19/21 02:07

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3644698-1 04/19/21 01:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	4.81	96.2	70.0-123	
Ethylbenzene	5.00	4.54	90.8	79.0-123	
Toluene	5.00	4.82	96.4	79.0-120	
Xylenes, Total	15.0	13.9	92.7	79.0-123	
(S) Toluene-d8			*102*	*80.0-120*	
(S) 4-Bromofluorobenzene			*101*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*104*	*70.0-130*	

L1339592-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1339592-02 04/19/21 04:08 • (MS) R3644698-3 04/19/21 09:12 • (MSD) R3644698-4 04/19/21 09:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	ND	4.62	3.78	92.4	75.6	1	17.0-158			20.0	27
Ethylbenzene	5.00	ND	4.55	3.61	91.0	72.2	1	30.0-155			23.0	27
Toluene	5.00	ND	4.82	3.77	96.4	75.4	1	26.0-154			24.4	28
Xylenes, Total	15.0	ND	13.8	10.9	92.0	72.7	1	29.0-154			23.5	28
(S) Toluene-d8					*103*	*104*		*80.0-120*				
(S) 4-Bromofluorobenzene					*100*	*102*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*107*	*105*		*70.0-130*				

Method Blank (MB)

(MB) R3644673-1 04/21/21 11:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*80.5*			*52.0-156*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3644673-2 04/21/21 11:44 • (LCSD) R3644673-3 04/21/21 12:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1620	1630	108	109	50.0-150			0.615	20
(S) o-Terphenyl				*111*	*112*	*52.0-156*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Kinder Morgan- Houston, TX(Scott Martin)

1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002

Report to: **Kyle Haslam**

Email To: **Kyle.Haslam@arcadis.com;Scott.Wenning@arca**

Project Description: **KMEP Harbor Island**

City/State Collected: **Seattle, WA**

Please Circle: (PT) MT CT ET

Phone: **206-726-4713**

Client Project # **30065856**

Lab Project # **KINMOROCA-HARBORISLA**

Collected by (print): **L Selleck M. McGonagle**

Site/Facility ID # **2720 13TH AVENUE SW**

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Road Mt Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1339565

C007

Acctnum: KINMOROCA

Template: T183451

Prelogin: P833895

PM: 110 - Brian Ford

PB: DN 3/31/21

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260D 40mlAmb-HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	NWTPHGX 40mlAmb HCl	Sulfate 125mlHDPE-NoPres	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-21	—	GW	—	4/14/21	1210	8 7	X	X	X				-01
TMW-3	—	GW	—	4/13/21	1100	7	X		X	X			-02
MW-9	—	GW	—	4/13/21	1350	7 6	X		X	X			-03
DUP-2	—	GW	—	4/14/21	—	8	X	X	X				-04
11	—	GW	—	4/14/21	1110	7	X		X	X			-05
A-28R	—	GW	—	4/13/21	0925	6	X		X				-06
A-5	—	GW	—	4/13/21	1455	6	X		X				-07
A-27	—	GW	—	4/13/21	1015	6	X		X				-08
DUP-1	—	GW	—	4/13/21	—	7	X		X	X			-09
MW-7	—	GW	—	4/13/21	0955	7	X		X	X			-10

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 9883 0083 8187

Sample Receipt Checklist

COC Seal Present/Intact:	NP	✓Y N
COC Signed/Accurate:		✓Y N
Bottles arrive intact:		✓Y N
Correct bottles used:		✓Y N
Sufficient volume sent:		✓Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		✓Y N

	Date:	Time:		
Relinquished by: (Signature)	4/14/21	1354	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.8 °C Bottles Received:
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/15/21 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

ANALYTICAL REPORT

April 27, 2021

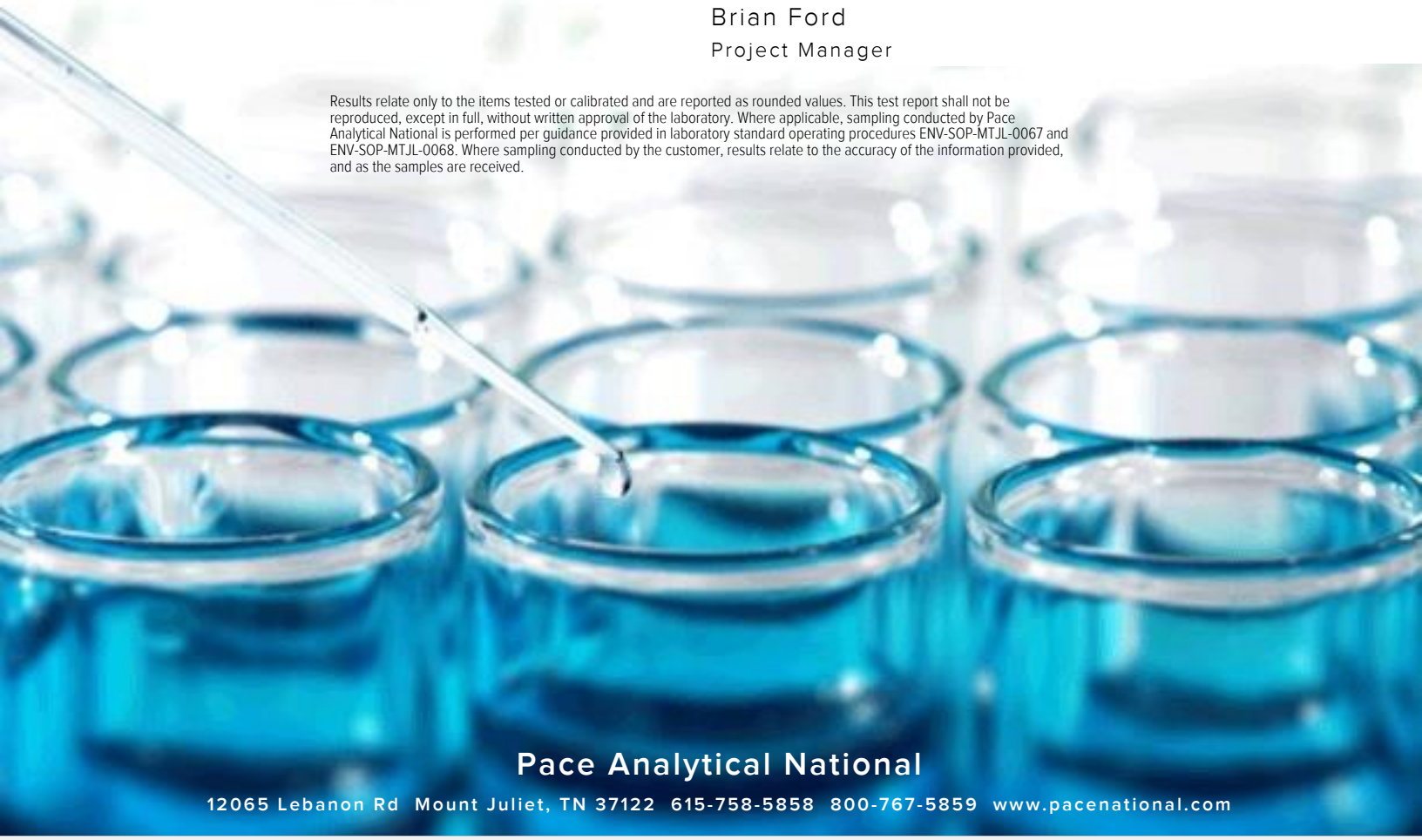
Kinder Morgan- Houston, TX(Scott Martin)

Sample Delivery Group:	L1339541
Samples Received:	04/15/2021
Project Number:	30065856
Description:	KMEP Harbor Island
Site:	2720 13TH AVENUE SW SEATTLE,WA
Report To:	Kyle Haslam 1100 Olive Way, Suite 800 Seattle, WA 98101

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

A-21 L1339541-01 GW

Collected by: LS/MM | Collected date/time: 04/13/21 13:30 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1653567	1	04/17/21 10:04	04/17/21 10:04	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 18:05	04/18/21 18:05	ACG	Mt. Juliet, TN

MW-23 L1339541-02 GW

Collected by: LS/MM | Collected date/time: 04/13/21 12:34 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1653567	5	04/17/21 10:50	04/17/21 10:50	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	5	04/18/21 23:28	04/18/21 23:28	ACG	Mt. Juliet, TN

TMW-4 L1339541-03 GW

Collected by: LS/MM | Collected date/time: 04/13/21 12:40 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656214	100	04/22/21 02:39	04/22/21 02:39	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655375	1	04/21/21 00:34	04/21/21 00:34	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1657069	1	04/23/21 03:25	04/23/21 03:25	TJJ	Mt. Juliet, TN

TMW-6 L1339541-04 GW

Collected by: LS/MM | Collected date/time: 04/13/21 15:45 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656214	10	04/22/21 13:50	04/22/21 13:50	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1653567	1	04/17/21 11:37	04/17/21 11:37	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/19/21 00:28	04/19/21 00:28	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1657069	10	04/23/21 04:06	04/23/21 04:06	TJJ	Mt. Juliet, TN

MW-24 L1339541-05 GW

Collected by: LS/MM | Collected date/time: 04/13/21 11:41 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1653567	1	04/17/21 12:01	04/17/21 12:01	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	10	04/19/21 00:08	04/19/21 00:08	ACG	Mt. Juliet, TN

MW-18 L1339541-06 GW

Collected by: LS/MM | Collected date/time: 04/13/21 15:50 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1653567	1	04/17/21 12:24	04/17/21 12:24	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 18:25	04/18/21 18:25	ACG	Mt. Juliet, TN

MW-19 L1339541-07 GW

Collected by: LS/MM | Collected date/time: 04/12/21 16:15 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656214	1	04/22/21 14:03	04/22/21 14:03	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 13:53	04/21/21 13:53	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 18:45	04/18/21 18:45	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1657069	10	04/23/21 04:26	04/23/21 04:26	TJJ	Mt. Juliet, TN

TMW-5 L1339541-08 GW

Collected by: LS/MM | Collected date/time: 04/12/21 15:00 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656214	100	04/22/21 03:44	04/22/21 03:44	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 14:15	04/21/21 14:15	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 19:05	04/18/21 19:05	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1657069	1	04/23/21 03:45	04/23/21 03:45	TJJ	Mt. Juliet, TN

DRUM L1339541-09 GW

Collected by: LS/MM | Collected date/time: 04/14/21 15:00 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1654876	1	04/20/21 11:10	04/21/21 09:16	SD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1656892	1	04/26/21 04:02	04/26/21 16:22	LAT	Mt. Juliet, TN

TMW-2 L1339541-10 GW

Collected by: LS/MM | Collected date/time: 04/12/21 14:35 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656214	100	04/22/21 03:57	04/22/21 03:57	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 14:36	04/21/21 14:36	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 19:25	04/18/21 19:25	ACG	Mt. Juliet, TN

TMW-1 L1339541-11 GW

Collected by: LS/MM | Collected date/time: 04/12/21 15:20 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656214	20	04/22/21 14:16	04/22/21 14:16	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1657067	1	04/23/21 10:48	04/23/21 10:48	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 19:45	04/18/21 19:45	ACG	Mt. Juliet, TN

12 L1339541-12 GW

Collected by: LS/MM | Collected date/time: 04/12/21 16:25 | Received date/time: 04/15/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1656214	20	04/22/21 04:23	04/22/21 04:23	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1655181	1	04/21/21 15:20	04/21/21 15:20	TPR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1654102	1	04/18/21 20:05	04/18/21 20:05	ACG	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/17/2021 10:04	WG1653567
(S) a,a,a-Trifluorotoluene(FID)	*105*		*78.0-120*		*04/17/2021 10:04*	WG1653567

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/18/2021 18:05	WG1654102
Toluene	ND		1.00	1	04/18/2021 18:05	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 18:05	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 18:05	WG1654102
(S) Toluene-d8	*103*		*80.0-120*		*04/18/2021 18:05*	WG1654102
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*04/18/2021 18:05*	WG1654102
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*04/18/2021 18:05*	WG1654102

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	2340	B	500	5	04/17/2021 10:50	WG1653567
(S) a,a,a-Trifluorotoluene(FID)	*94.3*		*78.0-120*		*04/17/2021 10:50*	WG1653567

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	206		5.00	5	04/18/2021 23:28	WG1654102
Toluene	11.8		5.00	5	04/18/2021 23:28	WG1654102
Ethylbenzene	10.6		5.00	5	04/18/2021 23:28	WG1654102
Total Xylenes	15.0		15.0	5	04/18/2021 23:28	WG1654102
(S) Toluene-d8	*105*		*80.0-120*		*04/18/2021 23:28*	WG1654102
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/18/2021 23:28*	WG1654102
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*04/18/2021 23:28*	WG1654102

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	1180000		500000	100	04/22/2021 02:39	WG1656214

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	2510		100	1	04/21/2021 00:34	WG1655375
(S) a,a,a-Trifluorotoluene(FID)	*103*		*78.0-120*		*04/21/2021 00:34*	WG1655375

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	4.34		1.00	1	04/23/2021 03:25	WG1657069
Toluene	2.24		1.00	1	04/23/2021 03:25	WG1657069
Ethylbenzene	46.1		1.00	1	04/23/2021 03:25	WG1657069
Total Xylenes	3.98		3.00	1	04/23/2021 03:25	WG1657069
(S) Toluene-d8	*98.7*		*80.0-120*		*04/23/2021 03:25*	WG1657069
(S) 4-Bromofluorobenzene	*109*		*77.0-126*		*04/23/2021 03:25*	WG1657069
(S) 1,2-Dichloroethane-d4	*95.3*		*70.0-130*		*04/23/2021 03:25*	WG1657069

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	411000		50000	10	04/22/2021 13:50	WG1656214

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	2160		100	1	04/17/2021 11:37	WG1653567
(S) a,a,a-Trifluorotoluene(FID)	*99.2*		*78.0-120*		*04/17/2021 11:37*	WG1653567

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	04/19/2021 00:28	WG1654102
Toluene	ND		1.00	1	04/19/2021 00:28	WG1654102
Ethylbenzene	290		10.0	10	04/23/2021 04:06	WG1657069
Total Xylenes	473		30.0	10	04/23/2021 04:06	WG1657069
(S) Toluene-d8	*83.4*		*80.0-120*		*04/19/2021 00:28*	WG1654102
(S) Toluene-d8	*103*		*80.0-120*		*04/23/2021 04:06*	WG1657069
(S) 4-Bromofluorobenzene	*97.4*		*77.0-126*		*04/19/2021 00:28*	WG1654102
(S) 4-Bromofluorobenzene	*110*		*77.0-126*		*04/23/2021 04:06*	WG1657069
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*04/19/2021 00:28*	WG1654102
(S) 1,2-Dichloroethane-d4	*97.4*		*70.0-130*		*04/23/2021 04:06*	WG1657069

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	6710		100	1	04/17/2021 12:01	WG1653567
(S) a,a,a-Trifluorotoluene(FID)	*123*	J1	*78.0-120*		*04/17/2021 12:01*	WG1653567

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	508		10.0	10	04/19/2021 00:08	WG1654102
Toluene	24.3		10.0	10	04/19/2021 00:08	WG1654102
Ethylbenzene	683		10.0	10	04/19/2021 00:08	WG1654102
Total Xylenes	313		30.0	10	04/19/2021 00:08	WG1654102
(S) Toluene-d8	*100*		*80.0-120*		*04/19/2021 00:08*	WG1654102
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*04/19/2021 00:08*	WG1654102
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*04/19/2021 00:08*	WG1654102

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	04/17/2021 12:24	WG1653567
(S) a,a,a-Trifluorotoluene(FID)	*103*		*78.0-120*		*04/17/2021 12:24*	WG1653567

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	04/18/2021 18:25	WG1654102
Toluene	ND		1.00	1	04/18/2021 18:25	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 18:25	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 18:25	WG1654102
(S) Toluene-d8	*104*		*80.0-120*		*04/18/2021 18:25*	WG1654102
(S) 4-Bromofluorobenzene	*99.4*		*77.0-126*		*04/18/2021 18:25*	WG1654102
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*04/18/2021 18:25*	WG1654102

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	8610		5000	1	04/22/2021 14:03	WG1656214

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	2140		100	1	04/21/2021 13:53	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*103*		*78.0-120*		*04/21/2021 13:53*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	1.24		1.00	1	04/18/2021 18:45	WG1654102
Toluene	17.0		1.00	1	04/18/2021 18:45	WG1654102
Ethylbenzene	157		10.0	10	04/23/2021 04:26	WG1657069
Total Xylenes	17.0		3.00	1	04/18/2021 18:45	WG1654102
(S) Toluene-d8	*92.6*		*80.0-120*		*04/18/2021 18:45*	WG1654102
(S) Toluene-d8	*103*		*80.0-120*		*04/23/2021 04:26*	WG1657069
(S) 4-Bromofluorobenzene	*98.3*		*77.0-126*		*04/18/2021 18:45*	WG1654102
(S) 4-Bromofluorobenzene	*111*		*77.0-126*		*04/23/2021 04:26*	WG1657069
(S) 1,2-Dichloroethane-d4	*98.3*		*70.0-130*		*04/18/2021 18:45*	WG1654102
(S) 1,2-Dichloroethane-d4	*98.7*		*70.0-130*		*04/23/2021 04:26*	WG1657069

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	763000		500000	100	04/22/2021 03:44	WG1656214

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	1100		100	1	04/21/2021 14:15	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*100*		*78.0-120*		*04/21/2021 14:15*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	1.58		1.00	1	04/18/2021 19:05	WG1654102
Toluene	ND		1.00	1	04/18/2021 19:05	WG1654102
Ethylbenzene	3.55		1.00	1	04/23/2021 03:45	WG1657069
Total Xylenes	ND		3.00	1	04/18/2021 19:05	WG1654102
(S) Toluene-d8	*104*		*80.0-120*		*04/18/2021 19:05*	WG1654102
(S) Toluene-d8	*97.9*		*80.0-120*		*04/23/2021 03:45*	WG1657069
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*04/18/2021 19:05*	WG1654102
(S) 4-Bromofluorobenzene	*107*		*77.0-126*		*04/23/2021 03:45*	WG1657069
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*04/18/2021 19:05*	WG1654102
(S) 1,2-Dichloroethane-d4	*96.9*		*70.0-130*		*04/23/2021 03:45*	WG1657069

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.200	1	04/21/2021 09:16	WG1654876

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	5.29		2.00	1	04/26/2021 16:22	WG1656892
Barium	36.4		20.0	1	04/26/2021 16:22	WG1656892
Cadmium	ND		1.00	1	04/26/2021 16:22	WG1656892
Chromium	ND		2.00	1	04/26/2021 16:22	WG1656892
Lead	3.66		2.00	1	04/26/2021 16:22	WG1656892
Selenium	ND		2.00	1	04/26/2021 16:22	WG1656892
Silver	ND		2.00	1	04/26/2021 16:22	WG1656892

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	1220000		500000	100	04/22/2021 03:57	WG1656214

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	04/21/2021 14:36	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*99.0*		*78.0-120*		*04/21/2021 14:36*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	04/18/2021 19:25	WG1654102
Toluene	ND		1.00	1	04/18/2021 19:25	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 19:25	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 19:25	WG1654102
(S) Toluene-d8	*107*		*80.0-120*		*04/18/2021 19:25*	WG1654102
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/18/2021 19:25*	WG1654102
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*04/18/2021 19:25*	WG1654102

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	963000		100000	20	04/22/2021 14:16	WG1656214

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	04/23/2021 10:48	WG1657067
(S) a,a,a-Trifluorotoluene(FID)	*98.8*		*78.0-120*		*04/23/2021 10:48*	WG1657067

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	04/18/2021 19:45	WG1654102
Toluene	ND		1.00	1	04/18/2021 19:45	WG1654102
Ethylbenzene	ND		1.00	1	04/18/2021 19:45	WG1654102
Total Xylenes	ND		3.00	1	04/18/2021 19:45	WG1654102
(S) Toluene-d8	*105*		*80.0-120*		*04/18/2021 19:45*	WG1654102
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/18/2021 19:45*	WG1654102
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*04/18/2021 19:45*	WG1654102

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	691000		100000	20	04/22/2021 04:23	WG1656214

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	1290		100	1	04/21/2021 15:20	WG1655181
(S) a,a,a-Trifluorotoluene(FID)	*99.2*		*78.0-120*		*04/21/2021 15:20*	WG1655181

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	3.27		1.00	1	04/18/2021 20:05	WG1654102
Toluene	ND		1.00	1	04/18/2021 20:05	WG1654102
Ethylbenzene	4.71		1.00	1	04/18/2021 20:05	WG1654102
Total Xylenes	6.05		3.00	1	04/18/2021 20:05	WG1654102
(S) Toluene-d8	*99.7*		*80.0-120*		*04/18/2021 20:05*	WG1654102
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*04/18/2021 20:05*	WG1654102
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*04/18/2021 20:05*	WG1654102

QUALITY CONTROL SUMMARY

L1339541-03,04,07,08,10,11,12

Method Blank (MB)

(MB) R3645251-1 04/21/21 11:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		594	5000

L1339493-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1339493-03 04/22/21 01:33 • (DUP) R3645251-3 04/22/21 01:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	ND	ND	1	0.000		15

L1339693-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1339693-01 04/22/21 04:49 • (DUP) R3645251-6 04/22/21 05:02

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	128000	128000	1	0.152	E	15

Laboratory Control Sample (LCS)

(LCS) R3645251-2 04/21/21 11:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	39700	99.1	80.0-120	

L1339493-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1339493-03 04/22/21 01:33 • (MS) R3645251-4 04/22/21 01:59 • (MSD) R3645251-5 04/22/21 02:12

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	ND	51400	51800	103	104	1	80.0-120			0.702	15

L1339693-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1339693-01 04/22/21 04:49 • (MS) R3645251-7 04/22/21 05:15

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	128000	173000	90.3	1	80.0-120	E

Method Blank (MB)

(MB) R3644488-1 04/21/21 08:32

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	U		0.100	0.200

Laboratory Control Sample (LCS)

(LCS) R3644488-2 04/21/21 08:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	3.21	107	80.0-120	

Method Blank (MB)

(MB) R3646752-1 04/26/21 14:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic	U		0.180	2.00
Barium	U		0.381	20.0
Cadmium	U		0.150	1.00
Chromium	U		1.24	2.00
Lead	U		0.849	2.00
Selenium	U		0.300	2.00
Silver	U		0.0700	2.00

Laboratory Control Sample (LCS)

(LCS) R3646752-2 04/26/21 14:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	50.0	47.7	95.5	80.0-120	
Barium	50.0	48.0	95.9	80.0-120	
Cadmium	50.0	52.1	104	80.0-120	
Chromium	50.0	51.4	103	80.0-120	
Lead	50.0	48.8	97.6	80.0-120	
Selenium	50.0	50.5	101	80.0-120	
Silver	50.0	49.0	97.9	80.0-120	

L1339469-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1339469-25 04/26/21 14:45 • (MS) R3646752-4 04/26/21 14:52 • (MSD) R3646752-5 04/26/21 14:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	50.0	2.68	51.6	51.8	97.9	98.3	1	75.0-125			0.320	20
Barium	50.0	ND	65.4	69.8	92.4	101	1	75.0-125			6.53	20
Cadmium	50.0	ND	51.8	50.8	104	102	1	75.0-125			2.06	20
Chromium	50.0	ND	51.9	52.3	101	102	1	75.0-125			0.843	20
Lead	50.0	ND	50.3	49.1	98.8	96.5	1	75.0-125			2.26	20
Selenium	50.0	11.4	63.8	64.0	105	105	1	75.0-125			0.281	20
Silver	50.0	ND	47.8	50.0	95.3	99.6	1	75.0-125			4.33	20

Method Blank (MB)

(MB) R3644149-2 04/17/21 04:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	54.8	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3644149-1 04/17/21 03:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4650	84.5	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*78.0-120*	

L1339541-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1339541-02 04/17/21 10:50 • (MS) R3644149-3 04/17/21 12:48 • (MSD) R3644149-4 04/17/21 13:12

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5500	2340	4720	4510	43.3	39.5	1	10.0-155			4.55	21
(S) a,a,a-Trifluorotoluene(FID)					*106*	*104*		*78.0-120*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3644742-2 04/21/21 11:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*99.3*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3644742-1 04/21/21 10:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4770	86.7	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*112*	*78.0-120*	

Method Blank (MB)

(MB) R3644387-2 04/20/21 18:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	37.4	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*97.2*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3644387-1 04/20/21 17:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5240	95.3	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*78.0-120*	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3645681-2 04/23/21 09:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*99.0*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3645681-1 04/23/21 08:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4790	87.1	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*78.0-120*	

Method Blank (MB)

(MB) R3645262-2 04/18/21 13:45

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.3*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3645262-1 04/18/21 13:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	4.92	98.4	70.0-123	
Ethylbenzene	5.00	4.88	97.6	79.0-123	
Toluene	5.00	5.07	101	79.0-120	
Xylenes, Total	15.0	14.5	96.7	79.0-123	
(S) Toluene-d8			*103*	*80.0-120*	
(S) 4-Bromofluorobenzene			*102*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*106*	*70.0-130*	

Method Blank (MB)

(MB) R3645981-3 04/22/21 23:40

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*104*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*98.1*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3645981-1 04/22/21 22:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	5.34	107	70.0-123	
Ethylbenzene	5.00	5.16	103	79.0-123	
Toluene	5.00	4.86	97.2	79.0-120	
Xylenes, Total	15.0	14.6	97.3	79.0-123	
(S) Toluene-d8			*103*	*80.0-120*	
(S) 4-Bromofluorobenzene			*107*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*98.4*	*70.0-130*	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Kinder Morgan- Houston, TX(Scott Martin)

1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002

Report to: Kyle Haslam

Email To: Kyle.Haslam@arcadis.com;Scott.Wenning@arca

Project Description: KMEP Harbor Island

City/State Collected: Seattle, WA

Please Circle: (PT) MT CT ET

Phone: 206-726-4713

Client Project # 30065856

Lab Project # KINMOROCA-HARBORISLA

Collected by (print): L.Selleck M.McGonagle

Site/Facility ID # 2720 13TH AVENUE SW

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Road Mt Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1339541

F025

Acctnum: KINMOROCA

Template: T183451

Prelogin: P833895

PM: 110 - Brian Ford

PB: DN 3/31/21

Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260D 40mlAmb-HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	NWTPHGX 40mlAmb HCl	Sulfate 125mlHDPE-NoPres	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
A-21	—	GW	—	4/13/21	1330	6	X		X				-01
MW-23	—	GW	—	4/13/21	1234	6	X		X				-02
TMW-4	—	GW	—	4/13/21	1240	7	X		X	X			-03
TMW-6	—	GW	—	4/13/21	1545	7	X		X	X			-04
MW-24	—	GW	—	4/13/21	1141	6	X		X				-05
MW-18	—	GW	—	4/13/21	1550	6	X		X				-06
MW-19	—	GW	—	4/12/21	1615	7	X		X	X			-07
TMW-5	—	GW	—	4/12/21	1500	7	X		X	X			-08
DRUM	—	GW	—	4/14/21	1245	1					X		-09
TMW-2	—	GW	—	4/12/21	1435	7	X		X	X			-10

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 9883 0083 8176

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	4/14/21	1414		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.5+0.2=2.5 °C Bottles Received: 10	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Olivia Tuer	Date: 4/15/21 Time: 900	Hold: / Condition: NCF / OK

Company Name/Address:
Kinder Morgan- Houston, TX(Scott Martin)

1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002

Pres Chk

Report to: **Kyle Haslam**

Email To: **Kyle.Haslam@arcadis.com;Scott.Wenning@arca**

Project Description: **KMEP Harbor Island**

City/State Collected: **Seattle, WA**

Please Circle: (PT) MT CT ET

Phone: **206-726-4713**

Client Project # **30065856**

Lab Project # **KINMOROCA-HARBORISLA**

Collected by (print): **L.Selleck M.McDonagle**

Collected by (signature): Immediately Packed on Ice N___ Y___

Site/Facility ID # **2720 13TH AVENUE SW**

P.O. #

Quote #

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260D 40mlAmb-HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	NWTPHGX 40mlAmb HCl	Sulfate 125mlHDPE-NoPres	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
TMW-1	—	GW	—	4/12/21	1520	7	X		X	X			-11
12	—	GW	—	4/12/21	1625	7	X		X	X			12
		GW											
		GW											
		GW											

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Road Mt Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1339541

Table #

Acctnum: **KINMOROCA**

Template: **T183451**

Prelogin: **P833895**

PM: **110 - Brian Ford**

PB: DN 3/31/21

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 988300838876

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No, HCl / MeoH, TBR	If preservation required by Login: Date/Time
	4/14/21	1414		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.4 °C Bottles Received: 14	
				2-5-7-0-2-3-5	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/15/21 Time: 900	Hold: / Condition: NCF / OK

ANALYTICAL REPORT

November 01, 2021

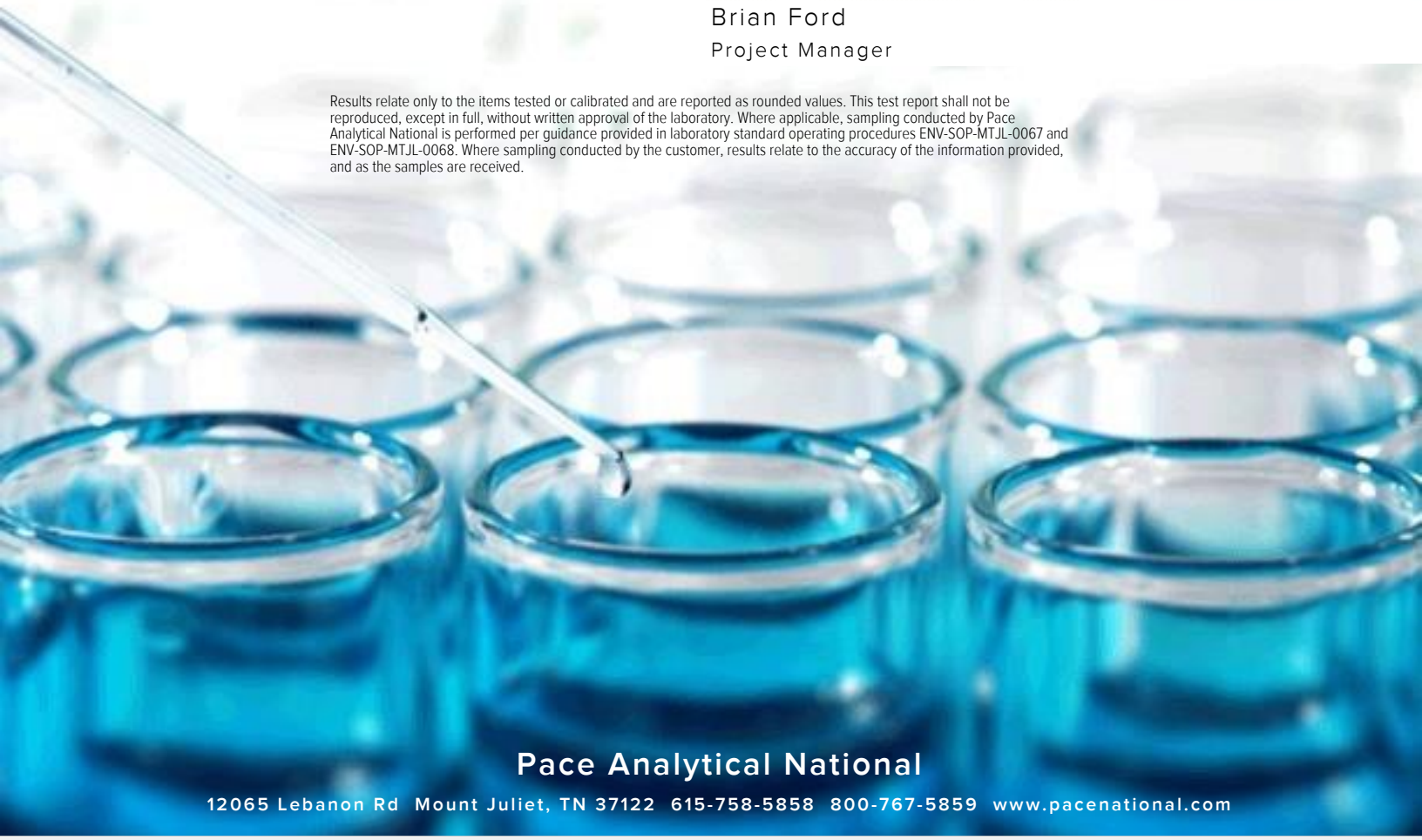
Kinder Morgan- Houston, TX(Scott Martin)

Sample Delivery Group:	L1418880
Samples Received:	10/16/2021
Project Number:	30065856
Description:	KMEP Harbor Island
Site:	2720 13TH AVENUE SW SEATTLE,WA
Report To:	Kyle Haslam 1100 Olive Way, Suite 800 Seattle, WA 98101

Entire Report Reviewed By:

Brian Ford

Project Manager



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-4 L1418880-01 GW

Collected by: JS/LS | Collected date/time: 10/14/21 09:42 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761608	1	10/22/21 14:12	10/22/21 14:12	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 04:14	10/24/21 04:14	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1764385	1	10/28/21 09:08	10/28/21 18:23	CLG	Mt. Juliet, TN

MW-6 L1418880-02 GW

Collected by: JS/LS | Collected date/time: 10/14/21 08:50 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762836	1	10/27/21 08:43	10/27/21 13:05	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765515	1	10/29/21 15:06	10/31/21 21:01	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1763759	1	10/27/21 21:57	10/27/21 21:57	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 04:36	10/24/21 04:36	JCP	Mt. Juliet, TN

MW-12R L1418880-03 GW

Collected by: JS/LS | Collected date/time: 10/14/21 11:54 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762836	1	10/27/21 08:43	10/27/21 13:08	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765515	1	10/29/21 15:06	10/31/21 21:05	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761608	1	10/22/21 14:35	10/22/21 14:35	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 04:57	10/24/21 04:57	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1764385	1	10/28/21 09:08	10/28/21 18:51	CLG	Mt. Juliet, TN

SH-02R L1418880-04 GW

Collected by: JS/LS | Collected date/time: 10/14/21 08:46 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762836	1	10/27/21 08:43	10/27/21 13:12	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765515	1	10/29/21 15:06	10/31/21 21:08	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761608	1	10/22/21 14:59	10/22/21 14:59	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 05:19	10/24/21 05:19	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1764385	1	10/28/21 09:08	10/28/21 19:20	CLG	Mt. Juliet, TN

MW-2 L1418880-05 GW

Collected by: JS/LS | Collected date/time: 10/14/21 10:50 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762836	1	10/27/21 08:43	10/27/21 13:15	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765515	1	10/29/21 15:06	10/31/21 21:19	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761608	1	10/22/21 15:22	10/22/21 15:22	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 05:40	10/24/21 05:40	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1764385	1	10/28/21 09:08	10/28/21 19:48	CLG	Mt. Juliet, TN

MW-22 L1418880-06 GW

Collected by: JS/LS | Collected date/time: 10/14/21 09:50 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761608	1	10/22/21 15:46	10/22/21 15:46	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 06:02	10/24/21 06:02	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1764385	1	10/28/21 09:08	10/28/21 20:17	CLG	Mt. Juliet, TN

MW-07R L1418880-07 GW

Collected by: JS/LS | Collected date/time: 10/14/21 10:35 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762836	1	10/27/21 08:43	10/27/21 13:18	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765515	1	10/29/21 15:06	10/31/21 21:22	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761608	1	10/22/21 16:10	10/22/21 16:10	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 06:23	10/24/21 06:23	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1764385	1	10/28/21 09:08	10/28/21 20:45	CLG	Mt. Juliet, TN

SH-05R L1418880-08 GW

Collected by: JS/LS | Collected date/time: 10/14/21 12:50 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762836	1	10/27/21 08:43	10/27/21 13:21	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765515	1	10/29/21 15:06	10/31/21 21:26	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761608	1	10/22/21 16:33	10/22/21 16:33	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 06:44	10/24/21 06:44	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1764386	1	10/28/21 12:57	10/30/21 01:36	DMG	Mt. Juliet, TN

MW-18 L1418880-09 GW

Collected by: JS/LS | Collected date/time: 10/14/21 12:20 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761608	1	10/22/21 16:56	10/22/21 16:56	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762390	1	10/24/21 07:06	10/24/21 07:06	JCP	Mt. Juliet, TN

MW-1 L1418880-10 GW

Collected by: JS/LS | Collected date/time: 10/14/21 13:25 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762836	1	10/27/21 08:43	10/27/21 13:25	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765515	1	10/29/21 15:06	10/31/21 21:29	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1762241	1	10/24/21 03:08	10/24/21 03:08	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762473	1	10/24/21 10:47	10/24/21 10:47	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1764386	1	10/28/21 12:57	10/30/21 02:02	DMG	Mt. Juliet, TN

DRUM-1 L1418880-11 GW

Collected by: JS/LS | Collected date/time: 10/14/21 14:20 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7470A	WG1760835	1	10/21/21 14:43	10/21/21 19:18	BMF	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765515	1	10/29/21 15:06	10/31/21 21:33	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1762241	1	10/24/21 03:31	10/24/21 03:31	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762473	1	10/24/21 11:08	10/24/21 11:08	JCP	Mt. Juliet, TN

TRIP BLANK L1418880-12 GW

Collected by: JS/LS | Collected date/time: 10/14/21 00:00 | Received date/time: 10/16/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1762241	1	10/24/21 02:21	10/24/21 02:21	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762473	1	10/24/21 09:42	10/24/21 09:42	JCP	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	221		100	1	10/22/2021 14:12	WG1761608
(S) a,a,a-Trifluorotoluene(FID)	*105*		*78.0-120*		*10/22/2021 14:12*	WG1761608

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/24/2021 04:14	WG1762390
Toluene	ND		1.00	1	10/24/2021 04:14	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 04:14	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 04:14	WG1762390
(S) Toluene-d8	*194*	J1	*80.0-120*		*10/24/2021 04:14*	WG1762390
(S) 4-Bromofluorobenzene	*114*		*77.0-126*		*10/24/2021 04:14*	WG1762390
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*10/24/2021 04:14*	WG1762390

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Diesel Range Organics (DRO)	1290		200	1	10/28/2021 18:23	WG1764385
Residual Range Organics (RRO)	ND		250	1	10/28/2021 18:23	WG1764385
(S) o-Terphenyl	*98.9*		*52.0-156*		*10/28/2021 18:23*	WG1764385

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/31/2021 21:01	WG1765515
Lead,Dissolved	ND		2.00	1	10/27/2021 13:05	WG1762836

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	211	B	100	1	10/27/2021 21:57	WG1763759
(S) a,a,a-Trifluorotoluene(FID)	*97.0*		*78.0-120*		*10/27/2021 21:57*	WG1763759

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 04:36	WG1762390
Toluene	ND		1.00	1	10/24/2021 04:36	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 04:36	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 04:36	WG1762390
(S) Toluene-d8	*112*		*80.0-120*		*10/24/2021 04:36*	WG1762390
(S) 4-Bromofluorobenzene	*106*		*77.0-126*		*10/24/2021 04:36*	WG1762390
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*10/24/2021 04:36*	WG1762390

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/31/2021 21:05	WG1765515
Lead,Dissolved	ND		2.00	1	10/27/2021 13:08	WG1762836

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/22/2021 14:35	WG1761608
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*10/22/2021 14:35*	WG1761608

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 04:57	WG1762390
Toluene	ND		1.00	1	10/24/2021 04:57	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 04:57	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 04:57	WG1762390
(S) Toluene-d8	*111*		*80.0-120*		*10/24/2021 04:57*	WG1762390
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*10/24/2021 04:57*	WG1762390
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*10/24/2021 04:57*	WG1762390

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/28/2021 18:51	WG1764385
Residual Range Organics (RRO)	ND		250	1	10/28/2021 18:51	WG1764385
(S) o-Terphenyl	*94.7*		*52.0-156*		*10/28/2021 18:51*	WG1764385

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/31/2021 21:08	WG1765515
Lead,Dissolved	ND		2.00	1	10/27/2021 13:12	WG1762836

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/22/2021 14:59	WG1761608
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/22/2021 14:59*	WG1761608

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 05:19	WG1762390
Toluene	ND		1.00	1	10/24/2021 05:19	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 05:19	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 05:19	WG1762390
(S) Toluene-d8	*108*		*80.0-120*		*10/24/2021 05:19*	WG1762390
(S) 4-Bromofluorobenzene	*99.7*		*77.0-126*		*10/24/2021 05:19*	WG1762390
(S) 1,2-Dichloroethane-d4	*109*		*70.0-130*		*10/24/2021 05:19*	WG1762390

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/28/2021 19:20	WG1764385
Residual Range Organics (RRO)	ND		250	1	10/28/2021 19:20	WG1764385
(S) o-Terphenyl	*97.4*		*52.0-156*		*10/28/2021 19:20*	WG1764385

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/31/2021 21:19	WG1765515
Lead,Dissolved	ND		2.00	1	10/27/2021 13:15	WG1762836

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/22/2021 15:22	WG1761608
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*10/22/2021 15:22*	WG1761608

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 05:40	WG1762390
Toluene	ND		1.00	1	10/24/2021 05:40	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 05:40	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 05:40	WG1762390
(S) Toluene-d8	*113*		*80.0-120*		*10/24/2021 05:40*	WG1762390
(S) 4-Bromofluorobenzene	*106*		*77.0-126*		*10/24/2021 05:40*	WG1762390
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*10/24/2021 05:40*	WG1762390

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/28/2021 19:48	WG1764385
Residual Range Organics (RRO)	ND		250	1	10/28/2021 19:48	WG1764385
(S) o-Terphenyl	*99.5*		*52.0-156*		*10/28/2021 19:48*	WG1764385

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/22/2021 15:46	WG1761608
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*10/22/2021 15:46*	WG1761608

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 06:02	WG1762390
Toluene	ND		1.00	1	10/24/2021 06:02	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 06:02	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 06:02	WG1762390
(S) Toluene-d8	*113*		*80.0-120*		*10/24/2021 06:02*	WG1762390
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*10/24/2021 06:02*	WG1762390
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*10/24/2021 06:02*	WG1762390

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/28/2021 20:17	WG1764385
Residual Range Organics (RRO)	ND		250	1	10/28/2021 20:17	WG1764385
(S) o-Terphenyl	*101*		*52.0-156*		*10/28/2021 20:17*	WG1764385

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/31/2021 21:22	WG1765515
Lead,Dissolved	ND		2.00	1	10/27/2021 13:18	WG1762836

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/22/2021 16:10	WG1761608
(S) a,a,a-Trifluorotoluene(FID)	*108*		*78.0-120*		*10/22/2021 16:10*	WG1761608

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 06:23	WG1762390
Toluene	ND		1.00	1	10/24/2021 06:23	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 06:23	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 06:23	WG1762390
(S) Toluene-d8	*112*		*80.0-120*		*10/24/2021 06:23*	WG1762390
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*10/24/2021 06:23*	WG1762390
(S) 1,2-Dichloroethane-d4	*111*		*70.0-130*		*10/24/2021 06:23*	WG1762390

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/28/2021 20:45	WG1764385
Residual Range Organics (RRO)	ND		250	1	10/28/2021 20:45	WG1764385
(S) o-Terphenyl	*102*		*52.0-156*		*10/28/2021 20:45*	WG1764385

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/31/2021 21:26	WG1765515
Lead,Dissolved	ND		2.00	1	10/27/2021 13:21	WG1762836

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/22/2021 16:33	WG1761608
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*10/22/2021 16:33*	WG1761608

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 06:44	WG1762390
Toluene	ND		1.00	1	10/24/2021 06:44	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 06:44	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 06:44	WG1762390
(S) Toluene-d8	*112*		*80.0-120*		*10/24/2021 06:44*	WG1762390
(S) 4-Bromofluorobenzene	*60.2*	J2	*77.0-126*		*10/24/2021 06:44*	WG1762390
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*10/24/2021 06:44*	WG1762390

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	413		200	1	10/30/2021 01:36	WG1764386
Residual Range Organics (RRO)	ND		250	1	10/30/2021 01:36	WG1764386
(S) o-Terphenyl	*111*		*52.0-156*		*10/30/2021 01:36*	WG1764386

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/22/2021 16:56	WG1761608
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*10/22/2021 16:56*	WG1761608

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 07:06	WG1762390
Toluene	ND		1.00	1	10/24/2021 07:06	WG1762390
Ethylbenzene	ND		1.00	1	10/24/2021 07:06	WG1762390
Total Xylenes	ND		3.00	1	10/24/2021 07:06	WG1762390
(S) Toluene-d8	*114*		*80.0-120*		*10/24/2021 07:06*	WG1762390
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*10/24/2021 07:06*	WG1762390
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*10/24/2021 07:06*	WG1762390

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/31/2021 21:29	WG1765515
Lead,Dissolved	ND		2.00	1	10/27/2021 13:25	WG1762836

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/24/2021 03:08	WG1762241
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*10/24/2021 03:08*	WG1762241

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 10:47	WG1762473
Toluene	ND		1.00	1	10/24/2021 10:47	WG1762473
Ethylbenzene	ND		1.00	1	10/24/2021 10:47	WG1762473
Total Xylenes	ND		3.00	1	10/24/2021 10:47	WG1762473
(S) Toluene-d8	*113*		*80.0-120*		*10/24/2021 10:47*	WG1762473
(S) 4-Bromofluorobenzene	*105*		*77.0-126*		*10/24/2021 10:47*	WG1762473
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*10/24/2021 10:47*	WG1762473

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/30/2021 02:02	WG1764386
Residual Range Organics (RRO)	ND		250	1	10/30/2021 02:02	WG1764386
(S) o-Terphenyl	*102*		*52.0-156*		*10/30/2021 02:02*	WG1764386

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Mercury	ND		0.200	1	10/21/2021 19:18	WG1760835

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Arsenic	101		2.00	1	10/31/2021 21:33	WG1765515
Barium	12.2		2.00	1	10/31/2021 21:33	WG1765515
Cadmium	ND		1.00	1	10/31/2021 21:33	WG1765515
Chromium	ND		2.00	1	10/31/2021 21:33	WG1765515
Lead	6.07		2.00	1	10/31/2021 21:33	WG1765515
Selenium	ND		2.00	1	10/31/2021 21:33	WG1765515
Silver	ND		2.00	1	10/31/2021 21:33	WG1765515

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	1870		100	1	10/24/2021 03:31	WG1762241
(S) a,a,a-Trifluorotoluene(FID)	*99.8*		*78.0-120*		*10/24/2021 03:31*	WG1762241

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	16.4		1.00	1	10/24/2021 11:08	WG1762473
Toluene	1.83		1.00	1	10/24/2021 11:08	WG1762473
Ethylbenzene	23.7		1.00	1	10/24/2021 11:08	WG1762473
Total Xylenes	20.6		3.00	1	10/24/2021 11:08	WG1762473
(S) Toluene-d8	*111*		*80.0-120*		*10/24/2021 11:08*	WG1762473
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*10/24/2021 11:08*	WG1762473
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*10/24/2021 11:08*	WG1762473

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/24/2021 02:21	WG1762241
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*10/24/2021 02:21*	WG1762241

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/24/2021 09:42	WG1762473
Toluene	ND		1.00	1	10/24/2021 09:42	WG1762473
Ethylbenzene	ND		1.00	1	10/24/2021 09:42	WG1762473
Total Xylenes	ND		3.00	1	10/24/2021 09:42	WG1762473
(S) Toluene-d8	*112*		*80.0-120*		*10/24/2021 09:42*	WG1762473
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*10/24/2021 09:42*	WG1762473
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*10/24/2021 09:42*	WG1762473

Method Blank (MB)

(MB) R3719777-5 10/21/21 20:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	U		0.100	0.200

Laboratory Control Sample (LCS)

(LCS) R3719777-2 10/21/21 18:52

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	3.49	116	80.0-120	

L1419645-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1419645-03 10/21/21 18:54 • (MS) R3719777-3 10/21/21 18:56 • (MSD) R3719777-4 10/21/21 18:59

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	ND	3.28	3.38	109	113	1	75.0-125			3.00	20

Method Blank (MB)

(MB) R3721964-1 10/27/21 11:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Lead,Dissolved	U		0.849	2.00

Laboratory Control Sample (LCS)

(LCS) R3721964-2 10/27/21 11:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead,Dissolved	50.0	49.6	99.2	80.0-120	

L1416504-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416504-19 10/27/21 12:00 • (MS) R3721964-4 10/27/21 12:06 • (MSD) R3721964-5 10/27/21 12:10

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead,Dissolved	50.0	ND	50.1	50.3	100	101	1	75.0-125			0.502	20

Method Blank (MB)

(MB) R3723586-1 10/31/21 19:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic	U		0.180	2.00
Barium	U		0.381	2.00
Cadmium	U		0.150	1.00
Chromium	U		1.24	2.00
Lead	U		0.849	2.00
Selenium	0.330	J	0.300	2.00
Silver	U		0.0700	2.00

Laboratory Control Sample (LCS)

(LCS) R3723586-2 10/31/21 19:59

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	50.0	51.4	103	80.0-120	
Barium	50.0	52.9	106	80.0-120	
Cadmium	50.0	53.2	106	80.0-120	
Chromium	50.0	52.8	106	80.0-120	
Lead	50.0	53.0	106	80.0-120	
Selenium	50.0	59.3	119	80.0-120	
Silver	50.0	53.2	106	80.0-120	

L1418281-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1418281-01 10/31/21 20:03 • (MS) R3723586-4 10/31/21 20:10 • (MSD) R3723586-5 10/31/21 20:13

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	50.0	ND	53.2	52.2	106	104	1	75.0-125			1.91	20
Barium	50.0	57.0	112	108	110	103	1	75.0-125			3.23	20
Cadmium	50.0	ND	53.7	54.1	107	108	1	75.0-125			0.675	20
Chromium	50.0	ND	55.5	55.9	108	109	1	75.0-125			0.849	20
Lead	50.0	ND	51.8	52.4	104	105	1	75.0-125			1.29	20
Selenium	50.0	ND	57.1	60.1	112	118	1	75.0-125			5.15	20
Silver	50.0	ND	54.0	53.9	108	108	1	75.0-125			0.0661	20

Method Blank (MB)

(MB) R3721498-2 10/22/21 05:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3721498-1 10/22/21 04:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5360	97.5	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*97.9*	*78.0-120*	

Method Blank (MB)

(MB) R3722125-2 10/24/21 01:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3722125-1 10/24/21 01:12

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5800	105	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*96.3*	*78.0-120*	

L1420168-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1420168-01 10/24/21 08:37 • (MS) R3722125-3 10/24/21 10:31 • (MSD) R3722125-4 10/24/21 10:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5500	ND	5310	5330	96.5	96.9	1	10.0-155			0.376	21
(S) a,a,a-Trifluorotoluene(FID)					*95.3*	*95.9*		*78.0-120*				

Method Blank (MB)

(MB) R3723150-3 10/27/21 17:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	76.7	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*96.4*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3723150-2 10/27/21 17:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5390	98.0	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*78.0-120*	

Method Blank (MB)

(MB) R3721515-3 10/23/21 23:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*114*			*80.0-120*
(S) 4-Bromofluorobenzene	*102*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3721515-1 10/23/21 22:51 • (LCSD) R3721515-2 10/23/21 23:12

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	5.40	4.92	108	98.4	70.0-123			9.30	20
Ethylbenzene	5.00	4.68	4.81	93.6	96.2	79.0-123			2.74	20
Toluene	5.00	4.94	4.69	98.8	93.8	79.0-120			5.19	20
Xylenes, Total	15.0	14.8	14.4	98.7	96.0	79.0-123			2.74	20
(S) Toluene-d8				*111*	*112*	*80.0-120*				
(S) 4-Bromofluorobenzene				*102*	*102*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*111*	*111*	*70.0-130*				

Method Blank (MB)

(MB) R3721490-2 10/24/21 08:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*113*			*80.0-120*
(S) 4-Bromofluorobenzene	*103*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3721490-1 10/24/21 08:10

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	5.26	105	70.0-123	
Ethylbenzene	5.00	4.49	89.8	79.0-123	
Toluene	5.00	4.67	93.4	79.0-120	
Xylenes, Total	15.0	14.0	93.3	79.0-123	
(S) Toluene-d8			*109*	*80.0-120*	
(S) 4-Bromofluorobenzene			*99.4*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*112*	*70.0-130*	

Method Blank (MB)

(MB) R3722861-1 10/28/21 09:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*95.0*			*52.0-156*

Laboratory Control Sample (LCS)

(LCS) R3722861-2 10/28/21 10:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	1500	1260	84.0	50.0-150	
(S) o-Terphenyl			*109*	*52.0-156*	

L1418787-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1418787-15 10/28/21 16:58 • (MS) R3722861-3 10/28/21 17:26 • (MSD) R3722861-4 10/28/21 17:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1430	ND	518	569	36.2	39.8	1	50.0-150	J6	J6	9.38	20
(S) o-Terphenyl					*57.4*	*67.9*		*52.0-156*				

Method Blank (MB)

(MB) R3723165-1 10/29/21 09:37

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*100*			*52.0-156*

Laboratory Control Sample (LCS)

(LCS) R3723165-2 10/29/21 10:03

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Diesel Range Organics (DRO)	1500	1310	87.3	50.0-150	
(S) o-Terphenyl			*114*	*52.0-156*	

L1421074-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1421074-09 10/30/21 00:18 • (MS) R3723165-3 10/30/21 00:44 • (MSD) R3723165-4 10/30/21 01:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Diesel Range Organics (DRO)	1430	373	1510	1480	79.5	77.4	1	50.0-150			2.01	20
(S) o-Terphenyl					*112*	*113*		*52.0-156*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Kinder Morgan- Houston, TX(Scott Martin)
1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002

Pres Chk

Report to: **Kyle Haslam**

Email To: **Kyle.Haslam@arcadis.com;Scott.Wenning@arca**

Project Description: **KMEP Harbor Island**

City/State Collected:

Please Circle: (PT) MT CT ET

Phone: **206-726-4713**

Client Project # **30065856**

Lab Project # **KINMOROCA-HARBORISLA**

Collected by (print): **J. SEPICH / L. SELLECK**

Site/Facility ID # **2720 13TH AVENUE SW**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Nitrate 125mlHDPE-NoPres	BTEX 8260D, NWTPHGX 40mlAmb-HCl	Diss Pb 6020 250mlHDPE-NoPres	Ferrous Fe 250mlAmb-HCl	Methane RSK175 40mlAmb HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	Sulfate 125mlHDPE-NoPres	Sulfide 250mlAmb-S-NaOH+ZnAc	Total Pb 6020 250mlHDPE-HNO3	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-4	C	GW	—	10/14/2021	0942	8		X				X						-01
MW-6	C	GW	—	10/14/2021	0850	8		X	X						X			-02
MW-12R	C	GW	—	10/14/2021	1154	10		X	X			X			X			-03
SH-02R	C	GW	—	10/14/2021	0846	10		X	X			X			X			-04
MW-2	C	GW	—	10/14/2021	1050	10		X	X			X			X			-05
MW-22	C	GW	—	10/14/2021	0950	8		X				X						-06
MW-07R	C	GW	—	10/14/2021	1035	10		X	X			X			X			-07
SH-05R	C	GW	—	10/14/2021	1250	10		X	X			X			X			-08
MW-18	C	GW	—	10/14/2021	1220	6		X										-09
MW-1	C	GW	—	10/14/2021	1325	10		X	X			X			X			-10

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1418880

G137

Tabl

Acctnum: **KINMOROCA**

Template: **T196897**

Prelogin: **P879058**

PM: **110 - Brian Ford**

PB:

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:*Nitrate has a 48 hour holding time.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # 9463 1920 9782

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y / N
COC Signed/Accurate:		Y / N
Bottles arrive intact:		Y / N
Correct bottles used:		Y / N
Sufficient volume sent:		Y / N
If Applicable		
VOA Zero Headspace:		Y / N
Preservation Correct/Checked:		Y / N
RAD Screen <0.5 mR/hr:		Y / N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	10/18/21	1700 1500		3	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.2 °C Bottles Received: 97	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/15/21 Time: 930	Hold: Condition: NCF / OK

Company Name/Address:
Kinder Morgan- Houston, TX(Scott Martin)

1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002

Pres Chk

Report to: **Kyle Haslam**

Email To: **Kyle.Haslam@arcadis.com;Scott.Wenning@arca**

Project Description: **KMEP Harbor Island**

City/State Collected:

Please Circle: (PT) MT CT ET

Phone: **206-726-4713**

Client Project # **30065856**

Lab Project # **KINMOROCA-HARBORISLA**

Collected by (print): J. SEPICH / L. SELLECK

Site/Facility ID # **2720 13TH AVENUE SW**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Nitrate 125mlHDPE-NoPres	BTEX 8260D, NWTPHGX 40mlAmb-HCl	Diss Pb 6020 250mlHDPE-NoPres	Ferrous Fe 250mlAmb-HCl	Methane RSK175 40mlAmb HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	Sulfate 125mlHDPE-NoPres	Sulfide 250mlAmb-S-NaOH+ZnAc	Total Pb 6020 250mlHDPE-HNO3	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
DRUM-1	C	GW	—	10/14/2021	1420	7		X								X		-11
TRIP BLANK	—	GW	—	—	—	3												-12
		GW																
		GW																
		GW																
		GW																
		GW																
		GW																
		GW																
		GW																

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1418880

Table #

Acctnum: **KINMOROCA**

Template: **T196897**

Prelogin: **P879058**

PM: **110 - Brian Ford**

PB:

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:*Nitrate has a 48 hour holding time.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: X Y __N
Preservation Correct/Checked: X Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	10/18/21	17000		3 3	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.6 °C Bottles Received:	
				1.2 to 1.2 97	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/15/21 Time: 930	Hold: Condition: NCF / OK

ANALYTICAL REPORT

November 02, 2021

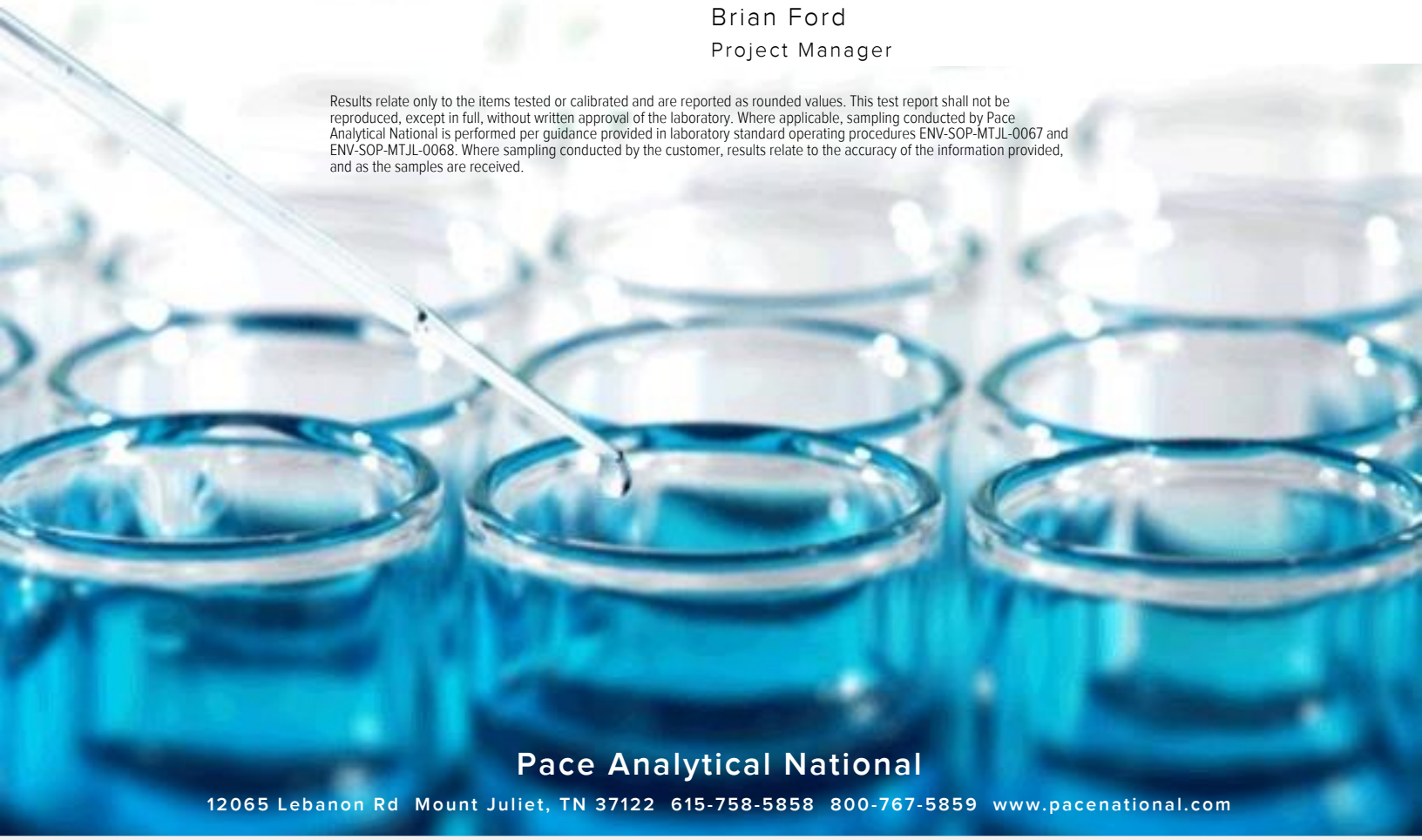
Kinder Morgan- Houston, TX(Scott Martin)

Sample Delivery Group:	L1418087
Samples Received:	10/14/2021
Project Number:	30065856
Description:	KMEP Harbor Island
Site:	2720 13TH AVENUE SW SEATTLE,WA
Report To:	Kyle Haslam 1100 Olive Way, Suite 800 Seattle, WA 98101

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-7 L1418087-01 GW

Collected by: JP/LS | Collected date/time: 10/12/21 11:05 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	100	10/28/21 00:40	10/28/21 00:40	ST	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:16	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 15:54	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 09:51	10/21/21 09:51	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761481	1	10/22/21 13:01	10/22/21 13:01	JAH	Mt. Juliet, TN

A-10 L1418087-02 GW

Collected by: JP/LS | Collected date/time: 10/12/21 12:15 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 10:14	10/21/21 10:14	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 02:44	10/22/21 02:44	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1758990	1	10/19/21 07:51	10/19/21 21:15	DMG	Mt. Juliet, TN

A-14R L1418087-03 GW

Collected by: JP/LS | Collected date/time: 10/12/21 10:55 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:20	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 15:57	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 10:38	10/21/21 10:38	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 03:05	10/22/21 03:05	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1758990	1	10/19/21 07:51	10/19/21 21:41	DMG	Mt. Juliet, TN

MW-25 L1418087-04 GW

Collected by: JP/LS | Collected date/time: 10/12/21 13:40 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:23	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:00	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 11:01	10/21/21 11:01	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 03:26	10/22/21 03:26	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1758990	1	10/19/21 07:51	10/19/21 22:07	DMG	Mt. Juliet, TN

A-21 L1418087-05 GW

Collected by: JP/LS | Collected date/time: 10/12/21 16:25 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:27	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:04	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 11:24	10/21/21 11:24	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 03:48	10/22/21 03:48	JAH	Mt. Juliet, TN

TMW-B1 L1418087-06 GW

Collected by: JP/LS | Collected date/time: 10/13/21 10:52 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1759847	8	10/20/21 12:47	10/20/21 12:47	MRM	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1758612	1	10/18/21 10:08	10/18/21 10:08	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1757490	1	10/15/21 00:34	10/15/21 00:34	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760800	1	10/21/21 23:25	10/21/21 23:25	JAH	Mt. Juliet, TN

TMW-B1 L1418087-06 GW

Collected by: JP/LS | Collected date/time: 10/13/21 10:52 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method RSK175	WG1760330	1	10/21/21 12:13	10/21/21 12:13	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	1	10/25/21 14:06	10/25/21 14:06	JAH	Mt. Juliet, TN

A-28R L1418087-07 GW

Collected by: JP/LS | Collected date/time: 10/13/21 13:20 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1759847	150	10/20/21 12:49	10/20/21 12:49	MRM	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1758612	1	10/18/21 10:08	10/18/21 10:08	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1757490	1	10/15/21 00:47	10/15/21 00:47	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:30	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:07	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760800	1	10/21/21 23:47	10/21/21 23:47	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1760330	1	10/21/21 12:17	10/21/21 12:17	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 04:31	10/22/21 04:31	JAH	Mt. Juliet, TN

A-27 L1418087-08 GW

Collected by: JP/LS | Collected date/time: 10/13/21 11:20 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1759847	5	10/20/21 13:02	10/20/21 13:02	MRM	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1758974	1	10/19/21 10:36	10/19/21 10:36	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1757490	1	10/15/21 01:02	10/15/21 01:02	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760800	1	10/22/21 00:09	10/22/21 00:09	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1760330	1	10/21/21 12:21	10/21/21 12:21	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 04:52	10/22/21 04:52	JAH	Mt. Juliet, TN

MW-24 L1418087-09 GW

Collected by: JP/LS | Collected date/time: 10/13/21 12:10 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1759847	150	10/20/21 13:04	10/20/21 13:04	MRM	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1758974	1	10/19/21 10:37	10/19/21 10:37	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1757490	1	10/15/21 01:16	10/15/21 01:16	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:34	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:10	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760800	1	10/22/21 00:31	10/22/21 00:31	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1761305	10	10/21/21 14:33	10/21/21 14:33	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	10	10/22/21 08:27	10/22/21 08:27	JAH	Mt. Juliet, TN

MW-23 L1418087-10 GW

Collected by: JP/LS | Collected date/time: 10/13/21 13:21 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1761398	40	10/22/21 09:07	10/22/21 09:07	MRM	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG1758974	1	10/19/21 10:37	10/19/21 10:37	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1757490	1	10/15/21 01:31	10/15/21 01:31	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:37	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:20	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760800	5	10/22/21 03:02	10/22/21 03:02	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method RSK175	WG1761305	10	10/21/21 14:29	10/21/21 14:29	CMS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	5	10/22/21 08:49	10/22/21 08:49	JAH	Mt. Juliet, TN

11 L1418087-11 GW

Collected by: JP/LS | Collected date/time: 10/12/21 15:40 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	5	10/28/21 00:56	10/28/21 00:56	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 11:48	10/21/21 11:48	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	1	10/25/21 14:28	10/25/21 14:28	JAH	Mt. Juliet, TN

A-5 L1418087-12 GW

Collected by: JP/LS | Collected date/time: 10/12/21 15:25 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 12:11	10/21/21 12:11	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	1	10/25/21 14:49	10/25/21 14:49	JAH	Mt. Juliet, TN

TMW-3 L1418087-13 GW

Collected by: JP/LS | Collected date/time: 10/12/21 13:45 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	20	10/28/21 01:13	10/28/21 01:13	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 12:34	10/21/21 12:34	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	1	10/25/21 15:11	10/25/21 15:11	JAH	Mt. Juliet, TN

TMW-1 L1418087-14 GW

Collected by: JP/LS | Collected date/time: 10/11/21 15:00 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	5	10/28/21 09:43	10/28/21 09:43	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 12:57	10/21/21 12:57	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	1	10/25/21 11:56	10/25/21 11:56	JAH	Mt. Juliet, TN

TMW-2 L1418087-15 GW

Collected by: JP/LS | Collected date/time: 10/11/21 15:00 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	20	10/28/21 02:52	10/28/21 02:52	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 13:21	10/21/21 13:21	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	1	10/25/21 12:18	10/25/21 12:18	JAH	Mt. Juliet, TN

TMW-5 L1418087-16 GW

Collected by: JP/LS | Collected date/time: 10/11/21 09:45 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	10	10/28/21 03:08	10/28/21 03:08	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 13:44	10/21/21 13:44	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	1	10/25/21 12:39	10/25/21 12:39	JAH	Mt. Juliet, TN

MW-14 L1418087-17 GW

Collected by: JP/LS | Collected date/time: 10/12/21 09:30 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 14:07	10/21/21 14:07	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 07:23	10/22/21 07:23	JAH	Mt. Juliet, TN

MW-19 L1418087-18 GW

Collected by: JP/LS | Collected date/time: 10/11/21 16:35 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	10	10/28/21 03:25	10/28/21 03:25	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 14:31	10/21/21 14:31	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 09:10	10/22/21 09:10	JAH	Mt. Juliet, TN

A-23R L1418087-19 GW

Collected by: JP/LS | Collected date/time: 10/11/21 13:40 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 14:54	10/21/21 14:54	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	1	10/25/21 13:01	10/25/21 13:01	JAH	Mt. Juliet, TN

TMW-4 L1418087-20 GW

Collected by: JP/LS | Collected date/time: 10/12/21 14:40 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	20	10/28/21 03:41	10/28/21 03:41	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 15:17	10/21/21 15:17	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1761583	1	10/22/21 08:05	10/22/21 08:05	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762979	20	10/25/21 15:33	10/25/21 15:33	JAH	Mt. Juliet, TN

MW-21 L1418087-21 GW

Collected by: JP/LS | Collected date/time: 10/13/21 09:00 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1763987	1	10/27/21 03:37	10/27/21 03:37	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/22/21 23:38	10/22/21 23:38	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1762762	1	10/26/21 08:04	10/26/21 17:46	CAG	Mt. Juliet, TN

MW-8 L1418087-22 GW

Collected by: JP/LS | Collected date/time: 10/13/21 09:42 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:41	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:23	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1763987	1	10/27/21 04:00	10/27/21 04:00	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/22/21 23:59	10/22/21 23:59	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1762762	1	10/26/21 08:04	10/26/21 18:06	CAG	Mt. Juliet, TN

MW-9 L1418087-23 GW

Collected by: JP/LS | Collected date/time: 10/13/21 09:10 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	1	10/28/21 03:57	10/28/21 03:57	ST	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:44	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:26	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760800	1	10/22/21 01:37	10/22/21 01:37	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/23/21 00:19	10/23/21 00:19	JHH	Mt. Juliet, TN

TMW-6 L1418087-24 GW

Collected by: JP/LS | Collected date/time: 10/13/21 10:15 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	10	10/28/21 04:14	10/28/21 04:14	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760800	1	10/22/21 01:59	10/22/21 01:59	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1763253	10	10/26/21 17:28	10/26/21 17:28	JCP	Mt. Juliet, TN

MW-20 L1418087-25 GW

Collected by: JP/LS | Collected date/time: 10/13/21 13:40 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761606	1	10/22/21 09:19	10/22/21 09:19	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/23/21 00:40	10/23/21 00:40	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1762762	1	10/26/21 08:04	10/26/21 18:26	CAG	Mt. Juliet, TN

DUP-2 L1418087-26 GW

Collected by: JP/LS | Collected date/time: 10/13/21 00:00 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761606	1	10/22/21 09:41	10/22/21 09:41	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/23/21 01:00	10/23/21 01:00	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1762762	1	10/26/21 08:04	10/26/21 18:46	CAG	Mt. Juliet, TN

12 L1418087-27 GW

Collected by: JP/LS | Collected date/time: 10/12/21 12:40 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	20	10/28/21 04:30	10/28/21 04:30	ST	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:47	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:30	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 15:42	10/21/21 15:42	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/23/21 01:20	10/23/21 01:20	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1758990	1	10/19/21 07:51	10/19/21 22:33	DMG	Mt. Juliet, TN

A-8 L1418087-28 GW

Collected by: JP/LS | Collected date/time: 10/12/21 14:35 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761048	1	10/21/21 22:08	10/21/21 22:08	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/23/21 01:41	10/23/21 01:41	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1763253	1	10/26/21 15:05	10/26/21 15:05	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1758990	1	10/19/21 07:51	10/19/21 22:59	DMG	Mt. Juliet, TN

MW-5 L1418087-29 GW

Collected by: JP/LS | Collected date/time: 10/11/21 16:40 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 20:58	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:33	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1760635	1	10/21/21 16:05	10/21/21 16:05	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/23/21 02:01	10/23/21 02:01	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1758990	1	10/19/21 07:51	10/19/21 23:25	DMG	Mt. Juliet, TN

DUP-1 L1418087-30 GW

Collected by: JP/LS | Collected date/time: 10/12/21 00:00 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1764124	100	10/28/21 04:47	10/28/21 04:47	ST	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 21:01	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:36	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761048	1	10/21/21 23:12	10/21/21 23:12	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/23/21 02:21	10/23/21 02:21	JHH	Mt. Juliet, TN

MW-3 L1418087-31 GW

Collected by: JP/LS | Collected date/time: 10/13/21 14:40 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1762861	1	10/28/21 12:34	10/28/21 21:05	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1765491	1	10/31/21 15:03	11/01/21 16:39	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761606	1	10/22/21 10:03	10/22/21 10:03	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/23/21 02:42	10/23/21 02:42	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1762762	1	10/26/21 08:04	10/26/21 19:06	CAG	Mt. Juliet, TN

TRIP BLANK L1418087-32 GW

Collected by: JP/LS | Collected date/time: 10/12/21 00:00 | Received date/time: 10/14/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1761048	1	10/21/21 18:09	10/21/21 18:09	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1762187	1	10/22/21 23:18	10/22/21 23:18	JHH	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	2550000		500000	100	10/28/2021 00:40	WG1764124

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lead	3.65		2.00	1	10/28/2021 20:16	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 15:54	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	472		100	1	10/21/2021 09:51	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*103*		*78.0-120*		*10/21/2021 09:51*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/22/2021 13:01	WG1761481
Toluene	2.35		1.00	1	10/22/2021 13:01	WG1761481
Ethylbenzene	10.3		1.00	1	10/22/2021 13:01	WG1761481
Total Xylenes	9.56		3.00	1	10/22/2021 13:01	WG1761481
(S) Toluene-d8	*97.7*		*80.0-120*		*10/22/2021 13:01*	WG1761481
(S) 4-Bromofluorobenzene	*96.0*		*77.0-126*		*10/22/2021 13:01*	WG1761481
(S) 1,2-Dichloroethane-d4	*126*		*70.0-130*		*10/22/2021 13:01*	WG1761481

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 10:14	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 10:14*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/22/2021 02:44	WG1761583
Toluene	ND		1.00	1	10/22/2021 02:44	WG1761583
Ethylbenzene	ND		1.00	1	10/22/2021 02:44	WG1761583
Total Xylenes	ND		3.00	1	10/22/2021 02:44	WG1761583
(S) Toluene-d8	*110*		*80.0-120*		*10/22/2021 02:44*	WG1761583
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*10/22/2021 02:44*	WG1761583
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*10/22/2021 02:44*	WG1761583

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Diesel Range Organics (DRO)	360		200	1	10/19/2021 21:15	WG1758990
Residual Range Organics (RRO)	ND		250	1	10/19/2021 21:15	WG1758990
(S) o-Terphenyl	*112*		*52.0-156*		*10/19/2021 21:15*	WG1758990

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/28/2021 20:20	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 15:57	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 10:38	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 10:38*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/22/2021 03:05	WG1761583
Toluene	ND		1.00	1	10/22/2021 03:05	WG1761583
Ethylbenzene	ND		1.00	1	10/22/2021 03:05	WG1761583
Total Xylenes	ND		3.00	1	10/22/2021 03:05	WG1761583
(S) Toluene-d8	*112*		*80.0-120*		*10/22/2021 03:05*	WG1761583
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*10/22/2021 03:05*	WG1761583
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*10/22/2021 03:05*	WG1761583

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/19/2021 21:41	WG1758990
Residual Range Organics (RRO)	ND		250	1	10/19/2021 21:41	WG1758990
(S) o-Terphenyl	*89.5*		*52.0-156*		*10/19/2021 21:41*	WG1758990

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	2.93		2.00	1	10/28/2021 20:23	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:00	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 11:01	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 11:01*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/22/2021 03:26	WG1761583
Toluene	ND		1.00	1	10/22/2021 03:26	WG1761583
Ethylbenzene	ND		1.00	1	10/22/2021 03:26	WG1761583
Total Xylenes	ND		3.00	1	10/22/2021 03:26	WG1761583
(S) Toluene-d8	*110*		*80.0-120*		*10/22/2021 03:26*	WG1761583
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*10/22/2021 03:26*	WG1761583
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*10/22/2021 03:26*	WG1761583

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	437		200	1	10/19/2021 22:07	WG1758990
Residual Range Organics (RRO)	ND		250	1	10/19/2021 22:07	WG1758990
(S) o-Terphenyl	*91.0*		*52.0-156*		*10/19/2021 22:07*	WG1758990

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	3.26		2.00	1	10/28/2021 20:27	WG1762861
Lead,Dissolved	2.35		2.00	1	11/01/2021 16:04	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	154		100	1	10/21/2021 11:24	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 11:24*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/22/2021 03:48	WG1761583
Toluene	ND		1.00	1	10/22/2021 03:48	WG1761583
Ethylbenzene	1.09		1.00	1	10/22/2021 03:48	WG1761583
Total Xylenes	ND		3.00	1	10/22/2021 03:48	WG1761583
(S) Toluene-d8	*113*		*80.0-120*		*10/22/2021 03:48*	WG1761583
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*10/22/2021 03:48*	WG1761583
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*10/22/2021 03:48*	WG1761583

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Ferrous Iron	11700	T8	400	8	10/20/2021 12:47	WG1759847

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfide	ND		50.0	1	10/18/2021 10:08	WG1758612

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Nitrate	ND		100	1	10/15/2021 00:34	WG1757490
Sulfate	ND		5000	1	10/15/2021 00:34	WG1757490

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	4720		100	1	10/21/2021 23:25	WG1760800
(S) a,a,a-Trifluorotoluene(FID)	*119*		*78.0-120*		*10/21/2021 23:25*	WG1760800

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methane	5830		10.0	1	10/21/2021 12:13	WG1760330

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	75.1		1.00	1	10/25/2021 14:06	WG1762979
Toluene	6.97		1.00	1	10/25/2021 14:06	WG1762979
Ethylbenzene	14.3		1.00	1	10/25/2021 14:06	WG1762979
Total Xylenes	8.83		3.00	1	10/25/2021 14:06	WG1762979
(S) Toluene-d8	*114*		*80.0-120*		*10/25/2021 14:06*	WG1762979
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*10/25/2021 14:06*	WG1762979
(S) 1,2-Dichloroethane-d4	*109*		*70.0-130*		*10/25/2021 14:06*	WG1762979

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Ferrous Iron	37000	T8	7500	150	10/20/2021 12:49	WG1759847

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfide	ND		50.0	1	10/18/2021 10:08	WG1758612

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Nitrate	ND		100	1	10/15/2021 00:47	WG1757490
Sulfate	ND		5000	1	10/15/2021 00:47	WG1757490

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/28/2021 20:30	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:07	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	2500		100	1	10/21/2021 23:47	WG1760800
(S) a,a,a-Trifluorotoluene(FID)	*103*		*78.0-120*		*10/21/2021 23:47*	WG1760800

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methane	4150		10.0	1	10/21/2021 12:17	WG1760330

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	22.2		1.00	1	10/22/2021 04:31	WG1761583
Toluene	2.35		1.00	1	10/22/2021 04:31	WG1761583
Ethylbenzene	4.76		1.00	1	10/22/2021 04:31	WG1761583
Total Xylenes	ND		3.00	1	10/22/2021 04:31	WG1761583
(S) Toluene-d8	*112*		*80.0-120*		*10/22/2021 04:31*	WG1761583
(S) 4-Bromofluorobenzene	*109*		*77.0-126*		*10/22/2021 04:31*	WG1761583
(S) 1,2-Dichloroethane-d4	*113*		*70.0-130*		*10/22/2021 04:31*	WG1761583

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Ferrous Iron	7640	T8	250	5	10/20/2021 13:02	WG1759847

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfide	ND		50.0	1	10/19/2021 10:36	WG1758974

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Nitrate	ND		100	1	10/15/2021 01:02	WG1757490
Sulfate	ND		5000	1	10/15/2021 01:02	WG1757490

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	929		100	1	10/22/2021 00:09	WG1760800
(S) a,a,a-Trifluorotoluene(FID)	*99.4*		*78.0-120*		*10/22/2021 00:09*	WG1760800

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methane	3020		10.0	1	10/21/2021 12:21	WG1760330

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	13.8		1.00	1	10/22/2021 04:52	WG1761583
Toluene	1.16		1.00	1	10/22/2021 04:52	WG1761583
Ethylbenzene	ND		1.00	1	10/22/2021 04:52	WG1761583
Total Xylenes	4.29		3.00	1	10/22/2021 04:52	WG1761583
(S) Toluene-d8	*112*		*80.0-120*		*10/22/2021 04:52*	WG1761583
(S) 4-Bromofluorobenzene	*106*		*77.0-126*		*10/22/2021 04:52*	WG1761583
(S) 1,2-Dichloroethane-d4	*111*		*70.0-130*		*10/22/2021 04:52*	WG1761583

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Ferrous Iron	56700	T8	7500	150	10/20/2021 13:04	WG1759847

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfide	ND		50.0	1	10/19/2021 10:37	WG1758974

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Nitrate	ND		100	1	10/15/2021 01:16	WG1757490
Sulfate	ND		5000	1	10/15/2021 01:16	WG1757490

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	2.24		2.00	1	10/28/2021 20:34	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:10	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	9630		100	1	10/22/2021 00:31	WG1760800
(S) a,a,a-Trifluorotoluene(FID)	*125*	J1	*78.0-120*		*10/22/2021 00:31*	WG1760800

Sample Narrative:

L1418087-09 WG1760800: Surrogate failure due to matrix interference.

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methane	11800		100	10	10/21/2021 14:33	WG1761305

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	440		10.0	10	10/22/2021 08:27	WG1761583
Toluene	30.4		10.0	10	10/22/2021 08:27	WG1761583
Ethylbenzene	737		10.0	10	10/22/2021 08:27	WG1761583
Total Xylenes	216		30.0	10	10/22/2021 08:27	WG1761583
(S) Toluene-d8	*114*		*80.0-120*		*10/22/2021 08:27*	WG1761583
(S) 4-Bromofluorobenzene	*62.2*	J2	*77.0-126*		*10/22/2021 08:27*	WG1761583
(S) 1,2-Dichloroethane-d4	*88.4*		*70.0-130*		*10/22/2021 08:27*	WG1761583

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Ferrous Iron	14800	T8	2000	40	10/22/2021 09:07	WG1761398

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfide	ND		50.0	1	10/19/2021 10:37	WG1758974

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Nitrate	ND		100	1	10/15/2021 01:31	WG1757490
Sulfate	ND		5000	1	10/15/2021 01:31	WG1757490

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/28/2021 20:37	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:20	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	4390		500	5	10/22/2021 03:02	WG1760800
(S) a,a,a-Trifluorotoluene(FID)	*97.8*		*78.0-120*		*10/22/2021 03:02*	WG1760800

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methane	9890		100	10	10/21/2021 14:29	WG1761305

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	228		5.00	5	10/22/2021 08:49	WG1761583
Toluene	ND		5.00	5	10/22/2021 08:49	WG1761583
Ethylbenzene	11.1		5.00	5	10/22/2021 08:49	WG1761583
Total Xylenes	16.9		15.0	5	10/22/2021 08:49	WG1761583
(S) Toluene-d8	*83.4*		*80.0-120*		*10/22/2021 08:49*	WG1761583
(S) 4-Bromofluorobenzene	*106*		*77.0-126*		*10/22/2021 08:49*	WG1761583
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*10/22/2021 08:49*	WG1761583

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	45100		25000	5	10/28/2021 00:56	WG1764124

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 11:48	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 11:48*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/25/2021 14:28	WG1762979
Toluene	ND		1.00	1	10/25/2021 14:28	WG1762979
Ethylbenzene	ND		1.00	1	10/25/2021 14:28	WG1762979
Total Xylenes	ND		3.00	1	10/25/2021 14:28	WG1762979
(S) Toluene-d8	*114*		*80.0-120*		*10/25/2021 14:28*	WG1762979
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*10/25/2021 14:28*	WG1762979
(S) 1,2-Dichloroethane-d4	*98.7*		*70.0-130*		*10/25/2021 14:28*	WG1762979

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	524		100	1	10/21/2021 12:11	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*104*		*78.0-120*		*10/21/2021 12:11*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/25/2021 14:49	WG1762979
Toluene	ND		1.00	1	10/25/2021 14:49	WG1762979
Ethylbenzene	ND		1.00	1	10/25/2021 14:49	WG1762979
Total Xylenes	ND		3.00	1	10/25/2021 14:49	WG1762979
(S) Toluene-d8	*115*		*80.0-120*		*10/25/2021 14:49*	WG1762979
(S) 4-Bromofluorobenzene	*106*		*77.0-126*		*10/25/2021 14:49*	WG1762979
(S) 1,2-Dichloroethane-d4	*96.4*		*70.0-130*		*10/25/2021 14:49*	WG1762979

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	730000		100000	20	10/28/2021 01:13	WG1764124

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	559		100	1	10/21/2021 12:34	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 12:34*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/25/2021 15:11	WG1762979
Toluene	ND		1.00	1	10/25/2021 15:11	WG1762979
Ethylbenzene	ND		1.00	1	10/25/2021 15:11	WG1762979
Total Xylenes	ND		3.00	1	10/25/2021 15:11	WG1762979
(S) Toluene-d8	*110*		*80.0-120*		*10/25/2021 15:11*	WG1762979
(S) 4-Bromofluorobenzene	*100*		*77.0-126*		*10/25/2021 15:11*	WG1762979
(S) 1,2-Dichloroethane-d4	*97.4*		*70.0-130*		*10/25/2021 15:11*	WG1762979

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	294000		25000	5	10/28/2021 09:43	WG1764124

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 12:57	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 12:57*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/25/2021 11:56	WG1762979
Toluene	ND		1.00	1	10/25/2021 11:56	WG1762979
Ethylbenzene	ND		1.00	1	10/25/2021 11:56	WG1762979
Total Xylenes	ND		3.00	1	10/25/2021 11:56	WG1762979
(S) Toluene-d8	*111*		*80.0-120*		*10/25/2021 11:56*	WG1762979
(S) 4-Bromofluorobenzene	*97.8*		*77.0-126*		*10/25/2021 11:56*	WG1762979
(S) 1,2-Dichloroethane-d4	*98.6*		*70.0-130*		*10/25/2021 11:56*	WG1762979

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	1030000		100000	20	10/28/2021 02:52	WG1764124

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 13:21	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 13:21*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/25/2021 12:18	WG1762979
Toluene	ND		1.00	1	10/25/2021 12:18	WG1762979
Ethylbenzene	ND		1.00	1	10/25/2021 12:18	WG1762979
Total Xylenes	ND		3.00	1	10/25/2021 12:18	WG1762979
(S) Toluene-d8	*112*		*80.0-120*		*10/25/2021 12:18*	WG1762979
(S) 4-Bromofluorobenzene	*97.5*		*77.0-126*		*10/25/2021 12:18*	WG1762979
(S) 1,2-Dichloroethane-d4	*99.1*		*70.0-130*		*10/25/2021 12:18*	WG1762979

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	495000		50000	10	10/28/2021 03:08	WG1764124

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	1030		100	1	10/21/2021 13:44	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*100*		*78.0-120*		*10/21/2021 13:44*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	9.16		1.00	1	10/25/2021 12:39	WG1762979
Toluene	2.38		1.00	1	10/25/2021 12:39	WG1762979
Ethylbenzene	ND		1.00	1	10/25/2021 12:39	WG1762979
Total Xylenes	ND		3.00	1	10/25/2021 12:39	WG1762979
(S) Toluene-d8	*113*		*80.0-120*		*10/25/2021 12:39*	WG1762979
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*10/25/2021 12:39*	WG1762979
(S) 1,2-Dichloroethane-d4	*95.7*		*70.0-130*		*10/25/2021 12:39*	WG1762979

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	331		100	1	10/21/2021 14:07	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*101*		*78.0-120*		*10/21/2021 14:07*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/22/2021 07:23	WG1761583
Toluene	ND		1.00	1	10/22/2021 07:23	WG1761583
Ethylbenzene	ND		1.00	1	10/22/2021 07:23	WG1761583
Total Xylenes	3.16		3.00	1	10/22/2021 07:23	WG1761583
(S) Toluene-d8	*109*		*80.0-120*		*10/22/2021 07:23*	WG1761583
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*10/22/2021 07:23*	WG1761583
(S) 1,2-Dichloroethane-d4	*121*		*70.0-130*		*10/22/2021 07:23*	WG1761583

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	468000		50000	10	10/28/2021 03:25	WG1764124

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	1900		100	1	10/21/2021 14:31	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*88.2*		*78.0-120*		*10/21/2021 14:31*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	18.3		1.00	1	10/22/2021 09:10	WG1761583
Toluene	54.2		1.00	1	10/22/2021 09:10	WG1761583
Ethylbenzene	25.4		1.00	1	10/22/2021 09:10	WG1761583
Total Xylenes	16.9		3.00	1	10/22/2021 09:10	WG1761583
(S) Toluene-d8	*66.9*	J2	*80.0-120*		*10/22/2021 09:10*	WG1761583
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*10/22/2021 09:10*	WG1761583
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*10/22/2021 09:10*	WG1761583

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 14:54	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/21/2021 14:54*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/25/2021 13:01	WG1762979
Toluene	ND		1.00	1	10/25/2021 13:01	WG1762979
Ethylbenzene	ND		1.00	1	10/25/2021 13:01	WG1762979
Total Xylenes	ND		3.00	1	10/25/2021 13:01	WG1762979
(S) Toluene-d8	*112*		*80.0-120*		*10/25/2021 13:01*	WG1762979
(S) 4-Bromofluorobenzene	*98.0*		*77.0-126*		*10/25/2021 13:01*	WG1762979
(S) 1,2-Dichloroethane-d4	*97.9*		*70.0-130*		*10/25/2021 13:01*	WG1762979

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	805000		100000	20	10/28/2021 03:41	WG1764124

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	4540		100	1	10/21/2021 15:17	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*84.3*		*78.0-120*		*10/21/2021 15:17*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	1.22		1.00	1	10/22/2021 08:05	WG1761583
Toluene	31.8		1.00	1	10/22/2021 08:05	WG1761583
Ethylbenzene	335		20.0	20	10/25/2021 15:33	WG1762979
Total Xylenes	179		3.00	1	10/22/2021 08:05	WG1761583
(S) Toluene-d8	*115*		*80.0-120*		*10/22/2021 08:05*	WG1761583
(S) Toluene-d8	*111*		*80.0-120*		*10/25/2021 15:33*	WG1762979
(S) 4-Bromofluorobenzene	*113*		*77.0-126*		*10/22/2021 08:05*	WG1761583
(S) 4-Bromofluorobenzene	*100*		*77.0-126*		*10/25/2021 15:33*	WG1762979
(S) 1,2-Dichloroethane-d4	*141*	J1	*70.0-130*		*10/22/2021 08:05*	WG1761583
(S) 1,2-Dichloroethane-d4	*95.9*		*70.0-130*		*10/25/2021 15:33*	WG1762979

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	236		100	1	10/27/2021 03:37	WG1763987
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*10/27/2021 03:37*	WG1763987

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/22/2021 23:38	WG1762187
Toluene	ND		1.00	1	10/22/2021 23:38	WG1762187
Ethylbenzene	ND		1.00	1	10/22/2021 23:38	WG1762187
Total Xylenes	ND		3.00	1	10/22/2021 23:38	WG1762187
(S) Toluene-d8	*102*		*80.0-120*		*10/22/2021 23:38*	WG1762187
(S) 4-Bromofluorobenzene	*94.9*		*77.0-126*		*10/22/2021 23:38*	WG1762187
(S) 1,2-Dichloroethane-d4	*114*		*70.0-130*		*10/22/2021 23:38*	WG1762187

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	765		200	1	10/26/2021 17:46	WG1762762
Residual Range Organics (RRO)	ND		250	1	10/26/2021 17:46	WG1762762
(S) o-Terphenyl	*102*		*52.0-156*		*10/26/2021 17:46*	WG1762762

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	6.45		2.00	1	10/28/2021 20:41	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:23	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/27/2021 04:00	WG1763987
(S) a,a,a-Trifluorotoluene(FID)	*108*		*78.0-120*		*10/27/2021 04:00*	WG1763987

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/22/2021 23:59	WG1762187
Toluene	ND		1.00	1	10/22/2021 23:59	WG1762187
Ethylbenzene	ND		1.00	1	10/22/2021 23:59	WG1762187
Total Xylenes	ND		3.00	1	10/22/2021 23:59	WG1762187
(S) Toluene-d8	*105*		*80.0-120*		*10/22/2021 23:59*	WG1762187
(S) 4-Bromofluorobenzene	*89.8*		*77.0-126*		*10/22/2021 23:59*	WG1762187
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*10/22/2021 23:59*	WG1762187

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	365		200	1	10/26/2021 18:06	WG1762762
Residual Range Organics (RRO)	ND		250	1	10/26/2021 18:06	WG1762762
(S) o-Terphenyl	*103*		*52.0-156*		*10/26/2021 18:06*	WG1762762

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	7010		5000	1	10/28/2021 03:57	WG1764124

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lead	2.33		2.00	1	10/28/2021 20:44	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:26	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	202		100	1	10/22/2021 01:37	WG1760800
(S) a,a,a-Trifluorotoluene(FID)	*95.0*		*78.0-120*		*10/22/2021 01:37*	WG1760800

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/23/2021 00:19	WG1762187
Toluene	ND		1.00	1	10/23/2021 00:19	WG1762187
Ethylbenzene	ND		1.00	1	10/23/2021 00:19	WG1762187
Total Xylenes	ND		3.00	1	10/23/2021 00:19	WG1762187
(S) Toluene-d8	*101*		*80.0-120*		*10/23/2021 00:19*	WG1762187
(S) 4-Bromofluorobenzene	*94.7*		*77.0-126*		*10/23/2021 00:19*	WG1762187
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*10/23/2021 00:19*	WG1762187

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	622000		50000	10	10/28/2021 04:14	WG1764124

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	10300		100	1	10/22/2021 01:59	WG1760800
(S) a,a,a-Trifluorotoluene(FID)	*106*		*78.0-120*		*10/22/2021 01:59*	WG1760800

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		10.0	10	10/26/2021 17:28	WG1763253
Toluene	ND		10.0	10	10/26/2021 17:28	WG1763253
Ethylbenzene	691		10.0	10	10/26/2021 17:28	WG1763253
Total Xylenes	977		30.0	10	10/26/2021 17:28	WG1763253
(S) Toluene-d8	*95.7*		*80.0-120*		*10/26/2021 17:28*	WG1763253
(S) 4-Bromofluorobenzene	*81.9*		*77.0-126*		*10/26/2021 17:28*	WG1763253
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*10/26/2021 17:28*	WG1763253

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	151	B	100	1	10/22/2021 09:19	WG1761606
(S) a,a,a-Trifluorotoluene(FID)	*94.6*		*78.0-120*		*10/22/2021 09:19*	WG1761606

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/23/2021 00:40	WG1762187
Toluene	ND		1.00	1	10/23/2021 00:40	WG1762187
Ethylbenzene	ND		1.00	1	10/23/2021 00:40	WG1762187
Total Xylenes	ND		3.00	1	10/23/2021 00:40	WG1762187
(S) Toluene-d8	*108*		*80.0-120*		*10/23/2021 00:40*	WG1762187
(S) 4-Bromofluorobenzene	*94.9*		*77.0-126*		*10/23/2021 00:40*	WG1762187
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*10/23/2021 00:40*	WG1762187

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/26/2021 18:26	WG1762762
Residual Range Organics (RRO)	ND		250	1	10/26/2021 18:26	WG1762762
(S) o-Terphenyl	*88.4*		*52.0-156*		*10/26/2021 18:26*	WG1762762

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	212	B	100	1	10/22/2021 09:41	WG1761606
(S) a,a,a-Trifluorotoluene(FID)	*93.8*		*78.0-120*		*10/22/2021 09:41*	WG1761606

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/23/2021 01:00	WG1762187
Toluene	ND		1.00	1	10/23/2021 01:00	WG1762187
Ethylbenzene	ND		1.00	1	10/23/2021 01:00	WG1762187
Total Xylenes	ND		3.00	1	10/23/2021 01:00	WG1762187
(S) Toluene-d8	*102*		*80.0-120*		*10/23/2021 01:00*	WG1762187
(S) 4-Bromofluorobenzene	*93.5*		*77.0-126*		*10/23/2021 01:00*	WG1762187
(S) 1,2-Dichloroethane-d4	*120*		*70.0-130*		*10/23/2021 01:00*	WG1762187

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	711		200	1	10/26/2021 18:46	WG1762762
Residual Range Organics (RRO)	ND		250	1	10/26/2021 18:46	WG1762762
(S) o-Terphenyl	*113*		*52.0-156*		*10/26/2021 18:46*	WG1762762

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Sulfate	998000		100000	20	10/28/2021 04:30	WG1764124

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	13.1		2.00	1	10/28/2021 20:47	WG1762861
Lead,Dissolved	3.25		2.00	1	11/01/2021 16:30	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	4100		100	1	10/21/2021 15:42	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*86.7*		*78.0-120*		*10/21/2021 15:42*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	39.2		1.00	1	10/23/2021 01:20	WG1762187
Toluene	7.46		1.00	1	10/23/2021 01:20	WG1762187
Ethylbenzene	157		1.00	1	10/23/2021 01:20	WG1762187
Total Xylenes	45.8		3.00	1	10/23/2021 01:20	WG1762187
(S) Toluene-d8	*95.6*		*80.0-120*		*10/23/2021 01:20*	WG1762187
(S) 4-Bromofluorobenzene	*91.3*		*77.0-126*		*10/23/2021 01:20*	WG1762187
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*10/23/2021 01:20*	WG1762187

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1460		200	1	10/19/2021 22:33	WG1758990
Residual Range Organics (RRO)	ND		250	1	10/19/2021 22:33	WG1758990
(S) o-Terphenyl	*97.0*		*52.0-156*		*10/19/2021 22:33*	WG1758990

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 22:08	WG1761048
(S) a,a,a-Trifluorotoluene(FID)	*105*		*78.0-120*		*10/21/2021 22:08*	WG1761048

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/23/2021 01:41	WG1762187
Toluene	ND		1.00	1	10/23/2021 01:41	WG1762187
Ethylbenzene	ND		1.00	1	10/26/2021 15:05	WG1763253
Total Xylenes	ND		3.00	1	10/26/2021 15:05	WG1763253
(S) Toluene-d8	*105*		*80.0-120*		*10/23/2021 01:41*	WG1762187
(S) Toluene-d8	*104*		*80.0-120*		*10/26/2021 15:05*	WG1763253
(S) 4-Bromofluorobenzene	*95.3*		*77.0-126*		*10/23/2021 01:41*	WG1762187
(S) 4-Bromofluorobenzene	*63.6*	J2	*77.0-126*		*10/26/2021 15:05*	WG1763253
(S) 1,2-Dichloroethane-d4	*114*		*70.0-130*		*10/23/2021 01:41*	WG1762187
(S) 1,2-Dichloroethane-d4	*127*		*70.0-130*		*10/26/2021 15:05*	WG1763253

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/19/2021 22:59	WG1758990
Residual Range Organics (RRO)	ND		250	1	10/19/2021 22:59	WG1758990
(S) o-Terphenyl	*93.0*		*52.0-156*		*10/19/2021 22:59*	WG1758990

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/28/2021 20:58	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:33	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 16:05	WG1760635
(S) a,a,a-Trifluorotoluene(FID)	*105*		*78.0-120*		*10/21/2021 16:05*	WG1760635

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/23/2021 02:01	WG1762187
Toluene	ND		1.00	1	10/23/2021 02:01	WG1762187
Ethylbenzene	ND		1.00	1	10/23/2021 02:01	WG1762187
Total Xylenes	ND		3.00	1	10/23/2021 02:01	WG1762187
(S) Toluene-d8	*102*		*80.0-120*		*10/23/2021 02:01*	WG1762187
(S) 4-Bromofluorobenzene	*93.9*		*77.0-126*		*10/23/2021 02:01*	WG1762187
(S) 1,2-Dichloroethane-d4	*119*		*70.0-130*		*10/23/2021 02:01*	WG1762187

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/19/2021 23:25	WG1758990
Residual Range Organics (RRO)	ND		250	1	10/19/2021 23:25	WG1758990
(S) o-Terphenyl	*82.0*		*52.0-156*		*10/19/2021 23:25*	WG1758990

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Sulfate	2690000		500000	100	10/28/2021 04:47	WG1764124

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Lead	3.92		2.00	1	10/28/2021 21:01	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:36	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Gasoline Range Organics-NWTPH	419		100	1	10/21/2021 23:12	WG1761048
(S) a,a,a-Trifluorotoluene(FID)	*103*		*78.0-120*		*10/21/2021 23:12*	WG1761048

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	10/23/2021 02:21	WG1762187
Toluene	2.15		1.00	1	10/23/2021 02:21	WG1762187
Ethylbenzene	9.92		1.00	1	10/23/2021 02:21	WG1762187
Total Xylenes	8.84		3.00	1	10/23/2021 02:21	WG1762187
(S) Toluene-d8	*101*		*80.0-120*		*10/23/2021 02:21*	WG1762187
(S) 4-Bromofluorobenzene	*94.8*		*77.0-126*		*10/23/2021 02:21*	WG1762187
(S) 1,2-Dichloroethane-d4	*117*		*70.0-130*		*10/23/2021 02:21*	WG1762187

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	10/28/2021 21:05	WG1762861
Lead,Dissolved	ND		2.00	1	11/01/2021 16:39	WG1765491

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	131	B	100	1	10/22/2021 10:03	WG1761606
(S) a,a,a-Trifluorotoluene(FID)	*94.2*		*78.0-120*		*10/22/2021 10:03*	WG1761606

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/23/2021 02:42	WG1762187
Toluene	ND		1.00	1	10/23/2021 02:42	WG1762187
Ethylbenzene	ND		1.00	1	10/23/2021 02:42	WG1762187
Total Xylenes	ND		3.00	1	10/23/2021 02:42	WG1762187
(S) Toluene-d8	*105*		*80.0-120*		*10/23/2021 02:42*	WG1762187
(S) 4-Bromofluorobenzene	*94.5*		*77.0-126*		*10/23/2021 02:42*	WG1762187
(S) 1,2-Dichloroethane-d4	*123*		*70.0-130*		*10/23/2021 02:42*	WG1762187

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		200	1	10/26/2021 19:06	WG1762762
Residual Range Organics (RRO)	ND		250	1	10/26/2021 19:06	WG1762762
(S) o-Terphenyl	*104*		*52.0-156*		*10/26/2021 19:06*	WG1762762

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	10/21/2021 18:09	WG1761048
(S) a,a,a-Trifluorotoluene(FID)	*109*		*78.0-120*		*10/21/2021 18:09*	WG1761048

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	ND		1.00	1	10/22/2021 23:18	WG1762187
Toluene	ND		1.00	1	10/22/2021 23:18	WG1762187
Ethylbenzene	ND		1.00	1	10/22/2021 23:18	WG1762187
Total Xylenes	ND		3.00	1	10/22/2021 23:18	WG1762187
(S) Toluene-d8	*103*		*80.0-120*		*10/22/2021 23:18*	WG1762187
(S) 4-Bromofluorobenzene	*91.1*		*77.0-126*		*10/22/2021 23:18*	WG1762187
(S) 1,2-Dichloroethane-d4	*116*		*70.0-130*		*10/22/2021 23:18*	WG1762187

Method Blank (MB)

(MB) R3718945-1 10/20/21 12:27

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ferrous Iron	U		15.0	50.0

L1416028-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1416028-15 10/20/21 12:28 • (DUP) R3718945-3 10/20/21 12:29

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	50.0	ND	1	8.33		20

L1419391-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1419391-03 10/20/21 13:08 • (DUP) R3718945-6 10/20/21 13:08

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ferrous Iron	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3718945-2 10/20/21 12:27

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ferrous Iron	1000	955	95.5	85.0-115	

L1417818-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1417818-06 10/20/21 12:40 • (MS) R3718945-4 10/20/21 12:40 • (MSD) R3718945-5 10/20/21 12:41

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ferrous Iron	1000	520	1390	1380	87.2	86.1	1	80.0-120			0.793	20

Method Blank (MB)

(MB) R3719969-1 10/22/21 08:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Ferrous Iron	U		15.0	50.0

L1418434-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1418434-03 10/22/21 09:18 • (DUP) R3719969-3 10/22/21 09:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ferrous Iron	3530	3470	5	1.57		20

L1420831-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1420831-04 10/22/21 09:44 • (DUP) R3719969-6 10/22/21 09:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ferrous Iron	50.0	62.0	1	21.4	P1	20

Laboratory Control Sample (LCS)

(LCS) R3719969-2 10/22/21 08:57

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Ferrous Iron	1000	963	96.3	85.0-115	

L1419991-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1419991-01 10/22/21 09:22 • (MS) R3719969-4 10/22/21 09:33 • (MSD) R3719969-5 10/22/21 09:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Ferrous Iron	1000	871	1720	1730	84.8	85.5	1	80.0-120			0.406	20

Method Blank (MB)

(MB) R3717707-1 10/18/21 09:25

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfide	U		25.0	50.0

L1415817-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1415817-01 10/18/21 09:53 • (DUP) R3717707-3 10/18/21 09:54

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	ND	ND	1	0.000		20

L1417316-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1417316-10 10/18/21 10:03 • (DUP) R3717707-4 10/18/21 10:04

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3717707-2 10/18/21 09:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	500	535	107	85.0-115	

L1417601-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1417601-01 10/18/21 10:05 • (MS) R3717707-5 10/18/21 10:06 • (MSD) R3717707-6 10/18/21 10:06

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	500	ND	487	459	97.4	91.8	1	80.0-120			5.92	20

QUALITY CONTROL SUMMARY

L1418087-08,09,10

Method Blank (MB)

(MB) R3718230-1 10/19/21 08:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfide	U		25.0	50.0

L1411765-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1411765-01 10/19/21 10:24 • (DUP) R3718230-3 10/19/21 10:24

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	ND	ND	1	0.000		20

L1415816-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1415816-02 10/19/21 10:30 • (DUP) R3718230-6 10/19/21 10:30

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3718230-2 10/19/21 08:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	500	532	106	85.0-115	

L1413604-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1413604-09 10/19/21 10:29 • (MS) R3718230-4 10/19/21 10:29 • (MSD) R3718230-5 10/19/21 10:29

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	1000	ND	440	479	44.0	47.9	1	80.0-120			8.49	20

Method Blank (MB)

(MB) R3719618-1 10/14/21 23:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Nitrate	U		48.0	100
Sulfate	U		594	5000

L1417863-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1417863-01 10/15/21 03:11 • (DUP) R3719618-3 10/15/21 03:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate	4450	4450	1	0.193		15
Sulfate	29900	29900	1	0.0418		15

L1417863-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1417863-11 10/15/21 08:00 • (DUP) R3719618-6 10/15/21 08:43

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3719618-2 10/15/21 00:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate	8000	8590	107	80.0-120	
Sulfate	40000	42900	107	80.0-120	

L1417863-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1417863-01 10/15/21 03:11 • (MS) R3719618-4 10/15/21 03:40 • (MSD) R3719618-5 10/15/21 03:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate	5000	4450	9520	9580	101	103	1	80.0-120			0.670	15
Sulfate	50000	29900	79000	79300	98.1	98.7	1	80.0-120			0.338	15

L1417863-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1417863-11 10/15/21 08:00 • (MS) R3719618-7 10/15/21 08:57

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate	5000	ND	5440	109	1	80.0-120	
Sulfate	50000	ND	53600	107	1	80.0-120	

Method Blank (MB)

(MB) R3722706-1 10/28/21 00:08

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		594	5000

L1418087-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1418087-14 10/28/21 01:29 • (DUP) R3722706-4 10/28/21 01:46

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	319000	290000	1	9.56	E	15

L1418226-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1418226-08 10/28/21 09:10 • (DUP) R3722706-8 10/28/21 09:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	ND	ND	1	8.44		15

L1418087-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1418087-14 10/28/21 09:43 • (DUP) R3722706-9 10/28/21 09:59

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	294000	296000	5	0.501		15

Laboratory Control Sample (LCS)

(LCS) R3722706-2 10/28/21 00:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40000	39700	99.2	80.0-120	

L1418087-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L1418087-14 10/28/21 01:29 • (MS) R3722706-5 10/28/21 02:35

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	319000	356000	75.6	1	80.0-120	E V

L1418226-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1418226-02 10/28/21 05:53 • (MS) R3722706-6 10/28/21 06:09 • (MSD) R3722706-7 10/28/21 06:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	50000	595000	573000	546000	0.000	0.000	10	80.0-120	V	V	4.85	15

Method Blank (MB)

(MB) R3722782-1 10/28/21 18:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Lead	U		0.849	2.00

Laboratory Control Sample (LCS)

(LCS) R3722782-2 10/28/21 18:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead	50.0	51.4	103	80.0-120	

L1417792-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1417792-01 10/28/21 18:45 • (MS) R3722782-4 10/28/21 18:51 • (MSD) R3722782-5 10/28/21 18:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	50.0	ND	52.1	52.0	104	104	1	75.0-125			0.0426	20

Method Blank (MB)

(MB) R3723990-1 11/01/21 15:15

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Lead,Dissolved	U		0.849	2.00

Laboratory Control Sample (LCS)

(LCS) R3723990-2 11/01/21 15:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead,Dissolved	50.0	48.9	97.8	80.0-120	

L1417895-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1417895-24 11/01/21 15:21 • (MS) R3723990-4 11/01/21 15:28 • (MSD) R3723990-5 11/01/21 15:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead,Dissolved	50.0	ND	49.5	50.3	99.0	101	1	75.0-125			1.64	20

Method Blank (MB)

(MB) R3720994-2 10/21/21 08:18

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*106*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3720994-1 10/21/21 07:17

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5820	106	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*97.1*	*78.0-120*	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3721655-2 10/21/21 19:01

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3721655-1 10/21/21 17:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5330	96.9	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*78.0-120*	

Method Blank (MB)

(MB) R3720808-2 10/21/21 17:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3720808-1 10/21/21 16:52

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	6000	109	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*95.6*	*78.0-120*	

Method Blank (MB)

(MB) R3721449-2 10/22/21 03:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	87.7	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3721449-1 10/22/21 02:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5400	98.2	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*102*	*78.0-120*	

Method Blank (MB)

(MB) R3723077-2 10/27/21 03:14

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*108*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3723077-1 10/27/21 01:45

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5660	103	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*98.1*	*78.0-120*	

Method Blank (MB)

(MB) R3719540-2 10/21/21 11:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Methane	U		2.91	10.0

L1418087-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1418087-08 10/21/21 12:21 • (DUP) R3719540-3 10/21/21 12:35

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	3020	2920	1	3.37		20

L1418434-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1418434-02 10/21/21 13:45 • (DUP) R3719540-4 10/21/21 13:49

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Methane	ND	ND	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3719540-1 10/21/21 11:36 • (LCSD) R3719540-5 10/21/21 13:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methane	67.8	66.8	66.8	98.5	98.5	85.0-115			0.000	20

Method Blank (MB)

(MB) R3719595-2 10/21/21 14:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		2.91	10.0

L1420406-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1420406-01 10/21/21 14:44 • (DUP) R3719595-3 10/21/21 14:48

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	ND	ND	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3719595-1 10/21/21 14:21 • (LCSD) R3719595-4 10/21/21 14:52

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	66.1	69.2	97.5	102	85.0-115			4.58	20

Method Blank (MB)

(MB) R3721595-2 10/22/21 06:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*98.6*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*120*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3721595-1 10/22/21 06:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	4.46	89.2	70.0-123	
Ethylbenzene	5.00	4.35	87.0	79.0-123	
Toluene	5.00	4.41	88.2	79.0-120	
Xylenes, Total	15.0	13.3	88.7	79.0-123	
(S) Toluene-d8			*102*	*80.0-120*	
(S) 4-Bromofluorobenzene			*99.4*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*115*	*70.0-130*	

Method Blank (MB)

(MB) R3720810-1 10/22/21 02:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*112*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.2*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3720810-2 10/22/21 09:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	5.82	116	70.0-123	
Ethylbenzene	5.00	5.20	104	79.0-123	
Toluene	5.00	5.42	108	79.0-120	
Xylenes, Total	15.0	15.9	106	79.0-123	
(S) Toluene-d8			*109*	*80.0-120*	
(S) 4-Bromofluorobenzene			*102*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*109*	*70.0-130*	

Method Blank (MB)

(MB) R3721071-3 10/22/21 21:33

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*91.6*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3721071-1 10/22/21 20:32 • (LCSD) R3721071-2 10/22/21 20:53

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	5.00	5.11	5.57	102	111	70.0-123			8.61	20
Ethylbenzene	5.00	4.80	4.83	96.0	96.6	79.0-123			0.623	20
Toluene	5.00	4.66	4.90	93.2	98.0	79.0-120			5.02	20
Xylenes, Total	15.0	14.0	14.5	93.3	96.7	79.0-123			3.51	20
(S) Toluene-d8				*101*	*99.2*	*80.0-120*				
(S) 4-Bromofluorobenzene				*93.6*	*92.2*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*118*	*119*	*70.0-130*				

Method Blank (MB)

(MB) R3722232-3 10/25/21 05:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*114*			*80.0-120*
(S) 4-Bromofluorobenzene	*98.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*98.4*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3722232-1 10/25/21 04:08 • (LCSD) R3722232-2 10/25/21 04:30

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	5.00	5.10	4.68	102	93.6	70.0-123			8.59	20
Ethylbenzene	5.00	4.76	4.68	95.2	93.6	79.0-123			1.69	20
Toluene	5.00	5.10	4.89	102	97.8	79.0-120			4.20	20
Xylenes, Total	15.0	14.9	14.1	99.3	94.0	79.0-123			5.52	20
(S) Toluene-d8				*110*	*111*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*101*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*99.4*	*98.7*	*70.0-130*				

Method Blank (MB)

(MB) R3721973-2 10/26/21 12:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*95.8*			*80.0-120*
(S) 4-Bromofluorobenzene	*86.6*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*120*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3721973-1 10/26/21 11:21

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	4.83	96.6	70.0-123	
Ethylbenzene	5.00	4.89	97.8	79.0-123	
Toluene	5.00	4.79	95.8	79.0-120	
Xylenes, Total	15.0	14.0	93.3	79.0-123	
(S) Toluene-d8			*100*	*80.0-120*	
(S) 4-Bromofluorobenzene			*89.7*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*116*	*70.0-130*	

Method Blank (MB)

(MB) R3718673-1 10/19/21 13:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*80.0*			*52.0-156*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3718673-2 10/19/21 14:17 • (LCSD) R3718673-3 10/19/21 14:43

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1340	1370	89.3	91.3	50.0-150			2.21	20
(S) o-Terphenyl				*84.5*	*85.5*	*52.0-156*				

Method Blank (MB)

(MB) R3721774-1 10/26/21 14:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*108*			*52.0-156*

Laboratory Control Sample (LCS)

(LCS) R3721774-2 10/26/21 14:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	1500	1480	98.7	50.0-150	
(S) o-Terphenyl			*69.5*	*52.0-156*	

L1418171-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1418171-10 10/26/21 16:46 • (MS) R3721774-3 10/26/21 17:06 • (MSD) R3721774-4 10/26/21 17:26

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1430	384	2090	1850	119	103	1	50.0-150			12.2	20
(S) o-Terphenyl					*93.7*	*85.8*		*52.0-156*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Kinder Morgan- Houston, TX(Scott Martin)
1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002
Pres Chk

Report to: Kyle Haslam

Email To: Kyle.Haslam@arcadis.com;Scott.Wenning@arca

Project Description: KMEP Harbor Island

City/State Collected: SEATTLE, WA

Please Circle: (PT) MT CT ET

Phone: 206-726-4713

Client Project # 30065856

Lab Project # KINMOROCA-HARBORISLA

Collected by (print): J. SEPIOL / L. SELLECK

Site/Facility ID # 2720 13TH AVENUE SW

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Nitrate 125mlHDPE-NoPres	BTEX 8260D, NWTPHGX 40mlAmb-HCl	Diss Pb 6020 250mlHDPE-NoPres	Ferrous Fe 250mlAmb-HCl	Methane RSK175 40mlAmb HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	Sulfate 125mlHDPE-NoPres	Sulfide 250mlAmb-S-NaOH+ZnAc	Total Pb 6020 250mlHDPE-HNO3	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-7	C	GW	—	10/12/2021	1105	9		X	X				X		X			-01
A-10	C	GW	—	10/12/2021	1215	8		X				X						-02
A-14R	C	GW	—	10/12/2021	1055	10		X	X			X			X			-03
MW-25	C	GW	—	10/12/2021	1340	10		X	X			X			X			-04
A-21	C	GW	—	10/12/2021	1625	8		X	X						X			-05
TMW-B1	C	GW	—	10/13/2021	1052	11	X	X		X	X	X		X				-06
A-28R	C	GW	—	10/13/2021	1320	13	X	X	X	X	X		X	X	X			-07
A-27	C	GW	—	10/13/2021	1120	11	X	X		X	X		X	X				-08
MW-24	C	GW	—	10/13/2021	1210	13	X	X	X	X	X		X	X	X			-09
MW-23	C	GW	—	10/13/2021	1321	13	X	X	X	X	X		X	X	X			-10

Chain of Custody Page 1 of 4

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 141608 7
K153

Acctnum: KINMOROCA
Template: T196897
Prelogin: P879058
PM: 110 - Brian Ford
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: *Nitrate has a 48 hour holding time. pH Temp

TMW-B1 (sample number 06), the analysis for sulfate should have been checked instead of DRO/HO per Mark Ullery's request-bjf 10/19/21.

Samples returned via: __ UPS X FedEx __ Courier

Tracking # 2848 6288 9428

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No (HCL) MeoH TBR	If preservation required by Login: Date/Time
	10/13/2021	1600		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.8 °C Bottles Received: 280	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/14/21 Time: 0900	Hold: Condition: NCF / OK

Company Name/Address:
Kinder Morgan- Houston, TX(Scott Martin)

1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002

Pres Chk

Report to: **Kyle Haslam**

Email To: **Kyle.Haslam@arcadis.com;Scott.Wenning@arca**

Project Description: **KMEP Harbor Island**

City/State Collected: SEATTLE, WA

Please Circle: (PT) MT CT ET

Phone: **206-726-4713**

Client Project # **30065856**

Lab Project # **KINMOROCA-HARBORISLA**

Collected by (print): J. SEPOL / LAUREN S.

Site/Facility ID # **2720 13TH AVENUE SW**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Nitrate 125mlHDPE-NoPres	BTEX 8260D, NWTPHGX 40mlAmb-HCl	Diss Pb 6020 250mlHDPE-NoPres	Ferrous Fe 250mlAmb-HCl	Methane RSK175 40mlAmb HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	Sulfate 125mlHDPE-NoPres	Sulfide 250mlAmb-S-NaOH+ZnAc	Total Pb 6020 250mlHDPE-HNO3	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
11	C	GW	—	10/12/2021	1540	7		X					X					-11
A-5	C	GW	—	10/12/2021	1525	6		X										-12
TMW-3	C	GW	—	10/12/2021	1345	7	X	X					X					-13
TMW-1	C	GW	—	10/11/2021	1500	7	X	X					X					-14
TMW-2	C	GW	—	10/11/2021	1500	7	X	X					X					-15
TMW-5	C	GW	—	10/11/2021	0945	7	X	X					X					-16
MW-14	C	GW	—	10/12/2021	0930	6		X										-17
MW-19	C	GW	—	10/11/2021	1635	7		X					X					-18
A-23R	C	GW	—	10/11/2021	1340	6		X										-19
TMW-4	C	GW	—	10/12/2021	1440	7	X	X					X					-20

10/15

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:*Nitrate has a 48 hour holding time.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS X FedEx __ Courier _____

Tracking # 2848 6288 9431

Relinquished by : (Signature) — Date: 10/13/2021 — Time: 1600

Received by: (Signature)

Trip Blank Received: Yes / No (HCl / MeoH) TBR — 9

Relinquished by : (Signature) — Date: — Time:

Received by: (Signature)

Temp: 2.8 °C — Bottles Received: 280

If preservation required by Login: Date/Time

Relinquished by : (Signature) — Date: — Time:

Received for lab by: (Signature) — Date: 10/14/21 — Time: 0900

Hold: — Condition: NCF / OK

Chain of Custody — Page 2 of 4

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 141808?

Table #

Acctnum: **KINMOROCA**

Template: **T196897**

Prelogin: **P879058**

PM: **110 - Brian Ford**

PB:

Shipped Via:

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		✓ Y N
Bottles arrive intact:		✓ Y N
Correct bottles used:		✓ Y N
Sufficient volume sent:		✓ Y N
If Applicable		
VOA Zero Headspace:		✓ Y N
Preservation Correct/Checked:		✓ Y N
RAD Screen <0.5 mR/hr:		✓ Y N

Company Name/Address:
Kinder Morgan- Houston, TX(Scott Martin)
1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002

Pres Chk

Report to: **Kyle Haslam**

Email To: **Kyle.Haslam@arcadis.com;Scott.Wenning@arca**

Project Description: **KMEP Harbor Island**

City/State Collected: SEATTLE, WA

Please Circle: (PT) MT CT ET

Phone: **206-726-4713**

Client Project # **30065856**

Lab Project # **KINMOROCA-HARBORISLA**

Collected by (print): J. SEPIOL / L. SELLECK

Site/Facility ID # **2720 13TH AVENUE SW**

P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Nitrate 125mlHDPE-NoPres	BTEX 8260D, NWTPHGX 40mlAmb-HCl	Diss Pb 6020 250mlHDPE-NoPres	Ferrous Fe 250mlAmb-HCl	Methane RSK175 40mlAmb HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	Sulfate 125mlHDPE-NoPres	Sulfide 250mlAmb-S-NaOH+ZnAc	Total Pb 6020 250mlHDPE-HNO3	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-21	C	GW	—	10/13/2021	0900	8		X				X						-21
MW-8	C	GW	—	10/13/2021	0942	10		X	X			X			X			-22
MW-9	C	GW	—	10/13/2021	0910	9		X	X				X		X			-23
TMW-6	C	GW	—	10/13/2021	1015	7		X					X					-24
MW-20	C	GW	—	10/13/2021	1340	8		X				X						-25
DUP-2	C	GW	—	10/13/2021	—	8		X				X						-26
12	C	GW	—	10/12/2021	1240	11		X	X			X	X		X			-27
A-8	C	GW	—	10/12/2021	1435	8		X				X						-28
MW-5	C	GW	—	10/11/2021	1640	10		X	X			X			X			-29
DUP-1	C	GW	—	10/12/2021	—	9		X	X				X		X			-30

Chain of Custody Page 3 of 4

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 149087

Table #

Acctnum: **KINMOROCA**
Template: **T196897**
Prelogin: **P879058**
PM: **110 - Brian Ford**
PB:

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:*Nitrate has a 48 hour holding time.

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: ___ UPS ___ FedEx X Courier ___

Tracking # 2848 6288 9417

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: X N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: X N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	10/13/2021	1600		9	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
				2-8 280	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
				10/14/21 0900	

Company/Address:
Kinder Morgan- Houston, TX(Scott Martin)

1100 Olive Way, Suite 800

Billing Information:
Accounts Payable-Scott Martin
1001 Louisiana St.
Houston, TX 77002

Pres Chk

Report to:
Kyle Haslam

Email To:
Kyle.Haslam@arcadis.com;Scott.Wenning@arca

Project Description:
KMEP Harbor Island

City/State Collected: SEATTLE, WA

Please Circle: (PT) MT CT ET

Phone: **206-726-4713**

Client Project #
30065856

Lab Project #
KINMOROCA-HARBORISLA

Collected by (print):
J.SEPIOL/L. SELLECK

Site/Facility ID #
2720 13TH AVENUE SW

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*Nitrate 125mlHDPE-NoPres	BTEX 8260D, NWTPHGX 40mlAmb-HCl	Diss Pb 6020 250mlHDPE-NoPres	Ferrous Fe 250mlAmb-HCl	Methane RSK175 40mlAmb HCl	NWTPHDX w/ silica 40mlAmb-HCl-BT	Sulfate 125mlHDPE-NoPres	Sulfide 250mlAmb-S-NaOH+ZnAc	Total Pb 6020 250mlHDPE-HNO3	Total RCRA8 6020 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-3	—	GW	—	10/13/2021	1440	10		X	X			X			X			-31
TRIP BLANK	—	GW	—	—	—	9												-32
		GW																
		GW																
		GW																
		GW																

Analysis / Container / Preservative

Chain of Custody Page 4 of 4

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 141808?

Table #

Acctnum: **KINMOROCA**

Template: **T196897**

Prelogin: **P879058**

PM: **110 - Brian Ford**

PB:

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:*Nitrate has a 48 hour holding time.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # 2846 6288 9428

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes X No HCl / MeoH TBR	
	10/13/2021	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.8 °C Bottles Received: 280	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/14/21 Time: 0900	Hold: Condition: NCF / OK

R5

10/14-NCF-L1418087-KINMOROCA PM

Time estimate: oh **Time spent:** oh

Members

Paul Minnich (responsible) Brian Ford KM Kelly Mercer

Due on *18 October 2021 5:00 PM* for target *Done*

- [ ] Login Clarification needed
- [x] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [x] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____10/18/21
- [ ] PM initials:_____KM
- [ ] Client Contact:_____Mark U.

Comments

Paul Minnich *14 October 2021 8:57 PM*

TB tests not marked

Kelly Mercer *18 October 2021 2:53 PM*

Please analyze.

Troy Dunlap *18 October 2021 3:58 PM*

Done.

Appendix D

Historical Groundwater Elevations

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-1	02/11/02	10.93	7.47	--	3.46	
A-1	05/20/02	10.93	9.99	--	0.94	
A-1	08/27/02	10.93	4.72	--	6.21	
A-1	11/04/02	10.93	8.95	--	1.98	
A-1	02/18/03	10.93	7.92	--	3.01	
A-1	06/09/03	10.93	8.47	--	2.46	
A-1	09/15/03	14.64	8.83	--	5.81	
A-1	11/18/03	14.64	8.45	--	6.19	
A-1	02/24/04	14.64	7.89	--	6.75	
A-1	05/10/04	14.64	8.53	--	6.11	
A-1	08/24/04	14.64	8.73	--	5.91	
A-1	12/13/04	14.64	8.45	--	6.19	
A-1	03/08/05	14.64	8.59	--	6.05	
A-1	06/06/05	14.64	8.41	--	6.23	
A-1	09/19/05	14.64	8.87	--	5.77	
A-1	12/12/05	14.64	8.63	--	6.01	
A-1	03/13/06	14.64	7.95	--	6.69	
A-1	06/05/06	14.64	8.37	--	6.27	
A-1	09/11/06	14.64	8.81	--	5.83	
A-1	12/11/06	14.64	7.95	--	6.69	
A-2	02/11/02	10.85	7.41	--	3.44	
A-2	05/20/02	10.85	9.28	--	1.57	
A-2	08/27/02	10.85	4.66	--	6.19	
A-2	11/04/02	10.85	8.90	--	1.95	
A-2	02/18/03	10.85	7.98	--	2.87	
A-2	06/09/03	10.85	8.41	--	2.44	
A-2	09/15/03	14.66	8.77	--	5.89	
A-2	11/18/03	14.66	8.35	--	6.31	
A-2	02/24/04	14.66	7.80	--	6.86	
A-2	05/10/04	14.66	8.51	--	6.15	
A-2	08/24/04	14.66	8.55	--	6.11	
A-2	12/13/04	14.66	8.38	--	6.28	
A-2	03/08/05	14.66	8.77	--	5.89	
A-2	06/06/05	14.66	8.45	--	6.21	
A-2	09/19/05	14.66	8.79	--	5.87	
A-2	12/12/05	14.66	8.58	--	6.08	
A-2	03/13/06	14.66	7.81	--	6.85	
A-2	06/05/06	14.66	8.29	--	6.37	
A-2	09/11/06	14.66	8.76	--	5.90	
A-2	12/11/06	14.66	7.96	--	6.70	
A-3	02/11/02	10.50	7.30	<0.01	3.20	
A-3	05/20/02	10.50	9.03	--	1.47	
A-3	08/27/02	10.50	8.43	--	2.07	
A-3	11/04/02	10.50	8.64	--	1.86	
A-3	02/18/03	10.50	7.61	--	2.89	
A-3	06/09/03	10.50	8.19	--	2.31	
A-3	09/15/03	14.32	8.50	--	5.82	
A-3	11/18/03	14.32	7.56	--	6.76	
A-3	02/24/04	14.32	7.56	--	6.76	
A-3	05/10/04	14.32	8.12	--	6.20	
A-3	08/24/04	14.32	8.23	--	6.09	
A-3	12/13/04	14.32	7.85	--	6.47	
A-3	03/08/05	14.32	8.20	--	6.12	
A-3	06/06/05	14.32	8.03	--	6.29	
A-3	09/19/05	14.32	8.50	--	5.82	
A-3	12/12/05	14.32	8.32	--	6.00	
A-3	03/13/06	14.32	7.51	--	6.81	
A-3	06/05/06	14.32	7.96	--	6.36	
A-3	09/11/06	14.32	8.46	--	5.86	
A-3	12/11/06	14.32	7.56	--	6.76	
A-4	02/11/02	10.74	7.38	0.14	3.47	
A-4	05/20/02	10.74	8.20	0.02	2.56	
A-4	08/27/02	10.74	7.62	0.04	3.15	
A-4	11/04/02	10.74	7.92	Sheen	2.82	Product recovery pump in well
A-4	02/18/03	10.74	7.84	Sheen	2.90	Product recovery pump in well
A-4	06/09/03	10.74	6.40	0.10	4.42	Product recovery pump in well
A-4	09/15/03	13.22	8.38	0.10	4.92	Product recovery pump in well
A-4	11/18/03	13.22	6.65	0.01	6.58	Product recovery pump in well
A-4	02/24/04	13.22	7.00	--	6.22	Product recovery pump in well
A-4	05/10/04	13.22	6.79	--	6.43	Product recovery pump in well
A-4	08/24/04	13.22	7.76	--	5.46	Product recovery pump in well
A-4	12/13/04	13.22	6.10	Sheen	7.12	
A-4	03/08/05	13.22	7.21	Sheen	6.01	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-4	06/06/05	13.22	7.23	Sheen	5.99	
A-4	09/19/05	13.22	7.78	--	5.44	
A-4	12/12/05	13.22	7.77	--	5.45	
A-4	03/13/06	13.22	6.85	--	6.37	
A-4	06/05/06	13.22	7.30	Sheen	5.92	
A-4	09/11/06	13.22	8.02	0.01	5.21	
A-4	12/11/06	13.22	7.04	--	6.18	
A-4	03/26/07	13.22	6.90	--	6.32	
A-4	06/18/07	13.22	7.29	--	5.93	
A-4	09/24/07	13.22	7.48	Sheen	5.74	
A-4	12/10/07	13.22	6.83	--	6.39	
A-4	03/03/08	13.22	7.11	0.01	6.12	
A-4	06/02/08	13.22	7.52	Sheen	5.70	
A-4	09/04/08	13.22	7.57	Sheen	5.65	
A-4	12/04/08	13.22	7.44	--	5.78	
A-4	03/04/09	13.22	7.09	--	6.13	
A-4	06/01/09	13.22	7.32	Sheen	5.90	
A-4	09/21/09	13.22	7.61	Sheen	5.61	
A-4	11/16/09	13.22	6.97	Sheen	6.25	
A-4	03/08/10	13.22	6.54	--	6.68	
A-4	06/07/10	13.22	6.92	Sheen	6.30	
A-4	09/09/10	13.22	7.59	--	5.63	
A-4	11/16/10	13.22	7.11	--	6.11	
A-4	03/01/11	13.22	6.66	--	6.56	
A-4	05/23/11	13.22	6.84	Sheen	6.38	
A-4	08/29/11	13.22	7.50	--	5.72	
A-4	12/01/11	13.22	7.16	--	6.06	
A-4	03/01/12	13.22	--	--	--	Not Measured
A-4	05/30/12	13.22	6.88	--	6.34	
A-4	08/25/12	13.22	7.17	--	6.05	
A-4	11/07/12	13.22	6.77	--	6.45	
A-4	02/28/13	13.22	6.69	--	6.53	
A-4	04/08/13	13.22	6.83	--	6.39	
A-4	07/29/13	13.22	7.23	--	5.99	
A-4	10/02/13	13.22	5.10	--	8.12	
A-4	01/21/14	13.22	7.12	--	6.10	
A-4	04/22/14	13.22	6.71	--	6.51	
A-4	07/15/14	13.22	7.09	--	6.13	
A-4	03/17/15	13.22	3.74	--	9.48	
A-4	09/29/15	13.22	--	--	--	Not Measured
A-4	03/29/16	13.22	6.02	--	7.20	
A-4	10/11/16	13.22	7.32	--	5.90	
A-4	03/28/17	13.22	5.97	--	7.25	
A-4	10/10/17	13.22	7.31	--	5.91	
A-4	03/28/18	13.22	6.70	--	6.52	
A-4	10/02/18	13.22	7.22	--	6.00	
A-4	04/02/19	13.22	6.67	--	6.55	
A-4	10/01/19	13.22	7.25	--	5.97	
A-4	03/25/20	13.22	6.71	--	6.51	
A-4	10/19/20	13.22	7.10	--	6.12	
A-4	04/12/21	13.22	6.89	--	6.33	
A-4	10/11/21	13.22	7.28	--	5.94	
A-5	02/11/02	10.42	7.00	--	3.42	
A-5	05/20/02	10.42	8.89	--	1.53	
A-5	08/27/02	10.42	8.25	--	2.17	
A-5	11/04/02	10.42	8.43	--	1.99	
A-5	02/18/03	10.42	7.35	--	3.07	
A-5	06/09/03	10.42	7.99	--	2.43	
A-5	09/15/03	14.13	8.33	Sheen	5.80	
A-5	11/18/03	14.13	7.82	--	6.31	
A-5	02/24/04	14.13	6.45	--	7.68	
A-5	05/10/04	14.13	8.04	--	6.09	
A-5	08/24/04	14.13	8.02	--	6.11	
A-5	12/13/04	14.13	7.88	--	6.25	
A-5	03/08/05	14.13	8.00	--	6.13	
A-5	06/06/05	14.13	7.89	--	6.24	
A-5	09/19/05	14.13	8.37	--	5.76	
A-5	12/12/05	14.13	8.15	--	5.98	
A-5	03/13/06	14.13	7.39	--	6.74	
A-5	06/05/06	14.13	7.82	--	6.31	
A-5	09/11/06	14.13	8.34	--	5.79	
A-5	12/11/06	14.13	7.41	--	6.72	
A-5	03/26/07	14.13	7.41	--	6.72	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-5	06/18/07	14.13	8.32	--	5.81	
A-5	09/24/07	14.13	8.32	--	5.81	
A-5	12/10/07	14.13	7.66	--	6.47	
A-5	03/03/08	14.13	7.78	--	6.35	
A-5	06/02/08	14.13	8.21	--	5.92	
A-5	09/04/08	14.13	8.10	--	6.03	
A-5	12/04/08	14.13	8.15	--	5.98	
A-5	03/04/09	14.13	7.76	--	6.37	
A-5	06/01/09	14.13	8.03	--	6.10	
A-5	09/21/09	14.13	8.35	--	5.78	
A-5	11/16/09	14.13	7.70	--	6.43	
A-5	03/08/10	14.13	7.21	--	6.92	
A-5	06/07/10	14.13	7.74	--	6.39	
A-5	09/09/10	14.13	8.26	--	5.87	
A-5	11/15/10	14.13	7.85	--	6.28	
A-5	03/01/11	14.13	7.47	--	6.66	
A-5	05/23/11	14.13	7.58	--	6.55	
A-5	08/29/11	14.13	8.17	--	5.96	
A-5	12/01/11	14.13	7.89	--	6.24	
A-5	03/01/12	14.13	7.62	--	6.51	
A-5	05/30/12	14.13	7.67	--	6.46	
A-5	08/25/12	14.13	7.91	--	6.22	
A-5	11/07/12	14.13	7.54	--	6.59	
A-5	02/27/13	14.13	7.59	--	6.54	
A-5	04/08/13	14.13	7.56	--	6.57	
A-5	07/29/13	14.13	7.88	--	6.25	
A-5	10/02/13	14.13	7.64	--	6.49	
A-5	01/21/14	14.13	7.92	--	6.21	
A-5	04/22/14	14.13	7.50	--	6.63	
A-5	07/15/14	14.13	7.85	--	6.28	
A-5	03/17/15	14.13	7.45	--	6.68	
A-5	09/29/15	14.13	7.80	--	6.33	
A-5	03/29/16	14.13	6.89	--	7.24	
A-5	10/11/16	14.13	8.05	--	6.08	
A-5	03/28/17	14.13	6.76	--	7.37	
A-5	10/10/17	14.13	8.05	--	6.08	
A-5	03/28/18	14.13	7.51	--	6.62	
A-5	10/02/18	14.13	7.99	--	6.14	
A-5	04/02/19	14.13	7.46	--	6.67	
A-5	10/01/19	14.13	7.99	--	6.14	
A-5	03/25/20	14.13	7.52	--	6.61	
A-5	10/19/20	14.13	7.89	--	6.24	
A-5	04/12/21	14.13	7.64	--	6.49	
A-5	10/11/21	14.13	8.06	--	6.07	
A-6	02/11/02	--	6.40	0.13	--	Not Measured-Casing Broken
A-6	05/20/02	--	8.13	0.14	--	Not Measured-Casing Broken
A-6	08/27/02	--	7.80	0.45	--	Not Measured-Casing Broken
A-6	11/04/02	--	7.33	0.01	--	Not Measured-Product recovery pump in well, Casing Broken
A-6	02/18/03	--	8.50	Sheen	--	Not Measured-Product recovery pump in well, Casing Broken
A-6	06/09/03	--	7.45	0.01	--	Not Measured-Re-cut TOC; repaired
A-6	09/15/03	12.81	7.77	0.01	5.05	Product recovery pump in well
A-6	11/18/03	12.81	7.46	0.54	5.78	Product recovery pump in well
A-6	02/24/04	12.81	6.65	0.40	6.48	Product recovery pump in well
A-6	05/10/04	12.81	6.95	0.10	5.94	Product recovery pump in well
A-6	08/24/04	12.81	7.21	0.21	5.77	Product recovery pump in well
A-6	12/13/04	12.81	6.80	0.14	6.12	
A-6	03/08/05	12.81	6.98	0.32	6.09	
A-6	06/06/05	12.81	6.81	0.04	6.03	
A-6	09/19/05	12.81	7.81	0.59	5.47	
A-6	10/12/05	12.81	7.95	0.50	5.26	
A-6	12/12/05	12.81	8.20	0.95	5.37	
A-6	03/13/06	12.81	6.68	0.08	6.19	
A-6	06/05/06	12.81	7.10	0.13	5.81	
A-6	09/11/06	12.81	7.82	0.27	5.21	
A-6	12/11/06	12.81	6.58	0.02	6.25	
A-6	03/26/07	12.81	6.51	--	6.30	
A-6	06/18/07	12.81	7.00	--	5.81	
A-6	09/24/07	12.81	7.20	Sheen	5.61	
A-6	12/10/07	12.81	6.58	--	6.23	
A-6	03/03/08	12.81	6.59	--	6.22	
A-6	06/02/08	12.81	7.05	Sheen	5.76	
A-6	09/04/08	12.81	7.19	Sheen	5.62	
A-6	12/04/08	12.81	7.15	Sheen	5.66	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-6	03/04/09	12.81	6.51	Sheen	6.30	
A-6	06/01/09	12.81	7.00	Sheen	5.81	
A-6	09/21/09	12.81	7.24	Sheen	5.57	
A-6	11/16/09	12.81	6.50	Sheen	6.31	
A-6	03/08/10	12.81	6.14	--	6.67	
A-6	06/07/10	12.81	6.71	Sheen	6.10	
A-6	09/09/10	12.81	7.12	--	5.69	
A-6	11/15/10	12.81	6.79	Sheen	6.02	
A-6	03/01/11	12.81	6.38	Sheen	6.43	
A-6	05/23/11	12.81	6.52	Sheen	6.29	
A-6	08/29/11	12.81	7.04	0.03	5.79	
A-6	12/01/11	12.81	6.95	Sheen	5.86	
A-6	03/01/12	12.81	6.60	--	6.21	
A-6	05/30/12	12.81	6.58	--	6.23	
A-6	08/25/12	12.81	7.18	--	5.63	
A-6	11/07/12	12.81	6.61	--	6.20	
A-6	02/27/13	12.81	6.54	--	6.27	
A-6	04/08/13	12.81	6.46	--	6.35	
A-6	07/29/13	12.81	6.83	--	5.98	
A-6	10/02/13	12.81	6.66	Sheen	6.15	0.04 ft of SPH observed. Absorbent sock placed in well.
A-6	01/21/14	12.81	6.80	--	6.01	
A-6	04/22/14	12.81	6.32	--	6.49	
A-6	07/15/14	12.81	6.69	--	6.12	
A-6	03/17/15	12.81	6.30	0.10	6.59	Absorbent sock placed in well
A-6	06/08/15	12.81	6.70	--	6.11	
A-6	09/29/15	12.81	7.79	0.05	5.06	Absorbent sock placed in well
A-6	12/21/15	12.81	5.20	--	7.61	
A-6	03/29/16	12.81	5.77	<0.01	7.04	Sheen. Absorbent sock placed in well
A-6	06/16/16	12.81	6.79	--	6.02	
A-6	09/01/16	12.81	7.01	0.05	5.80	Absorbent sock placed in well
A-6	10/11/16	12.81	7.09	--	5.72	
A-6	03/28/17	12.81	5.77	--	7.04	Sheen
A-6	10/10/17	12.81	6.96	0.01	5.85	
A-6	03/28/18	12.81	6.47	0.02	6.36	
A-6	10/02/18	12.81	6.91	--	5.90	
A-6	04/02/19	12.81	6.30	--	6.51	
A-6	10/01/19	12.81	6.96	0.06	5.90	Absorbent sock placed in well
A-6	03/25/20	12.81	6.44	--	6.37	
A-6	10/19/20	12.81	6.81	--	6.00	
A-6	04/12/21	12.81	6.65	0.03	6.18	
A-6	10/11/21	12.81	7.07	0.01	5.75	
A-7	02/11/02	9.50	6.25	--	3.25	
A-7	05/20/02	9.50	8.10	--	1.40	
A-7	08/27/02	9.50	7.40	--	2.10	
A-7	11/04/02	9.50	7.55	--	1.95	
A-7	02/18/03	9.50	7.53	--	1.97	
A-7	06/09/03	9.50	7.12	--	2.38	
A-7	09/15/03	13.43	7.45	--	5.98	
A-7	11/18/03	13.43	6.78	--	6.65	
A-7	02/24/04	13.43	6.89	--	6.54	
A-7	05/10/04	13.43	6.66	--	6.77	
A-7	08/24/04	13.43	7.67	--	5.76	
A-7	12/13/04	13.43	6.88	--	6.55	
A-7	03/08/05	13.43	4.45	--	8.98	
A-7	06/06/05	13.43	6.84	--	6.59	
A-7	09/19/05	13.43	7.47	--	5.96	
A-7	12/12/05	13.43	7.22	--	6.21	
A-7	03/13/06	13.43	6.41	--	7.02	
A-7	06/05/06	13.43	6.90	--	6.53	
A-7	09/11/06	13.43	7.53	--	5.90	
A-7	12/11/06	13.43	6.69	--	6.74	
A-8	02/11/02	10.46	6.98	--	3.48	
A-8	05/20/02	10.46	8.87	--	1.59	
A-8	08/27/02	10.46	7.26	--	3.20	
A-8	11/04/02	10.46	8.51	--	1.95	
A-8	02/18/03	10.46	4.83	--	5.63	
A-8	06/09/03	10.46	8.11	--	2.35	
A-8	09/15/03	14.61	8.38	--	6.23	
A-8	11/18/03	14.61	7.87	Sheen	6.74	
A-8	02/24/04	14.61	7.43	--	7.18	
A-8	05/10/04	14.61	8.04	--	6.57	
A-8	08/24/04	14.61	8.18	--	6.43	
A-8	12/13/04	14.61	7.90	--	6.71	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-8	03/08/05	14.61	8.11	--	6.50	
A-8	06/06/05	14.61	7.98	--	6.63	
A-8	09/19/05	14.61	8.44	--	6.17	
A-8	12/12/05	14.61	8.22	--	6.39	
A-8	03/13/06	14.61	7.49	--	7.12	
A-8	06/05/06	14.61	7.89	--	6.72	
A-8	09/11/06	14.61	8.45	--	6.16	
A-8	12/11/06	14.61	7.66	--	6.95	
A-8	03/26/07	14.61	7.71	--	6.90	
A-8	06/18/07	14.61	8.27	--	6.34	
A-8	09/24/07	14.61	8.50	--	6.11	
A-8	12/10/07	14.61	7.44	--	7.17	
A-8	03/03/08	14.61	7.83	--	6.78	
A-8	06/02/08	14.61	8.20	--	6.41	
A-8	09/04/08	14.61	--	--	--	Inaccessible
A-8	12/04/08	14.61	8.20	--	6.41	
A-8	03/04/09	14.61	7.70	--	6.91	
A-8	06/01/09	14.61	8.11	--	6.50	
A-8	09/21/09	14.61	8.37	--	6.24	
A-8	11/16/09	14.61	7.70	--	6.91	
A-8	03/08/10	14.61	7.31	--	7.30	
A-8	06/07/10	14.61	7.85	--	6.76	
A-8	09/09/10	14.61	8.28	--	6.33	
A-8	11/15/10	14.61	7.94	--	6.67	
A-8	03/01/11	14.61	7.56	--	7.05	
A-8	05/23/11	14.61	7.70	--	6.91	
A-8	08/29/11	14.61	8.21	--	6.40	
A-8	12/01/11	14.61	8.06	--	6.55	
A-8	03/01/12	14.61	7.74	--	6.87	
A-8	05/30/12	14.61	7.87	--	6.74	
A-8	08/25/12	14.61	7.97	--	6.64	
A-8	11/07/12	14.61	7.63	--	6.98	
A-8	02/27/13	14.61	8.71	--	5.90	
A-8	04/08/13	14.61	7.67	--	6.94	
A-8	07/29/13	14.61	7.98	--	6.63	
A-8	10/02/13	14.61	7.75	--	6.86	
A-8	01/21/14	14.61	7.98	--	6.63	
A-8	04/22/14	14.61	7.52	--	7.09	
A-8	07/15/14	14.61	7.89	--	6.72	
A-8	03/17/15	14.61	7.41	--	7.20	
A-8	09/29/15	14.61	7.92	--	6.69	
A-8	03/29/16	14.61	6.96	--	7.65	
A-8	10/11/16	14.61	8.21	--	6.40	
A-8	03/28/17	14.61	6.95	--	7.66	
A-8	10/10/17	14.61	8.14	--	6.47	
A-8	03/28/18	14.61	7.61	--	7.00	
A-8	10/02/18	14.61	8.11	--	6.50	
A-8	04/02/19	14.61	4.50	--	10.11	
A-8	10/01/19	14.61	8.06	--	6.55	
A-8	03/25/20	14.61	7.63	--	6.98	
A-8	10/19/20	14.61	7.97	--	6.64	
A-8	04/12/21	14.61	7.77	--	6.84	
A-8	10/11/21	14.61	8.22	--	6.39	
A-9	02/11/02	10.35	7.20	0.01	3.16	
A-9	05/20/02	10.35	8.86	--	1.49	
A-9	08/27/02	10.35	8.27	Sheen	2.08	
A-9	11/04/02	10.35	8.39	0.01	1.97	
A-9	02/18/03	10.35	7.45	--	2.90	
A-9	06/09/03	10.35	8.06	--	2.29	
A-9	09/15/03	14.42	8.03	--	6.39	
A-9	11/18/03	14.42	7.62	--	6.80	
A-9	02/24/04	14.42	7.21	--	7.21	
A-9	05/10/04	14.42	8.00	--	6.42	
A-9	08/24/04	14.42	8.18	--	6.24	
A-9	12/13/04	14.42	7.73	--	6.69	
A-9	03/08/05	14.42	8.00	--	6.42	
A-9	06/06/05	14.42	7.89	--	6.53	
A-9	09/19/05	14.42	8.28	--	6.14	
A-9	12/12/05	14.42	8.04	--	6.38	
A-9	03/13/06	14.42	7.37	--	7.05	
A-9	06/05/06	14.42	7.79	--	6.63	
A-9	09/11/06	14.42	8.36	--	6.06	
A-9	12/11/06	14.42	7.46	--	6.96	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-10	02/11/02	9.48	6.15	--	3.33	
A-10	05/20/02	9.48	7.98	--	1.50	
A-10	08/27/02	9.48	7.34	Sheen	2.14	
A-10	11/04/02	9.48	7.54	Sheen	1.94	
A-10	02/18/03	9.48	6.57	--	2.91	
A-10	06/09/03	9.48	7.15	--	2.33	
A-10	09/15/03	13.51	7.45	Sheen	6.06	
A-10	11/18/03	13.51	6.95	Sheen	6.56	
A-10	02/24/04	13.51	6.50	Sheen	7.01	
A-10	05/10/04	13.51	7.15	Sheen	6.36	
A-10	08/24/04	13.51	7.31	--	6.20	
A-10	12/13/04	13.51	6.95	--	6.56	
A-10	03/08/05	13.51	7.17	--	6.34	
A-10	06/06/05	13.51	7.01	--	6.50	
A-10	09/19/05	13.51	7.54	--	5.97	
A-10	12/12/05	13.51	7.25	--	6.26	
A-10	03/13/06	13.51	6.58	--	6.93	
A-10	06/05/06	13.51	6.92	--	6.59	
A-10	09/11/06	13.51	7.43	--	6.08	
A-10	12/11/06	13.51	6.59	--	6.92	
A-10	03/26/07	13.51	6.83	--	6.68	
A-10	06/18/07	13.51	7.29	--	6.22	
A-10	09/24/07	13.51	7.44	--	6.07	
A-10	12/10/07	13.51	6.79	--	6.72	
A-10	03/03/08	13.51	7.83	--	5.68	
A-10	06/02/08	13.51	7.31	--	6.20	
A-10	09/04/08	13.51	7.23	--	6.28	
A-10	12/04/08	13.51	6.87	--	6.64	
A-10	03/04/09	13.51	6.90	--	6.61	
A-10	06/01/09	13.51	7.18	--	6.33	
A-10	09/21/09	13.51	7.39	--	6.12	
A-10	11/16/09	13.51	6.84	--	6.67	
A-10	03/08/10	13.51	6.34	--	7.17	
A-10	06/07/10	13.51	6.84	--	6.67	
A-10	09/09/10	13.51	7.34	--	6.17	
A-10	11/15/10	13.51	6.93	--	6.58	
A-10	03/01/11	13.51	6.60	--	6.91	
A-10	05/23/11	13.51	6.68	--	6.83	
A-10	08/29/11	13.51	7.25	--	6.26	
A-10	12/01/11	13.51	6.96	--	6.55	
A-10	03/01/12	13.51	6.72	--	6.79	
A-10	05/30/12	13.51	6.72	--	6.79	
A-10	08/25/12	13.51	7.30	--	6.21	
A-10	11/07/12	13.51	7.08	--	6.43	
A-10	02/27/13	13.51	6.64	--	6.87	
A-10	04/08/13	13.51	6.61	--	6.90	
A-10	07/29/13	13.51	6.95	--	6.56	
A-10	10/02/13	13.51	6.46	--	7.05	
A-10	01/21/14	13.51	7.05	--	6.46	
A-10	04/22/14	13.51	6.65	--	6.86	
A-10	07/15/14	13.51	7.50	--	6.01	
A-10	03/17/15	13.51	6.48	--	7.03	
A-10	09/29/15	13.51	6.97	--	6.54	
A-10	03/29/16	13.51	5.96	--	7.55	
A-10	10/11/16	13.51	7.21	--	6.30	
A-10	03/28/17	13.51	6.02	--	7.49	
A-10	10/10/17	13.51	7.20	--	6.31	
A-10	03/28/18	13.51	6.60	--	6.91	
A-10	10/02/18	13.51	7.19	--	6.32	
A-10	04/02/19	13.51	6.65	--	6.86	
A-10	10/01/19	13.51	7.10	--	6.41	
A-10	03/25/20	13.51	6.69	--	6.82	
A-10	10/19/20	13.51	7.02	--	6.49	
A-10	04/12/21	13.51	6.74	--	6.77	
A-10	10/11/21	13.51	7.19	--	6.32	
A-11	02/11/02	10.36	7.01	--	3.35	
A-11	05/20/02	10.36	8.83	--	1.53	
A-11	08/27/02	10.36	8.21	--	2.15	
A-11	11/04/02	10.36	8.73	--	1.63	
A-11	02/18/03	10.36	5.42	--	4.94	
A-11	06/09/03	10.36	8.01	--	2.35	
A-11	09/15/03	14.40	8.32	--	6.08	
A-11	11/18/03	14.40	6.71	--	7.69	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-11	02/24/04	14.40	7.35	--	7.05	
A-11	05/10/04	14.40	8.10	--	6.30	
A-11	08/24/04	14.40	8.17	--	6.23	
A-11	12/13/04	14.40	7.85	--	6.55	
A-11	03/08/05	14.40	7.90	--	6.50	
A-11	06/06/05	14.40	7.88	--	6.52	
A-11	09/19/05	14.40	8.34	0.01	6.07	
A-11	10/12/05	14.40	8.24	--	6.16	
A-11	12/12/05	14.40	8.10	--	6.30	
A-11	03/13/06	14.40	7.40	--	7.00	
A-11	06/05/06	14.40	7.80	--	6.60	
A-11	09/11/06	14.40	8.32	--	6.08	
A-11	12/11/06	14.40	7.42	--	6.98	
A-11	12/10/07	14.40	7.64	--	6.76	
A-11	03/03/08	14.40	7.39	--	7.01	
A-11	03/04/09	14.40	7.70	--	6.70	
A-11	06/01/09	14.40	8.00	--	6.40	
A-11	09/21/09	14.40	8.26	--	6.14	
A-11	11/16/09	14.40	7.65	--	6.75	
A-11	03/08/10	14.40	7.20	--	7.20	
A-11	06/07/10	14.40	7.69	--	6.71	
A-11	09/09/10	14.40	8.20	--	6.20	
A-11	11/15/10	14.40	7.78	--	6.62	
A-11	03/01/11	14.40	7.43	--	6.97	
A-11	05/23/11	14.40	7.52	--	6.88	
A-11	08/29/11	14.40	8.09	--	6.31	
A-11	12/01/11	14.40	7.82	--	6.58	
A-11	03/01/12	14.40	7.55	--	6.85	
A-11	05/30/12	14.40	7.42	--	6.98	
A-11	08/25/12	14.40	7.63	--	6.77	
A-11	11/07/12	14.40	7.41	--	6.99	
A-11	02/27/13	14.40	7.42	--	6.98	
A-11	04/08/13	14.40	7.42	--	6.98	
A-11	07/29/13	14.40	7.75	--	6.65	
A-11	10/02/13	14.40	7.66	--	6.74	
A-11	01/21/14	14.40	7.93	--	6.47	
A-11	04/22/14	14.40	7.56	--	6.84	
A-11	07/15/14	14.40	7.91	--	6.49	
A-11	03/17/15	14.40	7.35	--	7.05	
A-11	09/29/15	14.40	7.89	--	6.51	
A-11	03/29/16	14.40	6.91	--	7.49	
A-11	10/11/16	14.40	8.08	--	6.32	
A-11	03/28/17	14.40	6.92	--	7.48	
A-11	10/10/17	14.40	8.06	--	6.34	
A-11	03/28/18	14.40	7.45	--	6.95	
A-11	10/02/18	14.40	8.04	--	6.36	
A-11	04/02/19	14.40	7.47	--	6.93	
A-11	10/01/19	14.40	7.95	--	6.45	
A-11	03/25/20	14.40	7.51	--	6.89	
A-11	10/19/20	14.40	7.87	--	6.53	
A-11	04/12/21	14.40	7.57	--	6.83	
A-11	10/11/21	14.40	8.07	--	6.33	
A-12	02/11/02	9.10	5.80	--	3.30	
A-12	05/20/02	9.10	8.68	--	0.42	
A-12	08/27/02	9.10	7.04	--	2.06	
A-12	11/04/02	9.10	7.23	--	1.87	
A-12	02/18/03	9.10	6.38	--	2.72	
A-12	06/09/03	9.10	6.83	--	2.27	
A-12	09/15/03	12.92	7.15	--	5.77	
A-12	11/18/03	12.92	6.60	--	6.32	
A-12	02/24/04	12.92	6.12	--	6.80	
A-12	05/10/04	12.92	6.74	--	6.18	
A-12	08/24/04	12.92	6.95	--	5.97	
A-12	12/13/04	12.92	6.57	--	6.35	
A-12	03/08/05	12.92	6.75	Sheen	6.17	
A-12	06/06/05	12.95	6.39	--	6.56	
A-12	09/19/05	12.95	7.09	--	5.86	
A-12	12/12/05	12.95	6.89	--	6.06	
A-12	03/13/06	12.95	6.23	--	6.72	
A-12	06/05/06	12.95	6.60	--	6.35	
A-12	09/11/06	12.95	7.14	--	5.81	
A-12	12/11/06	12.95	6.28	--	6.67	
A-12	12/10/07	12.95	6.43	--	6.52	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-12	03/03/08	12.95	6.50	--	6.45	
A-12	03/04/09	12.95	6.39	--	6.56	
A-12	06/01/09	12.95	6.86	--	6.09	
A-12	09/21/09	12.95	7.02	--	5.93	
A-12	11/16/09	12.95	6.38	--	6.57	
A-12	03/08/10	12.95	6.00	--	6.95	
A-12	06/07/10	12.95	6.54	--	6.41	
A-12	09/09/10	12.95	6.95	--	6.00	
A-12	11/15/10	12.95	6.60	--	6.35	
A-12	03/01/11	12.95	6.24	--	6.71	
A-12	05/23/11	12.95	6.34	--	6.61	
A-12	08/29/11	12.95	6.87	--	6.08	
A-12	12/01/11	12.95	6.66	--	6.29	
A-12	03/01/12	12.95	6.46	--	6.49	
A-12	05/30/12	12.95	6.35	--	6.60	
A-12	08/25/12	12.95	6.57	--	6.38	
A-12	11/07/12	12.95	6.27	--	6.68	
A-12	02/27/13	12.95	6.32	--	6.63	
A-12	04/08/13	12.95	6.28	--	6.67	
A-12	07/29/13	12.95	6.58	--	6.37	
A-12	10/02/13	12.95	6.41	--	6.54	
A-12	01/21/14	12.95	6.67	--	6.28	
A-12	04/22/14	12.95	6.29	--	6.66	
A-12	07/15/14	12.95	6.62	--	6.33	
A-12	03/17/15	12.95	6.13	--	6.82	
A-12	09/29/15	12.95	6.62	--	6.33	
A-12	03/29/16	12.95	5.64	--	7.31	
A-12	10/11/16	12.95	6.90	--	6.05	
A-12	03/28/17	12.95	5.67	--	7.28	
A-12	10/10/17	12.95	6.82	--	6.13	
A-12	03/28/18	12.95	6.28	--	6.67	
A-12	10/02/18	12.95	6.81	--	6.14	
A-12	04/02/19	12.95	6.24	--	6.71	
A-12	10/01/19	12.95	6.72	--	6.23	
A-12	03/25/20	12.95	6.31	--	6.64	
A-12	10/19/20	12.95	6.65	--	6.30	
A-12	04/12/21	12.95	6.43	--	6.52	
A-12	10/11/21	12.95	6.83	--	6.12	
A-13	03/27/01	--	--	--	--	
A-13	Destroyed during construction activities					
A-14	03/27/01	--	--	--	--	
A-14	Destroyed during construction activities					
A-14R	02/11/02	12.62	6.90	--	5.72	
A-14R	05/20/02	12.62	9.77	--	2.85	
A-14R	08/27/02	12.62	8.10	--	4.52	
A-14R	11/04/02	12.62	8.30	--	4.32	
A-14R	02/18/03	10.17	7.31	--	2.86	
A-14R	06/09/03	10.17	4.82	--	5.35	
A-14R	09/15/03	14.21	8.20	--	6.01	
A-14R	11/18/03	14.21	6.10	Sheen	8.11	
A-14R	02/24/04	14.21	7.23	--	6.98	
A-14R	05/10/04	14.21	7.89	--	6.32	
A-14R	08/24/04	14.21	8.01	--	6.20	
A-14R	12/13/04	14.21	7.75	--	6.46	
A-14R	03/08/05	14.21	7.87	--	6.34	
A-14R	06/06/05	14.21	7.71	--	6.50	
A-14R	09/19/05	14.21	8.16	0.15	6.17	
A-14R	10/12/05	14.21	8.01	--	6.20	
A-14R	12/12/05	14.21	7.95	--	6.26	
A-14R	03/13/06	14.21	7.26	--	6.95	
A-14R	06/05/06	14.21	7.64	--	6.57	
A-14R	09/11/06	14.21	8.15	--	6.06	
A-14R	12/11/06	14.21	7.30	--	6.91	
A-14R	03/26/07	14.21	7.51	--	6.70	
A-14R	06/18/07	14.21	7.98	--	6.23	
A-14R	09/24/07	14.21	8.18	--	6.03	
A-14R	12/10/07	14.21	7.51	--	6.70	
A-14R	03/03/08	14.21	7.56	--	6.65	
A-14R	06/02/08	14.21	8.02	--	6.19	
A-14R	09/04/08	14.21	7.71	--	6.50	
A-14R	12/04/08	14.21	7.92	--	6.29	
A-14R	03/04/09	14.21	7.62	--	6.59	
A-14R	06/01/09	14.21	7.91	--	6.30	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-14R	09/21/09	14.21	8.08	--	6.13	
A-14R	11/16/09	14.21	7.57	--	6.64	
A-14R	03/08/10	14.21	7.05	--	7.16	
A-14R	06/07/10	14.21	7.56	--	6.65	
A-14R	09/09/10	14.21	8.05	--	6.16	
A-14R	11/15/10	14.21	7.63	--	6.58	
A-14R	03/01/11	14.21	7.31	--	6.90	
A-14R	05/23/11	14.21	7.40	--	6.81	
A-14R	08/29/11	14.21	7.97	--	6.24	
A-14R	12/01/11	14.21	7.68	--	6.53	
A-14R	03/01/12	14.21	7.42	--	6.79	
A-14R	05/30/12	14.21	7.44	--	6.77	
A-14R	08/25/12	14.21	7.59	--	6.62	
A-14R	11/07/12	14.21	7.33	--	6.88	
A-14R	02/27/13	14.21	7.38	--	6.83	
A-14R	04/08/13	14.21	7.34	--	6.87	
A-14R	07/29/13	14.21	7.67	--	6.54	
A-14R	10/02/13	14.21	7.51	--	6.70	
A-14R	01/21/14	14.21	7.76	--	6.45	
A-14R	04/22/14	14.21	7.36	--	6.85	
A-14R	07/15/14	14.21	7.76	--	6.45	
A-14R	03/17/15	14.21	7.22	--	6.99	
A-14R	09/29/15	14.21	7.74	--	6.47	
A-14R	03/29/16	14.21	7.33	--	6.88	
A-14R	10/11/16	14.21	7.92	--	6.29	
A-14R	03/28/17	14.21	6.76	--	7.45	
A-14R	10/10/17	14.21	7.93	--	6.28	
A-14R	03/28/18	14.21	7.33	--	6.88	
A-14R	10/02/18	14.21	7.92	--	6.29	
A-14R	04/02/19	14.21	7.39	--	6.82	
A-14R	10/01/19	14.21	7.83	--	6.38	
A-14R	03/25/20	14.21	7.43	--	6.78	
A-14R	10/19/20	14.21	7.76	--	6.45	
A-14R	04/12/21	14.21	7.50	--	6.71	
A-14R	10/11/21	14.21	7.93	--	6.28	
A-15	03/27/01	--	--	--	--	
A-15	Destroyed during construction activities					
A-16	02/11/02	10.49	7.23	0.01	3.27	
A-16	05/20/02	10.49	9.03	--	1.46	
A-16	08/27/02	10.49	8.41	0.04	2.11	
A-16	11/04/02	10.49	8.81	0.28	1.90	
A-16	02/18/03	10.49	7.51	Sheen	2.98	
A-16	06/09/03	10.49	8.16	--	2.33	
A-16	09/15/03	14.39	8.80	0.01	5.60	
A-16	11/18/03	14.39	7.74	--	6.65	
A-16	02/24/04	14.39	7.54	--	6.85	
A-16	05/10/04	14.39	8.50	0.31	6.14	
A-16	08/24/04	14.39	9.03	0.82	6.02	
A-16	12/13/04	14.39	8.08	Sheen	6.31	
A-16	03/08/05	14.39	7.90	Sheen	6.49	
A-16	06/06/05	14.39	8.05	Sheen	6.34	
A-16	09/19/05	14.39	9.24	0.90	5.87	
A-16	10/12/05	14.39	9.38	1.20	5.97	
A-16	12/12/05	14.39	8.22	--	6.17	
A-16	03/13/06	14.39	7.75	--	6.64	
A-16	06/05/06	14.39	7.98	--	6.41	
A-16	09/11/06	14.39	9.20	0.90	5.91	
A-16	12/11/06	14.39	7.69	Sheen	6.70	
A-16	03/26/07	14.39	7.78	Sheen	6.61	
A-16	06/18/07	14.39	8.45	0.34	6.21	
A-16	09/24/07	14.39	8.45	0.02	5.96	
A-16	12/10/07	14.39	7.65	0.01	6.75	
A-16	03/03/08	14.39	7.88	Sheen	6.51	
A-16	06/02/08	14.39	8.77	0.04	5.65	
A-16	09/04/08	14.39	7.38	0.04	7.04	
A-16	12/04/08	14.39	8.27	--	6.12	
A-16	03/04/09	14.39	7.95	--	6.44	
A-16	06/01/09	14.39	8.50	Sheen	5.89	
A-16	09/21/09	14.39	8.80	0.35	5.87	
A-16	11/16/09	14.39	7.95	Sheen	6.44	
A-16	03/08/10	14.39	7.40	--	6.99	
A-16	06/07/10	14.39	7.91	Sheen	6.48	
A-16	09/09/10	14.39	8.92	0.09	5.54	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-16	11/15/10	14.39	8.21	Sheen	6.18	
A-16	03/01/11	14.39	7.65	--	6.74	
A-16	05/23/11	14.39	7.79	--	6.60	
A-16	08/29/11	14.39	8.52	0.10	5.95	
A-16	12/01/11	14.39	8.24	Sheen	6.15	
A-16	03/01/12	14.39	7.94	Sheen	6.45	
A-16	05/30/12	14.39	7.67	--	6.72	
A-16	08/25/12	14.39	7.79	--	6.60	
A-16	11/07/12	14.39	7.56	--	6.83	
A-16	02/27/13	14.39	7.66	--	6.73	
A-16	04/08/13	14.39	7.56	--	6.83	
A-16	07/29/13	14.39	7.88	--	6.51	
A-16	10/02/13	14.39	7.46	--	6.93	
A-16	01/21/14	14.39	8.05	--	6.34	
A-16	04/22/14	14.39	7.66	--	6.73	
A-16	07/15/14	14.39	8.04	--	6.35	
A-16	03/17/15	14.39	7.55	--	6.84	
A-16	09/29/15	14.39	8.19	0.17	6.34	Absorbent sock placed in well
A-16	12/21/15	14.39	6.98	--	7.41	
A-16	03/29/16	14.39	7.07	--	7.32	
A-16	06/16/16	14.39	7.96	--	6.43	
A-16	09/01/16	14.39	8.01	0.01	6.38	Absorbent sock placed in well
A-16	10/11/16	14.39	8.65	0.40	6.06	Absorbent sock placed in well
A-16	03/28/17	14.39	7.08	--	7.31	
A-16	10/10/17	14.39	8.60	0.44	6.14	Sheen, saturated sock removed prior to gauging
A-16	03/28/18	14.39	7.62	--	6.77	
A-16	10/02/18	14.39	8.64	0.45	6.11	
A-16	04/02/19	14.39	7.64	--	6.75	
A-16	10/01/19	14.39	8.32	0.24	6.26	Absorbent sock placed in well
A-16	03/25/20	14.39	7.69		6.70	
A-16	10/19/20	14.39	8.03	0.01	6.37	
A-16	04/12/21	14.39	7.76	--	6.63	
A-16	10/11/21	14.39	8.22	0.01	6.18	
A-17	02/11/02	9.51	6.09	--	3.42	
A-17	05/20/02	9.51	7.92	--	1.59	
A-17	08/27/02	9.51	7.33	--	2.18	
A-17	11/04/02	9.51	8.52	--	0.99	
A-17	02/18/03	9.51	6.51	--	3.00	
A-17	06/09/03	9.51	7.19	--	2.32	
A-17	09/15/03	13.41	7.43	--	5.98	
A-17	11/18/03	13.41	7.85	--	5.56	
A-17	02/24/04	13.41	6.47	--	6.94	
A-17	05/10/04	13.41	7.11	--	6.30	
A-17	08/24/04	13.41	7.12	--	6.29	
A-17	12/13/04	13.41	6.90	--	6.51	
A-17	03/08/05	13.41	7.15	--	6.26	
A-17	06/06/05	13.41	6.89	--	6.52	
A-17	09/19/05	13.41	7.55	--	5.86	
A-17	12/12/05	13.41	7.24	--	6.17	
A-17	03/13/06	13.41	6.50	--	6.91	
A-17	06/05/06	13.41	6.94	--	6.47	
A-17	09/11/06	13.41	8.34	--	5.07	
A-17	12/11/06	13.41	6.79	--	6.62	
A-18	02/11/02	10.72	7.42	--	3.30	
A-18	05/20/02	10.72	9.22	--	1.50	
A-18	08/27/02	10.72	8.59	--	2.13	
A-18	11/04/02	10.72	9.80	--	0.92	
A-18	02/18/03	10.72	8.36	--	2.36	
A-18	06/09/03	10.72	8.36	--	2.36	
A-18	09/15/03	14.74	8.65	--	6.09	
A-18	11/18/03	14.74	8.22	--	6.52	
A-18	02/24/04	14.74	7.06	--	7.68	
A-18	05/10/04	14.74	8.50	--	6.24	
A-18	08/24/04	14.74	8.56	--	6.18	
A-18	12/13/04	14.74	8.23	--	6.51	
A-18	03/08/05	14.74	8.33	--	6.41	
A-18	06/06/05	14.74	8.21	--	6.53	
A-18	09/19/05	14.74	8.67	0.02	6.09	
A-18	10/12/05	14.74	8.55	--	6.19	
A-18	12/12/05	14.74	8.42	--	6.32	
A-18	03/13/06	14.74	7.74	--	7.00	
A-18	06/05/06	14.74	8.14	--	6.60	
A-18	09/11/06	14.74	8.63	--	6.11	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-18	12/11/06	14.74	7.78	--	6.96	
A-18	12/10/07	14.74	7.81	--	6.93	
A-18	03/03/08	14.74	8.03	--	6.71	
A-18	03/04/09	14.74	8.07	--	6.67	
A-18	06/01/09	14.74	8.34	--	6.40	
A-18	09/21/09	14.74	8.57	--	6.17	
A-18	11/16/09	14.74	8.07	--	6.67	
A-18	03/08/10	14.74	7.54	--	7.20	
A-18	06/07/10	14.74	8.00	--	6.74	
A-18	09/09/10	14.74	8.53	--	6.21	
A-18	11/15/10	14.74	8.11	--	6.63	
A-18	03/01/11	14.74	7.75	--	6.99	
A-18	05/23/11	14.74	7.85	--	6.89	
A-18	08/29/11	14.74	8.44	--	6.30	
A-18	12/01/11	14.74	8.11	--	6.63	
A-18	03/01/12	14.74	7.83	--	6.91	
A-18	05/30/12	14.74	7.75	--	6.99	
A-18	08/25/12	14.74	7.89	--	6.85	
A-18	11/07/12	14.74	7.68	--	7.06	
A-18	02/27/13	14.74	7.72	--	7.02	
A-18	04/08/13	14.74	7.05	--	7.69	
A-18	07/29/13	14.74	7.99	--	6.75	
A-18	10/02/13	14.74	7.93	--	6.81	
A-18	01/21/14	14.74	8.27	--	6.47	
A-18	04/22/14	14.74	7.84	--	6.90	
A-18	07/15/14	14.74	8.21	--	6.53	
A-18	03/17/15	14.74	7.70	--	7.04	
A-18	09/29/15	14.74	8.24	--	6.50	
A-18	03/29/16	14.74	7.33	--	7.41	
A-18	10/11/16	14.74	8.40	--	6.34	
A-18	03/28/17	14.74	7.33	--	7.41	
A-18	10/10/17	14.74	8.42	--	6.32	
A-18	03/28/18	14.74	7.79	--	6.95	
A-18	10/02/18	14.74	8.38	--	6.36	
A-18	04/02/19	14.74	7.84	--	6.90	
A-18	10/01/19	14.74	8.28	--	6.46	
A-18	03/25/20	14.74	7.85	--	6.89	
A-18	10/19/20	14.74	8.21	--	6.53	
A-18	04/12/21	14.74	7.91	--	6.83	
A-18	10/11/21	14.74	8.36	--	6.38	
A-19	02/11/02	10.76	7.52	0.07	3.30	
A-19	05/20/02	10.76	9.19	--	1.57	
A-19	08/27/02	10.76	7.61	Sheen	3.15	
A-19	11/04/02	10.76	8.79	0.01	1.98	
A-19	02/18/03	10.76	7.70	Sheen	3.06	
A-19	06/09/03	10.76	8.35	0.01	2.42	
A-19	09/15/03	14.57	8.71	0.01	5.87	
A-19	11/18/03	14.57	7.69	0.01	6.89	
A-19	02/24/04	14.57	7.81	Sheen	6.76	
A-19	05/10/04	14.57	8.35	Sheen	6.22	
A-19	08/24/04	14.57	8.68	Sheen	5.89	
A-19	12/13/04	14.57	7.98	Sheen	6.59	
A-19	03/08/05	14.57	8.28	--	6.29	
A-19	06/06/05	14.57	7.26	--	7.31	
A-19	09/19/05	14.57	8.66	0.03	5.93	
A-19	10/12/05	14.57	8.55	0.02	6.04	
A-19	12/12/05	14.57	8.46	0.06	6.16	
A-19	03/13/06	14.57	7.65	--	6.92	
A-19	06/05/06	14.57	8.10	--	6.47	
A-19	09/11/06	14.57	8.63	0.03	5.96	
A-19	12/11/06	14.57	7.65	--	6.92	
A-19	03/26/07	14.57	7.89	--	6.68	
A-19	06/18/07	14.57	8.36	--	6.21	
A-19	09/25/07	14.57	8.64	--	5.93	
A-19	12/10/07	14.57	7.82	--	6.75	
A-19	03/03/08	14.57	7.95	--	6.62	
A-19	06/02/08	14.57	9.84	--	4.73	
A-19	09/04/08	14.57	8.30	--	6.27	
A-19	12/04/08	14.57	8.99	--	5.58	
A-19	03/04/09	14.57	7.89	--	6.68	
A-19	06/01/09	14.57	10.47	--	4.10	
A-19	09/21/09	14.57	8.53	--	6.04	
A-19	11/16/09	14.57	7.87	--	6.70	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-19	03/08/10	14.57	7.45	--	7.12	
A-19	06/07/10	14.57	7.19	--	7.38	
A-19	09/09/10	14.57	8.41	--	6.16	
A-19	11/15/10	14.57	7.94	--	6.63	
A-19	03/01/11	14.57	7.72	--	6.85	
A-19	05/23/11	14.57	7.82	--	6.75	
A-19	08/29/11	14.57	8.39	--	6.18	
A-19	12/01/11	14.57	8.14	--	6.43	
A-19	03/01/12	14.57	7.82	--	6.75	
A-19	05/30/12	14.57	7.75	--	6.82	
A-19	08/25/12	14.57	7.88	--	6.69	
A-19	11/07/12	14.57	7.22	--	7.35	
A-19	02/27/13	14.57	7.68	--	6.89	
A-19	04/08/13	14.57	7.68	--	6.89	
A-19	07/29/13	14.57	7.93	--	6.64	
A-19	10/02/13	14.57	7.78	--	6.79	
A-19	01/21/14	14.57	8.86	--	5.71	
A-19	04/22/14	14.57	7.72	--	6.85	
A-19	07/15/14	14.57	8.01	--	6.56	
A-19	03/17/15	14.57	7.61	--	6.96	
A-19	09/28/15	14.57	8.16	--	6.41	
A-19	03/29/16	14.57	7.19	--	7.38	
A-19	10/11/16	14.57	8.35	--	6.22	
A-19	03/28/17	14.57	7.29	--	7.28	
A-19	10/10/17	14.57	8.34	--	6.23	
A-19	03/28/18	14.57	7.76	--	6.81	
A-19	10/02/18	14.57	8.30	--	6.27	
A-19	04/02/19	14.57	7.76	--	6.81	
A-19	10/01/19	14.57	8.25	--	6.32	
A-19	03/25/20	14.57	7.79	--	6.78	
A-19	10/19/20	14.57	8.14	--	6.43	
A-19	04/12/21	14.57	7.89	--	6.68	
A-19	10/11/21	14.57	8.30	--	6.27	
A-20	02/11/02	10.30	7.16	--	3.14	
A-20	05/20/02	10.30	9.76	--	0.54	
A-20	08/27/02	10.30	5.19	--	5.11	
A-20	11/04/02	10.30	8.39	--	1.91	
A-20	02/18/03	10.30	7.38	--	2.92	
A-20	06/09/03	10.30	7.95	--	2.35	
A-20	09/15/03	14.19	8.25	--	5.94	
A-20	11/18/03	14.19	7.70	--	6.49	
A-20	02/24/04	14.19	7.29	0.02	6.92	
A-20	05/10/04	14.19	7.99	--	6.20	
A-20	08/24/04	14.19	8.18	--	6.01	
A-20	12/13/04	14.19	7.65	--	6.54	
A-20	03/08/05	14.19	7.89	--	6.30	
A-20	06/06/05	14.19	7.81	--	6.38	
A-20	09/19/05	14.19	8.25	0.01	5.95	
A-20	10/12/05	14.19	8.12	--	6.07	
A-20	12/12/05	14.19	8.00	--	6.19	
A-20	03/13/06	14.19	7.25	--	6.94	
A-20	06/05/06	14.19	7.72	--	6.47	
A-20	09/11/06	14.19	8.22	--	5.97	
A-20	12/11/06	14.19	7.28	--	6.91	
A-20	03/26/07	14.19	7.51	--	6.68	
A-20	06/18/07	14.19	7.98	--	6.21	
A-20	09/25/07	14.19	8.19	--	6.00	
A-20	12/10/07	14.19	7.45	--	6.74	
A-20	03/03/08	14.19	7.55	--	6.64	
A-20	06/02/08	14.19	8.48	--	5.71	
A-20	09/04/08	14.19	7.92	--	6.27	
A-20	12/04/08	14.19	7.99	--	6.20	
A-20	03/04/09	14.19	7.19	--	7.00	
A-20	06/01/09	14.19	8.38	--	5.81	
A-20	09/21/09	14.19	8.11	--	6.08	
A-20	11/16/09	14.19	7.43	--	6.76	
A-20	03/08/10	14.19	7.15	--	7.04	
A-20	06/07/10	14.19	7.54	--	6.65	
A-20	09/09/10	14.19	8.03	--	6.16	
A-20	11/15/10	14.19	7.51	--	6.68	
A-20	03/01/11	14.19	7.34	--	6.85	
A-20	05/23/11	14.19	7.45	--	6.74	
A-20	08/29/11	14.19	8.03	--	6.16	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-20	12/01/11	14.19	7.70	--	6.49	
A-20	03/01/12	14.19	7.41	--	6.78	
A-20	05/30/12	14.19	7.30	--	6.89	
A-20	08/25/12	14.19	7.46	--	6.73	
A-20	11/07/12	14.19	6.61	--	7.58	
A-20	02/27/13	14.19	7.21	--	6.98	
A-20	04/08/13	14.19	6.96	--	7.23	
A-20	07/29/13	14.19	7.46	--	6.73	
A-20	10/02/13	14.19	7.40	--	6.79	
A-20	01/21/14	14.19	7.77	--	6.42	
A-20	04/22/14	14.19	7.38	--	6.81	
A-20	07/15/14	14.19	7.66	--	6.53	
A-20	03/17/15	14.19	7.27	--	6.92	
A-20	09/28/15	14.19	7.81	--	6.38	
A-20	03/29/16	14.19	6.96	--	7.23	
A-20	10/11/16	14.19	7.97	--	6.22	
A-20	03/28/17	14.19	7.11	--	7.08	
A-20	10/10/17	14.19	7.93	--	6.26	
A-20	03/28/18	14.19	7.40	--	6.79	
A-20	10/02/18	14.19	7.96	--	6.23	
A-20	04/02/19	14.19	7.45	--	6.74	
A-20	10/01/19	14.19	8.17	--	6.02	
A-20	03/25/20	14.19	7.42	--	6.77	
A-20	10/19/20	14.19	7.78	--	6.41	
A-20	04/12/21	14.19	7.51	--	6.68	
A-20	10/11/21	14.19	7.86	--	6.33	
A-21	02/11/02	10.40	7.18	--	3.22	
A-21	05/20/02	10.40	9.88	Sheen	0.52	
A-21	08/27/02	10.40	8.28	--	2.12	
A-21	11/04/02	10.40	8.50	--	1.90	
A-21	02/18/03	10.40	7.47	--	2.93	
A-21	06/09/03	10.40	8.01	--	2.39	
A-21	09/15/03	14.35	8.65	--	5.70	
A-21	11/18/03	14.35	7.86	--	6.49	
A-21	02/24/04	14.35	7.43	--	6.92	
A-21	05/10/04	14.35	8.10	--	6.25	
A-21	08/24/04	14.35	8.29	--	6.06	
A-21	12/13/04	14.35	7.75	--	6.60	
A-21	03/08/05	14.35	8.00	--	6.35	
A-21	06/06/05	14.35	7.90	--	6.45	
A-21	09/19/05	14.35	8.24	--	6.11	
A-21	12/12/05	14.35	8.15	--	6.20	
A-21	03/13/06	14.35	7.38	--	6.97	
A-21	06/05/06	14.35	7.21	--	7.14	
A-21	09/11/06	14.35	8.31	--	6.04	
A-21	12/11/06	14.35	7.44	--	6.91	
A-21	03/26/07	14.35	7.64	--	6.71	
A-21	06/18/07	14.35	8.15	--	6.20	
A-21	09/25/07	14.35	8.30	--	6.05	
A-21	12/10/07	14.35	7.62	--	6.73	
A-21	03/03/08	14.35	7.67	--	6.68	
A-21	06/02/08	14.35	8.18	--	6.17	
A-21	09/04/08	14.35	8.09	--	6.26	
A-21	12/04/08	14.35	8.07	--	6.28	
A-21	03/04/09	14.35	7.51	--	6.84	
A-21	06/01/09	14.35	8.03	--	6.32	
A-21	09/21/09	14.35	8.27	--	6.08	
A-21	11/16/09	14.35	7.68	--	6.67	
A-21	03/08/10	14.35	7.26	--	7.09	
A-21	06/07/10	14.35	7.66	--	6.69	
A-21	09/09/10	14.35	8.19	--	6.16	
A-21	11/15/10	14.35	7.73	--	6.62	
A-21	03/01/11	14.35	7.42	--	6.93	
A-21	05/23/11	14.35	7.56	--	6.79	
A-21	08/29/11	14.35	8.11	--	6.24	
A-21	12/01/11	14.35	7.81	--	6.54	
A-21	03/01/12	14.35	7.53	--	6.82	
A-21	05/30/12	14.35	7.37	--	6.98	
A-21	08/25/12	14.35	7.49	--	6.86	
A-21	11/07/12	14.35	7.04	--	7.31	
A-21	02/27/13	14.35	7.32	--	7.03	
A-21	04/08/13	14.35	7.23	--	7.12	
A-21	07/29/13	14.35	7.59	--	6.76	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-21	10/02/13	14.35	7.57	--	6.78	
A-21	01/21/14	14.35	8.71	--	5.64	
A-21	04/22/14	14.35	7.59	--	6.76	
A-21	07/15/14	14.35	7.82	--	6.53	
A-21	03/17/15	14.35	7.40	--	6.95	
A-21	09/28/15	14.35	7.91	--	6.44	
A-21	03/29/16	14.35	6.94	--	7.41	
A-21	10/11/16	14.35	8.11	--	6.24	
A-21	03/28/17	14.35	7.11	--	7.24	
A-21	10/10/17	14.35	8.08	--	6.27	
A-21	03/28/18	14.35	7.48	--	6.87	
A-21	10/02/18	14.35	8.06	--	6.29	
A-21	04/02/19	14.35	7.54	--	6.81	
A-21	10/01/19	14.35	7.96	--	6.39	
A-21	03/25/20	14.35	7.53	--	6.82	
A-21	10/19/20	14.35	7.89	--	6.46	
A-21	04/12/21	14.35	7.60	--	6.75	
A-21	10/11/21	14.35	8.02	--	6.33	
A-22	09/21/01	10.69	--	--	--	
A-22					Destroyed	
A-22R	02/11/02	10.22	7.10	0.13	3.22	
A-22R	05/20/02	10.22	9.72	0.08	0.56	
A-22R	08/27/02	10.22	8.20	0.16	2.15	
A-22R	11/04/02	10.22	8.30	0.15	2.04	
A-22R	02/18/03	10.22	7.14	0.02	3.10	
A-22R	06/09/03	10.22	7.82	--	2.40	
A-22R	09/15/03	14.11	8.40	0.01	5.72	
A-22R	11/18/03	14.11	7.70	0.05	6.45	
A-22R	02/24/04	14.11	7.01	Sheen	7.10	
A-22R	05/10/04	14.11	7.68	<0.01	6.43	
A-22R	08/24/04	14.11	7.90	0.18	6.35	
A-22R	12/13/04	14.11	7.40	Sheen	6.71	
A-22R	03/08/05	14.11	7.08	--	7.03	
A-22R	06/06/05	14.11	7.21	--	6.90	
A-22R	09/19/05	14.11	8.11	0.01	6.01	
A-22R	10/12/05	14.11	8.22	0.20	6.05	
A-22R	12/12/05	14.11	7.87	--	6.24	
A-22R	03/13/06	14.11	7.15	--	6.96	
A-22R	06/05/06	14.11	7.75	--	6.36	
A-22R	09/11/06	14.11	8.16	--	5.95	
A-22R	12/11/06	14.11	7.14	--	6.97	
A-22R	03/26/07	14.11	7.34	--	6.77	
A-22R	06/18/07	14.11	7.86	--	6.25	
A-22R	12/10/07	14.11	7.38	--	6.73	
A-22R	03/03/08	14.11	7.47	--	6.64	
A-22R	06/02/08	14.11	8.90	--	5.21	
A-22R	09/04/08	14.11	--	--	--	Not Measured-Sock in well
A-22R	12/04/08	14.11	--	--	--	Not Measured-Sock in well
A-22R	03/04/09	14.11	--	--	--	Not Measured-Sock in well
A-22R	06/01/09	14.11	--	--	--	Not Measured-Sock in well
A-22R	09/21/09	14.11	--	--	--	Not Measured-Sock in well
A-22R	11/16/09	14.11	7.36	--	6.75	
A-22R	03/08/10	14.11	6.95	--	7.16	
A-22R	06/07/10	14.11	7.52	--	6.59	
A-22R	09/09/10	14.11	7.94	--	6.17	
A-22R	11/15/10	14.11	7.92	--	6.19	
A-22R	03/01/11	14.11	7.21	--	6.90	
A-22R	05/23/11	14.11	7.35	--	6.76	
A-22R	08/29/11	14.11	7.87	--	6.24	
A-22R	12/01/11	14.11	7.75	--	6.36	
A-22R	03/01/12	14.11	7.37	--	6.74	
A-22R	05/30/12	14.11	7.48	--	6.63	
A-22R	08/25/12	14.11	7.62	--	6.49	
A-22R	11/07/12	14.11	7.18	--	6.93	
A-22R	02/27/13	14.11	7.38	--	6.73	
A-22R	04/08/13	14.11	7.31	--	6.80	
A-22R	07/29/13	14.11	7.64	--	6.47	
A-22R	10/02/13	14.11	7.01	--	7.10	
A-22R	01/21/14	14.11	7.63	--	6.48	
A-22R	04/22/14	14.11	7.11	--	7.00	
A-22R	07/15/14	14.11	7.46	--	6.65	
A-22R	03/17/15	14.11	7.04	--	7.07	
A-22R	09/28/15	14.11	7.52	--	6.59	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-22R	03/29/16	14.11	6.59	--	7.52	
A-22R	10/11/16	14.11	7.92	--	6.19	
A-22R	03/28/17	14.11	6.67	--	7.44	
A-22R	10/10/17	14.11	7.82	--	6.29	
A-22R	03/28/18	14.11	7.31	--	6.8	
A-22R	10/02/18	14.11	7.79	--	6.32	
A-22R	04/02/19	14.11	7.17	--	6.94	
A-22R	10/01/19	14.11	7.74	--	6.37	
A-22R	03/25/20	14.11	7.29	--	6.82	
A-22R	10/19/20	14.11	7.65	--	6.46	
A-22R	04/12/21	14.11	7.45	--	6.66	
A-22R	10/11/21	14.11	7.91	--	6.20	
A-23	06/14/01	--	--	--	--	
A-23	Destroyed during construction activities					
A-23R	02/11/02	11.73	8.53	--	3.20	
A-23R	05/20/02	11.73	10.23	--	1.50	
A-23R	08/27/02	11.73	6.63	--	5.10	
A-23R	11/04/02	11.73	9.81	--	1.92	
A-23R	02/18/03	11.73	8.75	--	2.98	
A-23R	06/09/03	11.73	9.35	--	2.38	
A-23R	09/15/03	15.57	10.03	--	5.54	
A-23R	11/18/03	15.57	7.85	--	7.72	
A-23R	02/24/04	15.57	8.05	--	7.52	
A-23R	05/10/04	15.57	8.69	--	6.88	
A-23R	08/24/04	15.57	7.69	--	7.88	
A-23R	12/13/04	15.57	9.22	--	6.35	
A-23R	03/08/05	15.57	9.38	--	6.19	
A-23R	06/07/05	15.57	9.35	--	6.22	
A-23R	09/20/05	15.57	9.68	--	5.89	
A-23R	12/12/05	15.57	9.20	--	6.37	
A-23R	03/13/06	15.57	8.69	--	6.88	
A-23R	06/08/06	15.57	9.13	--	6.44	
A-23R	09/11/06	15.57	10.03	--	5.54	
A-23R	12/11/06	15.57	8.72	--	6.85	
A-23R	03/26/07	15.57	8.94	--	6.63	
A-23R	06/18/07	15.57	9.37	--	6.20	
A-23R	09/25/07	--	--	--	--	Not Measured-Inaccessible
A-23R	12/10/07	15.57	8.91	--	6.66	
A-23R	03/03/08	15.57	9.00	--	6.57	
A-23R	06/02/08	15.57	9.22	--	6.35	
A-23R	09/04/08	15.57	--	--	--	Not Measured-Inaccessible
A-23R	12/04/08	15.57	9.34	--	6.23	
A-23R	03/04/09	15.57	9.81	--	5.76	
A-23R	06/01/09	15.57	9.26	--	6.31	
A-23R	09/21/09	15.57	9.51	--	6.06	
A-23R	11/16/09	15.57	8.94	--	6.63	
A-23R	03/08/10	15.57	8.48	--	7.09	
A-23R	06/07/10	15.57	8.95	--	6.62	
A-23R	09/09/10	15.57	9.45	--	6.12	
A-23R	11/16/10	15.57	9.01	--	6.56	
A-23R	03/01/11	15.57	8.68	--	6.89	
A-23R	05/24/11	15.57	8.85	--	6.72	
A-23R	08/29/11	15.57	9.41	--	6.16	
A-23R	12/01/11	15.57	9.09	--	6.48	
A-23R	03/01/12	15.57	8.79	--	6.78	
A-23R	05/30/12	15.57	8.73	--	6.84	
A-23R	08/25/12	15.57	--	--	--	Inaccessible due to site access issues
A-23R	11/07/12	15.57	8.52	--	7.05	
A-23R	02/27/13	15.57	8.45	--	7.12	
A-23R	04/08/13	15.57	8.63	--	6.94	
A-23R	07/29/13	15.57	8.92	--	6.65	
A-23R	10/02/13	15.57	8.81	--	6.76	
A-23R	01/21/14	15.57	9.16	--	6.41	
A-23R	04/22/14	15.57	5.74	--	9.83	
A-23R	07/15/14	15.57	9.11	--	6.46	
A-23R	03/17/15	15.57	6.33	--	9.24	
A-23R	09/28/15	15.57	9.19	--	6.38	
A-23R	03/29/16	15.57	8.33	--	7.24	
A-23R	10/11/16	15.57	9.28	--	6.29	
A-23R	03/28/17	15.57	8.30	--	7.27	
A-23R	10/10/17	15.57	9.34	--	6.23	
A-23R	03/28/18	15.57	8.79	--	6.78	
A-23R	10/02/18	15.57	9.21	--	6.36	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-23R	--	15.57	--	--	--	Not Measured-Inaccessible
A-23R	10/03/19	15.57	9.23	--	6.34	Gauged when accessed for sampling
A-23R	03/25/20	15.57	--	--	--	Not Measured-Inaccessible
A-23R	10/19/20	15.57	9.13	--	6.44	
A-23R	04/12/21	15.57	8.87	--	6.70	
A-23R	10/11/21	15.57	9.28	--	6.29	
A-24	10/06/00	--	--	--	--	
A-24	Destroyed during construction activities					
A-25	02/11/02	10.12	6.78	--	3.34	
A-25	05/20/02	10.12	8.56	--	1.56	
A-25	08/27/02	10.12	7.99	--	2.13	
A-25	11/04/02	10.12	8.18	--	1.94	
A-25	02/18/03	10.12	7.08	--	3.04	
A-25	06/09/03	10.12	8.71	--	1.41	
A-25	09/15/03	13.90	8.05	--	5.85	
A-25	11/18/03	13.90	7.50	Sheen	6.40	
A-25	02/24/04	13.90	7.00	--	6.90	
A-25	05/10/04	13.90	7.75	--	6.15	
A-25	08/24/04	13.90	7.82	--	6.08	
A-25	12/13/04	13.90	7.46	--	6.44	
A-25	03/08/05	13.90	7.70	--	6.20	
A-25	06/06/05	13.90	7.53	--	6.37	
A-25	09/19/05	13.90	8.07	0.01	5.84	
A-25	10/12/05	13.90	7.95	--	5.95	
A-25	12/12/05	13.90	7.79	--	6.11	
A-25	03/13/06	13.90	6.98	--	6.92	
A-25	06/05/06	13.90	7.43	--	6.47	
A-25	09/11/06	13.90	8.10	--	5.80	
A-25	12/11/06	13.90	7.05	--	6.85	
A-25	12/10/07	13.90	7.23	--	6.67	
A-25	03/03/08	13.90	7.36	--	6.54	
A-25	03/04/09	13.90	7.37	--	6.53	
A-25	06/01/09	13.90	7.81	--	6.09	
A-25	09/21/09	13.90	8.00	--	5.90	
A-25	11/16/09	13.90	7.16	--	6.74	
A-25	03/08/10	13.90	6.83	--	7.07	
A-25	06/07/10	13.90	7.36	--	6.54	
A-25	09/09/10	13.90	7.97	--	5.93	
A-25	11/15/10	13.90	7.44	Sheen	6.46	
A-25	03/01/11	13.90	7.04	--	6.86	
A-25	05/23/11	13.90	7.18	--	6.72	
A-25	08/29/11	13.90	7.81	--	6.09	
A-25	12/01/11	13.90	7.52	--	6.38	
A-25	03/01/12	13.90	7.75	--	6.15	
A-25	05/30/12	13.90	7.30	--	6.60	
A-25	08/25/12	13.90	7.56	--	6.34	
A-25	11/07/12	13.90	7.11	--	6.79	
A-25	02/27/13	13.90	7.18	--	6.72	
A-25	04/08/13	13.90	7.08	--	6.82	
A-25	07/29/13	13.90	7.52	--	6.38	
A-25	10/02/13	13.90	7.23	--	6.67	
A-25	01/21/14	13.90	7.51	--	6.39	
A-25	04/22/14	13.90	7.03	--	6.87	
A-25	07/15/14	13.90	7.51	--	6.39	
A-25	03/17/15	13.90	6.87	--	7.03	
A-25	09/29/15	13.90	7.55	--	6.35	
A-25	03/29/16	13.90	6.36	--	7.54	
A-25	10/11/16	13.90	7.77	--	6.13	
A-25	03/28/17	13.90	6.30	--	7.60	
A-25	10/10/17	13.90	7.75	--	6.15	
A-25	03/28/18	13.90	7.10	--	6.80	
A-25	10/02/18	13.90	7.69	--	6.21	
A-25	04/02/19	13.90	7.06	--	6.84	
A-25	10/01/19	13.90	7.67	--	6.23	
A-25	03/25/20	13.90	7.13	--	6.77	
A-25	10/19/20	13.90	7.56	--	6.34	
A-25	04/12/21	13.90	7.26	--	6.64	
A-25	10/11/21	13.90	7.79	--	6.11	
A-26	03/27/01	--	--	--	--	
A-26	Destroyed during construction activities of utility trench					
A-26R	02/11/02	10.39	7.13	0.02	3.28	
A-26R	05/20/02	10.39	9.79	--	0.60	
A-26R	08/27/02	10.39	8.23	0.02	2.18	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-26R	11/04/02	10.39	8.41	0.04	2.01	
A-26R	02/18/03	10.39	7.29	--	3.10	
A-26R	06/09/03	10.39	7.92	--	2.47	
A-26R	09/15/03	14.19	8.31	--	5.88	
A-26R	11/18/03	14.19	7.64	Sheen	6.55	
A-26R	02/24/04	14.19	7.17	--	7.02	
A-26R	05/10/04	14.19	7.93	--	6.26	
A-26R	08/24/04	14.19	8.10	--	6.09	
A-26R	12/13/04	14.19	7.55	--	6.64	
A-26R	03/08/05	14.19	7.80	--	6.39	
A-26R	06/06/05	14.19	7.18	--	7.01	
A-26R	09/19/05	14.19	8.25	0.01	5.95	
A-26R	10/12/05	14.19	8.20	--	5.99	
A-26R	12/12/05	14.19	7.98	--	6.21	
A-26R	03/13/06	14.19	7.21	--	6.98	
A-26R	06/05/06	14.19	7.66	--	6.53	
A-26R	09/11/06	14.19	8.25	--	5.94	
A-26R	12/11/06	14.19	7.22	--	6.97	
A-26R	12/10/07	14.19	7.48	--	6.71	
A-26R	03/03/08	14.19	7.58	--	6.61	
A-26R	03/04/09	14.19	7.56	--	6.63	
A-26R	06/01/09	14.19	--	--	--	Not Measured-Inaccessible
A-26R	09/21/09	14.19	8.21	--	5.98	
A-26R	11/16/09	14.19	7.48	--	6.71	
A-26R	03/08/10	14.19	7.04	--	7.15	
A-26R	06/07/10	14.19	7.57	--	6.62	
A-26R	09/09/10	14.19	8.17	--	6.02	
A-26R	11/15/10	14.19	7.69	--	6.50	
A-26R	03/01/11	14.19	7.28	--	6.91	
A-26R	05/23/11	14.19	7.40	--	6.79	
A-26R	08/29/11	14.19	7.99	--	6.20	
A-26R	12/01/11	14.19	7.81	--	6.38	
A-26R	03/01/12	14.19	7.47	--	6.72	
A-26R	05/30/12	14.19	7.55	--	6.64	
A-26R	08/25/12	14.19	7.73	--	6.46	
A-26R	11/07/12	14.19	7.37	--	6.82	
A-26R	02/27/13	14.19	7.42	--	6.77	
A-26R	04/08/13	14.19	7.34	--	6.85	
A-26R	07/29/13	14.19	7.69	--	6.50	
A-26R	10/02/13	14.19	7.41	--	6.78	
A-26R	01/21/14	14.19	7.69	--	6.50	
A-26R	04/22/14	14.19	7.23	--	6.96	
A-26R	07/15/14	14.19	7.71	--	6.48	
A-26R	03/17/15	14.19	7.09	--	7.10	
A-26R	09/28/15	14.19	7.62	--	6.57	
A-26R	03/29/16	14.19	6.56	--	7.63	
A-26R	10/11/16	14.19	7.99	--	6.20	
A-26R	03/28/17	14.19	6.62	--	7.57	
A-26R	10/10/17	14.19	7.93	--	6.26	
A-26R	03/28/18	14.19	7.36	--	6.83	
A-26R	10/02/18	14.19	7.91	--	6.28	
A-26R	04/02/19	14.19	7.25	--	6.94	
A-26R	10/01/19	14.19	7.85	--	6.34	
A-26R	03/25/20	14.19	7.35	--	6.84	
A-26R	10/19/20	14.19	7.75	--	6.44	
A-26R	04/12/21	14.19	7.50	--	6.69	
A-26R	10/11/21	14.19	8.00	--	6.19	
A-27	02/11/02	13.45	10.05	--	3.40	
A-27	05/20/02	13.45	12.84	--	0.61	
A-27	08/27/02	13.45	11.31	--	2.14	
A-27	11/04/02	13.45	11.46	--	1.99	
A-27	02/18/03	13.45	10.32	--	3.13	
A-27	06/09/03	13.45	10.97	--	2.48	
A-27	09/15/03	17.22	11.38	--	5.84	
A-27	11/18/03	17.22	10.75	--	6.47	
A-27	02/24/04	17.22	10.15	--	7.07	
A-27	05/10/04	17.22	8.00	--	9.22	
A-27	08/24/04	17.22	11.15	--	6.07	
A-27	12/13/04	17.22	7.80	--	9.42	
A-27	03/08/05	17.22	10.83	--	6.39	
A-27	06/06/05	17.22	10.80	--	6.42	
A-27	09/19/05	17.22	11.32	--	5.90	
A-27	12/12/05	17.22	11.01	--	6.21	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-27	03/13/06	17.22	10.17	--	7.05	
A-27	06/05/06	17.22	10.69	--	6.53	
A-27	09/11/06	17.22	11.30	--	5.92	
A-27	12/11/06	17.22	10.16	--	7.06	
A-27	03/26/07	17.22	10.41	--	6.81	
A-27	06/18/07	17.22	11.00	--	6.22	
A-27	09/24/07	17.22	11.20	--	6.02	
A-27	12/10/07	17.22	10.41	--	6.81	
A-27	03/03/08	17.22	10.54	--	6.68	
A-27	06/02/08	17.22	11.06	--	6.16	
A-27	09/04/08	17.22	11.50	--	5.72	
A-27	12/04/08	17.22	11.05	--	6.17	
A-27	03/04/09	17.22	10.64	--	6.58	
A-27	06/01/09	17.22	10.87	--	6.35	
A-27	09/21/09	17.22	11.25	--	5.97	
A-27	11/16/09	17.22	10.50	--	6.72	
A-27	03/08/10	17.22	10.01	--	7.21	
A-27	06/07/10	17.22	10.54	--	6.68	
A-27	09/09/10	17.22	11.19	--	6.03	
A-27	11/15/10	17.22	10.61	--	6.61	
A-27	03/01/11	17.22	10.20	--	7.02	
A-27	05/23/11	17.22	10.30	--	6.92	
A-27	08/29/11	17.22	11.03	--	6.19	
A-27	12/01/11	17.22	10.72	--	6.50	
A-27	03/01/12	17.22	10.44	--	6.78	
A-27	05/30/12	17.22	10.47	--	6.75	
A-27	08/25/12	17.22	10.78	--	6.44	
A-27	11/07/12	17.22	10.33	--	6.89	
A-27	02/27/13	17.22	10.28	--	6.94	
A-27	04/08/13	17.22	10.24	--	6.98	
A-27	06/21/13	17.22	10.68	--	6.54	Baseline monitoring event
A-27	07/29/13	17.22	10.69	--	6.53	
A-27	08/26/13	17.22	10.71	--	6.51	Two-month monitoring event
A-27	10/02/13	17.22	10.40	--	6.82	
A-27	01/21/14	17.22	10.63	--	6.59	
A-27	04/22/14	17.22	10.11	--	7.11	
A-27	07/15/14	17.22	10.68	--	6.54	
A-27	03/17/15	17.22	9.96	--	7.26	
A-27	09/28/15	17.22	10.68	--	6.54	
A-27	03/29/16	17.22	9.37	--	7.85	
A-27	10/11/16	17.22	10.99	--	6.23	
A-27	03/28/17	17.22	9.36	--	7.86	
A-27	10/10/17	17.22	10.95	--	6.27	
A-27	03/28/18	17.22	10.23	--	6.99	
A-27	10/02/18	17.22	10.92	--	6.30	
A-27	04/02/19	17.22	10.23	--	6.99	
A-27	10/01/19	17.22	10.86	--	6.36	
A-27	03/25/20	17.22	10.23	--	6.99	
A-27	10/19/20	17.22	10.74	--	6.48	
A-27	04/12/21	17.22	10.36	--	6.86	
A-27	10/11/21	17.22	10.97	--	6.25	
A-28	06/14/01	--	--	--	--	
A-28	Destroyed during construction activities					
A-28R	02/11/02	11.19	7.72	--	3.47	
A-28R	05/20/02	11.19	9.51	--	1.68	
A-28R	08/27/02	11.19	8.97	--	2.22	
A-28R	11/04/02	11.19	9.20	--	1.99	
A-28R	02/18/03	11.19	8.20	--	2.99	
A-28R	06/09/03	11.19	8.67	--	2.52	
A-28R	09/15/03	14.93	9.05	--	5.88	
A-28R	11/18/03	14.93	8.45	--	6.48	
A-28R	02/24/04	14.93	7.91	--	7.02	
A-28R	05/10/04	14.93	8.66	--	6.27	
A-28R	08/24/04	14.93	7.90	--	7.03	
A-28R	12/13/04	14.93	8.58	--	6.35	
A-28R	03/08/05	14.93	8.67	--	6.26	
A-28R	06/06/05	14.93	8.47	--	6.46	
A-28R	09/19/05	14.93	8.99	--	5.94	
A-28R	12/12/05	14.93	7.71	--	7.22	
A-28R	03/13/06	14.93	7.79	--	7.14	
A-28R	06/05/06	14.93	9.13	--	5.80	
A-28R	09/11/06	14.93	9.00	--	5.93	
A-28R	12/11/06	14.93	7.89	--	7.04	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-28R	03/26/07	14.93	8.05	--	6.88	
A-28R	06/18/07	14.93	8.64	--	6.29	
A-28R	09/24/07	14.93	8.81	--	6.12	
A-28R	12/10/07	14.93	8.01	--	6.92	
A-28R	03/03/08	14.93	8.17	--	6.76	
A-28R	06/02/08	14.93	8.64	--	6.29	
A-28R	09/04/08	14.93	8.73	--	6.20	
A-28R	12/04/08	14.93	8.69	--	6.24	
A-28R	03/04/09	14.93	8.29	--	6.64	
A-28R	06/01/09	14.93	8.51	--	6.42	
A-28R	09/21/09	14.93	8.92	--	6.01	
A-28R	11/16/09	14.93	8.21	--	6.72	
A-28R	03/08/10	14.93	7.61	--	7.32	
A-28R	06/07/10	14.93	8.14	--	6.79	
A-28R	09/09/10	14.93	8.73	--	6.20	
A-28R	11/15/10	14.93	8.22	--	6.71	
A-28R	03/01/11	14.93	7.80	--	7.13	
A-28R	05/23/11	14.93	7.89	--	7.04	
A-28R	08/29/11	14.93	8.70	--	6.23	
A-28R	12/01/11	14.93	8.32	--	6.61	
A-28R	03/01/12	14.93	7.95	--	6.98	
A-28R	05/30/12	14.93	8.04	--	6.89	
A-28R	08/25/12	14.93	8.35	--	6.58	
A-28R	11/07/12	14.93	7.89	--	7.04	
A-28R	02/27/13	14.93	7.78	--	7.15	
A-28R	04/08/13	14.93	7.67	--	7.26	
A-28R	07/29/13	14.93	8.20	--	6.73	
A-28R	10/02/13	14.93	7.88	--	7.05	
A-28R	01/21/14	14.93	8.20	--	6.73	
A-28R	04/22/14	14.93	7.59	--	7.34	
A-28R	07/15/14	14.93	8.35	--	6.58	
A-28R	03/17/15	14.93	7.26	--	7.67	
A-28R	09/28/15	14.93	8.33	--	6.60	
A-28R	03/29/16	14.93	6.91	--	8.02	
A-28R	10/11/16	14.93	8.66	--	6.27	
A-28R	03/28/17	14.93	6.90	--	8.03	
A-28R	10/10/17	14.93	8.63	--	6.30	
A-28R	03/28/18	14.93	7.78	--	7.15	
A-28R	10/02/18	14.93	8.61	--	6.32	
A-28R	04/02/19	14.93	7.67	--	7.26	
A-28R	10/01/19	14.93	8.50	--	6.43	
A-28R	03/25/20	14.93	7.70	--	7.23	
A-28R	10/19/20	14.93	8.33	--	6.60	
A-28R	04/12/21	14.93	7.90	--	7.03	
A-28R	10/11/21	14.93	8.57	--	6.36	
A-29	03/27/01	--	--	--	--	
A-29	Destroyed during construction activities of utility trench					
A-29R	02/11/02	10.12	6.78	--	3.34	
A-29R	05/20/02	10.12	8.53	--	1.59	
A-29R	08/27/02	10.12	7.92	--	2.20	
A-29R	11/04/02	10.12	8.09	--	2.03	
A-29R	02/18/03	10.12	7.05	--	3.07	
A-29R	02/19/03	10.12	7.05	--	3.07	
A-29R	06/09/03	10.12	7.61	--	2.51	
A-29R	09/15/03	13.85	8.00	--	5.85	
A-29R	11/18/03	13.85	7.50	--	6.35	
A-29R	02/24/04	13.85	6.97	--	6.88	
A-29R	05/10/04	13.85	7.66	--	6.19	
A-29R	08/24/04	13.85	7.43	--	6.42	
A-29R	12/13/04	13.85	7.46	--	6.39	
A-29R	03/08/05	13.85	7.65	--	6.20	
A-29R	06/06/05	13.85	7.51	--	6.34	
A-29R	09/19/05	13.85	8.02	--	5.83	
A-29R	12/12/05	13.85	7.75	--	6.10	
A-29R	03/13/06	13.85	--	--	--	Not Measured-Inaccessible
A-29R	06/05/06	13.85	7.44	--	6.41	
A-29R	09/11/06	13.85	8.00	--	5.85	
A-29R	12/11/06	13.85	7.07	--	6.78	
A-29R	03/26/07	13.85	7.25	--	6.60	
A-29R	06/18/07	13.85	7.58	--	6.27	
A-29R	09/24/07	13.85	8.03	--	5.82	
A-29R	12/10/07	13.85	7.21	--	6.64	
A-29R	06/02/08	13.85	8.46	--	5.39	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
A-29R	09/04/08	13.85	7.82	--	6.03	
A-29R	12/04/08	13.85	7.78	--	6.07	
A-29R	05/23/11	13.85	7.22	--	6.63	
3	02/11/02	9.78	5.71	--	4.07	Casing Damaged
3	05/20/02	9.78	7.97	--	1.81	Casing Damaged
3	08/27/02	9.78	7.57	--	2.21	Casing Damaged
3	11/04/02	9.78	7.82	--	1.96	Casing Damaged
3	02/18/03	9.78	6.02	--	3.76	Casing Damaged
3	06/09/03	9.78	7.16	--	2.62	Casing Damaged
3	06/11/03	--	--	--	--	
3	Abandoned					
4	02/11/02	7.97	3.86	--	4.11	
4	05/20/02	7.97	6.07	--	1.90	
4	08/27/02	7.97	5.17	--	2.80	
4	11/04/02	7.97	5.40	--	2.57	
4	02/18/03	7.97	3.78	--	4.19	
4	02/19/03	7.97	3.78	--	4.19	
4	06/09/03	7.97	4.75	--	3.22	
4	09/15/03	11.01	5.37	--	5.64	Casing Broken
4	11/18/03	11.01	4.33	--	6.68	Casing Broken
4	02/24/04	11.01	3.91	--	7.10	Casing Broken
4	05/10/04	11.01	4.75	--	6.26	Casing Broken
4	08/24/04	11.01	4.94	--	6.07	Casing Broken
4	12/13/04	11.01	4.17	--	6.84	Casing Broken
4	03/08/05	11.01	3.80	--	7.21	Casing Broken
4	06/06/05	11.01	4.63	--	6.38	Casing Broken
4	09/19/05	11.01	--	--	--	Not Measured-Casing Broken
4	12/12/05	11.01	4.76	--	6.25	Casing Broken
4	03/13/06	11.01	3.82	--	7.19	Casing Broken
4	06/05/06	11.01	--	--	--	Not Measured-Casing Broken
4	09/11/06	11.01	--	--	--	Not Measured-Casing Broken
4	12/11/06	11.01	--	--	--	Not Measured-Casing Broken
5	02/11/02	8.30	3.73	--	4.57	Casing Damaged
5	05/20/02	8.30	5.89	--	2.41	Casing Damaged
5	08/27/02	8.30	5.40	--	2.90	Casing Damaged
5	11/04/02	8.30	5.74	--	2.56	Casing Damaged
5	02/18/03	8.30	4.20	--	4.10	Casing Damaged
5	06/11/03	--	--	--	--	
5	Abandoned					
6	02/11/02	9.15	4.50	--	4.65	
6	05/20/02	9.15	6.88	--	2.27	
6	08/27/02	9.15	6.65	--	2.50	
6	11/04/02	9.15	6.99	--	2.16	
6	02/18/03	9.15	5.14	--	4.01	
6	06/09/03	9.15	6.24	--	2.91	
6	09/15/03	12.76	6.95	--	5.81	
6	11/18/03	12.76	5.56	--	7.20	
6	02/24/04	12.76	5.31	--	7.45	
6	05/10/04	12.76	6.24	--	6.52	
6	08/24/04	12.76	6.41	--	6.35	
6	12/13/04	12.76	4.28	--	8.48	
6	03/08/05	12.76	6.28	--	6.48	
6	06/06/05	12.76	5.94	--	6.82	
6	09/19/05	12.76	6.87	--	5.89	
6	12/12/05	12.76	6.13	--	6.63	
6	03/13/06	12.76	5.13	--	7.63	
6	06/05/06	12.76	5.68	--	7.08	
6	09/11/06	12.76	6.78	--	5.98	
6	12/11/06	12.76	5.52	--	7.24	
7	01/13/97	9.09	3.90	--	5.19	
7	10/06/00	9.09	6.80	--	2.29	
7	12/18/00	9.09	6.02	--	3.07	
7	03/27/01	9.09	6.44	--	2.65	
7	06/14/01	9.09	6.49	--	2.60	
7	09/21/01	9.09	6.91	--	2.18	
7	02/11/02	9.09	5.23	--	3.86	
7	05/20/02	9.09	7.31	--	1.78	
7	08/27/02	9.09	6.85	--	2.24	
7	11/04/02	9.09	7.07	--	2.02	
7	02/18/03	9.09	7.74	--	1.35	
7	06/09/03	9.09	6.45	--	2.64	
7	09/15/03	12.72	7.04	--	5.68	
7	11/18/03	12.72	6.11	--	6.61	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
7	02/24/04	12.72	5.96	--	6.76	
7	05/10/04	12.72	6.62	--	6.10	
7	08/24/04	12.72	6.56	--	6.16	
7	12/13/04	12.72	6.00	--	6.72	
7	03/08/05	12.72	5.66	--	7.06	
7	06/06/05	12.72	6.45	--	6.27	
7	09/19/05	12.72	7.04	--	5.68	
7	12/12/05	12.72	6.69	--	6.03	
7	03/13/06	12.72	5.07	--	7.65	
7	06/05/06	12.72	7.40	--	5.32	
7	09/11/06	12.72	6.98	--	5.74	
7	12/11/06	12.72	5.62	--	7.10	
8	02/11/02	9.42	5.20	--	4.22	
8	05/20/02	9.42	7.52	--	1.90	Casing Tilted
8	08/27/02	9.42	7.12	--	2.30	Casing Tilted
8	11/04/02	9.42	7.25	--	2.17	Casing Tilted
8	02/18/03	9.42	5.79	--	3.63	Casing Tilted
8	06/11/03	--	--	--	--	
8	Abandoned					
9	02/11/02	9.36	4.26	--	5.10	
9	05/20/02	9.36	6.76	--	2.60	
9	08/27/02	9.36	6.38	--	2.98	
9	11/04/02	9.36	7.00	--	2.36	
9	02/18/03	9.36	4.94	--	4.42	
9	06/09/03	9.36	6.11	--	3.25	
9	09/15/03	12.89	6.96	--	5.93	
9	11/18/03	12.89	5.51	--	7.38	
9	02/24/04	12.89	5.19	--	7.70	
9	05/10/04	12.89	6.18	--	6.71	
9	08/24/04	12.89	3.46	--	9.43	
9	12/13/04	12.89	5.48	--	7.41	
9	03/08/05	12.89	6.36	--	6.53	
9	06/06/05	12.89	5.82	--	7.07	
9	09/19/05	12.89	6.87	--	6.02	
9	12/12/05	12.89	6.15	--	6.74	
9	03/13/06	12.89	5.02	--	7.87	
9	06/05/06	12.89	5.51	--	7.38	
9	09/11/06	12.89	6.80	--	6.09	
9	12/11/06	12.89	4.79	--	8.10	
10	02/11/02	9.57	4.39	--	5.18	
10	05/20/02	9.57	6.98	--	2.59	
10	08/27/02	9.57	6.95	--	2.62	
10	11/04/02	9.57	7.29	--	2.28	
10	02/18/03	9.57	5.05	--	4.52	
10	06/09/03	9.57	6.34	--	3.23	
10	09/15/03	13.20	7.21	--	5.99	
10	11/18/03	13.20	5.62	--	7.58	
10	02/24/04	13.20	5.21	--	7.99	
10	05/10/04	13.20	6.47	--	6.73	
10	08/24/04	13.20	6.61	--	6.59	
10	12/13/04	13.20	5.48	--	7.72	
10	03/08/05	13.20	6.41	--	6.79	
10	06/06/05	13.20	6.09	--	7.11	
10	09/19/05	13.20	7.17	--	6.03	
10	12/12/05	13.20	6.29	--	6.91	
10	03/13/06	13.20	5.15	--	8.05	
10	06/05/06	13.20	5.70	--	7.50	
10	09/11/06	13.20	7.06	--	6.14	
10	12/11/06	13.20	4.88	--	8.32	
11	02/11/02	8.57	3.01	--	5.56	
11	05/20/02	8.57	5.61	--	2.96	
11	08/27/02	8.57	5.76	--	2.81	
11	11/04/02	8.57	6.03	--	2.54	
11	02/18/03	8.57	3.57	--	5.00	
11	06/09/03	8.57	4.98	--	3.59	
11	09/15/03	12.08	6.00	--	6.08	
11	11/18/03	12.08	2.38	--	9.70	
11	02/24/04	12.08	3.70	--	8.38	
11	05/10/04	12.08	5.07	--	7.01	
11	08/24/04	12.08	5.02	--	7.06	
11	12/13/04	12.08	4.12	--	7.96	
11	03/08/05	12.08	4.99	--	7.09	
11	06/06/05	12.08	4.74	--	7.34	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
11	09/19/05	12.08	5.93	--	6.15	
11	12/12/05	12.08	4.95	--	7.13	
11	03/13/06	12.08	3.64	--	8.44	
11	06/05/06	12.08	4.32	--	7.76	
11	09/11/06	12.08	5.82	--	6.26	
11	12/11/06	12.08	3.91	--	8.17	
11	06/21/13	12.08	4.57	--	7.51	Baseline monitoring event
11	07/29/13	12.08	4.99	--	7.09	
11	08/26/13	12.08	4.99	--	7.09	Two-month monitoring event
11	10/02/13	12.08	3.96	--	8.12	
11	01/21/14	12.08	4.60	--	7.48	
11	04/22/14	12.08	3.29	--	8.79	
11	07/15/14	12.08	4.90	--	7.18	
11	03/17/15	12.08	2.41	--	9.67	
11	09/28/15	12.08	5.15	--	6.93	
11	03/29/16	12.08	2.91	--	9.17	
11	10/11/16	12.08	5.03	--	7.05	
11	03/28/17	12.08	2.58	--	9.50	
11	10/10/17	12.08	5.19	--	6.89	
11	03/28/18	12.08	3.94	--	8.14	
11	10/02/18	12.08	5.32	--	6.76	
11	04/02/19	12.08	4.33	--	7.75	
11	10/01/19	12.08	5.02	--	7.06	
11	03/25/20	12.08	3.86	--	8.22	
11	10/19/20	12.08	4.79	--	7.29	
11	04/12/21	12.08	4.02	--	8.06	
11	10/11/21	12.08	5.11	--	6.97	
12	02/11/02	9.06	3.57	0.04	5.52	
12	05/20/02	9.06	6.14	0.04	2.95	Casing Damaged
12	08/27/02	9.06	3.41	0.01	5.66	Casing Damaged
12	11/04/02	9.06	3.80	0.01	5.27	Casing Damaged
12	02/18/03	9.06	0.80	Sheen	8.26	Casing Damaged
12	06/09/03	9.06	2.99	Sheen	6.07	Casing Damaged
12	09/15/03	9.79	--	--	--	Not Measured-Not Located
12	11/18/03	9.79	--	--	--	Not Measured-surface water covering well
12	02/24/04	9.79	1.20	0.03	8.61	
12	05/10/04	9.79	2.80	--	6.99	
12	08/24/04	9.79	2.51	Sheen	7.28	
12	12/13/04	9.79	1.12	--	8.67	
12	03/08/05	9.79	2.87	--	6.92	
12	06/06/05	9.79	5.16	--	4.63	
12	09/19/05	9.79	3.49	0.01	6.31	
12	12/12/05	9.79	2.40	--	7.39	
12	03/13/06	9.79	1.00	--	8.79	
12	06/05/06	9.79	1.27	--	8.52	
12	09/11/06	9.79	3.63	--	6.16	
12	12/11/06	9.79	1.31	--	8.48	
12	03/26/07	9.79	1.40	--	8.39	
12	06/18/07	9.79	2.74	--	7.05	
12	09/24/07	9.79	3.43	--	6.36	
12	12/10/07	9.79	1.88	Sheen	7.91	
12	03/03/08	9.79	2.04	Sheen	7.75	
12	06/02/08	9.79	2.98	--	6.81	
12	09/04/08	9.79	3.74	--	6.05	
12	12/04/08	9.79	2.79	Sheen	7.00	
12	03/04/09	9.79	2.25	Sheen	7.54	
12	06/01/09	9.79	2.31	Sheen	7.48	
12	09/21/09	9.79	3.30	Sheen	6.49	
12	11/16/09	9.79	1.62	Sheen	8.17	
12	03/08/10	9.79	1.34	Sheen	8.45	
12	06/07/10	9.79	1.62	Sheen	8.17	
12	09/09/10	9.79	3.28	Sheen	6.51	
12	11/15/10	9.79	1.92	--	7.87	
12	03/01/11	9.79	1.35	Sheen	8.44	
12	05/23/11	9.79	2.15	Sheen	7.64	
12	08/29/11	9.79	3.03	0.03	6.78	
12	12/01/11	9.79	2.13	--	7.66	
12	03/01/12	9.79	1.65	Sheen	8.14	
12	05/30/12	9.79	1.63	Sheen	8.16	
12	08/25/12	9.79	2.89	--	6.90	
12	11/07/12	9.79	1.46	--	8.33	
12	02/27/13	9.79	1.43	--	8.36	
12	04/08/13	9.79	0.24	--	9.55	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
12	06/21/13	9.79	2.84	--	6.95	Baseline monitoring event
12	07/29/13	9.79	3.95	--	5.84	
12	08/26/13	9.79	1.91	--	7.88	Two-month monitoring event
12	10/02/13	9.79	1.14	--	8.65	
12	01/21/14	9.79	2.11	--	7.68	
12	04/22/14	9.79	0.88	Sheen	8.91	
12	07/15/14	9.79	2.61	--	7.18	
12	03/17/15	9.79	0.07	--	9.72	
12	09/28/15	9.79	2.55	--	7.24	
12	03/30/16	9.79	0.70	--	9.09	Gauged on March 30, 2016
12	10/11/16	9.79	2.18	--	7.61	
12	03/28/17	9.79	0.12	--	9.67	
12	10/10/17	9.79	2.57	--	7.22	
12	03/28/18	9.79	1.44	--	8.35	
12	10/02/18	9.79	2.79	--	7.00	
12	04/02/19	9.79	1.95	--	7.84	
12	10/01/19	9.79	2.09	--	7.70	
12	03/25/20	9.79	1.50	--	8.29	
12	10/19/20	9.79	2.35	--	7.44	
12	04/12/21	9.79	1.67	--	8.12	
12	10/11/21	9.79	2.60	--	7.19	
13	02/11/02	9.77	5.06	--	4.71	
13	05/20/02	9.77	7.30	--	2.47	
13	08/27/02	9.77	7.15	--	2.62	
13	11/04/02	--	--	--	--	Not Measured-Recently destroyed
13	06/11/03	--	--	--	--	
13	Abandoned					
14	06/11/03	--	--	--	--	
14	Abandoned					
15	02/11/02	8.69	3.45	--	5.24	Casing Damaged
15	05/20/02	8.69	6.12	--	2.57	Casing Broken
15	08/27/02	8.69	5.94	--	2.75	Casing Broken
15	11/04/02	8.69	6.25	--	2.44	Casing Broken
15	02/18/03	8.69	3.71	--	4.98	Casing Broken
15	06/11/03	--	--	--	--	
15	Abandoned					
16	02/11/02	9.73	4.50	--	5.23	
16	05/20/02	9.73	7.12	--	2.61	
16	08/27/02	9.73	7.14	--	2.59	
16	11/04/02	9.73	7.46	--	2.27	
16	02/18/03	9.73	5.12	--	4.61	
16	06/09/03	9.73	6.51	--	3.22	
16	09/15/03	13.29	7.37	--	5.92	
16	11/18/03	13.29	5.60	--	7.69	
16	02/24/04	13.29	5.46	--	7.83	
16	05/10/04	13.29	6.42	--	6.87	
16	08/24/04	13.29	6.81	--	6.48	
16	12/13/04	13.29	5.94	--	7.35	
16	03/08/05	13.29	6.51	--	6.78	
16	06/06/05	13.29	6.24	--	7.05	
16	09/19/05	13.29	7.30	--	5.99	
16	12/12/05	13.29	6.46	--	6.83	
16	03/13/06	13.29	5.20	--	8.09	
16	06/05/06	13.29	5.76	--	7.53	
16	09/11/06	13.29	7.21	--	6.08	
16	12/11/06	13.29	4.88	--	8.41	
17	02/11/02	11.48	6.39	--	5.09	
17	05/20/02	11.48	8.61	--	2.87	
17	08/27/02	11.48	8.68	--	2.80	
17	11/04/02	11.48	9.06	--	2.42	
17	02/18/03	11.48	6.92	--	4.56	
17	06/09/03	11.48	7.95	--	3.53	
17	09/15/03	15.06	8.89	--	6.17	
17	11/18/03	15.06	8.51	--	6.55	
17	02/24/04	15.06	6.45	--	8.61	
17	05/10/04	15.06	7.90	--	7.16	
17	08/24/04	15.06	8.45	--	6.61	
17	12/13/04	15.06	7.83	--	7.23	
17	03/08/05	15.06	7.81	--	7.25	
17	06/06/05	15.06	7.73	--	7.33	
17	09/19/05	15.06	8.75	--	6.31	
17	12/12/05	15.06	8.03	--	7.03	
17	03/13/06	15.06	6.57	--	8.49	
17	06/05/06	15.06	6.22	--	8.84	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
17	09/11/06	15.06	8.68	--	6.38	
17	12/11/06	15.06	6.53	--	8.53	
19	02/11/02	9.13	3.75	--	5.38	
19	05/20/02	9.13	6.10	--	3.03	
19	08/27/02	9.13	6.28	--	2.85	
19	11/04/02	9.13	6.66	--	2.47	
19	02/18/03	9.13	4.33	--	4.80	
19	06/09/03	9.13	5.41	--	3.72	
19	09/15/03	12.74	6.51	--	6.23	
19	11/18/03	12.74	3.67	--	9.07	
19	02/24/04	12.74	4.25	--	8.49	
19	05/10/04	12.74	5.48	--	7.26	
19	08/24/04	12.74	5.87	--	6.87	
19	12/13/04	12.74	5.15	--	7.59	
19	03/08/05	12.74	5.45	--	7.29	
19	06/06/05	12.74	5.24	--	7.50	
19	09/19/05	12.74	6.36	--	6.38	
19	12/12/05	12.74	5.60	--	7.14	
19	03/13/06	12.74	4.02	--	8.72	
19	06/05/06	12.74	4.89	--	7.85	
19	09/11/06	12.74	6.31	--	6.43	
19	12/11/06	12.74	3.78	--	8.96	
20	02/11/02	8.88	3.15	--	5.73	
20	05/20/02	8.88	5.67	--	3.21	
20	08/27/02	8.88	5.91	--	2.97	
20	11/04/02	8.88	6.32	--	2.56	
20	02/18/03	8.88	3.77	--	5.11	
20	06/09/03	8.88	5.04	--	3.84	
20	09/15/03	12.49	6.16	--	6.33	
20	11/18/03	12.49	5.10	--	7.39	
20	02/24/04	12.49	3.81	--	8.68	
20	05/10/04	12.49	5.12	--	7.37	
20	08/24/04	12.49	5.45	--	7.04	
20	12/13/04	12.49	4.64	--	7.85	
20	03/08/05	12.49	5.11	--	7.38	
20	06/06/05	12.49	4.90	--	7.59	
20	09/19/05	12.49	6.08	--	6.41	
20	12/12/05	12.49	5.32	--	7.17	
20	03/13/06	12.49	3.64	--	8.85	
20	06/05/06	12.49	4.44	--	8.05	
20	09/11/06	12.49	5.98	--	6.51	
20	12/11/06	12.49	3.47	--	9.02	
21	02/11/02	9.42	3.58	--	5.84	
21	05/20/02	9.42	6.18	--	3.24	
21	08/27/02	9.42	6.43	--	2.99	
21	11/04/02	9.42	6.81	--	2.61	
21	02/18/03	9.42	4.18	--	5.24	
21	06/09/03	9.42	5.56	--	3.86	
21	09/15/03	13.04	6.68	--	6.36	
21	11/18/03	13.04	5.03	--	8.01	
21	02/24/04	13.04	4.30	--	8.74	
21	05/10/04	13.04	6.56	--	6.48	
21	08/24/04	13.04	6.04	--	7.00	
21	12/13/04	13.04	5.02	--	8.02	
21	03/08/05	13.04	5.62	--	7.42	
21	06/06/05	13.04	5.43	--	7.61	
21	09/19/05	13.04	6.63	--	6.41	
21	12/12/05	13.04	5.70	--	7.34	
21	03/13/06	13.04	4.19	--	8.85	
21	06/05/06	13.04	4.96	--	8.08	
21	09/11/06	13.04	6.50	--	6.54	
21	12/11/06	13.04	3.99	--	9.05	
22	02/11/02	9.57	3.72	--	5.85	
22	05/20/02	9.57	6.21	--	3.36	
22	08/27/02	9.57	6.55	--	3.02	
22	11/04/02	9.57	6.89	--	2.68	
22	02/18/03	9.57	4.27	--	5.30	
22	06/09/03	9.57	5.60	--	3.97	
22	09/15/03	13.19	6.75	--	6.44	
22	11/18/03	13.19	5.07	--	8.12	
22	02/24/04	13.19	4.39	--	8.80	
22	05/10/04	13.19	5.75	--	7.44	
22	08/24/04	13.19	6.23	--	6.96	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
22	12/13/04	13.19	5.04	--	8.15	
22	03/08/05	13.19	5.77	--	7.42	
22	06/06/05	13.19	5.55	--	7.64	
22	09/19/05	13.19	6.75	--	6.44	
22	12/12/05	13.19	5.80	--	7.39	
22	03/13/06	13.19	4.35	--	8.84	
22	06/05/06	13.19	5.04	--	8.15	
22	09/11/06	13.19	6.66	--	6.53	
22	12/11/06	13.19	4.11	--	9.08	
23	02/11/02	8.94	3.51	--	5.43	
23	05/20/02	8.94	5.93	--	3.01	
23	08/27/02	8.94	5.93	--	3.01	
23	11/04/02	8.94	6.29	--	2.65	
23	02/18/03	8.94	4.04	--	4.90	
23	06/09/03	8.94	5.26	--	3.68	
23	09/15/03	12.55	6.19	--	6.36	
23	11/18/03	12.55	6.11	--	6.44	
23	02/24/04	12.55	4.20	--	8.35	
23	05/10/04	12.55	5.35	--	7.20	
23	08/24/04	12.55	5.78	--	6.77	
23	12/13/04	12.55	4.73	--	7.82	
23	03/08/05	12.55	5.37	--	7.18	
23	06/06/05	12.55	5.16	--	7.39	
23	09/19/05	12.55	6.46	--	6.09	
23	12/12/05	12.55	5.40	--	7.15	
23	03/13/06	12.55	4.03	--	8.52	
23	06/05/06	12.55	4.79	--	7.76	
23	09/11/06	12.55	6.13	--	6.42	
23	12/11/06	12.55	4.01	--	8.54	
24	06/11/03	--	--	--	--	
24					Abandoned	
25	02/11/02	9.48	3.76	--	5.72	
25	05/20/02	9.48	6.19	--	3.29	
25	08/27/02	9.48	6.33	--	3.15	
25	11/04/02	9.48	6.74	--	2.74	Casing Tilted
25	02/18/03	9.48	4.13	--	5.35	Casing Tilted
25	06/11/03	--	--	--	--	
25					Abandoned	
26	02/11/02	9.43	3.70	--	5.73	
26	05/20/02	9.43	--	--	--	Not Measured-Dry
26	08/27/02	9.43	6.02	--	3.41	
26	11/04/02	9.43	5.97	--	3.46	
26	02/18/03	9.43	5.11	--	4.32	
26	06/09/03	9.43	6.02	--	3.41	
26	09/15/03	13.87	6.01	--	7.86	
26	11/18/03	13.87	4.32	--	9.55	
26	02/24/04	13.87	5.14	--	8.73	
26	05/10/04	13.87	6.05	--	7.82	
26	08/24/04	13.87	5.19	--	8.68	
26	12/13/04	13.87	5.99	--	7.88	
26	03/08/05	13.87	6.02	--	7.85	
26	06/06/05	13.87	6.02	--	7.85	
26	09/19/05	13.87	4.51	--	9.36	
26	12/12/05	13.87	6.05	--	7.82	
26	03/13/06	13.87	5.00	--	8.87	
26	06/05/06	13.87	5.78	--	8.09	
26	09/11/06	13.87	7.01	--	6.86	
26	12/11/06	13.87	4.81	--	9.06	
27	02/11/02	9.20	3.57	--	5.63	
27	05/20/02	9.20	6.00	--	3.20	
27	08/27/02	9.20	6.21	--	2.99	
27	11/04/02	9.20	6.63	--	2.57	
27	02/18/03	9.20	4.03	--	5.17	
27	06/09/03	9.01	5.22	--	3.79	
27	09/15/03	12.65	6.36	--	6.29	
27	11/18/03	12.65	5.84	--	6.81	
27	02/24/04	12.65	4.04	--	8.61	
27	05/10/04	12.65	5.31	--	7.34	
27	08/24/04	12.65	5.71	--	6.94	
27	12/13/04	12.65	4.91	--	7.74	
27	03/08/05	12.65	5.28	--	7.37	
27	06/06/05	12.65	5.13	--	7.52	
27	09/19/05	12.65	6.22	--	6.43	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
27	12/12/05	12.65	5.40	--	7.25	
27	03/13/06	12.65	3.82	--	8.83	
27	06/05/06	12.65	4.66	--	7.99	
27	09/11/06	12.65	6.16	--	6.49	
27	12/11/06	12.65	3.60	--	9.05	
MW-1	02/11/02	9.37	4.60	--	4.77	
MW-1	05/20/02	9.37	6.75	--	2.62	
MW-1	08/27/02	9.37	6.51	--	2.86	
MW-1	11/04/02	9.37	6.90	--	2.47	
MW-1	02/18/03	9.37	5.10	--	4.27	
MW-1	06/09/03	9.37	5.94	--	3.43	
MW-1	09/15/03	13.21	6.72	--	6.49	
MW-1	11/18/03	13.21	5.91	--	7.30	
MW-1	02/24/04	13.21	5.05	--	8.16	
MW-1	05/10/04	13.21	6.06	--	7.15	
MW-1	08/24/04	13.21	6.45	--	6.76	
MW-1	12/13/04	13.21	5.63	--	7.58	
MW-1	03/08/05	13.21	6.09	--	7.12	
MW-1	06/06/05	13.21	6.93	--	6.28	
MW-1	09/19/05	13.21	6.74	--	6.47	
MW-1	12/12/05	13.21	6.16	--	7.05	
MW-1	03/13/06	13.21	4.96	--	8.25	
MW-1	06/05/06	13.21	5.72	--	7.49	
MW-1	09/11/06	13.21	6.72	--	6.49	
MW-1	12/11/06	13.21	5.20	--	8.01	
MW-1	03/26/07	13.21	5.24	--	7.97	
MW-1	06/18/07	13.21	5.98	--	7.23	
MW-1	09/25/07	13.21	6.72	--	6.49	
MW-1	12/10/07	13.21	5.34	--	7.87	
MW-1	03/03/08	13.21	5.70	--	7.51	
MW-1	06/02/08	13.21	6.30	--	6.91	
MW-1	09/04/08	13.21	6.48	--	6.73	
MW-1	12/04/08	13.21	6.33	--	6.88	
MW-1	03/04/09	13.21	--	--	--	Not Measured-Inaccessible
MW-1	06/01/09	13.21	6.00	--	7.21	
MW-1	09/21/09	13.21	6.75	--	6.46	
MW-1	11/16/09	13.21	5.62	--	7.59	
MW-1	03/08/10	13.21	5.05	--	8.16	
MW-1	06/07/10	13.21	5.48	--	7.73	
MW-1	09/09/10	13.21	6.55	--	6.66	
MW-1	11/15/10	13.21	5.71	--	7.50	
MW-1	03/01/11	13.21	4.97	--	8.24	
MW-1	05/23/11	13.21	5.04	--	8.17	
MW-1	08/29/11	13.21	6.35	--	6.86	
MW-1	12/01/11	13.21	5.80	--	7.41	
MW-1	03/01/12	13.21	5.59	--	7.62	
MW-1	05/30/12	13.21	5.55	--	7.66	
MW-1	08/25/12	13.21	6.25	--	6.96	
MW-1	11/07/12	13.21	5.58	--	7.63	
MW-1	02/27/13	13.21	5.24	--	7.97	
MW-1	04/08/13	13.21	5.12	--	8.09	
MW-1	07/29/13	13.21	6.19	--	7.02	
MW-1	10/02/13	13.21	5.83	--	7.38	
MW-1	01/21/14	13.21	5.96	--	7.25	
MW-1	04/22/14	13.21	5.05	--	8.16	
MW-1	07/15/14	13.21	5.90	--	7.31	
MW-1	03/17/15	13.21	4.73	--	8.48	
MW-1	09/28/15	13.21	6.30	--	6.91	
MW-1	03/29/16	13.21	4.18	--	9.03	
MW-1	10/11/16	13.21	6.35	--	6.86	
MW-1	03/28/17	13.21	3.67	--	9.54	
MW-1	10/10/17	13.21	6.03	--	7.18	
MW-1	03/28/18	13.21	5.08	--	8.13	
MW-1	10/02/18	13.21	6.44	--	6.77	
MW-1	04/02/19	13.21	6.35	--	6.86	
MW-1	10/01/19	13.21	6.21	--	7.00	
MW-1	03/25/20	13.21	5.07	--	8.14	
MW-1	10/19/20	13.21	5.89	--	7.32	
MW-1	04/12/21	13.21	5.03	--	8.18	
MW-1	10/11/21	13.21	6.30	--	6.91	
MW-2	02/11/02	11.33	6.13	--	5.20	
MW-2	05/20/02	11.33	8.40	--	2.93	
MW-2	08/27/02	11.33	8.50	--	2.83	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-2	11/04/02	11.33	8.85	--	2.48	
MW-2	02/18/03	11.33	6.10	--	5.23	
MW-2	06/09/03	11.33	7.68	--	3.65	
MW-2	09/15/03	15.22	8.71	--	6.51	
MW-2	11/18/03	15.22	7.60	--	7.62	
MW-2	02/24/04	15.22	6.56	--	8.66	
MW-2	05/10/04	15.22	7.78	--	7.44	
MW-2	08/24/04	15.22	8.33	--	6.89	
MW-2	12/13/04	15.22	7.69	--	7.53	
MW-2	03/08/05	15.22	7.72	--	7.50	
MW-2	06/06/05	15.22	7.61	--	7.61	
MW-2	09/19/05	15.22	8.58	--	6.64	
MW-2	12/12/05	15.22	7.86	--	7.36	
MW-2	03/13/06	15.22	6.38	--	8.84	
MW-2	06/05/06	15.22	7.39	--	7.83	
MW-2	09/11/06	15.22	8.50	--	6.72	
MW-2	12/11/06	15.22	6.37	--	8.85	
MW-2	03/26/07	15.22	6.71	--	8.51	
MW-2	06/18/07	15.22	7.68	--	7.54	
MW-2	09/24/07	15.22	8.84	--	6.38	
MW-2	12/10/07	15.22	6.85	--	8.37	
MW-2	03/03/08	15.22	7.14	--	8.08	
MW-2	06/02/08	15.22	7.91	--	7.31	
MW-2	09/04/08	15.22	8.33	--	6.89	
MW-2	12/04/08	15.22	8.01	--	7.21	
MW-2	03/04/09	15.22	7.43	--	7.79	
MW-2	06/01/09	15.22	7.54	--	7.68	
MW-2	09/21/09	15.22	8.52	--	6.70	
MW-2	11/16/09	15.22	7.28	--	7.94	
MW-2	03/08/10	15.22	6.42	--	8.80	
MW-2	06/07/10	15.22	7.00	--	8.22	
MW-2	09/09/10	15.22	8.26	--	6.96	
MW-2	11/15/10	15.22	7.21	--	8.01	
MW-2	03/01/11	15.22	6.26	--	8.96	
MW-2	05/23/11	15.22	6.39	--	8.83	
MW-2	08/29/11	15.22	8.01	--	7.21	
MW-2	12/01/11	15.22	7.56	--	7.66	
MW-2	03/01/12	15.22	7.03	--	8.19	
MW-2	05/30/12	15.22	6.97	--	8.25	
MW-2	08/25/12	15.22	7.88	--	7.34	
MW-2	11/07/12	15.22	7.34	--	7.88	
MW-2	02/27/13	15.22	6.59	--	8.63	
MW-2	04/08/13	15.22	6.36	--	8.86	
MW-2	07/29/13	15.22	7.82	--	7.40	
MW-2	10/02/13	15.22	7.44	--	7.78	
MW-2	01/21/14	15.22	7.55	--	7.67	
MW-2	04/22/14	15.22	6.21	--	9.01	
MW-2	07/15/14	15.22	7.47	--	7.75	
MW-2	03/17/15	15.22	5.35	--	9.87	
MW-2	09/28/15	15.22	7.99	--	7.23	
MW-2	03/29/16	15.22	5.29	--	9.93	
MW-2	10/11/16	15.22	8.20	--	7.02	
MW-2	03/28/17	15.22	4.51	--	10.71	
MW-2	10/10/17	15.22	8.12	--	7.10	
MW-2	03/28/18	15.22	6.47	--	8.75	
MW-2	10/02/18	15.22	8.29	--	6.93	
MW-2	04/02/19	15.22	6.81	--	8.41	
MW-2	10/01/19	15.22	8.08	--	7.14	
MW-2	03/25/20	15.22	6.43	--	8.79	
MW-2	10/19/20	15.22	7.63	--	7.59	
MW-2	04/12/21	15.22	6.47	--	8.75	
MW-2	10/11/21	15.22	8.06	--	7.16	
MW-3	02/11/02	7.49	1.82	--	5.67	
MW-3	05/20/02	7.49	4.27	--	3.22	
MW-3	08/27/02	7.49	4.50	--	2.99	
MW-3	11/04/02	7.49	4.92	--	2.57	
MW-3	02/18/03	7.49	2.38	--	5.11	
MW-3	06/09/03	7.49	3.67	--	3.82	
MW-3	09/15/03	11.39	4.81	--	6.58	
MW-3	11/18/03	11.39	2.97	--	8.42	
MW-3	02/24/04	11.39	2.45	--	8.94	
MW-3	05/10/04	11.39	3.64	--	7.75	
MW-3	08/24/04	11.39	4.14	--	7.25	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-3	12/13/04	11.39	3.22	--	8.17	
MW-3	03/08/05	11.39	3.70	--	7.69	
MW-3	06/06/05	11.39	3.51	--	7.88	
MW-3	09/19/05	11.39	4.65	--	6.74	
MW-3	12/12/05	11.39	3.81	--	7.58	
MW-3	03/13/06	11.39	2.43	--	8.96	
MW-3	06/05/06	11.39	3.05	--	8.34	
MW-3	09/11/06	11.39	4.58	--	6.81	
MW-3	12/11/06	11.39	2.00	--	9.39	
MW-3	03/26/07	11.39	2.46	--	8.93	
MW-3	06/18/07	11.39	3.81	--	7.58	
MW-3	09/24/07	11.39	4.58	--	6.81	
MW-3	12/10/07	11.39	2.53	--	8.86	
MW-3	03/03/08	11.39	3.10	--	8.29	
MW-3	06/02/08	11.39	3.88	--	7.51	
MW-3	09/04/08	11.39	4.27	--	7.12	
MW-3	12/04/08	11.39	3.99	--	7.40	
MW-3	03/04/09	11.39	3.28	--	8.11	
MW-3	06/01/09	11.39	3.48	--	7.91	
MW-3	09/21/09	11.39	4.51	--	6.88	
MW-3	11/16/09	11.39	2.97	--	8.42	
MW-3	03/08/10	11.39	2.32	--	9.07	
MW-3	06/07/10	11.39	2.86	--	8.53	
MW-3	09/09/10	11.39	4.23	--	7.16	
MW-3	11/15/10	11.39	2.99	--	8.40	
MW-3	03/01/11	11.39	1.86	--	9.53	
MW-3	05/23/11	11.39	2.03	--	9.36	
MW-3	08/29/11	11.39	4.02	--	7.37	
MW-3	12/01/11	11.39	3.27	--	8.12	
MW-3	03/01/12	11.39	2.99	--	8.40	
MW-3	05/30/12	11.39	2.93	--	8.46	
MW-3	08/25/12	11.39	3.90	--	7.49	
MW-3	11/07/12	11.39	3.10	--	8.29	
MW-3	02/27/13	11.39	2.23	--	9.16	
MW-3	04/08/13	11.39	2.04	--	9.35	
MW-3	07/29/13	11.39	3.78	--	7.61	
MW-3	10/02/13	11.39	3.06	--	8.33	
MW-3	01/21/14	11.39	3.43	--	7.96	
MW-3	04/22/14	11.39	2.06	--	9.33	
MW-3	07/15/14	11.39	3.51	--	7.88	
MW-3	03/17/15	11.39	1.30	--	10.09	
MW-3	09/28/15	11.39	4.02	--	7.37	
MW-3	03/29/16	11.39	1.47	--	9.92	
MW-3	10/11/16	11.39	4.01	--	7.38	
MW-3	03/28/17	11.39	0.65	--	10.74	
MW-3	10/10/17	11.39	4.09	--	7.30	
MW-3	03/28/18	11.39	2.44	--	8.95	
MW-3	10/02/18	11.39	4.48	--	6.91	
MW-3	04/02/19	11.39	2.88	--	8.51	
MW-3	10/01/19	11.39	4.00	--	7.39	
MW-3	03/25/20	11.39	2.44	--	8.95	
MW-3	10/19/20	11.39	3.57	--	7.82	
MW-3	04/12/21	11.39	2.49	--	8.90	
MW-3	10/11/21	11.39	4.10	--	7.29	
MW-4	02/11/02	10.44	5.24	--	5.20	
MW-4	05/20/02	10.44	7.60	--	2.84	
MW-4	08/27/02	10.44	7.40	--	3.04	
MW-4	11/04/02	10.44	7.90	0.15	2.66	
MW-4	02/18/03	10.44	5.79	--	4.65	
MW-4	06/09/03	10.44	6.81	--	3.63	
MW-4	09/15/03	14.69	7.70	0.01	7.00	
MW-4	11/18/03	14.69	6.71	Sheen	7.98	
MW-4	02/24/04	14.69	5.82	Sheen	8.87	
MW-4	05/10/04	14.69	6.93	Sheen	7.76	
MW-4	08/24/04	14.69	7.24	--	7.45	
MW-4	12/13/04	14.69	6.45	Sheen	8.24	
MW-4	03/08/05	14.69	6.94	--	7.75	
MW-4	06/06/05	14.69	6.71	--	7.98	
MW-4	09/19/05	14.69	7.67	--	7.02	
MW-4	12/12/05	14.69	6.97	--	7.72	
MW-4	03/13/06	14.69	5.77	--	8.92	
MW-4	06/05/06	14.69	6.42	--	8.27	
MW-4	09/11/06	14.69	7.61	--	7.08	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-4	12/11/06	14.69	5.81	--	8.88	
MW-4	03/26/07	14.69	5.96	--	8.73	
MW-4	06/18/07	14.69	6.99	--	7.70	
MW-4	09/25/07	14.69	7.46	--	7.23	
MW-4	12/10/07	14.69	5.93	--	8.76	
MW-4	03/03/08	14.69	6.44	--	8.25	
MW-4	06/02/08	14.69	7.37	--	7.32	
MW-4	09/04/08	14.69	7.20	--	7.49	
MW-4	12/04/08	14.69	7.77	--	6.92	
MW-4	03/04/09	14.69	6.68	--	8.01	
MW-4	06/01/09	14.69	6.78	--	7.91	
MW-4	09/21/09	14.69	7.56	--	7.13	
MW-4	11/16/09	14.69	6.34	--	8.35	
MW-4	03/08/10	14.69	5.86	--	8.83	
MW-4	06/07/10	14.69	6.27	--	8.42	
MW-4	09/09/10	14.69	7.40	--	7.29	
MW-4	11/15/10	14.69	6.39	--	8.30	
MW-4	03/01/11	14.69	5.70	--	8.99	
MW-4	05/23/11	14.69	5.74	--	8.95	
MW-4	08/29/11	14.69	7.25	--	7.44	
MW-4	12/01/11	14.69	6.52	--	8.17	
MW-4	03/01/12	14.69	6.38	--	8.31	
MW-4	05/30/12	14.69	6.33	--	8.36	
MW-4	08/25/12	14.69	7.05	--	7.64	
MW-4	11/07/12	14.69	6.31	--	8.38	
MW-4	02/27/13	14.69	6.02	--	8.67	
MW-4	04/08/13	14.69	5.74	--	8.95	
MW-4	07/29/13	14.69	7.02	--	7.67	
MW-4	10/02/13	14.69	6.53	--	8.16	
MW-4	01/21/14	14.69	6.75	--	7.94	
MW-4	04/22/14	14.69	5.84	--	8.85	
MW-4	07/15/14	14.69	6.85	--	7.84	
MW-4	03/17/15	14.69	5.21	--	9.48	
MW-4	09/28/15	14.69	7.05	--	7.64	
MW-4	03/29/16	14.69	4.31	--	10.38	
MW-4	10/11/16	14.69	7.21	--	7.48	
MW-4	03/28/17	14.69	4.55	--	10.14	
MW-4	10/10/17	14.69	7.16	--	7.53	
MW-4	03/28/18	14.69	5.93	--	8.76	
MW-4	10/02/18	14.69	7.40	--	7.29	
MW-4	04/02/19	14.69	6.26	--	8.43	
MW-4	10/01/19	14.69	7.14	--	7.55	
MW-4	03/25/20	14.69	6.02	--	8.67	
MW-4	10/19/20	14.69	6.79	--	7.90	
MW-4	04/12/21	14.69	5.59	--	9.10	
MW-4	10/11/21	14.69	7.21	--	7.48	
MW-5	02/11/02	7.10	1.50	--	5.60	
MW-5	05/20/02	7.10	4.06	--	3.04	
MW-5	08/27/02	7.10	4.23	--	2.87	
MW-5	11/04/02	7.10	4.63	--	2.47	
MW-5	02/18/03	7.10	1.98	--	5.12	
MW-5	06/09/03	7.10	3.47	--	3.63	
MW-5	09/15/03	11.13	4.49	--	6.64	
MW-5	11/18/03	11.13	2.81	--	8.32	
MW-5	02/24/04	11.13	2.11	--	9.02	
MW-5	05/10/04	11.13	3.50	--	7.63	
MW-5	08/24/04	11.13	3.71	--	7.42	
MW-5	12/13/04	11.13	2.75	--	8.38	
MW-5	03/08/05	11.13	3.53	--	7.60	
MW-5	06/06/05	11.13	3.22	--	7.91	
MW-5	09/19/05	11.13	4.33	--	6.80	
MW-5	12/12/05	11.13	3.43	--	7.70	
MW-5	03/13/06	11.13	2.10	--	9.03	
MW-5	06/05/06	11.13	2.59	--	8.54	
MW-5	09/11/06	11.13	4.33	--	6.80	
MW-5	12/11/06	11.13	1.70	--	9.43	
MW-5	03/26/07	11.13	2.22	--	8.91	
MW-5	06/18/07	11.13	--	--	--	Not Measured-No Access due to construction
MW-5	09/24/07	11.13	4.28	--	6.85	
MW-5	12/10/07	11.13	2.06	--	9.07	
MW-5	03/03/08	11.13	2.81	--	8.32	
MW-5	06/02/08	11.13	3.36	--	7.77	
MW-5	09/04/08	11.13	3.91	--	7.22	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-5	12/04/08	11.13	3.64	--	7.49	
MW-5	03/04/09	11.13	2.98	--	8.15	
MW-5	06/01/09	11.13	3.21	--	7.92	
MW-5	09/21/09	11.13	4.23	--	6.90	
MW-5	11/16/09	11.13	2.50	--	8.63	
MW-5	03/08/10	11.13	2.11	--	9.02	
MW-5	06/07/10	11.13	2.55	--	8.58	
MW-5	09/09/10	11.13	3.93	--	7.20	
MW-5	11/15/10	11.13	2.55	--	8.58	
MW-5	03/01/11	11.13	1.63	--	9.50	
MW-5	05/23/11	11.13	2.00	--	9.13	
MW-5	08/29/11	11.13	3.82	--	7.31	
MW-5	12/01/11	11.13	2.80	--	8.33	
MW-5	03/01/12	11.13	2.66	--	8.47	
MW-5	05/30/12	11.13	2.73	--	8.40	
MW-5	08/25/12	11.13	3.54	--	7.59	
MW-5	11/07/12	11.13	2.56	--	8.57	
MW-5	02/27/13	11.13	2.20	--	8.93	
MW-5	04/08/13	11.13	1.69	--	9.44	
MW-5	07/29/13	11.13	3.41	--	7.72	
MW-5	10/02/13	11.13	2.51	--	8.62	
MW-5	01/21/14	11.13	3.11	--	8.02	
MW-5	04/22/14	11.13	1.79	--	9.34	
MW-5	07/15/14	11.13	3.29	--	7.84	
MW-5	03/17/15	11.13	1.04	--	10.09	
MW-5	09/28/15	11.13	3.65	--	7.48	
MW-5	03/29/16	11.13	1.26	--	9.87	
MW-5	10/11/16	11.13	3.56	--	7.57	
MW-5	03/28/17	11.13	0.96	--	10.17	
MW-5	10/10/17	11.13	3.70	--	7.43	Biofilm
MW-5	03/28/18	11.13	2.31	--	8.82	
MW-5	10/02/18	11.13	3.88	--	7.25	
MW-5	04/02/19	11.13	2.71	--	8.42	
MW-5	10/01/19	11.13	3.53	--	7.60	
MW-5	03/25/20	11.13	2.21	--	8.92	
MW-5	10/19/20	11.13	3.25	--	7.88	
MW-5	04/12/21	11.13	2.33	--	8.80	
MW-5	10/11/21	11.13	3.65	--	7.48	
MW-6	02/11/02	11.15	6.35	--	4.80	
MW-6	05/20/02	11.15	8.48	--	2.67	
MW-6	08/27/02	11.15	8.45	--	2.70	
MW-6	11/04/02	11.15	8.80	--	2.35	
MW-6	02/18/03	11.15	6.85	--	4.30	
MW-6	06/09/03	11.15	7.74	--	3.41	
MW-6	09/15/03	15.17	8.65	--	6.52	
MW-6	11/18/03	15.17	7.60	--	7.57	
MW-6	02/24/04	15.17	6.61	--	8.56	
MW-6	05/10/04	15.17	7.76	--	7.41	
MW-6	08/24/04	15.17	8.28	--	6.89	
MW-6	12/13/04	15.17	7.67	--	7.50	
MW-6	03/08/05	15.17	7.70	--	7.47	
MW-6	06/06/05	15.17	7.55	--	7.62	
MW-6	09/19/05	15.17	8.48	--	6.69	
MW-6	12/12/05	15.17	7.89	--	7.28	
MW-6	03/13/06	15.17	6.46	--	8.71	
MW-6	06/05/06	15.17	7.25	--	7.92	
MW-6	09/11/06	15.17	8.43	--	6.74	
MW-6	12/11/06	15.17	6.50	--	8.67	
MW-6	03/26/07	15.17	6.61	--	8.56	
MW-6	06/18/07	15.17	7.76	--	7.41	
MW-6	09/24/07	15.17	8.43	--	6.74	
MW-6	12/10/07	15.17	6.93	--	8.24	
MW-6	03/03/08	15.17	7.09	--	8.08	
MW-6	06/02/08	15.17	7.88	--	7.29	
MW-6	09/04/08	15.17	8.19	--	6.98	
MW-6	12/04/08	15.17	7.95	--	7.22	
MW-6	03/04/09	15.17	7.41	--	7.76	
MW-6	06/01/09	15.17	7.54	--	7.63	
MW-6	09/21/09	15.17	8.42	--	6.75	
MW-6	11/16/09	15.17	7.30	--	7.87	
MW-6	03/08/10	15.17	6.45	--	8.72	
MW-6	06/07/10	15.17	7.09	--	8.08	
MW-6	09/09/10	15.17	8.10	--	7.07	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-6	11/15/10	15.17	7.21	--	7.96	
MW-6	03/01/11	15.17	6.24	--	8.93	
MW-6	05/23/11	15.17	6.42	--	8.75	
MW-6	08/29/11	15.17	7.92	--	7.25	
MW-6	12/01/11	15.17	7.45	--	7.72	
MW-6	03/01/12	15.17	6.97	--	8.20	
MW-6	05/30/12	15.17	6.91	--	8.26	
MW-6	08/25/12	15.17	7.09	--	8.08	
MW-6	11/07/12	15.17	7.12	--	8.05	
MW-6	02/27/13	15.17	6.59	--	8.58	
MW-6	04/08/13	15.17	6.22	--	8.95	
MW-6	07/29/13	15.17	7.34	--	7.83	
MW-6	10/02/13	15.17	6.98	--	8.19	
MW-6	01/21/14	15.17	7.21	--	7.96	
MW-6	04/22/14	15.17	6.71	--	8.46	
MW-6	07/15/14	15.17	7.39	--	7.78	
MW-6	03/17/15	15.17	5.72	--	9.45	
MW-6	09/28/15	15.17	7.68	--	7.49	
MW-6	03/29/16	15.17	5.38	--	9.79	
MW-6	10/11/16	15.17	7.94	--	7.23	
MW-6	03/28/17	15.17	4.97	--	10.20	
MW-6	10/10/17	15.17	7.89	--	7.28	
MW-6	03/28/18	15.17	6.93	--	8.24	
MW-6	10/02/18	15.17	8.00	--	7.17	
MW-6	04/02/19	15.17	6.77	--	8.40	
MW-6	10/01/19	15.17	7.81	--	7.36	
MW-6	03/25/20	15.17	6.34	--	8.83	
MW-6	10/19/20	15.17	7.57	--	7.60	
MW-6	04/12/21	15.17	6.52	--	8.65	
MW-6	10/11/21	15.17	7.90	--	7.27	
MW-7	02/11/02	6.78	1.49	--	5.29	
MW-7	05/20/02	6.78	3.91	--	2.87	
MW-7	08/27/02	6.78	4.03	--	2.75	
MW-7	11/04/02	6.78	4.44	--	2.34	
MW-7	02/18/03	6.78	1.82	Sheen	4.96	
MW-7	06/09/03	6.78	3.29	--	3.49	
MW-7	09/15/03	10.62	4.30	--	6.32	
MW-7	11/18/03	10.62	2.83	--	7.79	
MW-7	02/24/04	10.62	2.16	--	8.46	
MW-7	05/10/04	10.62	3.32	--	7.30	
MW-7	08/24/04	10.62	3.31	--	7.31	
MW-7	12/13/04	10.62	2.27	--	8.35	
MW-7	03/08/05	10.62	3.23	--	7.39	
MW-7	06/06/05	10.62	3.03	--	7.59	
MW-7	09/19/05	10.62	4.16	Sheen	6.46	
MW-7	12/12/05	10.62	3.17	--	7.45	
MW-7	03/13/06	10.62	1.88	--	8.74	
MW-7	06/05/06	10.62	2.34	--	8.28	
MW-7	09/11/06	10.62	4.10	--	6.52	
MW-7	12/11/06	10.62	1.72	--	8.90	
MW-7	03/26/07	10.62	2.00	--	8.62	
MW-7	06/18/07	10.62	3.34	--	7.28	
MW-7	09/24/07	10.62	4.00	--	6.62	
MW-7	12/10/07	10.62	1.12	Sheen	9.50	
MW-7	03/03/08	10.62	2.49	Sheen	8.13	
MW-7	06/02/08	10.62	3.41	Sheen	7.21	
MW-7	09/04/08	10.62	3.60	--	7.02	
MW-7	12/04/08	10.62	3.36	--	7.26	
MW-7	03/04/09	10.62	2.90	--	7.72	
MW-7	06/01/09	10.62	3.08	Sheen	7.54	
MW-7	09/21/09	10.62	1.91	--	8.71	
MW-7	11/16/09	10.62	2.54	Sheen	8.08	
MW-7	03/08/10	10.62	2.31	--	8.31	
MW-7	06/07/10	10.62	2.67	--	7.95	
MW-7	09/09/10	10.62	3.79	--	6.83	
MW-7	11/15/10	10.62	2.58	--	8.04	
MW-7	03/01/11	10.62	2.51	--	8.11	
MW-7	05/23/11	10.62	2.24	--	8.38	
MW-7	08/29/11	10.62	3.87	--	6.75	
MW-7	12/01/11	10.62	2.67	--	7.95	
MW-7	03/01/12	10.62	2.80	--	7.82	
MW-7	05/30/12	10.62	2.82	--	7.80	
MW-7	08/25/12	10.62	3.35	--	7.27	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-7	11/07/12	10.62	2.23	--	8.39	
MW-7	02/27/13	10.62	2.33	--	8.29	
MW-7	04/08/13	10.62	1.88	--	8.74	
MW-7	06/21/13	10.62	3.10	--	7.52	Baseline monitoring event
MW-7	07/29/13	10.62	3.16	--	7.46	
MW-7	08/26/13	10.62	2.82	--	7.80	Two-month monitoring event
MW-7	10/02/13	10.62	2.08	--	8.54	
MW-7	01/21/14	10.62	2.78	--	7.84	
MW-7	04/22/14	10.62	1.45	--	9.17	
MW-7	07/15/14	10.62	3.02	--	7.60	
MW-7	03/17/15	10.62	0.76	--	9.86	
MW-7	09/28/15	10.62	3.59	--	7.03	
MW-7	03/29/16	10.62	1.10	--	9.52	
MW-7	10/11/16	10.62	2.95	--	7.67	
MW-7	03/28/17	10.62	0.70	--	9.92	
MW-7	10/10/17	10.62	3.49	--	7.13	
MW-7	03/28/18	10.62	2.06	--	8.56	
MW-7	10/02/18	10.62	3.50	--	7.12	
MW-7	04/02/19	10.62	2.52	--	8.10	
MW-7	10/01/19	10.62	3.18	--	7.44	
MW-7	03/25/20	10.62	2.03	--	8.59	
MW-7	10/19/20	10.62	3.05	--	7.57	
MW-7	04/12/21	10.62	2.22	--	8.40	
MW-7	10/11/21	10.62	3.26	--	7.36	
MW-8	02/11/02	6.42	1.38	--	5.04	
MW-8	05/20/02	6.42	3.87	0.01	2.56	
MW-8	08/27/02	6.42	5.83	--	0.59	
MW-8	11/04/02	6.42	4.23	--	2.19	
MW-8	02/18/03	6.42	1.37	--	5.05	
MW-8	06/09/03	6.42	3.33	--	3.09	
MW-8	09/15/03	10.63	4.10	--	6.53	
MW-8	11/18/03	10.63	2.25	--	8.38	
MW-8	02/24/04	10.63	2.15	--	8.48	
MW-8	05/10/04	10.63	3.37	--	7.26	
MW-8	08/24/04	10.63	3.51	--	7.12	
MW-8	12/13/04	10.63	2.40	--	8.23	
MW-8	03/08/05	10.63	3.25	--	7.38	
MW-8	06/06/05	10.63	3.01	--	7.62	
MW-8	09/19/05	10.63	4.05	--	6.58	
MW-8	12/12/05	10.63	3.20	--	7.43	
MW-8	03/13/06	10.63	2.22	--	8.41	
MW-8	06/05/06	10.63	2.59	--	8.04	
MW-8	09/11/06	10.63	3.96	--	6.67	
MW-8	12/11/06	10.63	1.81	--	8.82	
MW-8	03/26/07	10.63	4.01	--	6.62	
MW-8	06/18/07	10.63	4.55	--	6.08	
MW-8	09/24/07	10.63	5.05	--	5.58	
MW-8	12/10/07	10.63	4.18	--	6.45	
MW-8	03/03/08	10.63	4.25	--	6.38	
MW-8	06/02/08	10.63	4.65	--	5.98	
MW-8	09/04/08	10.63	4.69	--	5.94	
MW-8	12/04/08	10.63	--	--	--	Not Measured-Inaccessible
MW-8	03/04/09	10.63	3.36	--	7.27	
MW-8	06/01/09	10.63	3.67	--	6.96	
MW-8	09/21/09	10.63	4.42	--	6.21	
MW-8	11/16/09	10.63	2.85	--	7.78	
MW-8	03/08/10	10.63	2.65	--	7.98	
MW-8	06/07/10	10.63	3.10	--	7.53	
MW-8	09/09/10	10.63	4.29	--	6.34	
MW-8	11/15/10	10.63	3.12	--	7.51	
MW-8	03/01/11	10.63	2.22	--	8.41	
MW-8	05/23/11	10.63	2.76	--	7.87	
MW-8	08/29/11	10.63	4.22	--	6.41	
MW-8	12/01/11	10.63	3.11	--	7.52	
MW-8	03/01/12	10.63	3.18	--	7.45	
MW-8	05/30/12	10.63	3.27	--	7.36	
MW-8	08/25/12	10.63	4.02	--	6.61	
MW-8	11/07/12	10.63	2.93	--	7.70	
MW-8	02/27/13	10.63	2.98	--	7.65	
MW-8	04/08/13	10.63	2.41	--	8.22	
MW-8	07/29/13	10.63	3.98	--	6.65	
MW-8	10/02/13	10.63	2.86	--	7.77	
MW-8	01/21/14	10.63	3.56	--	7.07	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-8	04/22/14	10.63	2.68	--	7.95	
MW-8	07/15/14	10.63	3.83	--	6.80	
MW-8	03/17/15	10.63	1.62	--	9.01	
MW-8	09/28/15	10.63	3.99	--	6.64	
MW-8	03/29/16	10.63	1.95	--	8.68	
MW-8	10/11/16	10.63	4.05	--	6.58	
MW-8	03/28/17	10.63	1.55	--	9.08	
MW-8	10/10/17	10.63	4.23	--	6.40	
MW-8	03/28/18	10.63	3.05	--	7.58	
MW-8	10/02/18	10.63	4.29	--	6.34	
MW-8	04/02/19	10.63	3.36	--	7.27	
MW-8	10/01/19	10.63	4.06	--	6.57	
MW-8	03/25/20	10.63	3.18	--	7.45	
MW-8	10/19/20	10.63	3.71	--	6.92	
MW-8	04/12/21	10.63	3.12	--	7.51	
MW-8	10/11/21	10.63	4.17	--	6.46	
MW-9	02/11/02	6.14	2.03	0.02	4.13	
MW-9	05/20/02	6.14	4.16	0.01	1.99	
MW-9	08/27/02	6.14	5.85	0.01	0.30	
MW-9	11/04/02	6.14	4.07	0.01	2.08	
MW-9	02/18/03	6.14	2.35	0.01	3.80	
MW-9	06/09/03	6.14	3.53	--	2.61	
MW-9	09/15/03	9.75	3.99	Sheen	5.76	
MW-9	11/18/03	9.75	2.95	Sheen	6.80	
MW-9	02/24/04	9.75	2.41	Sheen	7.34	
MW-9	05/10/04	9.75	3.36	--	6.39	
MW-9	08/24/04	9.75	3.46	--	6.29	
MW-9	12/13/04	9.75	2.73	--	7.02	
MW-9	03/08/05	9.75	3.24	--	6.51	
MW-9	06/06/05	9.75	3.13	--	6.62	
MW-9	09/19/05	9.75	3.91	--	5.84	
MW-9	12/12/05	9.75	3.27	--	6.48	
MW-9	03/13/06	9.75	2.30	--	7.45	
MW-9	06/05/06	9.75	2.74	--	7.01	
MW-9	09/11/06	9.75	3.85	--	5.90	
MW-9	12/11/06	9.75	2.09	--	7.66	
MW-9	03/26/07	9.75	2.44	--	7.31	
MW-9	06/18/07	9.75	2.44	--	7.31	
MW-9	09/24/07	9.75	3.88	--	5.87	
MW-9	12/10/07	9.75	2.24	Sheen	7.51	
MW-9	03/03/08	9.75	2.82	Sheen	6.93	
MW-9	06/02/08	9.75	3.52	--	6.23	
MW-9	09/04/08	9.75	3.54	--	6.21	
MW-9	12/04/08	9.75	3.34	--	6.41	
MW-9	03/04/09	9.75	2.89	--	6.86	
MW-9	06/01/09	9.75	3.19	--	6.56	
MW-9	09/21/09	9.75	3.76	Sheen	5.99	
MW-9	11/16/09	9.75	2.63	--	7.12	
MW-9	03/08/10	9.75	2.31	Sheen	7.44	
MW-9	06/07/10	9.75	2.72	Sheen	7.03	
MW-9	09/09/10	9.75	3.69	Sheen	6.06	
MW-9	11/15/10	9.75	2.71	Sheen	7.04	
MW-9	03/01/11	9.75	2.39	Sheen	7.36	
MW-9	05/23/11	9.75	2.58	Sheen	7.17	
MW-9	08/29/11	9.75	3.57	--	6.18	
MW-9	12/01/11	9.75	2.90	--	6.85	
MW-9	03/01/12	9.75	2.96	--	6.79	
MW-9	05/30/12	9.75	2.66	--	7.09	
MW-9	08/25/12	9.75	3.28	--	6.47	
MW-9	11/07/12	9.75	2.49	--	7.26	
MW-9	02/27/13	9.75	2.71	--	7.04	
MW-9	04/08/13	9.75	2.02	--	7.73	
MW-9	06/21/13	9.75	3.01	--	6.74	Baseline monitoring event
MW-9	07/29/13	9.75	3.19	--	6.56	
MW-9	08/26/13	9.75	3.11	--	6.64	Two-month monitoring event
MW-9	10/02/13	9.75	2.40	--	7.35	
MW-9	01/21/14	9.75	2.85	--	6.90	
MW-9	04/22/14	9.75	2.07	--	7.68	
MW-9	07/15/14	9.75	3.06	--	6.69	
MW-9	03/17/15	9.75	0.87	--	8.88	
MW-9	09/28/15	9.75	3.20	--	6.55	
MW-9	03/29/16	9.75	1.28	--	8.47	
MW-9	10/11/16	9.75	3.29	--	6.46	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-9	03/28/17	9.75	1.09	--	8.66	
MW-9	10/10/17	9.75	3.39	--	6.36	
MW-9	03/28/18	9.75	2.40	--	7.35	
MW-9	10/02/18	9.75	3.49	--	6.26	
MW-9	04/02/19	9.75	2.60	--	7.15	
MW-9	10/01/19	9.75	3.24	--	6.51	
MW-9	03/25/20	9.75	2.36	--	7.39	
MW-9	10/19/20	9.75	3.02	--	6.73	
MW-9	04/12/21	9.75	2.49	--	7.26	
MW-9	10/11/21	9.75	3.33	--	6.42	
MW-10D	03/27/01	--	--	--	--	Not Measured-Damaged
MW-10D	09/24/07	9.75	3.88	--	5.87	
MW-10D	Destroyed during construction activities in 2000					
MW-11D	02/11/02	6.81	3.75	--	3.06	
MW-11D	05/20/02	6.81	5.27	0.02	1.56	
MW-11D	08/27/02	6.81	4.70	0.01	2.12	
MW-11D	11/04/02	6.81	4.93	--	1.88	
MW-11D	02/18/03	6.81	3.59	--	3.22	
MW-11D	06/09/03	6.81	4.55	--	2.26	
MW-11D	09/15/03	10.78	4.91	--	5.87	
MW-11D	11/18/03	10.78	4.28	--	6.50	
MW-11D	02/24/04	10.78	3.71	--	7.07	
MW-11D	05/10/04	10.78	4.35	--	6.43	
MW-11D	08/24/04	10.78	4.13	--	6.65	
MW-11D	12/13/04	10.78	4.26	--	6.52	
MW-11D	03/08/05	10.78	4.58	--	6.20	
MW-11D	06/06/05	10.78	4.43	--	6.35	
MW-11D	09/19/05	10.78	4.89	--	5.89	
MW-11D	12/12/05	10.78	4.64	--	6.14	
MW-11D	03/13/06	10.78	3.84	--	6.94	
MW-11D	06/05/06	10.78	4.31	--	6.47	
MW-11D	09/11/06	10.78	4.91	--	5.87	
MW-11D	12/11/06	10.78	3.63	--	7.15	
MW-12	02/11/02	--	--	--	--	
MW-12	Destroyed during construction activities					
MW-12R	02/11/02	11.15	6.12	--	5.03	
MW-12R	05/20/02	11.15	8.36	--	2.79	
MW-12R	08/27/02	11.15	8.19	--	2.96	
MW-12R	11/04/02	11.15	8.56	--	2.59	
MW-12R	02/18/03	11.15	7.85	--	3.30	
MW-12R	06/09/03	11.15	7.67	--	3.48	
MW-12R	09/15/03	15.47	8.45	--	7.02	
MW-12R	11/18/03	15.47	7.87	--	7.60	
MW-12R	02/24/04	15.47	6.98	--	8.49	
MW-12R	05/10/04	15.47	7.79	--	7.68	
MW-12R	08/24/04	15.47	8.11	--	7.36	
MW-12R	12/13/04	15.47	7.54	--	7.93	
MW-12R	03/08/05	15.47	7.93	--	7.54	
MW-12R	06/06/05	15.47	6.41	--	9.06	
MW-12R	09/19/05	15.47	8.41	--	7.06	
MW-12R	12/12/05	15.47	7.92	--	7.55	
MW-12R	03/13/06	15.47	6.85	--	8.62	
MW-12R	06/05/06	15.47	7.43	--	8.04	
MW-12R	09/11/06	15.47	8.39	--	7.08	
MW-12R	12/11/06	15.47	6.95	--	8.52	
MW-12R	03/26/07	15.47	7.02	--	8.45	
MW-12R	06/18/07	15.47	7.84	--	7.63	
MW-12R	09/25/07	15.47	8.38	--	7.09	
MW-12R	12/10/07	15.47	7.02	--	8.45	
MW-12R	03/03/08	15.47	7.11	--	8.36	
MW-12R	06/02/08	15.47	7.98	--	7.49	
MW-12R	09/04/08	15.47	8.13	--	7.34	
MW-12R	12/04/08	15.47	7.98	--	7.49	
MW-12R	03/04/09	15.47	7.54	--	7.93	
MW-12R	06/01/09	15.47	7.71	--	7.76	
MW-12R	09/21/09	15.47	8.39	--	7.08	
MW-12R	11/16/09	15.47	7.40	--	8.07	
MW-12R	03/08/10	15.47	6.86	--	8.61	
MW-12R	06/07/10	15.47	7.23	--	8.24	
MW-12R	09/09/10	15.47	8.22	--	7.25	
MW-12R	11/15/10	15.47	7.40	--	8.07	
MW-12R	03/01/11	15.47	6.76	--	8.71	
MW-12R	05/23/11	15.47	6.87	--	8.60	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-12R	08/29/11	15.47	8.07	--	7.40	
MW-12R	12/01/11	15.47	7.51	--	7.96	
MW-12R	03/01/12	15.47	7.31	--	8.16	
MW-12R	05/30/12	15.47	7.30	--	8.17	
MW-12R	08/25/12	15.47	7.89	--	7.58	
MW-12R	11/07/12	15.47	7.34	--	8.13	
MW-12R	02/27/13	15.47	7.02	--	8.45	
MW-12R	04/08/13	15.47	6.88	--	8.59	
MW-12R	07/29/13	15.47	7.84	--	7.63	
MW-12R	10/02/13	15.47	7.42	--	8.05	
MW-12R	01/21/14	15.47	7.70	--	7.77	
MW-12R	04/22/14	15.47	6.90	--	8.57	
MW-12R	07/15/14	15.47	7.73	--	7.74	
MW-12R	03/17/15	15.47	6.49	--	8.98	
MW-12R	09/28/15	15.47	7.96	--	7.51	
MW-12R	03/29/16	15.47	5.98	--	9.49	
MW-12R	10/11/16	15.47	8.04	--	7.43	
MW-12R	03/28/17	15.47	5.81	--	9.66	
MW-12R	10/10/17	15.47	8.05	--	7.42	
MW-12R	03/28/18	15.47	7.00	--	8.47	
MW-12R	10/02/18	15.47	8.22	--	7.25	
MW-12R	04/02/19	15.47	7.30	--	8.17	
MW-12R	10/01/19	15.47	8.00	--	7.47	
MW-12R	03/25/20	15.47	7.08	--	8.39	
MW-12R	10/19/20	15.47	7.74	--	7.73	
MW-12R	04/12/21	15.47	7.06	--	8.41	
MW-12R	10/11/21	15.47	8.10	--	7.37	
MW-13	02/11/02	--	--	--	--	
MW-13	Destroyed during construction activities					
MW-13R	02/11/02	10.99	5.95	--	5.04	
MW-13R	05/20/02	10.99	8.08	--	2.91	
MW-13R	08/27/02	10.99	7.93	--	3.06	
MW-13R	11/04/02	10.99	8.30	--	2.69	
MW-13R	02/18/03	10.99	6.55	--	4.44	
MW-13R	06/09/03	10.99	7.37	--	3.62	
MW-13R	09/15/03	15.15	8.19	--	6.96	
MW-13R	11/18/03	15.15	7.56	--	7.59	
MW-13R	02/24/04	15.15	6.50	--	8.65	
MW-13R	05/10/04	15.15	7.45	--	7.70	
MW-13R	08/24/04	15.15	8.13	--	7.02	
MW-13R	12/13/04	15.15	7.10	--	8.05	
MW-13R	03/08/05	15.15	7.62	--	7.53	
MW-13R	06/06/05	15.15	7.37	--	7.78	
MW-13R	09/19/05	15.15	8.22	--	6.93	
MW-13R	12/12/05	15.15	7.61	--	7.54	
MW-13R	03/13/06	15.15	6.50	--	8.65	
MW-13R	06/05/06	15.15	7.03	--	8.12	
MW-13R	09/11/06	15.15	8.13	--	7.02	
MW-13R	12/11/06	15.15	6.60	--	8.55	
MW-13R	03/26/07	15.15	6.60	--	8.55	
MW-13R	06/18/07	15.15	7.53	--	7.62	
MW-13R	09/25/07	15.15	8.10	--	7.05	
MW-13R	12/10/07	15.15	6.74	--	8.41	
MW-13R	03/03/08	15.15	7.45	--	7.70	
MW-13R	06/02/08	15.15	7.70	--	7.45	
MW-13R	09/04/08	15.15	7.86	--	7.29	
MW-13R	12/04/08	15.15	7.72	--	7.43	
MW-13R	03/04/09	15.15	7.30	--	7.85	
MW-13R	06/01/09	15.15	7.43	--	7.72	
MW-13R	09/21/09	15.15	8.12	--	7.03	
MW-13R	11/16/09	15.15	7.07	--	8.08	
MW-13R	03/08/10	15.15	6.57	--	8.58	
MW-13R	06/07/10	15.15	6.95	--	8.20	
MW-13R	09/09/10	15.15	7.94	--	7.21	
MW-13R	11/15/10	15.15	7.12	--	8.03	
MW-13R	03/01/11	15.15	6.42	--	8.73	
MW-13R	05/23/11	15.15	6.52	--	8.63	
MW-13R	08/29/11	15.15	7.79	--	7.36	
MW-13R	12/01/11	15.15	7.21	--	7.94	
MW-13R	03/01/12	15.15	6.99	--	8.16	
MW-13R	05/25/12	--	--	--	--	
MW-13R	Abandoned on 5/25/2012					
MW-14	02/11/02	7.55	1.65	--	5.90	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-14	05/20/02	7.55	4.46	--	3.09	
MW-14	08/27/02	7.55	4.58	--	2.97	
MW-14	11/04/02	7.55	5.95	--	1.60	
MW-14	02/18/03	7.55	2.60	--	4.95	
MW-14	06/09/03	7.55	3.86	--	3.69	
MW-14	09/15/03	11.44	5.11	--	6.33	
MW-14	11/18/03	11.44	3.30	--	8.14	
MW-14	02/24/04	11.44	2.55	--	8.89	
MW-14	05/10/04	11.44	3.92	--	7.52	
MW-14	08/24/04	11.44	4.23	--	7.21	
MW-14	12/13/04	11.44	3.28	--	8.16	
MW-14	03/08/05	11.44	3.71	--	7.73	
MW-14	06/06/05	11.44	3.37	--	8.07	
MW-14	09/19/05	11.44	4.79	--	6.65	
MW-14	12/12/05	11.44	3.72	--	7.72	
MW-14	03/13/06	11.44	2.40	--	9.04	
MW-14	06/05/06	11.44	3.07	--	8.37	
MW-14	09/11/06	11.44	4.90	--	6.54	
MW-14	12/11/06	11.44	2.02	--	9.42	
MW-14	03/26/07	11.44	2.61	--	8.83	
MW-14	06/18/07	11.44	3.91	--	7.53	
MW-14	09/24/07	11.44	4.64	--	6.80	
MW-14	12/10/07	11.44	2.44	--	9.00	
MW-14	03/03/08	11.44	3.19	--	8.25	
MW-14	06/02/08	11.44	3.82	--	7.62	
MW-14	09/04/08	11.44	4.22	--	7.22	
MW-14	12/04/08	11.44	4.04	--	7.40	
MW-14	03/04/09	11.44	3.37	--	8.07	
MW-14	06/01/09	11.44	3.61	--	7.83	
MW-14	09/21/09	11.44	4.59	--	6.85	
MW-14	11/16/09	11.44	2.82	--	8.62	
MW-14	03/08/10	11.44	2.48	--	8.96	
MW-14	06/07/10	11.44	2.99	--	8.45	
MW-14	09/09/10	11.44	4.33	--	7.11	
MW-14	11/15/10	11.44	3.01	--	8.43	
MW-14	03/01/11	11.44	2.03	--	9.41	
MW-14	05/23/11	11.44	2.36	--	9.08	
MW-14	08/29/11	11.44	4.20	--	7.24	
MW-14	12/01/11	11.44	3.17	--	8.27	
MW-14	03/01/12	11.44	3.05	--	8.39	
MW-14	05/30/12	11.44	3.09	--	8.35	
MW-14	08/25/12	11.44	4.04	--	7.40	
MW-14	11/07/12	11.44	2.92	--	8.52	
MW-14	02/27/13	11.44	2.66	--	8.78	
MW-14	04/08/13	11.44	2.18	--	9.26	
MW-14	07/29/13	11.44	3.90	--	7.54	
MW-14	10/02/13	11.44	3.08	--	8.36	
MW-14	01/21/14	11.44	5.59	--	5.85	
MW-14	04/22/14	11.44	2.19	--	9.25	
MW-14	07/15/14	11.44	3.71	--	7.73	
MW-14	03/17/15	11.44	1.47	--	9.97	
MW-14	09/28/15	11.44	4.06	--	7.38	
MW-14	03/29/16	11.44	1.67	--	9.77	
MW-14	10/11/16	11.44	4.01	--	7.43	
MW-14	03/28/17	11.44	1.42	--	10.02	
MW-14	10/10/17	11.44	4.01	--	7.43	No LNAPL/sheen
MW-14	03/28/18	11.44	2.69	--	8.75	
MW-14	10/02/18	11.44	4.36	--	7.08	
MW-14	04/02/19	11.44	3.11	--	8.33	
MW-14	10/01/19	11.44	3.98	--	7.46	
MW-14	03/25/20	11.44	2.56	--	8.88	
MW-14	10/19/20	11.44	3.65	--	7.79	
MW-14	04/12/21	11.44	2.75	--	8.69	
MW-14	10/11/21	11.44	4.10	--	7.34	
MW-15	02/11/02	9.03	3.94	--	5.09	
MW-15	05/20/02	9.03	6.18	--	2.85	
MW-15	08/27/02	9.03	6.10	--	2.93	
MW-15	11/04/02	9.03	6.48	--	2.55	
MW-15	02/18/03	9.03	4.50	--	4.53	
MW-15	06/09/03	9.03	5.49	--	3.54	
MW-15	09/15/03	12.86	6.35	--	6.51	
MW-15	11/18/03	12.86	5.49	--	7.37	
MW-15	02/24/04	12.86	4.67	--	8.19	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-15	05/10/04	12.86	5.56	Sheen	7.30	
MW-15	08/24/04	12.86	6.10	--	6.76	
MW-15	12/13/04	12.86	4.34	--	8.52	
MW-15	03/08/05	12.86	5.58	--	7.28	
MW-15	06/06/05	12.86	5.42	--	7.44	
MW-15	09/19/05	12.86	6.34	--	6.52	
MW-15	12/12/05	12.86	5.63	--	7.23	
MW-15	03/13/06	12.86	4.33	--	8.53	
MW-15	06/05/06	12.86	5.15	--	7.71	
MW-15	09/11/06	12.86	6.30	--	6.56	
MW-15	12/11/06	12.86	4.43	--	8.43	
MW-15	03/26/07	12.86	4.60	--	8.26	
MW-15	06/18/07	12.86	5.61	--	7.25	
MW-15	06/02/08	12.86	5.80	--	7.06	
MW-15	09/04/08	12.86	6.02	--	6.84	
MW-15	12/04/08	12.86	5.82	--	7.04	
MW-16	02/11/02	11.19	6.19	--	5.00	
MW-16	05/20/02	11.19	8.23	--	2.96	
MW-16	08/27/02	11.19	8.32	--	2.87	
MW-16	11/04/02	11.19	8.72	--	2.47	
MW-16	02/18/03	11.19	7.65	--	3.54	
MW-16	06/09/03	11.19	7.46	--	3.73	
MW-16	09/15/03	15.23	8.55	--	6.68	
MW-16	11/18/03	15.23	7.69	--	7.54	
MW-16	02/24/04	15.23	6.40	--	8.83	
MW-16	05/10/04	15.23	7.60	--	7.63	
MW-16	08/24/04	15.23	8.21	--	7.02	
MW-16	12/13/04	15.23	7.80	--	7.43	
MW-16	03/08/05	15.23	7.55	--	7.68	
MW-16	06/06/05	15.23	7.38	--	7.85	
MW-16	09/19/05	15.23	8.40	--	6.83	
MW-16	12/12/05	15.23	7.69	--	7.54	
MW-16	03/13/06	15.23	6.16	--	9.07	
MW-16	06/05/06	15.23	7.22	--	8.01	
MW-16	09/11/06	15.23	8.32	--	6.91	
MW-16	12/11/06	15.23	6.40	--	8.83	
MW-16	03/26/07	15.23	6.53	--	8.70	
MW-16	06/18/07	15.23	7.60	--	7.63	
MW-16	09/24/07	15.23	8.36	--	6.87	
MW-16	12/10/07	15.23	6.85	--	8.38	
MW-16	03/03/08	15.23	6.95	--	8.28	
MW-16	06/02/08	15.23	7.62	--	7.61	
MW-16	09/04/08	15.23	8.07	--	7.16	
MW-16	12/04/08	15.23	7.82	--	7.41	
MW-16	03/04/09	15.23	7.47	--	7.76	
MW-16	06/01/09	15.23	7.37	--	7.86	
MW-16	09/21/09	15.23	8.33	--	6.90	
MW-16	11/16/09	15.23	7.30	--	7.93	
MW-16	03/08/10	15.23	6.34	--	8.89	
MW-16	06/07/10	15.23	6.87	--	8.36	
MW-16	09/09/10	15.23	8.04	--	7.19	
MW-16	11/15/10	15.23	7.14	--	8.09	
MW-16	03/01/11	15.23	6.12	--	9.11	
MW-16	05/23/11	15.23	6.22	--	9.01	
MW-16	08/29/11	15.23	7.97	--	7.26	
MW-16	12/01/11	15.23	7.45	--	7.78	
MW-16	03/01/12	15.23	6.81	--	8.42	
MW-16	05/30/12	15.23	6.71	--	8.52	
MW-16	08/25/12	15.23	7.57	--	7.66	
MW-16	11/07/12	15.23	7.20	--	8.03	
MW-16	02/27/13	15.23	6.18	--	9.05	
MW-16	04/08/13	15.23	6.28	--	8.95	
MW-16	07/29/13	15.23	7.31	--	7.92	
MW-16	10/02/13	15.23	7.21	--	8.02	
MW-16	01/21/14	15.23	7.19	--	8.04	
MW-16	04/22/14	15.23	6.12	--	9.11	
MW-16	07/15/14	15.23	7.22	--	8.01	
MW-16	03/17/15	15.23	5.78	--	9.45	
MW-16	09/28/15	15.23	7.71	--	7.52	
MW-16	03/29/16	15.23	5.02	--	10.21	
MW-16	10/11/16	15.23	8.06	--	7.17	
MW-16	03/28/17	15.23	4.66	--	10.57	
MW-16	10/10/17	15.23	7.89	--	7.34	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-16	03/28/18	15.23	6.28	--	8.95	
MW-16	10/02/18	15.23	8.06	--	7.17	
MW-16	04/02/19	15.23	6.60	--	8.63	
MW-16	10/01/19	15.23	7.87	--	7.36	
MW-16	03/25/20	15.23	6.22	--	9.01	
MW-16	10/19/20	15.23	7.56	--	7.67	
MW-16	04/12/21	15.23	6.27	--	8.96	
MW-16	10/11/21	15.23	--	--	--	
MW-17	02/11/02	11.43	6.13	--	5.30	
MW-17	05/20/02	11.43	8.38	--	3.05	
MW-17	08/27/02	11.43	8.50	--	2.93	
MW-17	11/04/02	11.43	8.91	--	2.52	
MW-17	02/18/03	11.43	6.70	--	4.73	
MW-17	06/09/03	11.43	7.71	--	3.72	
MW-17	09/15/03	15.38	8.71	--	6.67	
MW-17	11/18/03	15.38	11.83	--	3.55	
MW-17	02/24/04	15.38	7.20	--	8.18	
MW-17	05/10/04	15.38	7.77	--	7.61	
MW-17	08/24/04	15.38	8.36	--	7.02	
MW-17	12/13/04	15.38	7.85	--	7.53	
MW-17	03/08/05	15.38	7.65	--	7.73	
MW-17	06/06/05	15.38	7.55	--	7.83	
MW-17	09/19/05	15.38	8.56	--	6.82	
MW-17	12/12/05	15.38	7.85	--	7.53	
MW-17	03/13/06	15.38	6.30	--	9.08	
MW-17	06/05/06	15.38	7.44	--	7.94	
MW-17	09/11/06	15.38	8.52	--	6.86	
MW-17	12/11/06	15.38	6.49	--	8.89	
MW-17	05/23/11	15.38	6.30	--	9.08	
MW-17	08/29/11	15.38	6.30	--	9.08	
MW-18	02/11/02	11.29	5.97	--	5.32	
MW-18	05/20/02	11.29	8.20	--	3.09	
MW-18	08/27/02	11.29	7.34	--	3.95	
MW-18	11/04/02	11.29	8.73	--	2.56	
MW-18	02/18/03	11.29	6.45	--	4.84	
MW-18	06/09/03	11.29	7.59	--	3.70	
MW-18	09/15/03	15.49	8.65	--	6.84	
MW-18	11/18/03	15.49	7.68	--	7.81	
MW-18	02/24/04	15.49	6.38	--	9.11	
MW-18	05/10/04	15.49	7.65	--	7.84	
MW-18	08/24/04	15.49	8.17	--	7.32	
MW-18	12/13/04	15.49	7.61	--	7.88	
MW-18	03/08/05	15.49	7.47	--	8.02	
MW-18	06/06/05	15.49	7.41	--	8.08	
MW-18	09/19/05	15.49	8.43	--	7.06	
MW-18	12/12/05	15.49	7.70	--	7.79	
MW-18	03/13/06	15.49	6.23	--	9.26	
MW-18	06/05/06	15.49	7.31	--	8.18	
MW-18	09/11/06	15.49	8.34	--	7.15	
MW-18	12/11/06	15.49	6.34	--	9.15	
MW-18	03/26/07	15.49	6.59	--	8.90	
MW-18	06/18/07	15.49	7.66	--	7.83	
MW-18	09/24/07	15.49	8.40	--	7.09	
MW-18	12/10/07	15.49	6.68	--	8.81	
MW-18	03/03/08	15.49	6.98	--	8.51	
MW-18	06/02/08	15.49	7.70	--	7.79	
MW-18	09/04/08	15.49	8.11	--	7.38	
MW-18	12/04/08	15.49	7.84	--	7.65	
MW-18	03/04/09	15.49	7.34	--	8.15	
MW-18	06/01/09	15.49	7.36	--	8.13	
MW-18	09/21/09	15.49	8.40	--	7.09	
MW-18	11/16/09	15.49	7.18	--	8.31	
MW-18	03/08/10	15.49	6.23	--	9.26	
MW-18	06/07/10	15.49	6.89	--	8.60	
MW-18	09/09/10	15.49	8.11	--	7.38	
MW-18	11/15/10	15.49	7.12	--	8.37	
MW-18	03/01/11	15.49	6.11	--	9.38	
MW-18	05/23/11	15.49	6.25	--	9.24	
MW-18	08/29/11	15.49	7.87	--	7.62	
MW-18	12/01/11	15.49	7.38	--	8.11	
MW-18	03/01/12	15.49	6.88	--	8.61	
MW-18	05/30/12	15.49	6.75	--	8.74	
MW-18	08/25/12	15.49	--	--	--	Inaccessible due to truck parked on top

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-18	11/07/12	15.49	7.21	--	8.28	
MW-18	02/27/13	15.49	6.43	--	9.06	
MW-18	04/08/13	15.49	6.39	--	9.10	
MW-18	07/29/13	15.49	7.63	--	7.86	
MW-18	10/02/13	15.49	7.39	--	8.10	
MW-18	01/21/14	15.49	7.35	--	8.14	
MW-18	04/22/14	15.49	0.20	--	15.29	
MW-18	07/15/14	15.49	7.31	--	8.18	
MW-18	03/17/15	15.49	5.62	--	9.87	
MW-18	09/28/15	15.49	7.84	--	7.65	
MW-18	03/29/16	15.49	5.06	--	10.43	
MW-18	10/11/16	15.49	8.14	--	7.35	
MW-18	03/28/17	15.49	4.49	--	11.00	
MW-18	10/10/17	15.49	7.99	--	7.50	
MW-18	03/28/18	15.49	6.33	--	9.16	
MW-18	10/02/18	15.49	8.17	--	7.32	
MW-18	04/02/19	15.49	6.67	--	8.82	
MW-18	10/01/19	15.49	7.97	--	7.52	
MW-18	03/25/20	15.49	6.33	--	9.16	
MW-18	10/19/20	15.49	7.52	--	7.97	
MW-18	04/12/21	15.49	6.31	--	9.18	
MW-18	10/11/21	15.49	7.99	--	7.50	
MW-19	02/11/02	7.16	1.63	--	5.53	
MW-19	05/20/02	7.16	4.08	Sheen	3.08	
MW-19	08/27/02	7.16	4.25	--	2.91	
MW-19	11/04/02	7.16	4.65	--	2.51	
MW-19	02/18/03	7.16	2.14	--	5.02	
MW-19	06/09/03	7.16	3.45	--	3.71	
MW-19	09/15/03	11.39	4.50	--	6.89	
MW-19	11/18/03	11.39	2.51	--	8.88	
MW-19	02/24/04	11.39	2.36	--	9.03	
MW-19	05/10/04	11.39	3.41	--	7.98	
MW-19	08/24/04	11.39	8.13	--	3.26	
MW-19	12/13/04	11.39	2.98	--	8.41	
MW-19	03/08/05	11.39	3.40	--	7.99	
MW-19	06/06/05	11.39	3.24	--	8.15	
MW-19	09/19/05	11.39	--	--	--	Not Measured-Inaccessible, under pipe stockpile
MW-19	12/12/05	11.39	--	--	--	Not Measured-Inaccessible, under pipe stockpile
MW-19	03/13/06	11.39	--	--	--	Not Measured-Inaccessible, under pipe stockpile
MW-19	06/05/06	11.39	2.91	--	8.48	
MW-19	09/11/06	11.39	4.72	--	6.67	
MW-19	12/11/06	11.39	2.00	--	9.39	
MW-19	03/26/07	11.39	2.22	--	9.17	
MW-19	06/18/07	11.39	3.56	--	7.83	
MW-19	09/24/07	11.39	4.31	--	7.08	
MW-19	12/10/07	11.39	2.38	--	9.01	
MW-19	03/03/08	11.39	2.98	--	8.41	
MW-19	06/02/08	11.39	3.67	--	7.72	
MW-19	09/04/08	11.39	3.98	--	7.41	
MW-19	12/04/08	11.39	3.68	--	7.71	
MW-19	03/04/09	11.39	3.03	--	8.36	
MW-19	06/01/09	11.39	3.23	--	8.16	
MW-19	09/21/09	11.39	4.23	--	7.16	
MW-19	11/16/09	11.39	2.85	--	8.54	
MW-19	03/08/10	11.39	2.25	--	9.14	
MW-19	06/07/10	11.39	2.67	--	8.72	
MW-19	09/09/10	11.39	3.97	--	7.42	
MW-19	11/15/10	11.39	2.75	--	8.64	
MW-19	03/01/11	11.39	1.82	--	9.57	
MW-19	05/23/11	11.39	2.02	--	9.37	
MW-19	08/29/11	11.39	3.77	--	7.62	
MW-19	12/01/11	11.39	3.03	--	8.36	
MW-19	03/01/12	11.39	2.82	--	8.57	
MW-19	05/30/12	11.39	2.79	--	8.60	
MW-19	08/25/12	11.39	3.62	--	7.77	
MW-19	11/07/12	11.39	2.77	--	8.62	
MW-19	02/27/13	11.39	2.18	--	9.21	
MW-19	04/08/13	11.39	1.82	--	9.57	
MW-19	06/21/13	11.39	3.05	--	8.34	Baseline monitoring event
MW-19	07/29/13	11.39	3.56	--	7.83	
MW-19	08/26/13	11.39	3.45	--	7.94	Two-month monitoring event
MW-19	10/02/13	11.39	2.72	--	8.67	
MW-19	01/21/14	11.39	3.12	--	8.27	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-19	04/22/14	11.39	1.81	--	9.58	
MW-19	07/15/14	11.39	3.30	--	8.09	
MW-19	03/17/15	11.39	1.11	--	10.28	
MW-19	09/28/15	11.39	3.69	--	7.70	
MW-19	03/29/16	11.39	1.18	--	10.21	
MW-19	10/11/16	11.39	3.59	--	7.80	
MW-19	03/28/17	11.39	0.65	--	10.74	
MW-19	10/10/17	11.39	3.69	--	7.70	
MW-19	03/28/18	11.39	2.22	--	9.17	
MW-19	10/02/18	11.39	3.81	--	7.58	
MW-19	04/02/19	11.39	2.59	--	8.80	
MW-19	10/01/19	11.39	3.54	--	7.85	
MW-19	03/25/20	11.39	2.11	--	9.28	
MW-19	10/19/20	11.39	3.32	--	8.07	
MW-19	04/12/21	11.39	2.24	--	9.15	
MW-19	10/11/21	11.39	3.65	--	7.74	
MW-20	02/11/02	7.37	1.73	--	5.64	
MW-20	05/20/02	7.37	4.25	--	3.12	
MW-20	08/27/02	7.37	4.31	--	3.06	
MW-20	11/04/02	7.37	4.04	--	3.33	
MW-20	02/18/03	7.37	--	--	--	Not Measured-Overflowed when well cap removed
MW-20	06/09/03	7.37	--	--	--	Not Measured-Overflowed when well cap removed
MW-20	09/15/03	11.72	--	--	--	Not Measured-Overflowed when well cap removed
MW-20	11/18/03	11.72	--	--	--	Not Measured-Overflowed when well cap removed
MW-20	02/24/04	11.72	--	--	--	Not Measured-Overflowed when well cap removed
MW-20	05/10/04	11.72	--	--	--	Not Measured-Overflowed when well cap removed
MW-20	08/24/04	11.72	4.04	--	7.68	
MW-20	12/13/04	11.72	2.29	--	9.43	
MW-20	03/08/05	11.72	3.64	--	8.08	
MW-20	06/06/05	11.72	3.43	--	8.29	
MW-20	09/19/05	11.72	4.55	--	7.17	
MW-20	12/12/05	11.72	3.67	--	8.05	
MW-20	03/13/06	11.72	2.21	--	9.51	
MW-20	06/05/06	11.72	3.00	--	8.72	
MW-20	09/11/06	11.72	4.49	--	7.23	
MW-20	12/11/06	11.72	2.36	--	9.36	
MW-20	03/26/07	11.72	2.49	--	9.23	
MW-20	06/18/07	11.72	4.44	--	7.28	
MW-20	09/24/07	11.72	4.61	--	7.11	
MW-20	12/10/07	11.72	2.56	--	9.16	
MW-20	03/03/08	11.72	2.97	--	8.75	
MW-20	06/02/08	11.72	3.90	--	7.82	
MW-20	09/04/08	11.72	4.14	--	7.58	
MW-20	12/04/08	11.72	3.89	--	7.83	
MW-20	03/04/09	11.72	4.99	--	6.73	
MW-20	06/01/09	11.72	3.46	--	8.26	
MW-20	09/21/09	11.72	4.42	--	7.30	
MW-20	11/16/09	11.72	2.91	--	8.81	
MW-20	03/08/10	11.72	2.40	--	9.32	
MW-20	06/07/10	11.72	2.76	--	8.96	
MW-20	09/09/10	11.72	4.22	--	7.50	
MW-20	11/15/10	11.72	3.03	--	8.69	
MW-20	03/01/11	11.72	2.18	--	9.54	
MW-20	05/23/11	11.72	2.11	--	9.61	
MW-20	08/29/11	11.72	4.05	--	7.67	
MW-20	12/01/11	11.72	3.08	--	8.64	
MW-20	03/01/12	11.72	3.09	--	8.63	
MW-20	05/30/12	11.72	2.89	--	8.83	
MW-20	08/25/12	11.72	3.88	--	7.84	
MW-20	11/07/12	11.72	2.98	--	8.74	
MW-20	02/27/13	11.72	2.60	--	9.12	
MW-20	04/08/13	11.72	2.23	--	9.49	
MW-20	07/29/13	11.72	4.93	--	6.79	
MW-20	10/02/13	11.72	4.64	--	7.08	
MW-20	01/21/14	11.72	3.44	--	8.28	
MW-20	04/22/14	11.72	2.33	--	9.39	
MW-20	07/15/14	11.72	3.51	--	8.21	
MW-20	03/17/15	11.72	1.49	--	10.23	
MW-20	09/28/15	11.72	3.95	--	7.77	
MW-20	03/29/16	11.72	1.65	--	10.07	
MW-20	10/11/16	11.72	3.87	--	7.85	
MW-20	03/28/17	11.72	0.98	--	10.74	
MW-20	10/10/17	11.72	4.03	--	7.69	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-20	03/28/18	11.72	2.69	--	9.03	
MW-20	10/02/18	11.72	4.25	--	7.47	
MW-20	04/02/19	11.72	3.25	--	8.47	
MW-20	10/01/19	11.72	3.97	--	7.75	
MW-20	03/25/20	11.72	2.75	--	8.97	
MW-20	10/19/20	11.72	3.50	--	8.22	
MW-20	04/12/21	11.72	2.65	--	9.07	
MW-20	10/11/21	11.72	4.01	--	7.71	
MW-21	02/11/02	10.53	3.80	0.46	7.10	
MW-21	05/20/02	10.53	5.98	0.43	4.89	
MW-21	08/27/02	10.53	3.95	0.43	6.92	
MW-21	11/04/02	10.53	4.95	0.01	5.59	Product recovery pump in well
MW-21	02/18/03	10.53	3.59	0.01	6.95	Product recovery pump in well
MW-21	06/09/03	10.53	3.53	Sheen	7.00	Product recovery pump in well
MW-21	09/15/03	9.41	3.98	0.01	5.44	Product recovery pump in well
MW-21	11/18/03	9.41	3.08	Sheen	6.33	Product recovery pump in well
MW-21	02/24/04	9.41	2.47	Sheen	6.94	Product recovery pump in well
MW-21	05/10/04	9.41	3.65	Sheen	5.76	Product recovery pump in well
MW-21	08/24/04	9.41	3.81	Sheen	5.60	Product recovery pump in well
MW-21	12/13/04	9.41	3.24	Sheen	6.17	
MW-21	03/08/05	9.41	3.72	--	5.69	
MW-21	06/06/05	9.41	3.58	Sheen	5.83	
MW-21	09/19/05	9.41	4.19	--	5.22	
MW-21	12/12/05	9.41	4.04	--	5.37	
MW-21	03/13/06	9.41	2.48	--	6.93	
MW-21	06/05/06	9.41	3.27	--	6.14	
MW-21	09/11/06	9.41	3.90	0.08	5.57	
MW-21	12/11/06	9.41	2.34	0.04	7.10	
MW-21	03/26/07	9.41	2.87	--	6.54	
MW-21	06/18/07	9.41	3.75	--	5.66	
MW-21	09/24/07	9.41	3.81	Sheen	5.60	
MW-21	12/10/07	9.41	2.14	--	7.27	
MW-21	03/03/08	9.41	3.18	--	6.23	
MW-21	06/02/08	9.41	3.63	Sheen	5.78	
MW-21	09/04/08	9.41	3.60	--	5.81	
MW-21	12/04/08	9.41	3.48	Sheen	5.93	
MW-21	03/04/09	9.41	2.84	Sheen	6.57	
MW-21	06/01/09	9.41	3.34	--	6.07	
MW-21	09/21/09	9.41	3.74	Sheen	5.67	
MW-21	11/16/09	9.41	2.59	--	6.82	
MW-21	03/08/10	9.41	2.23	--	7.18	
MW-21	06/07/10	9.41	--	--	--	Not Measured
MW-21	09/09/10	9.41	3.66	--	5.75	
MW-21	11/15/10	9.41	2.79	--	6.62	
MW-21	03/01/11	9.41	2.21	--	7.20	
MW-21	05/23/11	9.41	2.47	--	6.94	
MW-21	08/29/11	9.41	3.53	--	5.88	
MW-21	12/01/11	9.41	2.77	Sheen	6.64	
MW-21	03/01/12	9.41	2.27	Sheen	7.14	
MW-21	05/30/12	9.41	2.86	--	6.55	
MW-21	08/25/12	9.41	3.20	--	6.21	
MW-21	11/07/12	9.41	2.53	--	6.88	
MW-21	02/27/13	9.41	2.61	--	6.80	
MW-21	04/08/13	9.41	1.99	--	7.42	
MW-21	07/29/13	9.41	3.31	--	6.10	
MW-21	10/02/13	9.41	2.49	--	6.92	
MW-21	01/21/14	9.41	3.02	--	6.39	
MW-21	04/22/14	9.41	2.37	--	7.04	
MW-21	07/15/14	9.41	3.12	--	6.29	
MW-21	03/17/15	9.41	1.74	--	7.67	
MW-21	09/28/15	9.41	3.23	--	6.18	
MW-21	03/29/16	9.41	1.62	--	7.79	
MW-21	10/11/16	9.41	3.00	--	6.41	
MW-21	03/28/17	9.41	1.28	--	8.13	
MW-21	10/10/17	9.41	3.41	--	6.00	
MW-21	03/28/18	9.41	2.49	--	6.92	
MW-21	10/02/18	9.41	3.41	--	6.00	
MW-21	04/02/19	9.41	2.65	--	6.76	
MW-21	10/01/19	9.41	3.25	--	6.16	
MW-21	03/25/20	9.41	2.55	--	6.86	
MW-21	10/19/20	9.41	2.99	--	6.42	
MW-21	04/12/21	9.41	2.58	--	6.83	
MW-21	10/11/21	9.41	3.34	--	6.07	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-22	02/11/02	12.39	7.18	--	5.21	
MW-22	05/20/02	12.39	9.44	--	2.95	
MW-22	08/27/02	12.39	9.55	--	2.84	
MW-22	11/04/02	12.39	9.91	--	2.48	
MW-22	02/18/03	12.39	7.75	--	4.64	
MW-22	06/09/03	12.39	8.71	--	3.68	
MW-22	09/15/03	16.32	9.75	--	6.57	
MW-22	11/18/03	16.32	8.55	--	7.77	
MW-22	02/24/04	16.32	7.56	--	8.76	
MW-22	05/10/04	16.32	8.76	--	7.56	
MW-22	08/24/04	16.32	9.25	--	7.07	
MW-22	12/13/04	16.32	8.70	--	7.62	
MW-22	03/08/05	16.32	8.72	--	7.60	
MW-22	06/06/05	16.32	8.58	--	7.74	
MW-22	09/19/05	16.32	9.61	--	6.71	
MW-22	12/12/05	16.32	8.90	--	7.42	
MW-22	03/13/06	16.32	4.37	--	11.95	
MW-22	06/05/06	16.32	8.31	--	8.01	
MW-22	09/11/06	16.32	9.54	--	6.78	
MW-22	12/11/06	16.32	7.44	--	8.88	
MW-22	03/26/07	16.32	7.68	--	8.64	
MW-22	06/18/07	16.32	8.78	--	7.54	
MW-22	09/24/07	16.32	9.55	--	6.77	
MW-22	12/10/07	16.32	7.84	--	8.48	
MW-22	03/03/08	16.32	8.12	--	8.20	
MW-22	06/02/08	16.32	8.85	--	7.47	
MW-22	09/04/08	16.32	9.22	--	7.10	
MW-22	12/04/08	16.32	9.00	--	7.32	
MW-22	03/04/09	16.32	8.43	--	7.89	
MW-22	06/01/09	16.32	8.56	--	7.76	
MW-22	09/21/09	16.32	9.51	--	6.81	
MW-22	11/16/09	16.32	8.31	--	8.01	
MW-22	03/08/10	16.32	7.40	--	8.92	
MW-22	06/07/10	16.32	8.00	--	8.32	
MW-22	09/09/10	16.32	9.22	--	7.10	
MW-22	11/15/10	16.32	8.20	--	8.12	
MW-22	03/01/11	16.32	7.18	--	9.14	
MW-22	05/23/11	16.32	7.35	--	8.97	
MW-22	08/29/11	16.32	9.01	--	7.31	
MW-22	12/01/11	16.32	8.48	--	7.84	
MW-22	03/01/12	16.32	7.98	--	8.34	
MW-22	05/30/12	16.32	7.92	--	8.40	
MW-22	08/25/12	16.32	8.79	--	7.53	
MW-22	11/07/12	16.32	8.24	--	8.08	
MW-22	02/27/13	16.32	7.42	--	8.90	
MW-22	04/08/13	16.32	7.28	--	9.04	
MW-22	07/29/13	16.32	8.59	--	7.73	
MW-22	10/02/13	16.32	8.29	--	8.03	
MW-22	01/21/14	16.32	8.39	--	7.93	
MW-22	04/22/14	16.32	7.22	--	9.10	
MW-22	07/15/14	16.32	8.45	--	7.87	
MW-22	03/17/15	16.32	6.65	--	9.67	
MW-22	09/28/15	16.32	8.88	--	7.44	
MW-22	03/29/16	16.32	6.41	--	9.91	
MW-22	10/12/16	16.32	9.04	--	7.28	Re-gauged on 10/12/16
MW-22	03/28/17	16.32	5.87	--	10.45	
MW-22	10/10/17	16.32	9.05	--	7.27	
MW-22	03/28/18	16.32	7.46	--	8.86	
MW-22	10/02/18	16.32	9.22	--	7.10	
MW-22	04/02/19	16.32	7.81	--	8.51	
MW-22	10/01/19	16.32	8.98	--	7.34	
MW-22	03/25/20	16.32	7.41	--	8.91	
MW-22	10/19/20	16.32	8.68	--	7.64	
MW-22	04/12/21	16.32	7.49	--	8.83	
MW-22	10/11/21	16.32	9.02	--	7.30	
MW-23	11/18/03	14.15	7.66	Sheen	6.49	
MW-23	02/24/04	14.15	7.18	Sheen	6.97	
MW-23	05/10/04	14.15	7.89	<0.01	6.26	
MW-23	08/24/04	14.15	8.89	--	5.26	
MW-23	12/13/04	14.15	7.49	Sheen	6.66	
MW-23	03/08/05	14.15	7.57	Sheen	6.58	
MW-23	06/06/05	14.15	7.72	Sheen	6.43	
MW-23	09/19/05	14.15	8.17	0.17	6.12	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-23	10/12/05	14.15	8.10	Sheen	6.05	
MW-23	12/12/05	14.15	7.93	--	6.22	
MW-23	03/13/06	14.15	7.17	--	6.98	
MW-23	06/05/06	14.15	7.62	--	6.53	
MW-23	09/11/06	14.15	8.22	0.02	5.95	
MW-23	12/11/06	14.15	7.17	--	6.98	
MW-23	03/26/07	14.15	7.41	--	6.74	
MW-23	06/18/07	14.15	7.90	--	6.25	
MW-23	09/25/07	14.15	8.14	Sheen	6.01	
MW-23	12/10/07	14.15	7.38	Sheen	6.77	
MW-23	03/03/08	14.15	7.49	Sheen	6.66	
MW-23	06/02/08	14.15	8.71	Sheen	5.44	
MW-23	09/04/08	14.15	8.04	--	6.11	
MW-23	12/04/08	14.15	8.05	--	6.10	
MW-23	03/04/09	14.15	7.48	--	6.67	
MW-23	06/01/09	14.15	7.98	--	6.17	
MW-23	09/21/09	14.15	8.13	--	6.02	
MW-23	11/16/09	14.15	7.50	Sheen	6.65	
MW-23	03/08/10	14.15	7.01	--	7.14	
MW-23	06/07/10	14.15	7.49	Sheen	6.66	
MW-23	09/09/10	14.15	8.02	Sheen	6.13	
MW-23	11/15/10	14.15	7.60	--	6.55	
MW-23	03/01/11	14.15	7.26	Sheen	6.89	
MW-23	05/23/11	14.15	7.38	Sheen	6.77	
MW-23	08/29/11	14.15	7.91	Sheen	6.24	
MW-23	12/01/11	14.15	7.58	--	6.57	
MW-23	03/01/12	14.15	7.35	--	6.80	
MW-23	05/30/12	14.15	7.29	--	6.86	
MW-23	08/25/12	14.15	7.41	--	6.74	
MW-23	11/07/12	14.15	7.19	--	6.96	
MW-23	02/27/13	14.15	7.23	--	6.92	
MW-23	04/08/13	14.15	7.15	--	7.00	
MW-23	07/29/13	14.15	7.47	--	6.68	
MW-23	10/02/13	14.15	7.34	--	6.81	
MW-23	01/21/14	14.15	7.72	--	6.43	
MW-23	04/22/14	14.15	7.25	--	6.90	
MW-23	07/15/14	14.15	7.60	--	6.55	
MW-23	03/17/15	14.15	7.11	--	7.04	
MW-23	09/29/15	14.15	7.65	--	6.50	
MW-23	03/29/16	14.15	6.69	--	7.46	
MW-23	10/11/16	14.15	7.88	--	6.27	
MW-23	03/28/17	14.15	6.80	--	7.35	
MW-23	10/10/17	14.15	7.89	--	6.26	
MW-23	03/28/18	14.15	7.29	--	6.86	
MW-23	10/02/18	14.15	7.81	--	6.34	
MW-23	04/02/19	14.15	7.25	--	6.90	
MW-23	10/01/19	14.15	7.75	--	6.40	
MW-23	03/25/20	14.15	7.29	--	6.86	
MW-23	10/19/20	14.15	7.66	--	6.49	
MW-23	04/12/21	14.15	7.41	--	6.74	
MW-23	10/11/21	14.15	7.83	--	6.32	
MW-24	11/18/03	14.34	7.65	Sheen	6.69	
MW-24	02/24/04	14.34	7.07	Sheen	7.27	
MW-24	05/10/04	14.34	7.73	0.02	6.63	
MW-24	08/24/04	14.34	7.90	0.10	6.52	
MW-24	12/13/04	14.34	7.47	Sheen	6.87	
MW-24	03/08/05	14.34	7.57	Sheen	6.77	
MW-24	06/06/05	14.34	7.24	0.02	7.12	
MW-24	09/19/05	14.34	8.39	0.29	6.18	
MW-24	10/12/05	14.34	8.45	0.47	6.27	
MW-24	12/12/05	14.34	8.01	0.11	6.42	
MW-24	03/13/06	14.34	7.19	--	7.15	
MW-24	06/05/06	14.34	7.59	--	6.75	
MW-24	09/11/06	14.34	8.31	0.20	6.19	
MW-24	12/11/06	14.34	7.37	--	6.97	
MW-24	03/26/07	14.34	7.42	--	6.92	
MW-24	06/18/07	14.34	7.89	--	6.45	
MW-24	09/25/07	14.34	8.00	Sheen	6.34	
MW-24	12/10/07	14.34	7.42	--	6.92	
MW-24	03/03/08	14.34	7.51	Sheen	6.83	
MW-24	06/02/08	14.34	8.92	--	5.42	
MW-24	09/04/08	14.34	7.99	--	6.35	
MW-24	12/04/08	14.34	7.96	--	6.38	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-24	03/04/09	14.34	7.51	--	6.83	
MW-24	06/01/09	14.34	7.87	Sheen	6.47	
MW-24	09/21/09	14.34	8.09	--	6.25	
MW-24	11/16/09	14.34	7.46	Sheen	6.88	
MW-24	03/08/10	14.34	7.03	--	7.31	
MW-24	06/07/10	14.34	7.51	Sheen	6.83	
MW-24	09/09/10	14.34	8.01	Sheen	6.33	
MW-24	11/15/10	14.34	7.61	Sheen	6.73	
MW-24	03/01/11	14.34	7.26	Sheen	7.08	
MW-24	05/23/11	14.34	7.37	--	6.97	
MW-24	08/29/11	14.34	7.92	Sheen	6.42	
MW-24	12/01/11	14.34	7.73	--	6.61	
MW-24	03/01/12	14.34	7.39	--	6.95	
MW-24	05/30/12	14.34	7.41	--	6.93	
MW-24	08/25/12	14.34	7.59	--	6.75	
MW-24	11/07/12	14.34	7.26	--	7.08	
MW-24	02/27/13	14.34	7.34	--	7.00	
MW-24	04/08/13	14.34	7.27	--	7.07	
MW-24	07/29/13	14.34	7.58	--	6.76	
MW-24	10/02/13	14.34	7.34	--	7.00	
MW-24	01/21/14	14.34	7.66	--	6.68	
MW-24	04/22/14	14.34	7.20	--	7.14	
MW-24	07/15/14	14.34	7.59	--	6.75	
MW-24	03/17/15	14.34	7.06	--	7.28	
MW-24	09/29/15	14.34	7.65	--	6.69	
MW-24	03/29/16	14.34	6.61	--	7.73	
MW-24	10/11/16	14.34	7.91	--	6.43	
MW-24	03/28/17	14.34	6.71	--	7.63	
MW-24	10/10/17	14.34	7.88	--	6.46	
MW-24	03/28/18	14.34	7.30	--	7.04	
MW-24	10/02/18	14.34	7.80	--	6.54	
MW-24	04/02/19	14.34	7.22	--	7.12	
MW-24	10/01/19	14.34	7.76	--	6.58	
MW-24	03/25/20	14.34	7.29	--	7.05	
MW-24	10/19/20	14.34	7.66	--	6.68	
MW-24	04/12/21	14.34	7.44	--	6.90	
MW-24	10/11/21	14.34	7.91	--	6.43	
MW-25	11/18/03	13.05	7.50	Sheen	5.55	
MW-25	02/24/04	13.05	6.48	Sheen	6.57	
MW-25	05/10/04	13.05	7.61	--	5.44	
MW-25	08/24/04	13.05	7.11	--	5.94	
MW-25	12/13/04	13.05	7.49	--	5.56	
MW-25	03/08/05	13.05	7.61	--	5.44	
MW-25	06/06/05	13.05	7.47	--	5.58	
MW-25	09/19/05	13.05	7.93	--	5.12	
MW-25	12/12/05	13.05	7.71	--	5.34	
MW-25	03/13/06	13.05	7.02	--	6.03	
MW-25	06/05/06	13.05	7.38	--	5.67	
MW-25	09/11/06	13.05	7.88	--	5.17	
MW-25	12/11/06	13.05	7.03	--	6.02	
MW-25	06/18/07	13.05	6.77	--	6.28	
MW-25	03/03/08	13.05	7.28	--	5.77	
MW-25	06/02/08	13.05	7.71	--	5.34	
MW-25	09/04/08	13.05	7.33	--	5.72	
MW-25	12/04/08	13.05	--	--	--	Not Measured
MW-25	06/01/09	13.05	7.60	--	5.45	
MW-25	06/07/10	13.05	7.31	--	5.74	
MW-25	05/23/11	13.05	7.13	--	5.92	
MW-25	04/22/14	13.05	7.09	--	5.96	
MW-25	03/17/15	13.05	6.92	--	6.13	
MW-25	09/29/15	13.05	7.49	--	5.56	
MW-25	03/29/16	13.05	6.38	--	6.67	
MW-25	10/11/16	13.05	7.65	--	5.40	
MW-25	03/28/17	13.05	6.44	--	6.61	
MW-25	10/10/17	13.05	7.65	--	5.40	
MW-25	03/28/18	13.05	7.03	--	6.02	
MW-25	10/02/18	13.05	7.68	--	5.37	
MW-25	04/02/19	13.05	7.07	--	5.98	
MW-25	10/01/19	13.05	7.54	--	5.51	
MW-25	03/25/20	13.05	7.11	--	5.94	
MW-25	10/19/20	13.05	7.47	--	5.58	
MW-25	04/12/21	13.05	7.16	--	5.89	
MW-25	10/11/21	13.05	7.63	--	5.42	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
E-1	02/11/02	9.04	3.65	--	5.39	
E-1	05/20/02	9.04	4.59	--	4.45	
E-1	08/27/02	9.04	--	--	--	Not Measured-Dry
E-1	11/04/02	--	--	--	--	Not Measured-Dry/Damaged
E-1	06/11/03	--	--	--	--	Not Measured-Damaged
E-1	05/30/12	13.05	7.12	--	5.93	
E-1	Abandoned					
SF-01	12/18/00	--	--	--	--	
SF-01	Abandoned					
SF-01R	02/11/02	10.68	7.11	--	3.57	
SF-01R	05/20/02	10.68	9.07	Sheen	1.61	
SF-01R	08/27/02	10.68	8.44	0.01	2.25	
SF-01R	11/04/02	10.68	9.63	--	1.05	
SF-01R	02/18/03	10.68	7.72	--	2.96	
SF-01R	06/09/03	10.68	8.30	--	2.38	
SF-01R	09/15/03	14.74	8.60	--	6.14	
SF-01R	11/18/03	14.74	7.45	--	7.29	
SF-01R	02/24/04	14.74	7.76	--	6.98	
SF-01R	05/10/04	14.74	8.11	--	6.63	
SF-01R	08/24/04	14.74	8.49	--	6.25	
SF-01R	12/13/04	14.74	--	--	--	Inaccessible, under construction trailer
SF-01R	03/08/05	14.74	8.16	--	6.58	
SF-01R	06/06/05	14.74	8.16	--	6.58	
SF-01R	09/19/05	14.74	--	--	--	Inaccessible, under construction trailer
SF-01R	12/12/05	14.74	8.39	--	6.35	
SF-01R	03/13/06	14.74	7.70	--	7.04	
SF-01R	06/05/06	14.74	8.09	--	6.65	
SF-01R	09/11/06	14.74	8.60	--	6.14	
SF-01R	12/11/06	14.74	7.73	--	7.01	
SH-02	02/11/02	Destroyed during construction activities				
SH-02R	02/11/02	9.35	5.45	--	3.90	
SH-02R	05/20/02	9.35	6.49	--	2.86	
SH-02R	08/27/02	9.35	6.27	--	3.08	
SH-02R	11/04/02	9.35	6.62	--	2.73	
SH-02R	02/18/03	9.35	4.85	--	4.50	
SH-02R	06/09/03	9.35	4.75	--	4.60	
SH-02R	09/15/03	13.40	6.50	--	6.90	
SH-02R	11/18/03	13.40	6.03	--	7.37	
SH-02R	02/24/04	13.40	4.62	--	8.78	
SH-02R	05/10/04	13.40	5.88	--	7.52	
SH-02R	08/24/04	13.40	6.21	--	7.19	
SH-02R	12/13/04	13.40	5.14	--	8.26	
SH-02R	03/08/05	13.40	5.90	--	7.50	
SH-02R	06/06/05	13.40	5.72	--	7.68	
SH-02R	09/19/05	13.40	6.56	--	6.84	
SH-02R	12/12/05	13.40	5.94	--	7.46	
SH-02R	03/13/06	13.40	4.80	--	8.60	
SH-02R	06/05/06	13.40	5.41	--	7.99	
SH-02R	09/11/06	13.40	6.54	--	6.86	
SH-02R	12/11/06	13.40	4.82	--	8.58	
SH-02R	03/26/07	13.40	4.98	--	8.42	
SH-02R	06/18/07	13.40	5.94	--	7.46	
SH-02R	09/25/07	13.40	6.54	--	6.86	
SH-02R	12/10/07	13.40	5.13	--	8.27	
SH-02R	03/03/08	13.40	5.45	--	7.95	
SH-02R	06/02/08	13.40	6.10	--	7.30	
SH-02R	09/04/08	13.40	6.19	--	7.21	
SH-02R	12/04/08	13.40	6.08	--	7.32	
SH-02R	03/04/09	13.40	5.63	--	7.77	
SH-02R	06/01/09	13.40	5.79	--	7.61	
SH-02R	09/21/09	13.40	6.49	--	6.91	
SH-02R	11/16/09	13.40	5.37	--	8.03	
SH-02R	03/08/10	13.40	4.88	--	8.52	
SH-02R	06/07/10	13.40	5.25	--	8.15	
SH-02R	09/09/10	13.40	6.31	--	7.09	
SH-02R	11/15/10	13.40	5.42	--	7.98	
SH-02R	03/01/11	13.40	4.71	--	8.69	
SH-02R	05/23/11	13.40	4.78	--	8.62	
SH-02R	08/29/11	13.40	6.16	--	7.24	
SH-02R	12/01/11	13.40	5.50	--	7.90	
SH-02R	03/01/12	13.40	5.34	--	8.06	
SH-02R	05/30/12	13.40	5.32	--	8.08	
SH-02R	08/25/12	13.40	6.03	--	7.37	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
SH-02R	11/07/12	13.40	5.37	--	8.03	
SH-02R	02/27/13	13.40	5.01	--	8.39	
SH-02R	04/08/13	13.40	4.77	--	8.63	
SH-02R	07/29/13	13.40	5.98	--	7.42	
SH-02R	10/02/13	13.40	5.54	--	7.86	
SH-02R	01/21/14	13.40	5.76	--	7.64	
SH-02R	04/22/14	13.40	4.76	--	8.64	
SH-02R	07/15/14	13.40	5.78	--	7.62	
SH-02R	03/17/15	13.40	4.43	--	8.97	
SH-02R	09/28/15	13.40	6.00	--	7.40	
SH-02R	03/29/16	13.40	3.96	--	9.44	
SH-02R	10/11/16	13.40	6.11	--	7.29	
SH-02R	03/28/17	13.40	3.65	--	9.75	
SH-02R	10/10/17	13.40	6.09	--	7.31	
SH-02R	03/28/18	13.40	4.92	--	8.48	
SH-02R	10/02/18	13.40	6.27	--	7.13	
SH-02R	04/02/19	13.40	5.20	--	8.20	
SH-02R	10/01/19	13.40	6.02	--	7.38	
SH-02R	03/25/20	13.40	4.90	--	8.50	
SH-02R	10/19/20	13.40	5.69	--	7.71	
SH-02R	04/12/21	13.40	4.90	--	8.50	
SH-02R	10/11/21	13.40	6.13	--	7.27	
SH-04	02/11/02	13.45	9.40	--	4.05	
SH-04	05/20/02	13.45	11.24	--	2.21	
SH-04	08/27/02	13.45	11.02	--	2.43	
SH-04	11/04/02	13.45	9.31	--	4.14	
SH-04	02/18/03	13.45	9.80	--	3.65	
SH-04	06/09/03	13.45	10.41	--	3.04	
SH-04	09/15/03	17.41	11.15	--	6.26	
SH-04	11/18/03	17.41	7.61	--	9.80	
SH-04	02/24/04	17.41	6.62	--	10.79	
SH-04	05/10/04	17.41	11.40	--	6.01	
SH-04	08/24/04	17.41	10.88	--	6.53	
SH-04	12/13/04	17.41	10.68	--	6.73	
SH-04	03/08/05	17.41	10.33	--	7.08	
SH-04	06/06/05	17.41	10.23	--	7.18	
SH-04	09/19/05	17.41	11.03	--	6.38	
SH-04	12/12/05	17.41	10.53	--	6.88	
SH-04	03/13/06	17.41	9.22	--	8.19	
SH-04	06/05/06	17.41	10.05	--	7.36	
SH-04	09/11/06	17.41	11.00	--	6.41	
SH-04	12/11/06	17.41	9.50	--	7.91	
SH-05	10/27/93	8.77	6.66	--	2.11	
SH-05	01/19/94	8.77	5.92	--	2.85	
SH-05	06/07/94	8.77	6.30	--	2.47	
SH-05	08/17/94	8.77	6.58	--	2.19	
SH-05	11/21/94	8.77	6.03	--	2.74	
SH-05	03/07/96	8.77	4.67	--	4.10	
SH-05	01/13/97	8.77	3.84	--	4.93	
SH-05	10/06/00	8.77	5.23	--	3.54	
SH-05	12/18/00	8.77	5.80	--	2.97	
SH-05	03/27/01	Destroyed during construction activities				
SH-05R	05/20/02	9.83	8.07	Sheen	1.76	
SH-05R	08/27/02	9.83	7.59	--	2.24	
SH-05R	11/04/02	9.83	7.81	Sheen	2.02	
SH-05R	02/18/03	9.83	7.60	--	2.23	
SH-05R	06/09/03	9.83	7.29	--	2.54	
SH-05R	09/15/03	13.89	7.42	Sheen	6.47	
SH-05R	11/18/03	13.89	7.21	Sheen	6.68	
SH-05R	02/24/04	13.89	6.41	--	7.48	
SH-05R	05/10/04	13.89	7.33	--	6.56	
SH-05R	08/24/04	13.89	7.60	--	6.29	
SH-05R	12/13/04	13.89	7.15	--	6.74	
SH-05R	03/08/05	13.89	7.62	--	6.27	
SH-05R	06/06/05	13.89	7.24	--	6.65	
SH-05R	09/19/05	13.89	7.80	--	6.09	
SH-05R	12/12/05	13.89	7.49	--	6.40	
SH-05R	03/13/06	13.89	6.38	--	7.51	
SH-05R	06/05/06	13.89	7.10	--	6.79	
SH-05R	09/11/06	13.89	7.72	--	6.17	
SH-05R	12/11/06	13.89	6.61	--	7.28	
SH-05R	03/26/07	13.89	6.82	--	7.07	
SH-05R	06/18/07	13.89	7.43	--	6.46	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
SH-05R	09/25/07	13.89	7.72	--	6.17	
SH-05R	12/10/07	13.89	6.70	--	7.19	
SH-05R	03/03/08	13.89	7.01	--	6.88	
SH-05R	06/02/08	13.89	7.50	--	6.39	
SH-05R	09/04/08	13.89	7.55	--	6.34	
SH-05R	12/04/08	13.89	7.12	--	6.77	
SH-05R	03/04/09	13.89	7.02	--	6.87	
SH-05R	06/01/09	13.89	7.36	--	6.53	
SH-05R	09/21/09	13.89	7.73	--	6.16	
SH-05R	11/16/09	13.89	6.93	--	6.96	
SH-05R	03/08/10	13.89	6.47	--	7.42	
SH-05R	06/07/10	13.89	6.63	--	7.26	
SH-05R	09/09/10	13.89	7.58	--	6.31	
SH-05R	11/16/10	13.89	7.04	--	6.85	
SH-05R	03/01/11	13.89	6.58	--	7.31	
SH-05R	05/23/11	13.89	6.74	--	7.15	
SH-05R	08/29/11	13.89	7.52	--	6.37	
SH-05R	12/01/11	13.89	7.09	--	6.80	
SH-05R	03/01/12	13.89	6.89	--	7.00	
SH-05R	05/30/12	13.89	6.91	--	6.98	
SH-05R	08/25/12	13.89	7.29	--	6.60	
SH-05R	11/07/12	13.89	6.79	--	7.10	
SH-05R	02/27/13	13.89	6.77	--	7.12	
SH-05R	04/08/13	13.89	5.59	--	8.30	
SH-05R	07/29/13	13.89	7.25	--	6.64	
SH-05R	10/02/13	13.89	6.82	--	7.07	
SH-05R	01/21/14	13.89	7.18	--	6.71	
SH-05R	04/22/14	13.89	6.59	--	7.30	
SH-05R	07/15/14	13.89	7.17	--	6.72	
SH-05R	03/17/15	13.89	6.30	--	7.59	
SH-05R	09/28/15	13.89	7.23	--	6.66	
SH-05R	03/29/16	13.89	--	--	--	Inaccessible
SH-05R	10/11/16	13.89	7.38	--	6.51	
SH-05R	03/28/17	13.89	5.76	--	8.13	
SH-05R	10/10/17	13.89	7.49	--	6.40	
SH-05R	03/28/18	13.89	6.65	--	7.24	
SH-05R	10/02/18	13.89	7.40	--	6.49	
SH-05R	04/02/19	13.89	6.75	--	7.14	
SH-05R	10/01/19	13.89	7.33	--	6.56	
SH-05R	03/25/20	13.89	6.70	--	7.19	
SH-05R	10/19/20	13.89	7.18	--	6.71	
SH-05R	04/12/21	13.89	6.79	--	7.10	
SH-05R	10/11/21	13.89	7.40	--	6.49	
MW-07	01/13/97	7.66	--	--	--	
MW-07	Destroyed during construction activities					
MW-07R	02/11/02	9.93	4.95	--	4.98	
MW-07R	05/20/02	9.93	7.29	--	2.64	
MW-07R	08/27/02	9.93	7.17	--	2.76	
MW-07R	11/04/02	9.93	7.53	--	2.40	
MW-07R	02/18/03	--	--	--	--	Not Measured-Inaccessible; covered with asphalt
MW-07R	06/09/03	--	--	--	--	Not Measured-Inaccessible; covered with asphalt
MW-07R	06/11/03	--	--	--	--	Not Measured-Located & cleaned out
MW-07R	09/15/03	13.92	8.40	--	5.52	
MW-07R	11/18/03	13.92	8.17	--	5.75	
MW-07R	02/24/04	13.92	5.64	--	8.28	
MW-07R	05/10/04	13.92	6.70	--	7.22	
MW-07R	08/24/04	13.92	6.95	--	6.97	
MW-07R	12/13/04	13.92	6.43	--	7.49	
MW-07R	03/08/05	13.92	6.67	--	7.25	
MW-07R	06/06/05	13.92	6.48	--	7.44	
MW-07R	09/19/05	13.92	7.35	--	6.57	
MW-07R	12/12/05	13.92	6.71	--	7.21	
MW-07R	03/13/06	13.92	5.59	--	8.33	
MW-07R	06/05/06	13.92	7.20	--	6.72	
MW-07R	09/11/06	13.92	7.30	--	6.62	
MW-07R	12/11/06	13.92	5.50	--	8.42	
MW-07R	03/26/07	13.92	5.84	--	8.08	
MW-07R	06/18/07	13.92	6.80	--	7.12	
MW-07R	09/25/07	13.92	7.27	--	6.65	
MW-07R	12/10/07	13.92	5.60	--	8.32	
MW-07R	03/03/08	13.92	6.20	--	7.72	
MW-07R	06/02/08	13.92	6.88	--	7.04	
MW-07R	09/04/08	13.92	6.94	--	6.98	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
MW-07R	12/04/08	13.92	7.84	--	6.08	
MW-07R	03/04/09	13.92	6.30	--	7.62	
MW-07R	06/01/09	13.92	6.57	--	7.35	
MW-07R	09/21/09	13.92	7.24	--	6.68	
MW-07R	11/16/09	13.92	6.04	--	7.88	
MW-07R	03/08/10	13.92	5.63	--	8.29	
MW-07R	06/07/10	13.92	6.04	--	7.88	
MW-07R	09/09/10	13.92	7.05	--	6.87	
MW-07R	11/15/10	13.92	6.11	--	7.81	
MW-07R	03/01/11	13.92	5.43	--	8.49	
MW-07R	05/23/11	13.92	5.66	--	8.26	
MW-07R	08/29/11	13.92	6.97	--	6.95	
MW-07R	12/01/11	13.92	6.24	--	7.68	
MW-07R	03/01/12	13.92	6.10	--	7.82	
MW-07R	05/30/12	13.92	6.12	--	7.80	
MW-07R	08/25/12	13.92	--	--	--	Not Measured
MW-07R	11/07/12	13.92	6.02	--	7.90	
MW-07R	02/27/13	13.92	5.84	--	8.08	
MW-07R	04/08/13	13.92	5.49	--	8.43	
MW-07R	07/29/13	13.92	6.70	--	7.22	
MW-07R	10/02/13	13.92	6.06	--	7.86	
MW-07R	01/21/14	13.92	6.49	--	7.43	
MW-07R	04/22/14	13.92	5.56	--	8.36	
MW-07R	07/15/14	13.92	6.60	--	7.32	
MW-07R	03/17/15	13.92	5.06	--	8.86	
MW-07R	09/28/15	13.92	6.73	--	7.19	
MW-07R	03/29/16	13.92	4.75	--	9.17	
MW-07R	10/11/16	13.92	6.86	--	7.06	
MW-07R	03/28/17	13.92	4.54	--	9.38	
MW-07R	10/10/17	13.92	6.95	--	6.97	
MW-07R	03/28/18	13.92	5.75	--	8.17	
MW-07R	10/02/18	13.92	7.05	--	6.87	
MW-07R	04/02/19	13.92	6.09	--	7.83	
MW-07R	10/01/19	13.92	6.84	--	7.08	
MW-07R	03/25/20	13.92	5.82	--	8.10	
MW-07R	10/19/20	13.92	6.54	--	7.38	
MW-07R	04/12/21	13.92	5.89	--	8.03	
MW-07R	10/11/21	13.92	6.90	--	7.02	
TMW-B1	09/09/10	--	--	--	--	Not Measured-SPH recovery unit in well
TMW-B1	05/23/11	--	7.37	--	--	Not Measured-SPH recovery unit in well
TMW-B1	12/01/11	--	8.17	--	--	Not Measured-SPH recovery unit in well
TMW-B1	03/01/12	--	7.75	--	--	Not Measured-SPH recovery unit in well
TMW-B1	08/25/12	--	8.37	--	--	Not Measured
TMW-B1	07/29/13	--	7.80	--	--	
TMW-B1	10/02/13	--	7.47	--	--	
TMW-B1	01/21/14	--	7.78	--	--	
TMW-B1	04/22/14	--	6.99	--	--	
TMW-B1	07/15/14	--	--	--	--	See SW/KH notes
TMW-B1	03/17/15	--	6.57	--	--	
TMW-B1	09/28/15	--	8.26	--	--	
TMW-B1	03/29/16	--	6.12	--	--	
TMW-B1	10/11/16	--	8.49	--	--	
TMW-B1	03/28/17	--	5.88	--	--	
TMW-B1	10/10/17	--	8.49	--	--	
TMW-B1	03/28/18	--	7.28	--	--	
TMW-B1	10/02/18	--	8.60	--	--	
TMW-B1	04/02/19	--	7.53	--	--	
TMW-B1	10/01/19	--	8.42	--	--	
TMW-B1	03/25/20	--	7.12	--	--	
TMW-B1	10/19/20	--	8.24	--	--	
TMW-B1	04/12/21	--	7.37	--	--	
TMW-B1	10/11/21	--	8.51	--	--	
TMW-1	06/21/13	--	3.44	--	--	Baseline monitoring event
TMW-1	07/29/13	--	3.72	--	--	
TMW-1	08/26/13	--	3.74	--	--	Two-month monitoring event
TMW-1	10/02/13	--	2.97	--	--	
TMW-1	01/21/14	--	3.48	--	--	
TMW-1	04/22/14	--	2.09	--	--	
TMW-1	07/15/14	--	--	--	--	Not done due to no TOC elev datum
TMW-1	03/17/15	--	1.65	--	--	
TMW-1	09/29/15	--	4.06	--	--	
TMW-1	03/29/16	--	1.69	--	--	
TMW-1	10/11/16	--	3.95	--	--	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
TMW-1	03/28/17	--	1.23	--	--	
TMW-1	10/10/17	--	4.10	--	--	
TMW-1	03/28/18	--	2.72	--	--	
TMW-1	10/02/18		4.21	--	--	
TMW-1	04/02/19	--	3.06	--	--	
TMW-1	10/01/19	--	3.95	--	--	
TMW-1	03/25/20	--	2.53	--	--	
TMW-1	10/19/20	--	3.77	--	--	
TMW-1	04/12/21	--	2.79	--	--	
TMW-1	10/11/21	--	4.11	--	--	
TMW-2	06/21/13	--	3.83	--	--	Baseline monitoring event
TMW-2	07/29/13	--	3.94	--	--	
TMW-2	08/26/13	--	3.91	--	--	Two-month monitoring event
TMW-2	10/02/13	--	3.15	--	--	
TMW-2	01/21/14	--	3.63	--	--	
TMW-2	04/22/14	--	2.36	--	--	
TMW-2	07/15/14	--	--	--	--	Not done due to no TOC elev datum
TMW-2	03/17/15	--	1.68	--	--	
TMW-2	10/01/15	--	4.16	--	--	
TMW-2	03/29/16	--	1.84	--	--	
TMW-2	10/11/16	--	4.01	--	--	
TMW-2	03/28/17	--	1.41	--	--	
TMW-2	10/10/17	--	4.15	--	--	
TMW-2	03/28/18	--	2.86	--	--	
TMW-2	10/02/18		4.30	--	--	
TMW-2	04/02/19	--	3.20	--	--	
TMW-2	10/01/19	--	4.02	--	--	
TMW-2	03/25/20	--	2.74	--	--	
TMW-2	10/19/20	--	3.86	--	--	
TMW-2	04/12/21	--	2.91	--	--	
TMW-2	10/11/21	--	4.15	--	--	
TMW-3	06/21/13	--	3.81	--	--	Baseline monitoring event
TMW-3	07/29/13	--	3.91	--	--	
TMW-3	08/26/13	--	3.88	--	--	Two-month monitoring event
TMW-3	10/02/13	--	3.14	--	--	
TMW-3	01/21/14	--	3.76	--	--	
TMW-3	04/22/14	--	2.41	--	--	
TMW-3	07/15/14	--	--	--	--	Not done due to no TOC elev datum
TMW-3	03/17/15	--	1.67	--	--	
TMW-3	09/30/15	--	4.21	--	--	
TMW-3	03/29/16	--	2.20	--	--	
TMW-3	10/11/16	--	4.02	--	--	
TMW-3	03/28/17	--	1.66	--	--	
TMW-3	10/10/17	--	4.21	--	--	
TMW-3	03/28/18	--	3.01	--	--	
TMW-3	10/02/18		4.31	--	--	
TMW-3	04/02/19	--	3.42	--	--	
TMW-3	10/01/19	--	4.01	--	--	
TMW-3	03/25/20	--	2.88	--	--	
TMW-3	10/19/20	--	3.96	--	--	
TMW-3	04/12/21	--	3.11	--	--	
TMW-3	10/11/21	--	4.16	--	--	
TMW-4	06/21/13	--	3.50	--	--	Baseline monitoring event
TMW-4	07/29/13	--	3.75	--	--	
TMW-4	08/26/13	--	3.80	--	--	Two-month monitoring event
TMW-4	10/02/13	--	2.99	--	--	
TMW-4	01/21/14	--	3.45	--	--	
TMW-4	04/22/14	--	2.20	--	--	
TMW-4	07/15/14	--	--	--	--	Not done due to no TOC elev datum
TMW-4	03/17/15	--	1.30	--	--	
TMW-4	09/30/15	--	3.89	--	--	
TMW-4	03/29/16	--	1.22	--	--	
TMW-4	10/11/16	--	3.71	--	--	
TMW-4	03/28/17	--	1.37	--	--	
TMW-4	10/10/17	--	3.95	--	--	
TMW-4	03/28/18	--	2.75	--	--	
TMW-4	10/02/18		4.01	--	--	
TMW-4	04/02/19	--	2.90	--	--	
TMW-4	10/01/19	--	3.76	--	--	
TMW-4	03/25/20	--	2.66	--	--	
TMW-4	10/19/20	--	3.64	--	--	
TMW-4	04/12/21	--	2.83	--	--	
TMW-4	10/11/21	--	3.87	--	--	

Appendix D
Historical Groundwater Elevation Data
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Measured	Casing Elevation[1] (feet NAVD88)	Depth to Groundwater (feet BTOC)	Separate Phase Hydrocarbons (feet)	Groundwater Elevation[1, 2] (feet NAVD88)	Comments
TMW-5	06/21/13	--	3.24	--	--	Baseline monitoring event
TMW-5	07/29/13	--	3.31	--	--	
TMW-5	08/26/13	--	3.39	--	--	Two-month monitoring event
TMW-5	10/02/13	--	2.80	--	--	
TMW-5	01/21/14	--	3.22	--	--	
TMW-5	04/22/14	--	2.42	--	--	
TMW-5	07/15/14	--	--	--	--	Not done due to no TOC elev datum
TMW-5	03/17/15	--	1.84	--	--	
TMW-5	09/30/15	--	3.71	--	--	
TMW-5	03/29/16	--	1.57	--	--	
TMW-5	10/11/16	--	3.76	--	--	
TMW-5	03/28/17	--	1.30	--	--	
TMW-5	10/10/17	--	3.75	--	--	
TMW-5	03/28/18	--	2.67	--	--	
TMW-5	10/02/18		3.93	--	--	
TMW-5	04/02/19	--	2.82	--	--	
TMW-5	10/01/19	--	3.75	--	--	
TMW-5	03/25/20	--	2.55	--	--	
TMW-5	10/19/20	--	3.65	--	--	
TMW-5	04/12/21	--	2.70	--	--	
TMW-5	10/11/21	--	3.87	--	--	
TMW-6	06/21/13	--	2.93	--	--	Baseline monitoring event
TMW-6	07/29/13	--	2.91	--	--	
TMW-6	08/26/13	--	2.92	--	--	Two-month monitoring event
TMW-6	10/02/13	--	2.12	--	--	
TMW-6	01/21/14	--	2.74	--	--	
TMW-6	04/22/14	--	1.72	--	--	
TMW-6	07/15/14	--	--	--	--	Not done due to no TOC elev datum
TMW-6	03/17/15	--	1.48	--	--	
TMW-6	09/30/15	--	3.21	--	--	
TMW-6	03/29/16	--	1.00	--	--	
TMW-6	10/11/16	--	3.12	--	--	
TMW-6	03/28/17	--	0.68	--	--	
TMW-6	10/10/17	--	3.24	--	--	
TMW-6	03/28/18	--	1.81	--	--	
TMW-6	10/02/18		3.17	--	--	
TMW-6	04/02/19	--	2.00	--	--	
TMW-6	10/01/19	--	3.01	--	--	
TMW-6	03/25/20	--	2.01	--	--	
TMW-6	10/19/20	--	2.71	--	--	
TMW-6	04/12/21	--	2.01	--	--	
TMW-6	10/11/21	--	3.21	--	--	

Notes:

Highlighted = data from most recent monitoring event

-- = not measured/not applicable

BTOC = below top of casing (TOC); depth to groundwater measured from TOC

SPH = separate phase hydrocarbons

Wells MW-10D and MW-11D were deep wells, screened from 30 to 35 feet below grade

* Well MW-9

1. Prior to the September 2003 monitoring event, TOC elevations were relative to National Geodetic Vertical Datum (N.G.V.D.) 1929 TIDAL 2 (survey benchmark elev=10.617). All TOC elevations were resurveyed in July 2003, relative to North American Vertical Datum1988 (NAVD88) with modified benchmark elevations to account for shifts from February 2001 earthquake.

2. Groundwater elevation corrected for separate phase hydrocarbon thickness using the specific gravity of diesel (0.8), when present.

Appendix E

Historical Groundwater Analytical Results

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-5	02/14/02	<0.25	2.3	--	<0.5	--	0.00055	0.0017	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-5	05/22/02	<0.25	2.0	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-5	08/29/02	<0.25	1.2	--	<0.5	--	0.0017	0.00062	<0.0005	0.00099	--	--	--	--	--	--	--	--	--	--	
A-5	11/06/02	<0.25	1.2	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-5	02/20/03	<0.25	<0.25	--	<0.5	--	0.00086	0.0019	<0.0005	0.001	--	--	--	--	--	--	--	--	--	--	
A-5	06/10/03	0.26	0.40	--	<0.25	--	<0.0005	0.00067	<0.0005	0.0007	--	--	--	--	--	--	--	--	--	--	
A-5	09/17/03	<0.25	0.60	--	<0.50	--	0.0042	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-5	11/20/03	<0.25	0.53	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-5	02/26/04	<0.25	3.3	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-5	05/12/04	0.27	0.43	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.00057	--	--	--	--	--	--	--	--	--	--	
A-5	08/25/04	<0.25	1.1	--	<0.50	--	0.0029	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-5	12/14/04	<0.25	0.43	--	<0.50	--	0.021	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
A-5	03/10/05	0.43	5.2	--	<0.50	--	**0.12**	0.0025	<0.001	0.0012	--	--	--	--	--	--	--	--	--	--	
A-5	06/07/05	0.54	2.4	--	1.7	--	**0.12**	0.0028	<0.001	0.0013	--	--	--	--	--	--	--	--	--	--	
A-5	09/20/05	0.37	1.2	--	<0.50	--	0.037	0.0017	<0.001	0.0011	--	--	--	--	--	--	--	--	--	--	
A-5	12/13/05	0.44	0.31	--	<0.50	--	0.049	0.0021	<0.0005	0.0013	--	--	--	--	--	--	--	--	--	--	
A-5	03/15/06	0.36	0.45	--	<0.50	--	0.052	0.0017	<0.001	0.0017	--	--	--	--	--	--	--	--	--	--	
A-5	06/08/06	0.91	0.55	--	<0.50	--	**0.099**	0.0036	0.00076	0.0034	--	--	--	--	--	--	--	--	--	--	
A-5	09/12/06	0.46	0.43	--	<0.50	--	0.031	0.0016	<0.001	0.0014	--	--	--	--	--	--	--	--	--	--	
A-5	12/12/06	0.7	0.53	--	<0.50	--	**0.079**	0.0028	<0.001	0.0025	--	--	--	--	--	--	--	--	--	--	
A-5	03/27/07	**1.4**	--	--	--	--	**0.19**	0.0045	0.0014	0.0050	--	--	0.8	--	--	--	--	--	--	--	
A-5	06/19/07	**1.1**	1.9	--	<0.50	--	**0.09**	0.0027	0.00072	0.0039	--	--	--	--	--	--	--	--	--	--	
A-5	09/24/07	0.72	--	--	--	--	0.039	0.0019	<0.0005	0.0018	--	--	2.70	--	--	--	--	--	--	--	
A-5	12/11/07	0.31	--	--	--	--	0.017	0.00096	<0.0005	0.00088	--	--	1.46	--	--	--	--	--	--	--	
A-5	03/04/08	**1.4**	--	--	--	--	**0.12**	0.0040	<0.0010	0.0040	--	--	0.10	--	--	--	--	--	--	--	
A-5	06/03/08	0.85	--	--	--	--	0.048	<0.0015	<0.0015	0.0029	--	--	1.90	--	--	--	--	--	--	--	
A-5	09/08/08	**1.5**	--	--	--	--	**0.15**	0.0032	0.0031	0.0076	--	--	1.13	--	--	--	--	--	--	--	
A-5	12/05/08	0.64	--	--	--	--	**0.089**	<0.0010	<0.0010	0.0038	--	--	0.41	--	--	--	--	--	--	--	
A-5	03/04/09	<0.25	--	--	--	--	0.0011	<0.0010	0.002	0.0071	--	--	0.41	--	--	--	--	--	--	--	
A-5	06/03/09	0.45	--	--	--	--	0.022	<0.0010	<0.0010	0.0027	--	--	0.61	--	--	--	--	--	--	--	
A-5	09/22/09	0.75	--	--	--	--	0.063	0.0012	0.0041	0.021	--	--	0.69	--	--	--	--	--	--	--	
A-5	11/17/09	0.43	--	--	--	--	0.011	<0.0010	<0.0010	0.0038	--	--	0.24	--	--	--	--	--	--	--	
A-5	03/08/10	0.34	--	--	--	--	0.0059	<0.0010	0.0012	0.0051	--	--	0.61	--	--	--	--	--	--	--	
A-5	06/09/10	<0.25	--	--	--	--	0.0063	<0.0010	<0.0010	0.0019	--	--	0.00	--	--	--	--	--	--	--	
A-5	09/10/10	0.80	--	--	--	--	0.031	0.0017	0.0047	0.025	--	--	3.32	--	--	--	--	--	--	--	
A-5	11/16/10	0.35	--	--	--	--	0.0025	<0.0010	0.0011	0.0086	--	--	0.30	--	--	--	--	--	--	--	
A-5	03/02/11	0.34	--	--	--	--	0.0042	<0.0010	<0.0010	0.0019	--	--	0.00	--	--	--	--	--	--	--	
A-5	05/25/11	0.39	--	--	--	--	0.0078	0.00057	<0.0005	0.0014	--	--	1.28	--	--	--	--	--	--	--	
A-5	08/30/11	0.47	--	--	--	--	0.0027	0.00070	<0.0005	0.0013	--	--	0.58	--	--	--	--	--	--	--	
A-5	12/02/11	0.29	--	--	--	--	0.0017	<0.0010	<0.0010	<0.0020	--	--	1.41	--	--	--	--	--	--	--	
A-5	03/02/12	<0.25	--	--	--	--	0.00094	<0.0005	<0.0005	<0.0005	--	--	0.37	--	--	--	--	--	--	--	
A-5	06/01/12	<0.25	--	--	--	--	0.012	<0.0010	<0.0010	0.0010	--	--	0.00	--	--	--	--	--	--	--	
A-5 (DUP)	06/01/12	<0.25	--	--	--	--	0.011	<0.0010	<0.0010	0.0010	--	--	--	--	--	--	--	--	--	--	Duplicate of A-5

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-5	08/25/12	0.57	--	--	--	--	0.02	0.0012	<0.0010 o	0.0014	--	--	--	--	--	--	--	--	--	--	
A-5	11/08/12	0.27	--	--	--	--	0.028	<0.001	<0.001	0.0011	--	--	--	--	--	--	--	--	--	--	
A-5	02/28/13	0.66	--	--	--	--	0.062	0.0017	<0.0005	0.0013	--	--	--	--	--	--	--	--	--	--	
A-5	04/10/13	0.46	--	--	--	--	0.014	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
A-5	07/29/13	0.54	--	--	--	--	0.033	0.0022	<0.0005	0.0022	--	--	--	--	--	--	--	--	--	--	
A-5	10/03/13	0.47	--	--	--	--	0.049	0.0014	<0.001	0.0016	--	--	0.00	--	--	--	--	--	--	--	
A-5	01/21/14	0.51	--	--	--	--	0.051	0.0012	<0.001	<0.001	--	--	6.00	--	--	--	--	--	--	--	
A-5	04/23/14	0.60	--	--	--	--	0.025	0.0015	<0.0005	0.0011	--	--	--	--	--	--	--	--	--	--	
A-5	07/15/14	0.61	--	--	--	--	0.017	0.0011	<0.0005	0.00095	--	--	0.37	--	--	--	--	--	--	--	
A-5	03/18/15	0.40	--	--	--	--	0.0045	0.0013	<0.0005	0.0012	--	--	--	--	--	--	--	--	--	--	
A-5	10/02/15	0.495	--	--	--	--	0.00161	<0.005	<0.001	<0.003	--	--	0.10	--	--	--	--	--	--	--	
A-5 (DUP)	10/02/15	0.553	--	--	--	--	0.00168	<0.005	<0.001	<0.003	--	--	--	--	--	--	--	--	--	--	Duplicate of A-5
A-5	03/29/16	0.413	--	--	--	--	0.00809	<0.005	<0.001	<0.003	--	--	0.33	--	--	--	--	--	--	--	
A-5	10/13/16	0.498	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.57	--	--	--	--	--	--	--	
A-5	03/29/17	0.277	--	--	--	--	0.00508	<0.001	<0.001	<0.003	--	--	0.27	--	--	--	--	--	--	--	
A-5	10/11/17	0.576	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.53	--	--	--	--	--	--	--	
A-5	03/28/18	**1.04**	--	--	--	--	0.00814	0.00201	<0.001	<0.003	--	--	0.13	--	--	--	--	--	--	--	
A-5	10/02/18	0.905 B	--	--	--	--	0.0014	0.00171	<0.001	<0.003	--	--	0.09	--	--	--	--	--	--	--	
A-5	04/03/19	0.591	--	--	--	--	0.00169	0.00145	<0.00100	<0.00300	--	--	0.10	--	--	--	--	--	--	--	
A-5	10/03/19	0.355	--	--	--	--	<0.00100	0.00141	<0.00100	<0.00300	--	--	0.17	--	--	--	--	--	--	--	
A-5	03/27/20	<0.500	--	--	--	--	0.00195	0.00146	<0.00100	<0.00300	--	--	0.17	--	--	--	--	--	--	--	
A-5	10/23/20	0.585 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	--[d]	--	--	--	--	--	--	--	
A-5	04/13/21	**1.42**	--	--	--	--	0.00355	0.00295	<0.00100	0.00355	--	--	0.16	--	--	--	--	--	--	--	
A-5	10/12/21	0.524	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.00	--	--	--	--	--	--	--	
A-8	02/14/02	<0.25	1.6	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	05/22/02	<0.25	0.51	--	<0.5	--	<0.0005	0.00058	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	08/28/02	<0.25	<0.5	--	<0.5	--	<0.0005	0.0014	<0.0005	0.00066	--	--	--	--	--	--	--	--	--	--	
A-8	11/06/02	<0.25	0.43	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	02/20/03	<0.25	<0.25	--	<0.5	--	<0.0005	0.00083	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	06/10/03	<0.25	<0.25	--	<0.25	--	<0.0005	0.00056	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	09/17/03	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	11/20/03	<0.25	1.4	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	02/26/04	0.35	1.0000	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	05/12/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	08/25/04	<0.25	4.9	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
A-8	12/14/04	<0.25	1.7	--	<0.50	--	0.00056	0.00052	<0.0005	0.00094	--	--	--	--	--	--	--	--	--	--	
A-8	03/10/05	<0.25	2.1	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.00055	--	--	--	--	--	--	--	--	--	--	
A-8	06/07/05	<0.25	1.2	--	1.5	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	09/20/05	<0.25	3.5	--	0.83	--	0.0012	<0.001	<0.001	0.0012	--	--	--	--	--	--	--	--	--	--	
A-8	12/13/05	<0.25	0.54	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.0011	--	--	--	--	--	--	--	--	--	--	
A-8	03/15/06	<0.25	0.55	--	<0.50	--	<0.0010	<0.0010	<0.0010	0.0010	--	--	--	--	--	--	--	--	--	--	
A-8	06/08/06	<0.25	0.47	--	<0.50	--	<0.0010	<0.0010	<0.0010	0.0010	--	--	--	--	--	--	--	--	--	--	
A-8	09/12/06	<0.25	0.76	--	<0.50	--	<0.0010	<0.0010	<0.0010	0.0011	--	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-8	12/12/06	0.27	0.87	--	<0.50	--	<0.0010	0.0011	<0.0010	0.0015	--	--	--	--	--	--	--	--	--	--	
A-8	06/19/07	<0.25	2.4	--	0.58	--	<0.0010	<0.0010	<0.0010	0.0010	--	--	--	--	--	--	--	--	--	--	
A-8	06/03/08	<0.30	0.46	--	<0.50	--	<0.0015	<0.0015	<0.0015	<0.0015	--	--	--	--	--	--	--	--	--	--	
A-8	06/03/09	<0.25	1.6	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	0.55	--	--	--	--	--	--	--	
A-8	06/09/10	<0.25	0.45	--	<0.50	--	0.0054	<0.0010	<0.0010	<0.0010	--	--	0.00	--	--	--	--	--	--	--	
A-8	05/25/11	<0.25	1.2	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	1.32	--	--	--	--	--	--	--	
A-8	06/01/12	<0.50	0.90	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	0.00	--	--	--	--	--	--	--	
A-8	04/10/13	0.25	--	<0.25	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
A-8	04/23/14	<0.25	1.5	<0.25	<0.50	<0.50	<0.0005	0.00061	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-8	10/02/15	0.382	--	4.97	--	0.475	<0.001	<0.005	<0.001	<0.003	--	--	0.37	--	--	--	--	--	--	--	
A-8	10/13/16	0.341	--	0.498	--	<0.50	<0.001	<0.005	<0.001	<0.003	--	--	0.63	--	--	--	--	--	--	--	
A-8	10/11/17	0.143 B	--	0.438	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.48	--	--	--	--	--	--	--	
A-8	10/02/18	0.196	--	0.472	--	<0.25	<0.001	<0.001	<0.001	<0.003	--	--	0.07	--	--	--	--	--	--	--	
A-8	10/02/19	<0.100	--	0.794	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.13	--	--	--	--	--	--	--	
A-8	10/23/20	0.249 B	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.14	--	--	--	--	--	--	--	
A-8	10/12/21	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.00	--	--	--	--	--	--	--	
A-10	02/14/02	<0.25	9.2	--	<0.5	--	<0.0005	0.00062	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-10	05/22/02	0.31	8.8	--	<0.5	--	<0.0005	0.00086	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-10	08/28/02	0.30	**15**	--	<0.5	--	<0.001	<0.001	<0.001	<0.001	--	--	1.40	5.7	--	--	16	<0.25	30.00	0.6	
A-10	11/06/02	0.37	**13**	--	<0.50	--	<0.0005	0.00057	<0.0005	<0.0005	--	--	2.00	5.9	--	--	15	<0.25	10.00	0.3	
A-10	02/20/03	<0.25	6.0	--	<0.5	--	0.0013	<0.0005	<0.0005	0.00055	--	--	2.70	1.0	--	--	22	6.1	86	<0.1	
A-10	06/10/03	0.45	**19**	--	<0.25	--	<0.001	<0.001	<0.001	<0.001	--	--	1.40	1.60	--	--	17.00	0.54	63.00	0.1	
A-10	09/17/03	0.68	**30**	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.70	3.20	--	--	47.00	<0.25 c	12.00	0.6	
A-10	11/20/03	**1.1**	**89**	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.40	0.10	--	--	4.90	<0.25 c	3.70	0.3	
A-10	02/26/04	<0.25	**35**	--	0.74	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.50	0.24	--	--	5.10	<0.25 b	61.00	0.2	
A-10	05/12/04	<0.25	3.5	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.60	--*d	--	--	30.00	<0.25	10.00	<0.10	
A-10	08/25/04	<0.25	5.1	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.65	0.75	--	--	6.20	<0.25	57.00	0.12	
A-10	12/14/04	<0.25	1.1	--	<0.50	--	0.0030	<0.001	<0.001	<0.001	--	--	2.50	0.093	--	--	<0.050	<0.25	8.80	<0.10	
A-10	03/10/05	<0.25	4.6	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.58	6.60	--	--	12.00	<0.25	260.00	<0.10	
A-10	06/07/05	0.30	**68**	--	2.1	--	0.00069	<0.0005	<0.0005	<0.0005	--	--	1.51	1.00	--	--	3.40	<0.25	480.00	16	
A-10	09/20/05	0.60	1.5	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.10	2.40	--	--	5.60	<0.25	320.00	0.23	
A-10	12/13/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.20	0.067	--	--	<0.050	14.00	56.00	<0.10	
A-10	03/15/06	<0.25	1.7	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.00050	--	--	2.20	2.50	--	--	42.00	<0.25	60.00	0.18	
A-10	06/08/06	<0.25	0.66	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.00050	--	--	1.00	1.60	--	--	7.80	<0.25	4.30	0.22	
A-10	09/12/06	<0.25	0.65	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.00050	--	--	1.60	1.40	--	--	15.00	<0.25	140.00	0.18	
A-10	12/12/06	<0.25	0.98	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.00	0.088	--	--	2.00	<0.25	7.90	<0.10	
A-10	06/19/07	<0.25	1.2	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.70	--	--	--	--	--	--	--	
A-10	06/03/09	<0.25	2.4	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.40	--	--	--	--	--	--	--	
A-10	06/09/10	<0.25	0.56	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
A-10	05/25/11	<0.25	0.80	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.97	--	--	--	--	--	--	--	
A-10	06/01/12	<0.25	0.62	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
A-10	04/10/13	<0.25	--	0.36	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-10	04/23/14	<0.25	0.27	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-10	10/02/15	<0.100	--	0.723	--	<0.25	<0.001	<0.005	<0.001	<0.003	--	--	0.43	--	--	--	--	--	--	--	
A-10	10/13/16	<0.100	--	0.640	--	<0.500	<0.001	<0.005	<0.001	<0.003	--	--	0.61	--	--	--	--	--	--	--	
A-10	10/10/17	<0.100	--	1.15	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.50	--	--	--	--	--	--	--	
A-10	10/02/18	<0.1	--	1.38	--	0.261	<0.001	<0.001	<0.001	<0.003	--	--	0.04	--	--	--	--	--	--	--	
A-10	10/02/19	<0.100	--	0.441	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.13	--	--	--	--	--	--	--	
A-10	10/23/20	<0.100	--	0.704	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.16	--	--	--	--	--	--	--	
A-10	10/12/21	<0.100	--	0.360	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.07	--	--	--	--	--	--	--	
A-12	12/12/06	<0.25	0.98	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-12	06/03/08	<0.25	0.63	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-12	05/25/11	<0.025	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-14R	02/14/02	<0.25	<0.25	--	<0.5	--	0.00061	0.0021	<0.0005	<0.0005	0.005*	--	--	--	--	--	--	--	--	--	
A-14R	05/22/02	<0.25	<0.5	--	<0.5	--	0.00053	0.0021	<0.0005	0.00054	**0.02***	--	--	--	--	--	--	--	--	--	
A-14R	08/28/02	<0.25	<0.5	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	1.50	0.034	--	--	0.7	9.5	290.00	<0.1	
A-14R	11/06/02	<0.25	<0.25	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	2.30	0.054	--	--	0.4	5.7	290.00	0.1	
A-14R	02/20/03	<0.25	<0.25	--	<0.25	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	2.90	0.26	--	--	<0.2	2.4	300	<0.1	
A-14R	06/10/03	<0.25	<0.25	--	<0.25	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.02**	--	2.00	0.21	--	--	2.20	6.00	220.00	0.3	
A-14R	09/17/03	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.025***	--	1.90	2.40	--	--	3.40	0.86 a	240.00	0.2	
A-14R	11/20/03	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.032***	--	1.80	0.45	--	--	2.40	0.63 c	250.00	<0.1	
A-14R	02/26/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.018***	--	1.40	3.30	--	--	0.31	0.69 b	190.00	0.1	
A-14R	05/12/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.30	1.40	--	--	<0.050	3.00	130.00	<0.10	
A-14R	08/25/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.22	4.30	--	--	0.66	0.42	200.00	<0.10	
A-14R	12/14/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0072***	--	3.00	3.50	--	--	1.00	<0.25	230.00	<0.10	
A-14R	03/10/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.15	1.30	--	--	2.40	<0.25	290.00	<0.10	
A-14R	06/07/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.00	0.28	--	--	0.16	0.36	220.00	<0.2	
A-14R	09/20/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
A-14R	12/13/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.10	1.60	--	--	3.70	<0.25	150.00	<0.10	
A-14R	03/15/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.10	0.82	--	--	0.14	<0.25	80.00	<0.10	
A-14R	06/08/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.40	1.50	--	--	0.53	<0.25	38.00	<0.10	
A-14R	09/12/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.00	0.19	--	--	0.80	<0.25	110.00	<0.10	
A-14R	12/12/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
A-14R	06/19/07	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.90	--	--	--	--	--	--	--	
A-14R	12/12/07	--	--	--	--	--	--	--	--	--	--	--	2.90	1.2	--	--	0.76	<0.25	99.00	<0.10	
A-14R	06/03/08	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.90	--	--	--	--	--	--	--	
A-14R	06/03/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.00	--	--	--	--	--	--	--	
A-14R	06/09/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.00	--	--	--	--	--	--	--	
A-14R	05/25/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.05	--	--	--	--	--	--	--	
A-14R	06/01/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.00	--	--	--	--	--	--	--	
A-14R	04/10/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
A-14R	04/23/14	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
A-14R	10/01/15	<0.100	--	<0.100	--	<0.25	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.35	--	--	--	--	--	--	--	
A-14R	10/13/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.69	--	--	--	--	--	--	--	
A-14R	10/10/17	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.63	--	--	--	--	--	--	--	
A-14R	10/02/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.16	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-14R	10/02/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.15	--	--	--	--	--	--	--	
A-14R	10/23/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.11	--	--	--	--	--	--	--	
A-14R	10/12/21	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.15	--	--	--	--	--	--	--	
A-18	05/25/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
A-19	05/25/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
A-20	05/25/11	**2.5**	--	--	--	--	<0.0010	<0.0010	0.037	0.013	--	--	--	--	--	--	--	--	--	--	
A-21	02/14/02	<0.25	<0.25	--	<0.5	--	<0.0005	0.0010	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
A-21	05/22/02	<0.25	<0.5	--	<0.5	--	0.00061	0.0017	<0.0005	0.00057	<0.005*	--	--	--	--	--	--	--	--	--	
A-21	08/29/02	<0.25	0.76	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	2.10	0.31	--	--	33.00	<0.25	41.00	0.3	
A-21	11/06/02	<0.25	0.37	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	1.60	0.64	--	--	32.00	<0.25	32.00	<0.1	
A-21	02/19/03	<0.25	<0.5	--	<0.5	--	0.0013	0.0018	<0.0005	0.00061	<0.005*	--	1.90	1.60	--	--	28.00	<0.25	2.90	0.1	
A-21	06/10/03	0.25	<0.25	--	<0.25	--	0.0082	0.00058	<0.0005	<0.0005	**0.062***	--	1.30	2.80	--	--	31.00	<0.25	0.30	0.2	
A-21	09/16/03	<0.25	<0.25	--	<0.50	--	0.0034	<0.0005	<0.0005	<0.0005	**0.0085***	--	1.60	4.10	--	--	33.00	<0.25 b	5.30	0.7	
A-21	11/19/03	0.47	<0.25	--	<0.50	--	0.061	0.0019	<0.0005	0.0029	**0.0067***	--	1.70	5.60	--	--	26.00	<0.25 b	16.00	0.2	
A-21	02/25/04	0.63	<0.50	--	<0.50	--	0.013	0.00066	0.045	0.0016	<0.0050*	--	2.10	2.60	--	--	31.00	<0.25 b	1.20	0.4	
A-21	05/12/04	0.50	<0.25	--	<0.50	--	0.0019	<0.0005	0.0042	0.00072	<0.0050*	--	0.80	1.80	--	--	33.00	<0.25	0.79	<0.10	
A-21	08/25/04	0.26	<0.25	--	<0.50	--	0.0015	<0.0005	<0.0005	0.0015	<0.0050*	--	1.44	5.80	--	--	16.00	<0.25	2.40	0.11	
A-21	12/14/04	0.99	<0.25	--	<0.50	--	0.061	0.0025	0.022	0.0083	<0.0050*	--	2.72	11.00	--	--	4.60	<0.25	0.74	0.12	
A-21	03/10/05	**1.5**	0.26	--	<0.50	--	0.024	0.0021	0.0025	0.011	0.020*	--	1.50	8.50	--	--	19.00	<0.25	0.79	<0.10	
A-21	06/07/05	**1.2**	0.35	--	<0.50	--	0.0076	0.00084	0.00077	0.0043	<0.0050*	--	1.50	3.80	--	--	3.30	<0.25	<0.50	0.7	
A-21	09/20/05	**1.3**	<0.25	--	<0.50	--	0.011	0.0012	0.00066	0.0048	<0.0050*	--	2.60	6.10	--	--	27.00	<0.25	<0.50	<0.10	
A-21	12/13/05	**1.6**	<0.25	--	<0.50	--	0.017	0.0016	0.0015	0.0052	<0.0050*	--	2.50	7.50	--	--	30.00	<0.25	<0.50	<0.10	
A-21	03/15/06	0.97	<0.25	--	<0.50	--	0.0098	0.00097	0.0023	0.0033	<0.0050*	--	2.50	3.20	--	--	32.00	<0.25	<0.50	<0.10	
A-21	06/08/06	0.82	<0.25	--	<0.50	--	0.0023	0.00059	<0.0005	0.0019	<0.0050*	--	2.80	2.20	--	--	33.00	<0.25	<0.50	<0.10	
A-21	09/12/06	0.85	<0.25	--	<0.50	--	0.0019	<0.0005	<0.0005	0.0016	<0.0050*	--	2.60	2.90	--	--	31.00	<0.25	<0.50	<0.10	
A-21	12/12/06	0.85	<0.25	--	<0.50	--	0.0071	<0.0005	0.0021	0.0014	<0.0050*	--	3.10	3.20	--	--	46.00	<0.25	130.00	0.11	
A-21	03/27/07	0.28	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	3.80	--	--	--	--	--	--	--	
A-21	06/19/07	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	2.10	0.19	--	--	24	<0.25	120	0.13	
A-21	09/25/07	<0.25	--	--	--	--	0.0040	<0.0005	<0.0005	<0.0005	--	--	3.00	--	--	--	--	--	--	--	
A-21	12/11/07	0.51	--	--	--	--	0.0062	<0.0005	0.026	0.0020	--	--	1.70	--	--	--	--	--	--	--	
A-21	03/04/08	<0.25	--	--	--	--	<0.0005	<0.0005	0.0051	<0.0005	--	--	0.30	--	--	--	--	--	--	--	
A-21	06/04/08	<0.25	--	--	--	--	<0.0005	<0.0005	0.00075	<0.0005	<0.0050	--	1.60	0.11	--	--	20.00	0.27	150.00	0.14	
A-21	09/08/08	0.41	--	--	--	--	<0.0005	0.00074	0.0018	0.00053	--	--	1.71	--	--	--	--	--	--	--	
A-21	12/04/08	0.96	--	--	--	--	<0.0010	<0.0010	0.15	<0.0010	--	--	0.72	--	--	--	--	--	--	--	
A-21	03/04/09	0.48	--	--	--	--	0.0075	<0.0005	0.0068	0.021	--	--	0.37	--	--	--	--	--	--	--	
A-21	06/02/09	0.46	--	--	--	--	0.0027	<0.00050	0.0023	0.0059	**0.0087**	--	0.20	0.028	--	--	8.00	<0.25	320.00	<0.10	
A-21	09/22/09	0.27	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.56	--	--	--	--	--	--	--	
A-21	11/17/09	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.39	--	--	--	--	--	--	--	
A-21	03/08/10	<0.25	--	--	--	--	0.0026	<0.0005	0.0019	0.0046	--	--	0.85	--	--	--	--	--	--	--	
A-21	06/08/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.33	0.015	--	--	0.72	0.28	85.00	<0.10	
A-21	09/10/10	<0.25	--	--	--	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	3.49	--	--	--	--	--	--	--	
A-21	11/16/10	0.82	--	--	--	--	<0.0010	<0.0010	0.056	0.011	--	--	0.33	--	--	--	--	--	--	--	
A-21	03/02/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.50	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-21	05/24/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.54	0.038	--	--	0.19	0.50	25.00	0.10	
A-21	08/30/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.38	--	--	--	--	--	--	--	
A-21	12/02/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0010	--	--	0.70	--	--	--	--	--	--	--	
A-21	03/02/12	**1.7**	--	--	--	--	<0.0010	<0.0010	0.16	0.026	--	--	0.29	--	--	--	--	--	--	--	
A-21	05/30/12	**1.5**	--	--	--	--	<0.0010	<0.0010	0.027	<0.0010	<0.0050	--	0.00	<0.010	--	--	9.60	<0.25	940.00	0.15	
A-21	08/25/12	**1.6**	--	--	--	--	<0.0010 o	<0.0010 o	0.024	<0.0010 o	--	--	--	--	--	--	--	--	--	--	
A-21	11/08/12	0.53	--	--	--	--	<0.0005	<0.0005	0.0011	0.0015	--	--	--	--	--	--	--	--	--	--	
A-21	02/28/13	0.44	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-21	04/10/13	0.58	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	<0.010	--	--	--	<0.25	920	<0.10	
A-21	07/29/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-21	10/03/13	<0.25	--	--	--	--	<0.001	<0.001	<0.001	<0.001	--	--	0.00	--	--	--	--	--	--	--	
A-21	01/21/14	<0.25	--	--	--	--	<0.001	<0.001	<0.001	<0.001	--	--	3.53	--	--	--	--	--	--	--	
A-21	04/23/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	0.013	--	--	0.62	<0.25	250	<0.10	
A-21	07/15/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.39	--	--	--	--	--	--	--	
A-21	03/18/15	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.03	0.050	--	--	4.2	<2.5	1,500	<0.10	
A-21	10/01/15	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	0.00526	0.00402	0.30	0.0590	--	--	73.9	<0.1	41.0	0.0780	
A-21	03/31/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.96	0.0189	--	--	0.378 J5	0.295	42.8	<0.05	
A-21	10/13/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.82	--	--	--	--	--	--	--	
A-21	03/29/17	0.135	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	4.82	--	--	--	--	--	--	--	
A-21	10/13/17	0.142	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.62	--	--	--	--	--	--	--	
A-21	03/29/18	0.12 B	--	--	--	--	0.00153	<0.001	<0.001	<0.003	--	--	2.01	--	--	--	--	--	--	--	
A-21	10/04/18	0.113 B	--	--	--	--	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.06	--	--	--	--	--	--	--	
A-21	04/03/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	3.01	--	--	--	--	--	--	--	
A-21	10/04/19	0.206 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	0.00212	<0.00200	0.16	--	--	--	--	--	--	--	
A-21	03/26/20	<0.500	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.25	--	--	--	--	--	--	--	
A-21	10/23/20	0.201 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.27	--	--	--	--	--	--	--	
A-21	04/13/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	1.19	--	--	--	--	--	--	--	
A-21	10/12/21	0.154	--	--	--	--	<0.00100	<0.00100	0.00109	<0.00300	0.00326	0.00235	0.39	--	--	--	--	--	--	--	
A-22R	05/25/11	**27**	--	--	--	--	**3.4**	0.086	3.0	1.7	--	--	--	--	--	--	--	--	--	--	
A-23R	02/14/02	0.26	2.1	--	<0.5	--	0.060	0.0010	0.0099	0.0072	**0.72*a**	--	--	--	--	--	--	--	--	--	
A-23R	05/20/02	0.74	6.9	--	<0.5	--	**0.15**	<0.001	0.088	0.0067	**0.095*a**	--	--	--	--	--	--	--	--	--	
A-23R	08/28/02	0.62	2.1	--	<0.5	--	**0.20**	0.0035	0.021	0.0075	**0.23***	--	2.40	4.10	--	--	13.00	<0.25	270.00	0.20	
A-23R	11/05/02	0.74	1.7	--	<0.5	--	**0.22**	<0.0015	0.0059	0.014	**0.18***	--	2.40	3.60	--	--	11.00	<0.25	200.00	1.60	
A-23R	02/19/03	0.71	2.3	--	<0.5	--	**0.26**	0.0033	0.0054	0.0059	**0.049***	--	3.00	6.10	--	--	12.00	<0.25	120.00	<0.1	
A-23R	06/10/03	<0.25	1.8	--	<0.25	--	0.0073	<0.001	0.0028	<0.001	<0.005*	--	1.80	1.80	--	--	30.00	<0.25	300.00	0.20	
A-23R	09/16/03	0.70	1.3	--	<0.50	--	0.043	0.0029	0.057	0.0018	**0.38***	--	1.40	7.60	--	--	12.00	<0.25 b	100.00	0.90	
A-23R	11/19/03	**1.0**	0.78	--	<0.50	--	**0.08**	0.0037	0.069	0.0035	**0.13***	--	1.50	8.70	--	--	7.80	<0.25 b	26.00	0.80	
A-23R	02/25/04	**1.6**	0.78	--	<0.50	--	**0.26**	0.0072	0.061	0.015	**0.081***	--	1.70	13.00	--	--	14.00	<0.25 b	17.00	0.70	
A-23R	05/12/04	0.28	0.45	--	<0.50	--	0.020	0.00075	0.0022	0.00082	<0.0050*	--	4.70	5.30	--	--	23.00	<0.25	80.00	<1.0	
A-23R	08/25/04	**2.3**	0.35	--	<0.50	--	**0.46**	0.012	0.074	0.020	**0.012***	--	1.80	10.00	--	--	11.00	<0.25	31.00	0.34	
A-23R	12/14/04	**2**	0.65	--	<0.50	--	**0.37**	0.0084	0.041	0.013	**0.018***	--	2.20	12.00	--	--	9.80	<0.25	6.40	0.25	
A-23R	03/10/05	0.60	0.31	--	<0.50	--	0.035	0.0011	0.0045	0.0014	**0.035***	--	1.10	7.30	--	--	30.00	<0.25	220.00	0.20	
A-23R	06/07/05	0.33	<0.25	--	<0.50	--	0.0080	<0.0005	0.0012	<0.0005	**0.013***	--	1.50	5.60	--	--	28.00	<0.25	200.00	1.90	
A-23R	09/20/05	<0.25	<0.25	--	<0.50	--	0.00060	<0.0005	<0.0005	<0.0005	0.0096*a	--	1.50	2.60	--	--	34.00	<0.25	270.00	<0.10	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-23R	12/14/05	0.37	<0.25	--	<0.50	--	0.019	0.00056	0.00065	0.00058	**0.032***	--	0.80	5.30	--	--	25.00	<0.25	50.00	0.17	
A-23R	03/15/06	**1.1**	<0.25	--	<0.50	--	**0.34**	0.0033	<0.0025	0.0051	<0.0050*	--	0.80	13.00	--	--	27.00	<0.25	21.00	0.28	
A-23R	06/08/06	0.34	<0.25	--	<0.50	--	0.033	<0.0005	<0.0005	0.031	**0.0081***	--	0.70	4.00	--	--	38.00	<0.25	150.00	0.19	
A-23R	09/12/06	0.42	<0.25	--	<0.50	--	0.010	<0.0005	0.032	0.0013	**0.035***	--	1.40	3.60	--	--	33.00	<0.25	100.00	<0.10	
A-23R	12/12/06	**2.1**	<0.25	--	<0.50	--	**0.52**	0.0066	0.053	0.021	<0.0050*	--	2.80	16.00	--	--	24.00	<0.25	4.20	0.31	
A-23R	03/27/07	0.86	--	--	--	--	**0.17**	0.0019	0.0019	0.0045	--	--	1.10	--	--	--	--	--	--	--	
A-23R	06/19/07	0.44	--	--	--	--	0.021	0.00058	0.010	0.0013	0.0076*	--	1.40	3.00	--	--	32.00	<0.25	180.00	0.11	
A-23R	09/24/07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
A-23R	12/11/07	0.79	--	--	--	--	**0.095**	0.0025	0.0050	0.0026	--	--	2.73	--	--	--	--	--	--	--	
A-23R	03/04/08	<0.25	--	--	--	--	0.00097	<0.0005	<0.0005	<0.0005	--	--	3.20	--	--	--	--	--	--	--	
A-23R	06/05/08	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	2.40	2.60	--	--	44.00	<0.25	440.00	<0.10	
A-23R	12/05/08	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.33	--	--	--	--	--	--	--	
A-23R	03/04/09	<0.25	--	--	--	--	0.00073	<0.0005	0.0022	0.013	--	--	0.35	--	--	--	--	--	--	--	
A-23R	06/02/09	<0.25	--	--	--	--	0.0013	<0.00050	0.0021	0.0059	<0.0050*	--	0.60	2.10	--	--	22.00	<0.25	290.00	<0.10	
A-23R	09/21/09	<0.25	--	--	--	--	<0.00050	<0.00050	<0.00050	<0.00050	--	--	0.77	--	--	--	--	--	--	--	
A-23R	11/16/09	<0.25	--	--	--	--	<0.0005	<0.0005	0.001	<0.0005	--	--	1.29	--	--	--	--	--	--	--	
A-23R	03/08/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.86	--	--	--	--	--	--	--	
A-23R	06/08/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	0.89	1.10	--	--	39.00	<0.25	450.00	<0.10	
A-23R	09/09/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.54	--	--	--	--	--	--	--	
A-23R	11/16/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.96	--	--	--	--	--	--	--	
A-23R	03/01/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
A-23R	05/24/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050***	--	0.59	1.00	--	--	44.00	<0.25	450.00	0.10	
A-23R	08/29/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.55	--	--	--	--	--	--	--	
A-23R	12/01/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0010	--	--	1.15	--	--	--	--	--	--	--	
A-23R	03/01/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.47	--	--	--	--	--	--	--	
A-23R	05/30/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050***	--	0.00	<0.010	--	--	86.00	<0.25	470.00	<0.10	
A-23R	11/07/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	<0.010	--	--	11	<0.25 *c	1,000	<0.10	
A-23R	02/27/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
A-23R	04/08/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	<0.0050	--	--	--	--	--	--	--	--	
A-23R	07/29/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
A-23R	10/02/13	<0.25	--	--	--	--	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
A-23R	01/21/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	4.28	--	--	--	--	--	--	--	
A-23R	04/22/14	<0.25	--	--	--	--	<0.001	<0.001	<0.001	<0.001	<0.0050	<0.0050	--	0.018	--	--	18	<0.25	1,900	<0.10	
A-23R	07/15/14	<0.25	--	--	--	--	0.00092	<0.0005	<0.0005	<0.0005	--	--	0.88	--	--	--	--	--	--	--	
A-23R	09/28/15	<0.100	--	--	--	--	0.00109	<0.005	<0.001	<0.003	--	--	0.12	3.55	--	--	4.87 T8	<0.1 T8	23.7	<0.05	
A-23R	10/11/16	<0.100	--	--	--	--	0.00109	<0.005	<0.001	<0.003	--	--	0.26	--	--	--	--	--	--	--	
A-23R	10/10/17	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.51	--	--	--	--	--	--	--	
A-23R	10/02/18	0.119 B	--	--	--	--	0.00299	<0.001	<0.001	<0.003	--	--	0.12	--	--	--	--	--	--	--	
A-23R	10/03/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.11	--	--	--	--	--	--	--	
A-23R	10/19/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.22	--	--	--	--	--	--	--	
A-23R	10/11/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.00	--	--	--	--	--	--	--	
A-25	06/16/11	**4.1**	--	--	--	--	**0.27**	0.038	0.28	0.19	--	--	--	--	--	--	--	--	--	--	
A-26R	05/25/11	**22**	--	--	--	--	**4**	0.095	1.6	0.75	--	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-27	02/14/02	**2.9**	**11**	--	<0.5	--	**0.13**	0.014	0.096	0.25	--	--	--	--	--	--	--	--	--	--	
A-27	05/22/02	**3.3**	8.2	--	<0.5	--	**0.20**	0.016	0.14	0.38	--	--	--	--	--	--	--	--	--	--	
A-27	08/29/02	**3.8**	8.1	--	<0.5	--	**0.24**	0.016	0.14	0.29	--	--	2.30	7.50	--	--	24.00	<0.25	0.29	0.20	
A-27	11/06/02	**3.2**	8.000	--	<0.5	--	**0.16**	0.016	0.065	0.14	--	--	0.70	5.20	--	--	26.00	<0.25	<0.25	0.20	
A-27	02/19/03	**3.1**	6.8	--	<0.5	--	**0.17**	0.017	0.052	0.13	--	--	3.20	6.60	--	--	19.00	<0.25	<0.25	<0.1	
A-27	06/10/03	**3.7**	4.5	--	<0.25	--	**0.14**	0.013	0.11	0.23	--	--	1.20	10.00	--	--	19.00	<0.25	0.77	0.10	
A-27	09/16/03	**4.5**	5.6	--	<0.50	--	**0.27**	0.02	0.18	0.38	--	--	1.00	8.60	--	--	51.00	<0.25 b	0.59	0.70	
A-27	11/19/03	**5.9**	5.3	--	<0.50	--	**0.25**	0.023	0.13	0.33	--	--	1.10	8.90	--	--	19.00	<0.25 b	0.33	<0.1	
A-27	02/25/04	**4.4**	**16**	--	<0.50	--	**0.15**	0.016	0.18	0.30	--	--	1.90	12.00	--	--	27.00	<0.25 b	<0.25	0.30	
A-27	05/11/04	**4.6**	5.2	--	<0.50	--	**0.16**	0.017	0.23	0.38	--	--	0.70	8.40	--	--	25.00	<0.25	<0.50	<0.10	
A-27	08/25/04	**4.7**	2.5	--	<0.50	--	**0.25**	0.018	0.17	0.24	--	--	1.68	12.00	--	--	22.00	<0.25	<0.50	0.13	
A-27	12/14/04	**4.5**	4.4	--	<0.50	--	**0.11**	0.012	0.099	0.14	--	--	1.32	12.00	--	--	10.00	<0.25	<0.50	0.12	
A-27	03/10/05	**5.8**	4.7	--	<0.50	--	**0.14**	0.015	0.16	0.22	--	--	1.62	12.00	--	--	18.00	<0.25	0.78	<0.10	
A-27	06/07/05	**4.5**	7.8	--	<0.50	--	**0.17**	0.014	0.24	0.34	--	--	1.00	7.00	--	--	19.00	<0.25	<0.50	0.30	
A-27	09/20/05	**6.3**	2.3	--	<0.50	--	**0.25**	0.019	0.18	0.22	--	--	3.10	10.00	--	--	29.00	<0.25	0.84	0.16	
A-27	12/13/05	**3.7**	0.83	--	<0.50	--	**0.13**	0.012	0.083	0.095	--	--	2.30	16.00	--	--	24.00	<0.25	<0.50	<0.10	
A-27	03/15/06	**4.4**	1.3	--	<0.50	--	**0.13**	0.017	0.19	0.24	--	--	2.30	15.00	--	--	14.00	<0.25	<0.50	0.16	
A-27	06/08/06	**4.5**	1.1	--	<0.50	--	**0.19**	0.016	0.23	0.28	--	--	1.20	13.00	--	--	25.00	<0.25	0.51	0.15	
A-27	09/12/06	**3.4**	0.82	--	<0.50	--	**0.17**	0.011	0.12	0.12	--	--	1.90	12.00	--	--	19.00	<0.25	<0.50	0.23	
A-27	12/12/06	**3.7**	0.90	--	<0.50	--	**0.11**	0.0096	0.10	0.12	--	--	1.00	13.00	--	--	24.00	<0.25	<0.50	<0.10	
A-27	03/27/07	**3.2**	--	--	--	--	0.063	0.0078	0.047	0.050	--	--	1.40	--	--	--	--	--	--	--	
A-27	06/19/07	**2.6**	--	--	--	--	**0.073**	0.0064	0.047	0.053	--	--	2.40	11.00	--	--	7.50	<0.25	<1.0	0.10	
A-27	09/24/07	**2.7**	--	--	--	--	**0.10**	0.0072	0.035	0.040	--	--	1.50	--	--	--	--	--	--	--	
A-27	12/11/07	**4.7**	--	--	--	--	**0.16**	0.011	0.17	0.13	--	--	1.50	--	--	--	--	--	--	--	
A-27	03/04/08	**4.0**	--	--	--	--	**0.10**	0.011	0.14	0.11	--	--	1.80	--	--	--	--	--	--	--	
A-27	06/04/08	**2.5**	--	--	--	--	**0.093**	0.0063	0.022	0.041	--	--	2.00	9.90	--	--	10.00	<0.25	<0.50	0.13	
A-27	09/08/08	**3.5**	--	--	--	--	**0.16**	0.0091	0.067	0.047	--	--	1.85	--	--	--	--	--	--	--	
A-27	12/04/08	**3.1**	--	--	--	--	**0.13**	0.0075	0.091	0.046	--	--	0.39	--	--	--	--	--	--	--	
A-27	03/04/09	**2.5**	--	--	--	--	**0.098**	0.0080	0.07	0.043	--	--	0.39	--	--	--	--	--	--	--	
A-27	06/02/09	**3.1**	--	--	--	--	0.048	0.0065	0.11	0.05	--	--	0.63	6.5	--	--	13	<0.25	1.2	<0.10	
A-27	09/22/09	**2.9**	--	--	--	--	0.054	0.0064	0.099	0.037	--	--	0.45	--	--	--	--	--	--	--	
A-27	11/16/09	**3.0**	--	--	--	--	0.035	0.0051	0.0921	0.035	--	--	0.46	--	--	--	--	--	--	--	
A-27	03/09/10	**2.4**	--	--	--	--	0.024	0.0043	0.089	0.036	--	--	1.32	--	--	--	--	--	--	--	
A-27	06/08/10	**2.5**	--	--	--	--	0.021	0.0041	0.088	0.031	--	--	0.00	3.90	--	--	12.00	<0.25	2.10	<0.10	
A-27	09/09/10	**3.4**	--	--	--	--	0.035	0.0054	0.12	0.034	--	--	0.47	--	--	--	--	--	<0.50	--	
A-27	11/16/10	**2.1**	--	--	--	--	0.014	0.0034	0.070	0.022	--	--	0.34	--	--	--	--	--	--	--	
A-27	03/02/11	**2.3**	--	--	--	--	0.014	0.0024	0.051	0.016	--	--	0.00	--	--	--	--	--	--	--	
A-27	05/24/11	**1.7**	--	--	--	--	0.0092	0.0017	0.023	0.0096	--	--	0.27	3.30	--	--	8.80	<0.25	2.20	0.10	
A-27	08/30/11	**2.1**	--	--	--	--	0.026	0.0021	0.022	0.011	--	--	0.36	--	--	--	--	--	--	--	
A-27	12/02/11	**2.2**	--	--	--	--	0.016	0.0026	0.030	0.0094	--	--	0.77	--	--	--	--	--	--	--	
A-27	03/01/12	**1.4**	--	--	--	--	0.012	0.0018	0.035	0.0077	--	--	0.32	--	--	--	--	--	--	--	
A-27	05/30/12	**1.6**	--	--	--	--	0.015	0.0016	0.038	0.0066	--	--	0.00	2.60	--	--	21.00	<0.25	1.10	<0.10	
A-27	08/25/12	**1.5**	--	--	--	--	0.029	0.0018	0.0027	0.0048	--	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-27	11/08/12	**1.2**	--	--	--	--	0.025	0.0022	0.0093	0.0068	--	--	--	--	--	--	--	--	--	--	
A-27	02/28/13	**1.6**	--	--	--	--	0.038	0.0019	0.057	0.0078	--	--	--	--	--	--	--	--	--	--	
A-27	04/10/13	**1.3**	--	--	--	--	0.035	0.0018	0.041	0.0053	--	--	--	3.9	--	--	21	<0.25 *c	3.3	<0.10	
A-27	06/21/13	**1.0**	0.40 K	--	--	--	0.053	0.0024	0.043	0.0083	--	--	--	--	--	--	--	<0.25 *c	2.7	<0.10	Baseline monitoring event
A-27	07/30/13	**1.8**	--	--	--	--	**0.073**	0.0039	0.051	0.017	--	--	--	6.2	16	3.6	--	16	<0.50	<0.10	
A-27 (DUP)	07/30/13	**1.5**	--	--	--	--	0.058	0.0033	0.040	0.015	--	--	--	--	--	--	--	--	--	--	Duplicate of A-27
A-27	08/26/13	**1.9**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
A-27	08/26/13	**2.1**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Duplicate of A-27
A-27	10/02/13	**1.9**	--	--	--	--	0.066	0.0041	0.038	0.021	--	--	0.00	7.4	14	3.6	--	<0.50 *c	<0.50	<0.10	
A-27	01/22/14	**2.6**	--	--	--	--	**0.078**	0.0042	0.061	0.062	--	--	7.32	--	--	--	--	--	<0.50	<0.10	
A-27	04/22/14	**2.9**	--	--	--	--	0.062	0.0023	0.074	0.078	--	--	--	2.9	--	--	2.4	<0.25	4.2	<0.10	
A-27	07/15/14	**1.8**	--	--	--	--	0.051	0.0021	0.012	0.016	--	--	0.36	5.7	18	16	--	--	0.34 J	<0.10	
A-27	03/18/15	**2.3**	--	--	--	--	**0.072**	0.0019	0.072	0.010	--	--	0.33	6.7	--	--	17	<0.25	3.1	<0.10	Surrogate recovery above lab limits
A-27	09/29/15	**1.68**	--	--	--	--	0.0609	<0.005	0.00988	0.00742	--	--	0.29	3.86	--	--	22.8 T8	<0.10	9.30	<0.05	
A-27	03/31/16	**2.55**	--	--	--	--	**0.131**	<0.005	0.142	0.0142	--	--	0.36	4.98	--	--	25.7	<0.10	7.57	<0.05 J3 J6	
A-27	10/14/16	**1.42**	--	--	--	--	0.0670	<0.005	0.0101	0.00490	--	--	0.29	2.02	--	--	24.3	<0.10	105	<0.05	
A-27	03/29/17	**2.81**	--	--	--	--	**0.144**	0.00320	0.159	0.0204	--	--	0.23	--	--	--	--	--	--	--	
A-27	10/12/17	**1.08**	--	--	--	--	0.0598	<0.00100	0.0114	<0.00300	--	--	0.73	1.47	--	--	19.3 T8	<0.100	74.0	<0.0500	
A-27	03/29/18	**1.29**	--	--	--	--	0.0259	<0.001	0.00882	<0.003	--	--	0.11	--	--	--	--	--	--	--	
A-27	10/04/18	0.949	--	--	--	--	0.0259	<0.001	<0.001	<0.003	--	--	0.12	1.64	--	--	10.7 T8	<0.1	236	<0.05	
A-27	04/03/19	0.869	--	--	--	--	0.00859	<0.00100	0.0116	<0.00300	--	--	0.08	--	--	--	--	--	292	--	
A-27	10/04/19	**1.32**	--	--	--	--	0.0217	0.00104	0.00201	0.00407	--	--	0.18	2.65	--	--	<1.25 T8	<0.100	6.65	<0.0500	
A-27	03/27/20	0.950 B	--	--	--	--	0.0135	<0.00100	0.0277	0.00357	--	--	0.21	--	--	--	--	--	<5.00	--	
A-27	10/22/20	**1.73 B**	--	--	--	--	0.0185	0.00123	<0.00100	0.00315	--	--	0.34	5.14	--	--	14.2 T8	<0.100	46.2	<0.0500	
A-27	04/13/21	0.741	--	--	--	--	0.0181	<0.00100	0.0122	<0.00300	--	--	0.16	--	--	--	--	--	--	--	
A-27	10/13/21	0.929	--	--	--	--	0.0138	0.00116	<0.00100	0.00429	--	--	0.27	3.02	--	--	7.64 T8	<0.100	<5.00	<0.0500	
A-28R	02/14/02	**5.3**	2.7	--	<0.5	--	**0.66**	0.027	0.42	0.20	**0.035***	--	--	--	--	--	--	--	--	--	
A-28R	05/22/02	**3.1**	6.7	--	<0.5	--	**0.14**	0.010	0.20	0.092	**0.05***	--	--	--	--	--	--	--	--	--	
A-28R	08/29/02	**4.0**	6.0	--	<0.5	--	**0.15**	0.019	0.23	0.078	**0.032***	--	3.60	6.20	--	--	45.00	<0.25	0.73	0.30	
A-28R	11/06/02	**3.4**	1.8	--	<0.5	--	**0.47**	0.015	0.053	0.050	**0.028***	--	2.20	5.90	--	--	46.00	<0.25	0.57	<0.1	
A-28R	02/19/03	**3.5**	4.6	--	<0.5	--	**0.46**	0.015	0.051	0.050	**0.013***	--	3.00	6.30	--	--	48.00	<0.25	0.56	<0.1	
A-28R	06/10/03	**3.7**	2.9	--	<0.25	--	**0.31**	0.0081	0.085	0.051	**0.064***	--	1.20	6.10	--	--	42.00	<0.25	<0.25	<0.1	
A-28R	09/16/03	**3.8**	2.0	--	<0.50	--	**1.0**	0.013	0.075	0.048	**0.17***	--	0.90	10b	--	--	58.00	<0.25 b	0.41	0.50	
A-28R	11/19/03	**4.9**	<0.25	--	<0.50	--	**0.58**	0.012	0.059	0.064	**0.11***	--	1.20	9.90	--	--	47.00	<0.25 b	0.25	<0.1	
A-28R	02/25/04	**5.1**	1.7	--	<0.50	--	**0.63**	0.0093	0.19	0.076	**0.0080***	--	1.80	9.60	--	--	46.00	<0.25 b	<0.25	1.40	
A-28R	05/12/04	**6.5**	2.6	--	<0.50	--	**0.96**	0.012	0.20	0.058	<0.0050*	--	1.90	11.00	--	--	47.00	<0.25	<0.50	<0.10	
A-28R	08/25/04	**5.9**	0.88	--	<0.50	--	**2.1**	0.018	0.050	0.053	**0.043***	--	0.50	12.00	--	--	38.00	<0.25	--*b	--*b	
A-28R	12/14/04	**7.6**	3.0	--	<0.50	--	**1.4**	0.015	0.073	0.062	**0.025***	--	1.72	12.00	--	--	22.00	<0.25	<0.50	0.12	
A-28R	03/10/05	**10**	0.76	--	<0.50	--	**1.9**	0.019	0.077	0.064	**0.0078***	--	3.32	14.00	--	--	42.00	<0.25	<0.50	<0.10	
A-28R	06/07/05	**6.4**	1.2	--	<0.50	--	**2.1**	0.015	0.069	0.048	**0.0068***	--	1.00	13.00	--	--	35.00	<0.25	<0.50	0.70	
A-28R	09/20/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
A-28R	12/13/05	**5.4**	<0.25	--	<0.50	--	**0.93**	0.011	0.033	0.036	**0.012***	--	0.89	15.00	--	--	28.00	<0.25	<0.50	0.13	
A-28R	03/15/06	**4.6**	<0.25	--	<0.50	--	**0.80**	0.012	0.11	0.035	<0.0050*	--	0.89	15.00	--	--	45.00	<0.25	1.30	<0.10	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-28R	06/08/06	**4.2**	0.49	--	0.73	--	**0.87**	0.013	0.070	0.035	**0.019***	--	0.80	13.00	--	--	34.00	<0.25	<0.50	--	
A-28R	09/12/06	**5.2**	<0.25	--	<0.50	--	**1.0**	0.015	0.048	0.036	**0.016***	--	1.10	16.00	--	--	35.00	<0.25	<0.50	<0.10	
A-28R	12/12/06	**4.0**	0.57	--	<0.50	--	**0.3**	0.0095	0.027	0.028	<0.0050*	--	1.70	13.00	--	--	25.00	<0.25	<0.50	<0.10	
A-28R	03/27/07	**5.5**	--	--	--	--	**0.71**	0.014	0.062	0.022	--	--	3.20	--	--	--	--	--	--	--	
A-28R	06/19/07	**5.3**	--	--	--	--	**0.59**	0.018	0.058	0.041	<0.0050	--	3.20	12.00	--	--	32.00	<0.25	2.50	<0.10	
A-28R	09/24/07	**3.9**	--	--	--	--	**0.53**	0.015	0.041	0.035	--	--	2.90	--	--	--	--	--	--	--	
A-28R	12/11/07	**2.1**	--	--	--	--	**0.088**	0.0044	0.013	0.015	--	--	2.60	--	--	--	--	--	--	--	
A-28R	03/04/08	**3.6**	--	--	--	--	**0.27**	0.0087	0.044	0.022	--	--	0.80	--	--	--	--	--	--	--	
A-28R	06/04/08	**2.2**	--	--	--	--	**0.095**	0.0049	0.0060	0.012	<0.0050	--	2.30	7.00	--	--	18.00	<0.25	<0.50	<0.10	
A-28R	12/04/08	**1.4**	--	--	--	--	0.026	0.0022	0.011	0.0075	--	--	0.36	--	--	--	--	--	--	--	
A-28R	03/04/09	**1.4**	--	--	--	--	**0.12**	0.0060	0.057	0.029	--	--	0.44	--	--	--	--	--	--	--	
A-28R	06/02/09	**2.1**	--	--	--	--	0.055	0.0020	0.016	0.0069	<0.0050	--	0.46	2.30	--	--	15.00	<0.25	2.80	0.18	
A-28R	09/22/09	**2.3**	--	--	--	--	**0.1**	0.0026	0.038	0.016	--	--	0.55	--	--	--	--	--	--	--	
A-28R	11/16/09	**1.7**	--	--	--	--	**0.080**	0.002	0.039	0.017	--	--	0.52	--	--	--	--	--	--	--	
A-28R	03/09/10	**7.3**	--	--	--	--	**0.65**	0.0079	0.32	0.092	--	--	0.50	--	--	--	--	--	--	--	
A-28R	06/08/10	**2.2**	--	--	--	--	**0.14**	0.0018	0.045	0.013	<0.0050	--	0.00	2.40	--	--	31.00	<0.25	18.00	0.29	
A-28R	09/10/10	**2.4**	--	--	--	--	**0.12**	0.0020	0.041	0.011	--	--	3.81	--	--	--	--	--	--	--	
A-28R	11/16/10	**1.8**	--	--	--	--	**0.077**	0.0017	0.047	0.013	--	--	0.79	--	--	--	--	--	--	--	
A-28R	03/02/11	**2.8**	--	--	--	--	**0.15**	0.0029	0.083	0.016	--	--	0.00	--	--	--	--	--	--	--	
A-28R	05/24/11	**3.5**	--	--	--	--	**0.21**	0.0029	0.091	0.015	<0.0050	--	0.00	3.60	--	--	39.00	<0.25	1.60	0.13	
A-28R	08/30/11	**3.7**	--	--	--	--	**0.14**	0.0026	0.061	0.011	--	--	0.31	--	--	--	--	--	--	--	
A-28R	12/02/11	**3.6**	--	--	--	--	**0.074**	0.0022	0.056	0.0092	--	--	0.30	--	--	--	--	--	--	--	
A-28R	03/02/12	**2.6**	--	--	--	--	**0.086**	0.0022	0.075	0.012	--	--	2.47	--	--	--	--	--	--	--	
A-28R	05/30/12	**2.7**	--	--	--	--	0.065	0.0017	0.050	0.0085	<0.0050	--	0.00	2.00	--	--	42.00	<0.25	<0.50	0.11	
A-28R	08/25/12	**1.8**	--	--	--	--	0.030	0.00089	0.010	0.0031	--	--	--	--	--	--	--	--	--	--	
A-28R	11/08/12	0.81	--	--	--	--	0.015	<0.0005	0.0066	0.0013	--	--	--	--	--	--	--	--	--	--	
A-28R	02/28/13	**2.6**	--	--	--	--	0.062	<0.0025	0.044	0.0059	--	--	--	--	--	--	--	--	--	--	
A-28R	04/10/13	**3.2**	--	--	--	--	0.035	0.0013	0.030	0.0042	<0.0050	--	--	2.5	--	--	37	<0.25 *c	7.9	<0.10	
A-28R	07/29/13	**2.5**	--	--	--	--	0.043	0.0018	0.019	0.0034	--	--	--	--	--	--	--	--	--	--	
A-28R	10/02/13	**1.4**	--	--	--	--	0.015	<0.001	0.0043	0.0026	--	--	0.00	--	--	--	--	--	--	--	
A-28R	01/22/14	**1.4**	--	--	--	--	**0.17**	0.0027	0.0060	0.0033	--	--	5.55	--	--	--	--	--	--	--	
A-28R	04/22/14	**2.2**	--	--	--	--	0.062	0.0022	0.016	0.0025	<0.0050	--	--	4.3	--	--	47	0.45	2.2	<0.10	
A-28R	07/15/14	**1.7**	--	--	--	--	0.043	0.0016	0.0062	0.0020	--	--	0.20	--	--	--	--	--	--	--	
A-28R	03/18/15	**3.0**	--	--	--	--	0.042	0.0035	0.016	0.0055	--	--	0.22	7.5	--	--	44	<0.25	4.4	<0.10	Surrogate recovery above lab limits
A-28R	09/29/15	**1.85**	--	--	--	--	0.0205	<0.005	0.00431	<0.003	--	--	0.30	4.15	--	--	71.3 T8	<0.10	<5.0	<0.05	
A-28R	03/31/16	**3.37**	--	--	--	--	**0.160**	<0.005	0.0202	0.00467	--	--	0.41	5.11	--	--	45.5	<0.10	<5.0	<0.05	
A-28R	10/14/16	**3.65**	--	--	--	--	**0.208**	0.00979	0.0106	0.00704	<0.002	<0.002	0.38	9.23	--	--	32.9	<0.10	<5.0	<0.05	
A-28R	03/29/17	**3.87**	--	--	--	--	**0.113**	0.00481	0.0217	0.00608	--	--	0.19	--	--	--	--	--	--	--	
A-28R	10/13/17	**4.67**	--	--	--	--	**0.850**	0.0177	0.0277	0.0161	<0.00200	<0.00100	0.63	13.6	--	--	37.7 T8	<0.100	<5.00	<0.0500	
A-28R	03/29/18	**6.93**	--	--	--	--	0.466	0.0103	0.0282	0.00879	--	--	4.61	--	--	--	--	--	--	--	
A-28R	10/04/18	**7.86**	--	--	--	--	0.534	0.0173	0.0284	0.0146	<0.002	<0.002	0.14	14.7	--	--	31.1 T8	<0.1	<5.0	<0.05	
A-28R	04/03/19	**6.24**	--	--	--	--	**0.127**	0.0069	0.294	0.023	--	--	0.09	--	--	--	--	--	--	--	
A-28R	10/04/19	**8.86**	--	--	--	--	**0.544**	0.0128	0.240	0.0265	<0.00200	<0.00200	0.28	15.5	--	--	32.5 T8	<0.100	<5.00	<0.0500	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
A-28R	03/26/20	**1.96**	--	--	--	--	0.00593	<0.00100	0.0740	0.00677	--	--	0.18	--	--	--	--	--	--	--	
A-28R	10/22/20	**3.72**	--	--	--	--	0.0398	0.00334	0.0538	0.00876	<0.00500	<0.00500	0.07	4.46	--	--	34.8 T8	<0.100	<5.00	<0.0500	
A-28R	04/13/21	**3.92**	--	--	--	--	0.02180	0.00239	0.0190	0.00355	--	--	0.12	--	--	--	--	--	--	--	
A-28R	10/13/21	**2.50**	--	--	--	--	0.0222	0.00235	0.00476	<0.00300	<0.00200	<0.00200	0.00	4.15	--	--	37 T8	<0.100	<5.00	<0.0500	
A-29R	05/25/11	**5.6**	--	--	--	--	**2.3**	0.018	<0.015	0.024	--	--	--	--	--	--	--	--	--	--	
11	06/24/13	<0.25	0.30	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	<0.25	2.5	<0.10	Baseline monitoring event
11	07/30/13	<0.25	--	--	--	--	--	--	--	--	--	--	--	0.42	1.0	<0.30	--	<0.25	0.88	<0.10	
11	08/26/15	<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.71	--	
11	10/03/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.69	0.046	5.2	0.78	--	1.2 *c	560	<0.10	
11	01/22/14	0.75	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	9.20	--	--	--	--	--	120	<0.10	
11	04/21/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	1.1	580	<0.10	
11	07/14/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.07	0.47	1.6	0.55	--	--	200	<0.10	
11	03/18/15	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	10.87	<0.010	--	--	<0.050	0.43	450	<0.10	
11	09/29/15	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	3.59	0.0747	--	--	0.518	0.438	310	<0.05	
11	03/30/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	7.15	<0.010	--	--	<0.050	0.332	1,120	<0.05	
11	10/14/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	7.40	--	--	--	--	--	548	--	
11	03/29/17	<0.100	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	6.58	--	--	--	--	--	1,010	--	
11	10/13/17	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	4.84	--	--	--	--	--	428	--	
11	03/29/18	<0.1	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	7.24	--	--	--	--	--	222	--	
11	10/03/18	<0.1					<0.001	<0.001	<0.001	<0.003	--	--	2.37	--	--	--	--	--	423	--	
11	04/03/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	7.62	--	--	--	--	--	90	--	
11	10/03/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	3.30	--	--	--	--	--	175	--	
11	03/26/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	7.31	--	--	--	--	--	408	--	
11	10/20/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	4.01	--	--	--	--	--	247	--	
11	04/14/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	6.99	--	--	--	--	--	79.9	--	
11	10/12/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	4.30	--	--	--	--	--	45.1	--	
12	06/24/13	**4.1**	5.3 K	--	--	--	0.037	0.045	0.13	0.53	--	--	--	--	--	--	--	<0.25	<0.50	<0.10	Baseline monitoring event
12	08/26/13	**9.3**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
12	10/03/13	**2.7**	--	--	--	--	0.0020	0.0057	0.043	0.18	--	--	0.00	2.2	39	35	--	1.1 *c	5,500	<0.10	
12	01/22/14	**4.2**	--	--	--	--	0.0067	0.015	0.027	0.34	--	--	3.42	--	--	--	--	--	3,000	<0.10	
12	04/21/14	**2.6**	--	--	--	--	0.015	0.014	0.088	0.15	--	--	--	--	--	--	--	<0.25	1,700	0.22	
12	07/14/14	**4.7**	--	--	--	--	0.019	0.026	0.17	0.22	--	--	0.20	11	31	38	--	--	1,100	<0.10	
12	03/18/15	**1.8**	--	--	--	--	0.0059	0.0012	0.003	0.024	--	--	0.23	2.2	--	--	5.5	<0.25	940	<0.10	
12	09/29/15	**3.32**	--	9.85	--	0.732	0.0435	0.0217	0.191	0.0609	**0.0508**	0.00280	0.14	3.01	--	--	1.34 T8	<0.10	550	0.499	
12	03/30/16	0.725	--	--	--	--	0.00441	<0.005	0.0140	0.00511	--	--	0.29	0.473	--	--	2.32	<0.10	1,550	<0.05	
12	10/14/16	**1.62**	--	0.713	--	<0.500	0.00363	0.00950	0.0721	0.0306	**0.0187**	0.00336	0.87	--	--	--	--	--	791	--	
12	04/20/17	**1.83**	--	--	--	--	0.0244	<0.010	0.138	<0.030	--	--	0.31	--	--	--	--	--	2,740	--	
12	10/13/17	**2.19 B**	--	4.59	--	<0.250	0.0110	<0.0100	0.101	0.0317	**0.146**	0.00182	0.46	--	--	--	--	--	901	--	
12	03/29/18	**1.05**	--	--	--	--	0.00197	<0.001	0.00228	0.00365	--	--	0.10	--	--	--	--	--	627	--	
12	10/04/18	**2.68**	--	0.772	--	<0.25	0.033	0.012	**0.181**	<0.03	**0.024**	0.00272	0.26	--	--	--	--	--	152	--	
12	04/03/19	**1.23**	--	--	--	--	0.00225	0.00150	0.0185	0.0175	--	--	0.02	--	--	--	--	--	254	--	
12	10/03/19	**1.36**	--	1.41	--	<0.250	0.00435	0.00295	0.0226	0.0109	**0.00951**	0.00334	0.12	--	--	--	--	--	125	--	
12	03/26/20	0.520	--	--	--	--	0.00213	0.00132	0.00808	0.0141	--	--	0.66	--	--	--	--	--	1,050	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
12	10/21/20	**2.73**	--	1.57	--	<0.250	**0.116**	0.00918	0.0913	0.0490	**0.0239**	<0.00500	0.45	--	--	--	--	--	1,270	--	
12	04/12/21	**1.290**	--	--	--	--	0.00327	<0.00100	0.00471	0.00605	--	--	1.30	--	--	--	--	--	691	--	
12	10/12/21	**4.10**	--	1.46	--	<0.250	0.0392	0.00746	0.1570	0.0458	**0.0131**	0.00325	0.06	--	--	--	--	--	998	--	
MW-1	02/13/02	<0.25	2.0	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-1	05/21/02	<0.25	1.9	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-1	08/28/02	<0.25	1.0	--	<0.5	--	0.0013	0.0067	0.00052	0.0016	<0.005*	--	3.20	4.00	--	--	12.00	<0.25	1.20	0.20	
MW-1	11/05/02	<0.25	0.87	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.021***	--	1.90	3.60	--	--	85.00	<0.25	0.99	1.30	
MW-1	02/19/03	<0.25	1.9	--	<0.5	--	<0.0005	0.00058	<0.0005	<0.0005	<0.005*	--	3.60	4.90	--	--	16.00	<0.25	11.00	0.10	
MW-1	06/10/03	<0.25	1.1	--	<0.25	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	1.30	7.60	--	--	28.00	<0.25	6.40	<0.1	
MW-1	09/16/03	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.40	5.60	--	--	25.00	<0.25 b	5.20	<0.1	
MW-1	11/19/03	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.90	3.80	--	--	15.00	<0.25 b	0.50	<0.1	
MW-1	02/25/04	<0.25	1.3	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.20	2.60	--	--	21.00	<0.25 b	17.00	0.20	
MW-1	05/11/04	<0.25	0.87	--	<0.50	--	<0.0005	0.00068	<0.0005	<0.0005	<0.0050*	--	1.80	1.60	--	--	27.00	<0.25	11.00	<0.10	
MW-1	08/25/04	0.83	0.40	--	<0.50	--	<0.0005	<0.0005	0.00065	<0.0005	<0.0050*	--	2.38	1.60	--	--	18.00	<0.25	2.80	<0.10	
MW-1	12/15/04	<0.25	0.38	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.20	1.40	--	--	4.30	0.72	26.00	<0.10	
MW-1	03/09/05	<0.25	0.63	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.40	1.50	--	--	19.00	<0.25	9.80	<0.10	
MW-1	06/08/05	<0.25	0.80	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.00	0.82	--	--	11.00	<0.25	15.00	<0.2	
MW-1	09/21/05	<0.25	0.40	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.50	0.68	--	--	51.00	<0.25	52.00	<0.10	
MW-1	12/14/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.20	1.10	--	--	18.00	<0.25	21.00	<0.10	
MW-1	03/14/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.10	0.16	--	--	20.00	<0.25	21.00	<0.10	
MW-1	06/07/06	<0.25	0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.80	0.14	--	--	23.00	<0.25	86.00	<0.10	
MW-1	09/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0052*	--	2.20	2.50	--	--	24.00	<0.25	15.00	<0.10	
MW-1	12/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.60	0.22	--	--	6.60	1.00	49.00	<0.10	
MW-1	06/20/07	<0.25	0.75	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	3.40	--	--	--	--	--	--	--	
MW-1	03/04/08	--	--	--	--	--	--	--	--	--	--	--	1.20	--	--	--	--	--	26.00	--	
MW-1	06/05/08	<0.25	0.32	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.0013	<0.0050	--	2.70	--	--	--	--	<0.25	41.00	--	
MW-1	06/01/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.68	--	--	--	--	--	--	--	
MW-1	06/08/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.00	--	--	--	--	--	--	--	
MW-1	05/23/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.12	--	--	--	--	--	--	--	
MW-1	06/01/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.00	--	--	--	--	--	--	--	
MW-1	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-1	04/23/14	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-1	10/01/15	<0.100	--	1.38	--	0.708	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.19	--	--	--	--	--	--	--	
MW-1	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.34	--	--	--	--	--	--	--	
MW-1	10/12/17	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.77	--	--	--	--	--	--	--	
MW-1	10/03/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.14	--	--	--	--	--	--	--	
MW-1	10/02/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.16	--	--	--	--	--	--	--	
MW-1	10/22/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.10	--	--	--	--	--	--	--	
MW-1	10/14/21	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.22	--	--	--	--	--	--	--	
MW-2	02/13/02	<0.25	0.71	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-2	05/21/02	<0.25	0.66	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-2	08/29/02	<0.25	0.91	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	2.10	0.69	--	--	1.60	<0.25	9.80	<0.1	
MW-2	11/05/02	<0.25	0.73	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	1.90	1.20	--	--	5.10	<0.25	9.60	<0.1	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-2	02/19/03	<0.25	0.74	--	<0.5	--	<0.0005	0.00062	<0.0005	<0.0005	**0.028***	--	2.10	0.031	--	--	1.60	<0.25	55.00	<0.1	
MW-2	06/10/03	<0.25	0.61	--	<0.25	--	<0.0005	0.00071	<0.0005	<0.0005	**0.026*a**	--	1.40	0.059	--	--	1.60	<0.25	25.00	0.30	
MW-2	09/16/03	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.062***	--	1.40	1.10	--	--	12.00	<0.25 b	21.00	0.60	
MW-2	11/19/03	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.021***	--	6.40	0.13	--	--	0.40	<0.25 b	8.30	<0.1	
MW-2	02/25/04	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.030***	--	4.30	0.079	--	--	0.75	0.67 b	17.00	0.20	
MW-2	05/11/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.70	0.24	--	--	0.18	0.64	25.00	<0.10	
MW-2	08/25/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.02	0.11	--	--	0.063	<0.25	21.00	<0.10	
MW-2	12/14/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.72	0.093	--	--	<0.050	<0.25	11.00	<0.10	
MW-2	03/10/05	<0.25	0.29	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.00	0.23	--	--	0.32	0.34	31.00	<0.10	
MW-2	06/07/05	<0.25	0.91	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.036***	--	1.00	0.44	--	--	0.059	0.26	21.00	<0.2	
MW-2	09/20/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.70	0.033	--	--	<0.050	<0.25	25.00	<0.10	
MW-2	12/13/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.024***	--	3.00	0.71	--	--	1.60	<0.25	4.50	<0.10	
MW-2	03/15/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.80	<0.010	--	--	<0.050	0.54	17.00	<0.10	
MW-2	06/08/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0063*	--	1.20	0.013	--	--	<0.050	0.35	10.00	<0.10	
MW-2	09/12/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.50	0.49	--	--	<0.050	<0.25	13.00	<0.10	
MW-2	12/12/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.20	0.018	--	--	0.068	0.91	14.00	<0.10	
MW-2	06/19/07	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.80	--	--	--	--	--	--	--	
MW-2	03/04/08	--	--	--	--	--	--	--	--	--	--	--	3.20	--	--	--	--	--	19.00	--	
MW-2	06/04/08	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.90	--	--	--	--	0.97	12.00	--	
MW-2	06/03/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	4.27	--	--	--	--	--	--	--	
MW-2	06/08/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.063**	--	1.71	--	--	--	--	--	--	--	
MW-2	05/23/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	3.30	--	--	--	--	--	--	0.0050	
MW-2	05/31/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.83	--	--	--	--	--	--	0.0050	
MW-2	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	<0.10	
MW-2	04/22/14	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	<0.10	
MW-2	09/30/15	<0.100	--	<0.100	--	<0.25	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	1.02	0.276	--	--	0.115 T8	<0.10	6.98	<0.05	
MW-2	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	1.42	--	--	--	--	--	--	--	
MW-2	10/11/17	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	2.66	--	--	--	--	--	--	--	
MW-2	10/03/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	3.14	--	--	--	--	--	--	--	
MW-2	10/03/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	1.37	--	--	--	--	--	--	--	
MW-2	10/21/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	1.11	--	--	--	--	--	--	--	
MW-2	10/14/21	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	2.17	--	--	--	--	--	--	--	
MW-3	02/13/02	<0.25	1.8	--	<0.5	--	0.011	0.0015	0.0045	0.011	<0.005*	--	--	--	--	--	--	--	--	--	
MW-3	05/20/02	0.38	1.9	--	<0.5	--	0.052	0.0028	0.025	0.020	**0.01***	--	--	--	--	--	--	--	--	--	
MW-3	08/28/02	0.62	2.5	--	<0.5	--	**0.11**	0.0071	0.021	0.030	<0.005*	--	2.60	4.60	--	--	11.00	<0.25	19.00	0.20	
MW-3	11/06/02	0.63	1.1	--	<0.5	--	**0.14**	0.0053	0.021	0.015	**0.006***	--	2.90	0.88	--	--	0.80	<0.25	9.20	0.20	
MW-3	02/19/03	<0.25	1.8	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.014***	--	8.60	0.017	--	--	0.20	6.10	84.00	0.20	
MW-3	06/11/03	<0.25	1.3	--	<0.25	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.019***	--	6.54	0.022	--	--	0.40	8.50	130.00	0.20	
MW-3	09/17/03	<0.25	1.4	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.042***	--	6.50	0.028	--	--	0.80	8.20	160.00	<0.1	
MW-3	11/20/03	<0.25	2.4	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0063*	--	7.80	<0.01	--	--	<0.2	17.00	66.00	0.20	
MW-3	02/25/04	<0.25	1.2	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.025***	--	2.80	<0.01	--	--	<0.050	6.70	35.00	0.20	
MW-3	05/11/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	8.40	<0.010	--	--	<0.050	7.70	59.00	<0.10	
MW-3	08/25/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0051*	--	1.80	<0.010	--	--	<0.050	7.00	66.00	<0.10	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-3	12/15/04	<0.25	0.33	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.018***	--	7.60	0.059	--	--	<0.050	6.50	50.00	<0.10	
MW-3	03/09/05	<0.25	<0.25	--	<0.50	--	0.0010	<0.0005	<0.0005	<0.0005	<0.0050*	--	4.43	1.80	--	--	<0.050	3.50	51.00	<0.10	
MW-3	06/08/05	<0.25	<0.25	--	<0.50	--	0.0011	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.98	3.30	--	--	<0.050	4.20	37.00	<0.2	
MW-3	09/21/05	<0.25	<0.25	--	<0.50	--	0.00094	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.90	4.30	--	--	0.064	3.40	47.00	<0.10	
MW-3	12/14/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.80	0.80	--	--	<0.050	1.60	72.00	<0.10	
MW-3	03/14/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.10	0.23	--	--	<0.050	7.50	22.00	<0.10	
MW-3	06/07/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.80	0.30	--	--	<0.050	4.60	21.00	<0.10	
MW-3	09/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.60	2.40	--	--	<0.050	0.40	30.00	<0.10	
MW-3	12/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	0.80	0.25	--	--	0.064	2.80	28.00	<0.10	
MW-3	06/20/07	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	2.20	--	--	--	--	--	--	--	
MW-3	06/05/08	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	2.00	--	--	--	--	3.40	15.00	--	
MW-3	06/01/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	4.84	--	--	--	--	--	--	--	
MW-3	06/09/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	0.0011	0.0053	<0.0050	--	3.24	--	--	--	--	--	--	--	
MW-3	05/23/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	5.29	--	--	--	--	--	--	--	
MW-3	05/31/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.34	--	--	--	--	--	--	--	
MW-3	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-3	04/22/14	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-3	10/01/15	<0.100	--	0.143	--	<0.25	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	2.76	--	--	--	--	--	--	--	
MW-3	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	3.86	--	--	--	--	--	--	--	
MW-3	10/11/17	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	4.49	--	--	--	--	--	--	--	
MW-3	10/03/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	2.95	--	--	--	--	--	--	--	
MW-3	10/02/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	**0.00743**	<0.00200	4.44	--	--	--	--	--	--	--	
MW-3	10/22/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	4.84	--	--	--	--	--	--	--	
MW-3	10/13/21	0.131 B	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	3.49	--	--	--	--	--	--	--	
MW-4	02/14/02	0.78	**280**	--	<50	--	**0.30**	0.0072	0.0023	0.0082	--	--	--	--	--	--	--	--	--	--	
MW-4	05/21/02	**1.5**	8.6	--	<0.5	--	**0.43**	0.023	0.034	0.13	--	--	--	--	--	--	--	--	--	--	
MW-4	08/28/02	**3.3**	**30**	--	2.6	--	**1.1**	0.016	0.016	0.024	--	--	1.00	5.10	--	--	86.00	<0.25	2.90	--^	
MW-4	11/05/02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-4	02/19/03	**3.1**	**31**	--	<0.5	--	0.056	0.0017	0.014	0.020	--	--	2.00	1.80	--	--	120.00	<0.25	270.00	--^	
MW-4	06/10/03	0.39	**12**	--	<0.25	--	0.031	0.0012	0.0091	0.0096	--	--	0.90	4.90	--	--	36.00	<0.25	8.40	0.60	
MW-4	09/16/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-4	11/19/03	0.25	**19**	--	<0.50	--	0.033	<0.001	0.0042	0.0069	--	--	1.40	1.90	--	--	31.00	<0.25 b	49.00	0.60	
MW-4	02/25/04	0.36	**15**	--	<0.50	--	0.035	0.0014	0.0056	0.0094	--	--	2.20	1.20	--	--	32.00	<0.25 b	1.00	0.30	
MW-4	05/12/04	0.33	7.4	--	<0.50	--	0.012	<0.001	0.0048	0.0058	--	--	0.89	4.90	--	--	37.00	<0.25	5.30	<0.10	
MW-4	08/26/04	<0.50	5.1	--	<0.50	--	0.014	<0.0025	0.0039	0.0069	--	--	2.32	1.40	--	--	26.00	<0.25	6.40	0.42	
MW-4	12/15/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-4	03/09/05	<2.0	**11**	--	<0.50	--	<0.01	<0.01	<0.01	0.013	--	--	1.37	1.00	--	--	31.00	<0.25	110.00	0.33	
MW-4	06/08/05	<1.0	**16**	--	1.1	--	<0.005	<0.005	<0.005	<0.005	<0.0050	--	1.50	1.60	--	--	46.00	<0.25	11.00	0.50	
MW-4	09/21/05	<2.0	**19**	--	2.1	--	<0.010	<0.010	<0.010	<0.010	--	--	1.30	7.00	--	--	54.00	<0.25	0.52	23.00	
MW-4	12/14/05	<0.50	6.2	--	0.81	--	0.012	<0.0025	0.0032	0.0084	--	--	2.40	6.60	--	--	19.00	<0.25	33.00	0.38	
MW-4	03/14/06	<0.40	3.9	--	0.69	--	0.0063	<0.0020	0.0020	0.0062	--	--	2.40	4.20	--	--	11.00	<0.25	1.90	0.53	
MW-4	06/07/06	<0.50	4.5	--	<0.50	--	0.0037	<0.0025	<0.0025	<0.0025	--	--	3.20	7.10	--	--	8.30	<0.25	<0.50	0.54	
MW-4	09/13/06	<0.50	2.7	--	<0.50	--	0.0034	<0.0025	<0.0025	0.0029	--	--	2.80	7.60	--	--	15.00	<0.25	<0.50	0.85	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-4	12/13/06	<0.25	3.7	--	0.62	--	0.0012	<0.0005	<0.0005	0.0023	--	--	2.90	2.30	--	--	8.70	<0.25	31.00	<0.10	
MW-4	06/20/07	<0.25	--	--	--	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	1.80	--	--	--	--	--	--	--	
MW-4	06/05/08	<0.25	1.2	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	2.60	--	--	--	--	--	--	--	
MW-4	06/01/09	<0.25	2.1	--	0.61	--	<0.0005	<0.0005	<0.0005	0.00080	--	--	0.26	--	--	--	--	--	--	--	
MW-4	06/08/10	<0.25	0.86	--	<0.50	--	<0.0005	0.00057	<0.0005	0.0018	--	--	0.00	--	--	--	--	--	--	--	
MW-4	05/23/11	<0.25	1.6	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	0.25	--	--	--	--	--	--	--	
MW-4	06/01/12	<0.50	2.0	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	0.00	--	--	--	--	--	--	--	
MW-4	04/09/13	<0.50 O	--	0.92	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--	--	--	--	--	--	--	
MW-4	04/23/14	<0.25	5.3	1.7	0.90	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-4	09/30/15	<0.100	--	5.02	--	0.916	<0.001	<0.005	<0.001	<0.003	--	--	0.41	--	--	--	--	--	--	--	
MW-4	10/12/16	0.285	--	1.27	--	<0.500	<0.001	<0.005	<0.001	<0.003	--	--	0.62	--	--	--	--	--	--	--	
MW-4	10/11/17	0.225 B	--	4.55	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.59	--	--	--	--	--	--	--	
MW-4	10/04/18	0.198	--	0.973	--	<0.25	<0.001	<0.001	<0.001	<0.003	--	--	0.08	--	--	--	--	--	--	--	
MW-4	10/03/19	<0.100	--	1.44	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.21	--	--	--	--	--	--	--	
MW-4	10/20/20	0.217 B	--	0.929	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.04	--	--	--	--	--	--	--	
MW-4	10/14/21	0.221	--	1.290	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.07	--	--	--	--	--	--	--	
MW-5	02/13/02	<0.25	<0.25	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-5	05/21/02	<0.25	<0.5	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.01***	--	--	--	--	--	--	--	--	--	
MW-5	08/29/02	<0.25	1.2	--	<0.5	--	<0.0005	0.0018	<0.0005	0.00063	<0.005*	--	1.40	0.17	--	--	0.30	<0.25	11.00	0.20	
MW-5	11/05/02	<0.25	1.6	--	<0.5	--	0.0055	0.0016	<0.0005	0.00056	<0.005*	--	4.10	6.40	--	--	13.00	1.10	250.00	0.30	
MW-5	02/20/03	<0.25	<0.25	--	<0.5	--	<0.0005	0.00066	<0.0005	<0.0005	<0.005*	--	2.00	0.073	--	--	<0.2	<0.25	6.20	<0.1	
MW-5	06/11/03	<0.25	0.36	--	<0.25	--	<0.0005	0.00079	<0.0005	<0.0005	<0.005*	--	1.60	2.50	--	--	0.60	<0.25	8.20	0.10	
MW-5	09/16/03	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.011***	--	1.20	4.70	--	--	3.10	<0.25 b	5.60	0.10	
MW-5	11/20/03	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0086***	--	4.90	<0.01	--	--	0.30	<0.25 b	4.70	0.20	
MW-5	02/24/04	<0.25	<0.50	--	<0.50	--	<0.0005	0.0014	<0.0005	<0.0005	<0.0050*	--	3.10	0.33	--	--	0.062	<0.25 b	5.80	0.10	
MW-5	05/11/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.90	0.61	--	--	1.50	0.27	3.00	<0.10	
MW-5	08/26/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.22	<0.010	--	--	<0.050	1.80	7.60	<0.10	
MW-5	12/15/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	12.19	<0.010	--	--	<0.050	0.27	4.30	<0.10	
MW-5	03/09/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.11***	--	6.22	0.020	--	--	<0.050	<0.25	15.00	<0.10	
MW-5	06/08/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.50	<0.010	--	--	<0.050	<0.25	11.00	<0.2	
MW-5	09/21/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.90	0.080	--	--	0.077	<0.25	8.90	<0.10	
MW-5	12/14/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.20	<0.010	--	--	<0.050	<0.25	9.80	--*d	
MW-5	03/14/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.012***	--	2.20	<0.010	--	--	<0.050	0.55	3.20	<0.10	
MW-5	06/07/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0099***	--	2.00	<0.010	--	--	<0.050	1.10	4.50	<0.10	
MW-5	09/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.013***	--	2.10	0.34	--	--	<0.050	<0.25	6.60	<0.10	
MW-5	12/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0088***	--	2.30	<0.010	--	--	<0.050	0.30	3.80	<0.10	
MW-5	06/20/07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-5	06/04/08	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0094**	--	2.40	--	--	--	--	--	--	--	
MW-5	06/02/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.00078	<0.0050	--	4.34	--	--	--	--	--	--	--	
MW-5	06/08/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.84	--	--	--	--	--	--	--	
MW-5	05/24/11	<0.25	<0.25	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	--	5.26	--	--	--	--	--	--	--	
MW-5	05/31/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	2.33	--	--	--	--	--	--	--	
MW-5	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0073**	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-5	04/21/14	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-5	10/01/15	<0.100	--	0.371	--	<0.25	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.45	--	--	--	--	--	--	--	
MW-5	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.40	--	--	--	--	--	--	--	
MW-5	10/13/17	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.59	--	--	--	--	--	--	--	
MW-5	10/03/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.13	--	--	--	--	--	--	--	
MW-5	10/01/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	1.46	--	--	--	--	--	--	--	
MW-5	10/19/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	1.37	--	--	--	--	--	--	--	
MW-5	10/11/21	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.22	--	--	--	--	--	--	--	
MW-6	02/13/02	0.97	1.1	--	<0.5	--	0.014	0.0007	<0.0005	0.00065	<0.005*	--	--	--	--	--	--	--	--	--	
MW-6	05/22/02	**1.1**	2.5	--	<0.5	--	0.035	0.0012	0.0024	0.00072	<0.005*	--	--	--	--	--	--	--	--	--	
MW-6	08/29/02	0.58	6.4	--	<0.5	--	0.0014	<0.001	<0.001	<0.001	<0.005*	--	1.20	0.72	--	--	4.10	<0.25	11.00	0.10	
MW-6	11/05/02	0.59	7.3	--	<0.5	--	0.064	<0.001	<0.001	0.0016	**0.02***	--	1.70	1.70	--	--	10.00	<0.25	5.60	0.70	
MW-6	02/19/03	0.54	1.7	--	<0.5	--	0.0062	<0.0005	<0.0005	<0.0005	<0.005*	--	3.30	1.20	--	--	7.30	<0.25	62.00	0.10	
MW-6	06/10/03	0.70	1.9	--	<0.25	--	0.025	0.0011	0.00052	0.00051	<0.005*	--	2.00	0.87	--	--	5.90	<0.25	17.00	0.20	
MW-6	09/16/03	0.68	<0.50	--	<0.50	--	<0.0005	<0.0005	0.00053	<0.0005	**0.019***	--	2.30	1.60	--	--	41.00	<0.25 b	2.90	1.00	
MW-6	11/19/03	0.44	1.6	--	<0.50	--	0.0095	0.00067	<0.0005	0.00051	<0.0050*	--	5.10	1.70	--	--	5.40	<0.25 b	19.00	<0.1	
MW-6	02/25/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.40	<0.01	--	--	0.49	2.8b	24.00	<0.1	
MW-6	05/11/04	**1.0**	0.67	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.20	0.39	--	--	5.10	<0.25	12.00	<0.10	
MW-6	08/25/04	<0.25	0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.26	0.59	--	--	4.90	<0.25	8.70	0.18	
MW-6	12/14/04	0.82	0.81	--	<0.50	--	0.0080	<0.0005	<0.0005	<0.0005	**0.011***	--	1.45	2.80	--	--	2.50	<0.25	9.90	<0.10	
MW-6	03/10/05	**1.0**	0.42	--	<0.50	--	0.0011	<0.0005	<0.0005	<0.0005	<0.0050*	--	0.70	0.85	--	--	1.90	<0.25	20.00	0.15	
MW-6	06/07/05	0.92	<0.25	--	<0.50	--	0.0014	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.80	0.38	--	--	0.86	0.56	19.00	0.20	
MW-6	09/20/05	0.91	<0.25	--	<0.50	--	<0.0005	<0.0005	0.00062	<0.0005	<0.0050*	--	0.90	1.50	--	--	2.50	<0.25	6.00	0.18	
MW-6	12/13/05	**1.2**	0.38	--	<0.50	--	0.0032	<0.0005	0.00050	<0.0005	<0.0050*	--	1.00	1.90	--	--	2.60	<0.25	10.00	0.26	
MW-6	03/15/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.00	0.057	--	--	0.30	<0.25	17.00	<0.10	
MW-6	06/08/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.90	0.22	--	--	5.90	<0.25	7.30	0.39	
MW-6	09/12/06	0.71	<0.25	--	<0.50	--	<0.0005	0.00055	<0.0005	<0.0005	<0.0050*	--	1.60	0.98	--	--	2.50	<0.25	3.10	0.33	
MW-6	12/12/06	<0.25	<0.25	--	<0.50	--	<0.0005	0.00055	<0.0005	<0.0005	<0.0050*	--	2.00	0.032	--	--	1.60	0.91	49.00	<0.10	
MW-6	03/27/07	0.81	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.30	--	--	--	--	--	--	--	
MW-6	06/19/07	0.73	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.40	0.40	--	--	4.40	<0.25	15.00	0.21	
MW-6	09/24/07	0.55	--	--	--	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	3.40	--	--	--	--	--	--	--	
MW-6	12/11/07	0.54	--	--	--	--	0.0014	<0.0005	<0.0005	<0.0005	--	--	3.16	--	--	--	--	--	--	--	
MW-6	03/04/08	0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.50	--	--	--	--	--	--	--	
MW-6	06/04/08	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	2.90	0.38	--	--	0.70	<0.25	11.00	0.13	
MW-6	09/08/08	0.51	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.89	--	--	--	--	--	--	--	
MW-6	12/04/08	0.43	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.33	--	--	--	--	--	--	--	
MW-6	03/04/09	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.57	--	--	--	--	--	--	--	
MW-6	06/02/09	0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	0.0025	<0.0050	--	1.37	0.096	--	--	0.30	3.30	24.00	<0.10	
MW-6	09/21/09	0.33	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.28	--	--	--	--	--	--	--	
MW-6	11/17/09	0.31	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.46	--	--	--	--	--	--	--	
MW-6	03/09/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	0.00095	--	--	1.33	--	--	--	--	--	--	--	
MW-6	06/08/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.080	0.036	--	--	0.22	0.41	11.00	<0.10	
MW-6	09/09/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.40	--	--	--	--	--	4.80	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-6	11/15/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.42	--	--	--	--	--	--	--	
MW-6	03/02/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.20	--	--	--	--	--	--	--	
MW-6	05/24/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.86	0.010	--	--	<0.050	0.68	10.00	0.10	
MW-6	08/30/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.32	--	--	--	--	--	--	--	
MW-6	12/01/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0010	--	--	0.90	--	--	--	--	--	--	--	
MW-6	03/01/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.69	--	--	--	--	--	--	--	
MW-6	05/31/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.00	<0.010	--	--	<0.050	2.10	18.00	<0.10	
MW-6	08/25/12	0.27	--	--	--	--	<0.00050	<0.00050	<0.00050	<0.00050	--	--	--	--	--	--	--	--	--	--	
MW-6	11/08/12	0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-6	02/28/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-6	04/09/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	<0.010	--	--	<0.050	0.92 *c	15	<0.10	
MW-6	07/29/13	0.30	--	--	--	--	<0.0005	<0.0005	<0.0005	0.00059	--	--	--	--	--	--	--	--	--	--	
MW-6	10/02/13	0.69	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	10.68	--	--	--	--	--	--	--	
MW-6	01/22/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	8.95	--	--	--	--	--	--	--	
MW-6	04/22/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	<0.010	--	--	<0.050	1.6	23	<0.10	
MW-6	07/15/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.51	--	--	--	--	--	--	--	
MW-6	09/29/15	0.259	--	--	--	--	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.36	0.123	--	--	0.203 T8	<0.1	9.64	<0.05	
MW-6	10/12/16	0.294	--	--	--	--	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.78	--	--	--	--	--	--	--	
MW-6	10/12/17	0.311	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	1.14	--	--	--	--	--	--	--	
MW-6	10/03/18	0.389 B	--	--	--	--	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.36	--	--	--	--	--	--	--	
MW-6	10/03/19	0.249	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.15	--	--	--	--	--	--	--	
MW-6	10/22/20	0.250 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.50	--	--	--	--	--	--	--	
MW-6	10/14/21	0.211 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.30	--	--	--	--	--	--	--	
MW-7	02/14/02	**13**	7.5	--	<0.5	--	**0.20**	0.24	0.57	1.8	**0.035***	--	--	--	--	--	--	--	--	--	
MW-7	05/21/02	**6.6**	**11**	--	<0.5	--	**0.16**	0.089	0.43	0.66	**0.04***	--	--	--	--	--	--	--	--	--	
MW-7	08/29/02	**2.9**	5.7	--	<0.5	--	**0.12**	0.042	0.24	0.11	**0.047***	--	1.40	14.00	--	--	9.80	<0.25	20.00	0.40	
MW-7	11/05/02	0.90	5.9	--	<0.5	--	0.021	0.0022	0.004	0.0066	**0.041***	--	3.00	14.00	--	--	8.90	<0.25	7.00	0.50	
MW-7	02/20/03	**9.7**	**11**	--	<0.5	--	**0.12**	0.13	0.33	1.4	**0.11*a**	--	2.50	13.00	--	--	13.00	<0.25	21.00	1.10	
MW-7	06/11/03	**5.7**	8.7	--	<0.25	--	**0.13**	0.092	0.26	0.52	**0.081*a**	--	2.00	17.00	--	--	12.00	<0.25	1.10	0.50	
MW-7	09/17/03	**1.4**	**12**	--	<0.50	--	**0.078**	0.031	0.15	0.089	**0.11*a**	--	1.10	14.00	--	--	2.70	<0.25 c	3.00	1.10	
MW-7	11/20/03	0.26	0.79	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.035	**0.019*a**	--	2.40	0.98	--	--	0.90	1.3 c	19.00	<0.1	
MW-7	02/26/04	**15**	**21**	--	<0.50	--	**0.11**	0.34	0.63	3.8	**0.034*a**	--	6.20	18.00	--	--	27.00	<0.25 b	59.00	0.90	
MW-7	05/11/04	**6.3**	**11**	--	<0.50	--	0.059	0.15	0.31	1.3	**0.0083*a**	--	1.00	14.00	--	--	16.00	<0.25	12.00	0.15	
MW-7	08/26/04	**7.1**	**20**	--	<0.50	--	0.054	0.22	0.34	1.7	**0.067*a**	--	3.80	15.00	--	--	13.00	<0.25	9.20	0.47	
MW-7	12/15/04	**18**	4.4	--	<0.50	--	**0.14**	0.37	0.53	3.0	**0.19*a**	--	1.30	10.00	--	--	20.00	3.20	68.00	0.19	
MW-7	03/09/05	**3.5**	2.1	--	<0.50	--	0.045	0.034	0.090	0.27	**0.079*a**	--	1.45	18.00	--	--	9.30	<0.25	4.50	0.45	
MW-7	06/08/05	**2.9**	2.3	--	<0.50	--	0.054	0.050	0.11	0.44	**0.069*a**	--	10.50	17.00	--	--	8.70	<0.25	1.40	0.40	
MW-7	09/20/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-7	09/21/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-7	12/14/05	**8.8**	0.59	--	<0.50	--	**0.16**	0.19	0.31	1.5	**0.042*a**	--	1.70	22.00	--	--	19.00	<0.25	75.00	0.16	
MW-7	03/14/06	**15**	0.50	--	<0.50	--	**0.12**	0.26	0.50	3.6	**0.026***	--	1.70	18.00	--	--	9.70	<0.25	19.00	0.36	
MW-7	06/07/06	**17**	0.85	--	<0.50	--	**0.12**	0.35	0.69	4.5	**0.023***	--	1.60	19.00	--	--	2.70	<0.25	17.00	0.43	
MW-7	09/13/06	**2.4**	0.32	--	<0.50	--	0.050	0.055	0.19	0.39	**0.021*a**	--	2.00	17.00	--	--	1.80	<0.25	2.10	0.17	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-7	12/13/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-7	03/27/07	**13**	--	--	--	--	**0.091**	0.22	0.60	2.5	--	--	1.90	--	--	--	--	--	--	--	
MW-7	06/20/07	**6.6**	--	--	--	--	0.027	0.06	0.19	1.1	**0.030***	--	1.00	23.00	--	--	2.90	<0.25	8.30	0.45	
MW-7	09/24/07	**6.6**	--	--	--	--	0.023	0.094	0.27	2.0	--	--	2.60	--	--	--	--	--	--	--	
MW-7	12/11/07	**27**	--	--	--	--	0.031	0.33	0.87	6.6	--	--	3.22	--	--	--	--	--	--	--	
MW-7	03/04/08	**19**	--	--	--	--	0.032	0.19	0.66	3.8	--	--	1.30	--	--	--	--	--	13.00	--	
MW-7	06/04/08	**6.4**	--	--	--	--	<0.01	0.088	0.30	0.77	**0.019*****	--	1.30	19.00	--	--	0.15	<0.25	2.30	0.63	
MW-7	09/08/08	**15**	--	--	--	--	0.015	0.064	0.35	2.6	--	--	0.73	--	--	--	--	--	--	--	
MW-7	12/05/08	**8.7**	--	--	--	--	0.019	0.046	0.33	1.5	--	--	0.40	--	--	--	--	--	--	--	
MW-7	03/04/09	**5.7**	--	--	--	--	0.014	0.073	0.25	1.4	--	--	0.70	--	--	--	--	--	--	--	
MW-7	06/02/09	**5.5**	--	--	--	--	0.014	0.029	0.15	0.89	**0.0072***	--	0.37	25.00	--	--	2.80	<0.25	21.00	0.42	
MW-7	09/21/09	**6.1**	--	--	--	--	0.0072	0.03	0.18	1.1	--	--	0.54	--	--	--	--	--	--	--	
MW-7	11/17/09	**18**	--	--	--	--	<0.020	0.16	0.54	4.3	--	--	0.64	--	--	--	--	--	--	--	
MW-7	03/09/10	**5.8**	--	--	--	--	0.013	0.047	0.20	0.9	--	--	0.18	--	--	--	--	--	--	--	
MW-7	06/09/10	**4.9**	--	--	--	--	0.0075	0.058	0.25	1.2	**0.0064***	--	0.00	27.00	--	--	1.10	1.60	1.60	0.44	
MW-7	09/09/10	**1.9**	<0.25	--	<0.50	--	0.0036	0.0082	0.041	0.23	--	--	0.25	--	--	--	--	<0.25	3.60	--	
MW-7	11/15/10	**8.8**	--	--	--	--	0.012	0.10	0.34	2.1	--	--	0.47	--	--	--	--	--	--	--	
MW-7	03/01/11	**4.9**	--	--	--	--	0.0051	0.055	0.11	0.77	--	--	0.00	--	--	--	--	--	--	--	
MW-7	05/24/11	**5.0**	--	--	--	--	0.0062	0.050	0.14	0.66	**0.0082*****	--	0.00	3.50	--	--	1.80	0.46	5.10	0.55	
MW-7	08/29/11	**2.3**	--	--	--	--	0.0022	0.0055	0.026	0.16	--	--	0.44	--	--	--	--	--	--	--	
MW-7	12/01/11	**5.2**	--	--	--	--	<0.0005	0.026	0.036	0.83	--	--	0.42	--	--	--	--	--	--	--	
MW-7	03/01/12	**6.0**	<0.25	--	<0.50	--	0.011	0.0987	0.24	0.90	--	--	0.25	--	--	--	--	--	--	--	
MW-7	05/31/12	**8.8**	--	--	--	--	0.02	0.14	0.36	1.9	**0.0063*****	--	0.00	14.00	--	--	1.50	<0.25	2.40	0.70	
MW-7	08/25/12	**1.8**	--	--	--	--	0.0024	0.0062	0.030	0.16	--	--	--	--	--	--	--	--	--	--	
MW-7	11/08/12	**2.4**	--	--	--	--	0.0028	0.028	0.072	0.55	--	--	--	--	--	--	--	--	--	--	
MW-7	02/28/13	**1.3**	--	--	--	--	<0.0015	0.0070	0.0070	0.19	--	--	--	--	--	--	--	--	--	--	
MW-7	04/09/13	**8.1**	--	--	--	--	<0.005	0.070	0.25	1.4	**0.0097**	0.0097	--	3.7	--	--	3.3	<0.25 *c	4.7	0.054 J	
MW-7	04/09/13	**5.7**	--	--	--	--	0.0071	0.072	0.24	1.2	--	--	--	--	--	--	--	--	--	--	
MW-7	06/21/13	**4.0**	0.27 K	--	--	--	0.0059	0.064	0.28	1.1	--	--	--	--	--	--	--	<0.25 *c	3.2	<0.10	Baseline monitoring event
MW-7	07/30/13	**7.2**	--	--	--	--	0.016	0.11	0.29	1.6	--	--	--	20	4.6	<0.30	--	<0.25	4.1	<0.10	
MW-7	08/26/13	**7.1**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
MW-7	10/03/13	**2.8**	--	--	--	--	0.016	0.033	0.15	0.54	--	--	0.00	20	170	140	--	0.81 *c	3,100	<0.10	
MW-7	01/22/14	**2.1**	--	--	--	--	0.014	0.010	0.13	0.17	--	--	5.11	--	--	--	--	--	2,100	0.23	
MW-7	04/21/14	**1.9**	--	--	--	--	0.013	0.0093	0.11	0.2	<0.0050	<0.0050	--	7.9	--	--	15	0.29	1,200	0.18	
MW-7 (DUP)	04/21/14	**2.4**	--	--	--	--	0.015	0.012	0.13	0.25	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-7
MW-7	07/14/14	**1.5**	--	--	--	--	0.012	0.0012	0.073	0.021	--	--	1.80	24	3.7	5.8	--	--	1,000	<0.10	
MW-7	03/17/15	**1.6**	--	--	--	--	0.0043	0.0061	0.050	0.13	--	--	0.10	3.3	--	--	3.6	<0.25	750	0.16	
MW-7 (DUP)	03/17/15	**2.1**	--	--	--	--	0.0059	0.0078	0.068	0.17	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-7
MW-7	09/30/15	**1.02**	--	--	--	--	0.00844	<0.005	0.0328	0.0335	**0.00580**	0.00381	0.21	12.1	--	--	19.7 T8	<0.10	932	<0.05	
MW-7	03/30/16	0.519	--	--	--	--	0.00212	<0.005	0.0203	0.0144	--	--	0.45	2.08	--	--	9.61	<0.10	1,250	<0.05	
MW-7 (DUP)	03/30/16	0.799	--	--	--	--	0.00211	<0.005	0.0272	0.0267	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-7
MW-7	10/13/16	**1.87**	--	--	--	--	0.00538	<0.005	0.0690	0.0819	0.00555	0.00434	0.26	--	--	--	--	--	963	--	
MW-7 (DUP)	10/13/16	**1.88**	--	--	--	--	0.00557	<0.005	0.0705	0.0825	0.00539	0.00706	0.26	--	--	--	--	--	976	--	Duplicate of MW-7

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

ARCADIS

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-7	04/20/17	**1.25**	--	--	--	--	0.00118	0.00455	0.0644	0.0999	--	--	0.23	--	--	--	--	--	1,830	--	
MW-7	10/12/17	**1.03**	--	--	--	--	0.00362	0.00205	0.0331	0.0268	0.00488	0.00313	0.45	--	--	--	--	--	96.7	--	
MW-7 (DUP)	10/12/17	**1.03**	--	--	--	--	0.00307	0.00202	0.0359	0.0287	0.00448	0.00287	0.45	--	--	--	--	--	953	--	Duplicate of MW-7
MW-7	03/29/18	**1.15**	--	--	--	--	0.00117	0.00187	0.0216	0.0324	--	--	0.11	--	--	--	--	--	803	--	
MW-7 (DUP)	03/29/18	**1.24**	--	--	--	--	0.00111	0.00191	0.0257	0.0399	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-7
MW-7	10/04/18	**1.49**	--	--	--	--	0.0049	0.00211	0.0202	0.0142	0.00818	0.00449	0.10	--	--	--	--	--	1,670	--	
MW-7 (DUP)	10/04/18	**1.45**	--	--	--	--	0.00354	0.00207	0.0189	0.0160	0.00741	0.00581	--	--	--	--	--	--	--	--	Duplicate of MW-7
MW-7	04/03/19	0.451	--	--	--	--	<0.00100	<0.00100	0.00142	<0.00300	--	--	0.01	--	--	--	--	--	763	--	
MW-7 (DUP)	04/03/19	0.251	--	--	--	--	<0.00100	<0.00100	0.00116	<0.00300	--	--	0.01	--	--	--	--	--	--	--	Duplicate of MW-7
MW-7	10/03/19	**1.83**	--	--	--	--	0.00213	0.00397	0.0413	0.0193	0.00326	0.00226	0.05	--	--	--	--	--	400	--	
MW-7 (DUP)	10/03/19	**1.74**	--	--	--	--	0.00215	0.00399	0.0385	0.0194	0.00333	0.00237	0.05	--	--	--	--	--	379	--	Duplicate of MW-7
MW-7	03/26/20	0.394	--	--	--	--	<0.00100	<0.00100	0.00853	0.00701	--	--	0.18	--	--	--	--	--	2,270	--	
MW-7	10/20/20	0.173 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.25	--	--	--	--	--	681	--	
MW-7 (DUP)	10/20/20	0.119 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.25	--	--	--	--	--	755	--	Duplicate of MW-7
MW-7	04/13/21	**1.930**	--	--	--	--	<0.00100	<0.00100	0.0239	0.0236	--	--	0.20	--	--	--	--	--	<500	--	
MW-7 (DUP)	04/13/21	**1.970**	--	--	--	--	<0.00100	<0.00100	0.0234	0.0226	--	--	0.20	--	--	--	--	--	473	--	Duplicate of MW-7
MW-7	10/12/21	0.472	--	--	--	--	<0.00100	0.00235	0.0103	0.00956	0.00365	<0.00200	0.89	--	--	--	--	--	2,550	--	
MW-7 (DUP)	10/12/21	0.419	--	--	--	--	<0.00100	0.00215	0.00992	0.00884	0.00392	<0.00200	0.89	--	--	--	--	--	2,690	--	Duplicate of MW-7
MW-8	02/14/02	<0.25	8.1	--	<5.0	--	<0.0005	0.00086	<0.0005	<0.0005	**0.03***	--	--	--	--	--	--	--	--	--	
MW-8	08/29/02	<0.25	7.5	--	<0.5	--	<0.0005	0.00082	<0.0005	<0.0005	**0.017***	--	6.20	0.90	--	--	2.30	<0.25	3.70	0.20	
MW-8	11/05/02	<0.25	1.7	--	1.2	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.012***	--	2.10	5.50	--	--	3.40	<0.25	7.50	0.10	
MW-8	02/20/03	<0.25	6.6	--	<0.5	--	<0.0005	0.00055	<0.0005	0.0024	**0.029***	--	2.90	0.56	--	--	0.50	0.69	7.60	0.30	
MW-8	06/11/03	<0.25	3.8	--	<0.25	--	0.0013	<0.001	<0.001	<0.001	**0.012***	--	1.56	18.00	--	--	0.30	<0.25	<0.25	0.40	
MW-8	09/17/03	<0.25	3.3	--	0.77	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.030***	--	2.50	11.00	--	--	6.10	<0.25 c	6.70	0.40	
MW-8	11/20/03	<0.25	2.5	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	<0.0050*	--	1.70	<0.010	--	--	<0.2	2.4 c	11.00	0.10	
MW-8	02/26/04	<0.25	2.7	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.016***	--	2.30	<0.01	--	--	0.57	1.2 b	4.40	0.20	
MW-8	05/11/04	<0.25	1.5	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.10	0.19	--	--	0.12	<0.25	5.30	<0.10	
MW-8	08/26/04	<0.25	1.0	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.32	0.36	--	--	<0.050	2.20	11.00	<0.10	
MW-8	12/15/04	<0.25	1.5	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	**0.0071***	--	2.30	<0.010	--	--	<0.050	5.80	15.00	<0.10	
MW-8	03/09/05	<0.25	1.6	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0094***	--	2.22	<0.010	--	--	<0.050	1.20	7.30	<0.10	
MW-8	06/08/05	<0.25	1.8	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.014***	--	6.50	0.018	--	--	<0.050	2.30	7.40	<0.2	
MW-8	09/21/05	<0.25	0.97	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.011***	--	2.10	4.40	--	--	0.51	<0.25	11.00	<0.10	
MW-8	12/14/05	<0.25	1.1	--	0.58	--	<0.001	<0.001	<0.001	0.0013	**0.0060***	--	2.50	4.00	--	--	<0.050	2.20	11.00	<0.10	
MW-8	03/14/06	<0.25	0.54	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.011***	--	2.50	<0.010	--	--	<0.050	1.60	6.40	<0.10	
MW-8	06/07/06	<0.25	0.88	--	0.61	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0093***	--	1.30	0.53	--	--	<0.050	1.10	6.00	<0.10	
MW-8	09/13/06	<0.25	0.35	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.012***	--	1.60	7.10	--	--	0.068	<0.25	5.00	<0.10	
MW-8	12/13/06	<0.25	0.82	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0060***	--	3.10	<0.010	--	--	<0.050	7.30	41.00	<0.10	
MW-8	06/20/07	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.029**	--	2.20	--	--	--	--	--	--	--	
MW-8	06/04/08	<0.25	0.37	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	**0.064**	--	2.50	--	--	--	--	--	--	--	
MW-8	06/02/09	<0.25	0.52	--	<0.50	--	<0.00050	<0.00050	<0.00050	<0.00050	**0.020**	--	1.52	--	--	--	--	--	--	--	
MW-8	06/09/10	<0.25	0.82	--	0.65	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.013**	--	1.55	--	--	--	--	--	--	--	
MW-8	05/24/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.020**	--	0.85	--	--	--	--	--	--	--	
MW-8	05/31/12	<0.25	<0.25	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	**0.032**	--	0.79	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-8	04/10/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.046**	--	--	--	--	--	--	--	--	--	
MW-8	04/24/14	<0.25	0.49	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	**0.027**	--	--	--	--	--	--	--	--	--	
MW-8	09/29/15	<0.100	--	1.75	--	2.07	<0.001	<0.005	<0.001	<0.003	**0.00676**	<0.002	2.06	--	--	--	--	--	--	--	
MW-8	10/13/16	<0.100	--	0.385	--	<0.500	<0.001	<0.005	<0.001	<0.003	**0.0183**	<0.002	0.25	--	--	--	--	--	--	--	
MW-8	10/12/17	<0.100	--	0.390	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	**0.0180**	<0.00100	0.54	--	--	--	--	--	--	--	
MW-8	10/03/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	0.00275	<0.002	0.12	--	--	--	--	--	--	--	
MW-8	10/02/19	<0.100	--	0.328	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	0.00579	<0.00200	0.31	--	--	--	--	--	--	--	
MW-8	10/21/20	<0.100	--	0.290	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	**0.0130**	<0.00500	1.14	--	--	--	--	--	--	--	
MW-8	10/13/21	<0.100		0.365	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	**0.00645**	<0.00200	3.78	--	--	--	--	--	--	--	
MW-9	06/11/03	**6.0**	**13**	--	<0.50	--	0.0031	0.036	0.076	0.60	**0.022***	--	2.10	6.60	--	--	15.00	<0.25	2.00	0.70	
MW-9	09/17/03	**5.3**	**39**	--	0.72	--	0.026	0.027	0.09	0.45	**0.0095***	--	2.10	9.80	--	--	19.00	<0.25 c	1.50	0.70	
MW-9	11/20/03	**8.5**	**19**	--	<0.50	--	<0.005	0.018	0.14	1.1	**0.0096***	--	1.60	2.20	--	--	14.00	<0.25 c	66.00	0.30	
MW-9	02/26/04	**4.1**	**28**	--	<0.50	--	0.022	0.0072	0.025	0.47	**0.0083***	--	1.10	15.00	--	--	12.00	<0.25 b	8.10	0.80	
MW-9	05/11/04	**4.1**	5.8	--	<0.50	--	0.0023	0.0093	0.081	0.44	<0.0050*	--	0.90	4.10	--	--	0.25	<0.25	0.62	0.12	
MW-9	08/26/04	**4.2**	6.2	--	<0.50	--	0.0066	0.025	0.13	0.43	**0.0099***	--	1.80	8.20	--	--	15.00	<0.25	1.00	0.41	
MW-9	12/15/04	**5.4**	7.6	--	<0.50	--	<0.0025	0.011	0.12	0.39	**0.0094***	--	1.76	5.30	--	--	29.00	10.00	180.00	<0.10	
MW-9	03/09/05	**4.5**	3.5	--	<0.50	--	0.0037	0.0047	0.042	0.18	**0.021***	--	4.70	4.30	--	--	7.20	<0.25	4.40	0.30	
MW-9	06/08/05	**3.2**	3.9	--	<0.50	--	0.0035	0.0087	0.069	0.17	**0.0076***	--	4.50	6.50	--	--	8.40	<0.25	6.10	0.30	
MW-9	09/21/05	**2.3**	2.6	--	<0.50	--	0.007	0.0077	0.033	0.12	**0.0076***	--	1.70	11.00	--	--	14.00	<0.25	1.90	0.21	
MW-9	12/14/05	**4.7**	1.2	--	<0.50	--	0.0078	0.010	0.12	0.38	**0.0095***	--	3.30	10.00	--	--	9.10	<0.25	17.00	0.11	
MW-9	03/14/06	**2.4**	1.4	--	<0.50	--	0.0024	0.0034	0.018	0.12	**0.013***	--	3.30	12.00	--	--	3.40	<0.25	1.40	0.51	
MW-9	06/07/06	<0.25	1.0	--	<0.50	--	0.0011	0.023	0.049	0.21	**0.021***	--	0.90	4.60	--	--	5.60	<0.25	0.94	0.13	
MW-9	09/13/06	**1.8**	0.46	--	<0.50	--	0.0044	0.016	0.063	0.064	**0.010***	--	1.90	7.40	--	--	7.50	<0.25	<0.50	<0.10	
MW-9	12/13/06	**2.6**	3.8	--	<0.50	--	<0.0025	<0.0025	0.024	0.19	**0.025***	--	2.40	0.72	--	--	3.60	0.27	12.00	0.19	
MW-9	03/27/07	**1.5**	--	--	--	--	**0.16**	0.0013	0.0051	0.026	--	--	2.90	--	--	--	--	--	--	--	
MW-9	06/20/07	**2.0**	--	--	--	--	0.066	0.015	0.051	0.12	**0.017**	--	2.90	3.50	--	--	6.00	<0.25	<0.50	0.42	
MW-9	09/24/07	**1.7**	--	--	--	--	0.0036	0.0072	0.029	0.093	--	--	2.50	--	--	--	--	--	--	--	
MW-9	12/11/07	**2.9**	--	--	--	--	<0.0025	<0.0025	0.057	0.55	--	--	1.76	--	--	--	--	--	--	--	
MW-9	03/04/08	**3.0**	--	--	--	--	0.0096	<0.0015	0.016	0.15	--	--	1.50	--	--	--	--	--	--	--	
MW-9	06/04/08	**2.0**	--	--	--	--	0.0019	0.0073	0.039	0.089	**0.0088**	--	1.80	3.50	--	--	7.90	<0.25	0.80	0.40	
MW-9	09/08/08	**2.4**	--	--	--	--	0.0022	0.020	0.077	0.16	--	--	1.25	--	--	--	--	--	--	--	
MW-9	12/05/08	0.93	--	--	--	--	<0.0015	<0.0015	<0.0015	0.052	--	--	0.47	--	--	--	--	--	--	--	
MW-9	03/04/09	0.42	--	--	--	--	<0.0010	<0.0010	0.0040	0.031	--	--	0.32	--	--	--	--	--	--	--	
MW-9	06/02/09	**1.2**	--	--	--	--	<0.00050	<0.00050	0.0041	0.032	**0.0099**	--	0.51	0.57	--	--	1.50	<0.25	10.00	<0.10	
MW-9	09/22/09	**1.2**	--	--	--	--	0.0060	0.0018	0.0068	0.033	--	--	1.16	--	--	--	--	--	--	--	
MW-9	11/17/09	<0.25	--	--	--	--	<0.0005	0.00050	<0.0005	0.0043	--	--	0.48	--	--	--	--	--	--	--	
MW-9	03/09/10	<0.25	--	--	--	--	0.00092	0.00050	0.00055	0.00071	--	--	0.48	--	--	--	--	--	--	--	
MW-9	06/09/10	0.3	--	--	--	--	0.0014	<0.0005	0.00081	0.0058	<0.0050	--	0.00	7.50	--	--	2.90	<0.25	4.80	0.49	
MW-9	09/09/10	0.48	--	--	--	--	0.0058	0.0014	0.0061	0.025	--	--	0.37	--	--	--	--	--	2.00	--	
MW-9	11/15/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	0.00085	--	--	0.39	--	--	--	--	--	--	--	
MW-9	03/01/11	<0.25	--	--	--	--	0.014	<0.0005	<0.0005	0.00085	--	--	0.00	--	--	--	--	--	--	--	
MW-9	05/24/11	<0.25	--	--	--	--	0.0043	<0.0005	<0.0005	0.00085	**0.0093**	--	0.00	18.00	--	--	<0.050	<0.25	3.60	0.10	
MW-9	08/29/11	0.28	--	--	--	--	0.0067	<0.0005	0.00078	0.0038	--	--	0.27	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-9	12/01/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	0.0024	--	--	0.66	--	--	--	--	--	--	--	
MW-9	03/01/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.35	--	--	--	--	--	--	--	
MW-9	05/31/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.012**	--	0.00	0.13	--	--	<0.050	0.38	5.30	<0.10	
MW-9	08/25/12	0.67	--	--	--	--	<0.00050	<0.00050	0.00062	0.0057	--	--	--	--	--	--	--	--	--	--	
MW-9	11/08/12	<0.25	--	--	--	--	<0.001	<0.001	<0.001	0.0029	--	--	--	--	--	--	--	--	--	--	
MW-9	02/28/13	<0.25	--	--	--	--	0.0012	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-9	04/10/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	6.1	--	--	<0.050	0.88 *c	3.2	<0.10	
MW-9	06/24/13	0.33	0.37	--	--	--	0.014	<0.0005	<0.0005	0.0035	--	--	--	--	--	--	--	<0.25	5.3	0.11	Baseline monitoring event
MW-9	07/30/13	0.27	--	--	--	--	0.0017	<0.0005	0.00071	0.006	--	--	--	14	2.0	<0.30	--	<0.25	72	0.077 J	
MW-9	08/26/13	0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
MW-9	10/03/13	0.3	--	--	--	--	0.0056	<0.0005	<0.0005	0.0092	--	--	0.00	18	3.8	1.5	--	<0.50 *c	8.6	<0.10	
MW-9	01/22/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	0.0013	--	--	9.46	--	--	--	--	--	26	<0.10	
MW-9	04/21/14	<0.25	--	--	--	--	0.017	<0.0005	<0.0005	<0.0005	<0.0050	--	--	24	--	--	0.45	<0.25	300	<0.10	
MW-9	07/14/14	<0.25	--	--	--	--	0.010	<0.0005	<0.0005	0.00072	--	--	0.24	21	1.5	1.2	--	--	99	<0.10	
MW-9	03/18/15	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.99	2.9	--	--	<0.050	0.57	190	<0.10	
MW-9	09/30/15	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	0.00323	<0.002	0.09	5.40	--	--	0.207 T8	<0.1	27.8	<0.05	
MW-9	03/30/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	3.76	<0.010	--	--	<0.050	0.585	86.3	<0.05	
MW-9	10/13/16	0.784	--	--	--	--	<0.001	<0.005	0.00182	0.0116	0.00276	<0.002	0.24	--	--	--	--	--	39.2	--	
MW-9	03/29/17	0.113	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	5.09	--	--	--	--	--	89.7	--	
MW-9 (DUP)	03/29/17	0.147	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	--	--	--	--	--	--	--	--	
MW-9	10/12/17	0.667	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	**0.0123**	<0.00100	0.53	--	--	--	--	--	18 P1	--	
MW-9	03/28/18	<0.1	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	4.67	--	--	--	--	--	47.5	--	
MW-9	10/04/18	0.769	--	--	--	--	<0.001	<0.001	<0.001	<0.003	**0.00808**	<0.002	0.11	--	--	--	--	--	7.13	--	
MW-9	04/03/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	3.96	--	--	--	--	--	5.2	--	
MW-9	10/02/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	0.00435	<0.00200	0.15	--	--	--	--	--	6.77	--	
MW-9	03/26/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	5.24	--	--	--	--	--	47.1	--	
MW-9	10/21/20	0.130 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	1.73	--	--	--	--	--	16.1	--	
MW-9	04/13/21	0.272	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	4.99	--	--	--	--	--	16.8	--	
MW-9	10/13/21	0.202	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	0.00233	<0.00200	0.60	--	--	--	--	--	7.01	--	
MW-12	06/19/01	<0.05	1.6	--	<0.5	--	<0.001	<0.001	<0.001	<0.003	<0.004	--	--	--	--	--	--	--	--	--	
MW-12	06/20/01	<0.06	1.7	--	<0.5	--	<0.001	<0.001	<0.001	<0.003	<0.004	--	--	--	--	--	--	--	--	--	
MW-12	Destroyed during construction activities																				
MW-12R	02/14/02	<0.25	1.4	--	<0.5	--	0.014	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-12R	05/21/02	<0.25	2.5	--	<0.5	--	**0.08**	0.0013	<0.0005	0.00066	<0.005*	--	--	--	--	--	--	--	--	--	
MW-12R	08/28/02	<0.25	2.1	--	<0.5	--	0.028	0.0059	<0.0005	0.0015	<0.005*	--	--	--	--	--	--	--	--	--	
MW-12R	11/05/02	<0.25	1.3	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-12R	02/19/03	0.26	2.5	--	<0.5	--	**0.19**	0.0012	<0.001	<0.001	<0.005*	--	--	--	--	--	--	--	--	--	
MW-12R	06/10/03	0.41	1.3	--	<0.25	--	**0.11**	0.00055	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-12R	09/16/03	<0.25	0.67	--	<0.50	--	0.0021	<0.0005	<0.0005	<0.0005	**0.013***	--	--	--	--	--	--	--	--	--	
MW-12R	11/19/03	0.42	<0.25	--	<0.50	--	**0.26**	<0.001	<0.001	<0.001	**0.0078**	--	--	--	--	--	--	--	--	--	
MW-12R	02/25/04	0.26	1.8	--	<0.50	--	**0.099**	0.00050	<0.0005	0.00076	**0.010***	--	--	--	--	--	--	--	--	--	
MW-12R	05/12/04	0.56	0.74	--	<0.50	--	**0.20**	<0.001	<0.001	<0.001	<0.0050*	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-12R	08/26/04	0.35	0.50	--	<0.50	--	**0.089**	<0.001	<0.001	<0.001	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	12/15/04	<0.25	0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	03/09/05	<0.25	0.39	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	06/08/05	<0.25	0.39	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-12R	09/21/05	0.26	0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	03/14/06	<0.25	<0.25	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	06/07/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	09/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	12/13/06	<0.25	0.27	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	12/14/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-12R	06/20/07	<0.25	--	--	--	--	<0.0005	0.0010	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-12R	06/05/08	<0.25	0.78	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	--	--	--	--	--	--	--	--	--	
MW-12R	06/01/09	<0.25	0.32	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.36	--	--	--	--	--	--	--	
MW-12R	06/08/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.19	--	--	--	--	--	--	--	
MW-12R	05/23/11	<0.25	0.41	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	--	0.55	--	--	--	--	--	--	0.0050	
MW-12R	06/01/12	<0.25	<0.25	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	--	0.00	--	--	--	--	--	--	0.0050	
MW-12R	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	<0.10	
MW-12R	04/23/14	<0.25	0.49	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	<0.10	
MW-12R	09/30/15	<0.100	--	2.41	--	1.07	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.41	4.05	--	--	2.1 T8	<0.1	5.55	<0.05	
MW-12R	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.61	--	--	--	--	--	--	--	
MW-12R	10/11/17	<0.100	--	0.216	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.65	--	--	--	--	--	--	--	
MW-12R	10/04/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.08	--	--	--	--	--	--	--	
MW-12R	10/03/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.13	--	--	--	--	--	--	--	
MW-12R	10/20/20	0.103 B	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.03	--	--	--	--	--	--	--	
MW-12R	10/14/21	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.01	--	--	--	--	--	--	--	
MW-13	06/19/01	<0.05	1.3	--	<0.5	--	<0.001	<0.001	<0.001	<0.003	<0.004	--	--	--	--	--	--	--	--	--	
MW-13	Destroyed during construction activities																				
MW-13R	02/14/02	<0.25	3.2	--	<0.5	--	0.056	<0.0005	<0.0005	0.00075	<0.005*	--	--	--	--	--	--	--	--	--	
MW-13R	05/21/02	<0.25	3.5	--	<0.5	--	0.0025	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-13R	08/28/02	<0.25	2.4	--	<0.5	--	<0.0005	0.0019	<0.0005	0.00070	<0.005*	--	--	--	--	--	--	--	--	--	
MW-13R	11/05/02	<0.25	2.0	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-13R	02/19/03	<0.25	1.7	--	<0.5	--	0.00078	0.0032	<0.0005	0.00083	<0.005*	--	--	--	--	--	--	--	--	--	
MW-13R	06/10/03	<0.25	0.76	--	<0.25	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
MW-13R	09/16/03	<0.25	1.4	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0078***	--	--	--	--	--	--	--	--	--	
MW-13R	11/19/03	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0066**	--	--	--	--	--	--	--	--	--	
MW-13R	02/25/04	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.012***	--	--	--	--	--	--	--	--	--	
MW-13R	05/12/04	<0.25	0.61	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-13R	08/26/04	<0.25	0.49	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-13R	12/15/04	<0.25	0.91	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-13R	03/09/05	<0.25	0.35	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-13R	06/08/05	<0.25	0.49	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-13R	09/21/05	<0.25	0.39	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-13R	03/14/06	<0.25	<0.25	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	<0.0050*	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-13R	06/07/06	<0.25	<0.25	--	<0.50	--	<0.005	<0.005	<0.005	<0.005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-13R	09/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-13R	12/13/06	<0.25	0.33	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0077*	--	--	--	--	--	--	--	--	--	
MW-13R	12/14/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-13R	06/20/07	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-13R	06/05/08	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-13R	06/01/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.49	--	--	--	--	--	--	--	
MW-13R	06/08/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.00	--	--	--	--	--	--	--	
MW-13R	05/23/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.18	--	--	--	--	--	--	0.0050	
MW-13R	Abandoned on 5/25/2012																				
MW-14	02/13/02	**2.5**	**37**	--	<5.0	--	0.010	0.0085	0.18	0.22	--	--	--	--	--	--	--	--	--	--	
MW-14	05/21/02	**2.9**	**23**	--	1.0	--	0.0093	0.0057	0.18	0.15	--	--	--	--	--	--	--	--	--	--	
MW-14	08/29/02	**2.9**	**28**	--	<0.5	--	0.017	0.0073	0.21	0.14	--	--	2.20	5.90	--	--	20.00	<0.25	52.00	0.70	
MW-14	11/05/02	**2.0**	**28**	--	0.91	--	0.060	0.0059	0.12	0.076	--	--	2.40	11.00	--	--	23.00	<0.25	39.00	0.80	
MW-14	02/20/03	**3.4**	**18**	--	<0.5	--	0.056	0.0062	0.14	0.11	--	--	1.90	3.50	--	--	20.00	<0.25	35.00	0.80	
MW-14	06/11/03	**3.1**	**28**	--	<0.5	--	0.059	0.0098	0.23	0.13	--	--	1.50	2.90	--	--	19.00	<0.25	4.30	0.40	
MW-14	09/16/03	<1.0	**15**	--	<0.50	--	**0.13**	<0.005	0.019	0.022	--	--	1.30	0.86	--	--	15.00	<0.25 b	0.89	0.50	
MW-14	11/20/03	<2.0	**29**	--	0.7	--	**0.12**	<0.01	0.020	0.031	--	--	3.70	0.57	--	--	4.90	0.57 c	31.00	<0.1	
MW-14	02/24/04	**2.4**	**21**	--	<0.50	--	0.061	0.014	0.25	0.20	--	--	4.30	2.40	--	--	19.00	<0.25 b	0.60	0.60	
MW-14	05/11/04	**2.7**	**27**	--	<0.50	--	0.053	0.0092	0.21	0.16	--	--	0.10	2.30	--	--	19.00	<0.25	<0.50	<0.10	
MW-14	08/26/04	**2.3**	**11**	--	0.53	--	0.024	<0.0025	0.16	0.19	--	--	1.01	2.90	--	--	13.00	<0.25	47.00	0.38	
MW-14	12/15/04	**1.2**	9.6	--	<0.50	--	0.0084	<0.005	0.010	0.0055	--	--	2.88	4.50	--	--	0.13	4.80	110.00	<0.10	
MW-14	03/09/05	**4.2**	7.7	--	<0.50	--	0.0053	0.0094	0.18	0.099	--	--	2.99	6.80	--	--	12.00	0.62	41.00	0.30	
MW-14	06/08/05	**3.1**	8.8	--	<0.50	--	0.0043	0.0069	0.17	0.11	--	--	2.00	4.30	--	--	15.00	<0.25	18.00	0.40	
MW-14	09/21/05	**1.6**	**10**	--	1.1	--	0.012	0.0048	0.077	0.068	--	--	2.00	7.60	--	--	19.00	<0.25	8.20	0.36	
MW-14	12/14/05	**3.1**	2.0	--	<0.50	--	0.0059	0.0075	0.12	0.068	--	--	2.10	8.90	--	--	9.50	<0.25	21.00	<0.10	
MW-14	03/14/06	0.79	2.1	--	<0.50	--	<0.0025	<0.0025	0.023	0.030	--	--	2.10	1.50	--	--	7.90	<0.25	33.00	0.12	
MW-14	06/07/06	0.84	3.0	--	<0.50	--	<0.0025	<0.0025	0.061	0.033	--	--	1.50	1.50	--	--	11.00	<0.25	16.00	1.10	
MW-14	09/13/06	**2.4**	1.8	--	<0.50	--	<0.0025	0.0060	0.1	0.056	--	--	1.80	6.80	--	--	14.00	<0.25	1.70	0.22	
MW-14	12/13/06	**1.1**	1.4	--	<0.50	--	<0.0025	<0.0025	0.044	0.029	--	--	2.20	2.20	--	--	5.80	0.36	25.00	<0.10	
MW-14	03/27/07	**1.3**	--	--	--	--	0.0057	<0.0025	0.049	0.024	--	--	2.70	--	--	--	--	--	--	--	
MW-14	06/20/07	**1.5**	--	--	--	--	<0.0025	0.0039	0.087	0.046	--	--	3.40	2.90	--	--	7.50	<0.25	4.90	0.79	
MW-14	09/24/07	**2.5**	--	--	--	--	0.0024	0.0077	0.15	0.13	--	--	3.10	--	--	--	--	--	--	--	
MW-14	12/11/07	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.76	--	--	--	--	--	--	--	
MW-14	03/04/08	0.43	--	--	--	--	<0.0015	<0.0015	0.019	0.0073	--	--	1.10	--	--	--	--	--	--	--	
MW-14	06/04/08	<0.30	--	--	--	--	<0.0015	<0.0015	<0.015	<0.015	--	--	2.70	2.00	--	--	3.40	<0.25	8.90	0.58	
MW-14	09/08/08	**2.5**	--	--	--	--	0.0024	0.0070	0.17	0.075	--	--	0.69	--	--	--	--	--	--	--	
MW-14	12/05/08	<0.50	--	--	--	--	<0.0025	<0.0025	0.0047	0.0036	--	--	0.45	--	--	--	--	--	--	--	
MW-14	03/04/09	<0.25	--	--	--	--	0.0011	<0.0010	0.0011	0.0038	--	--	0.81	--	--	--	--	--	--	--	
MW-14	06/02/09	<0.25	--	--	--	--	<0.0010	<0.0010	<0.0010	0.0018	--	--	0.89	0.15	--	--	0.12	2.50	34.00	<0.10	
MW-14	09/21/09	0.56	--	--	--	--	<0.0025	<0.0025	0.044	0.013	--	--	0.92	--	--	--	--	--	--	--	
MW-14	11/17/09	<0.50	--	--	--	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	1.01	--	--	--	--	--	--	--	
MW-14	03/08/10	<0.25	--	--	--	--	0.0010	<0.0010	0.0010	0.0021	--	--	0.32	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-14	06/08/10	<0.25	--	--	--	--	<0.0005	<0.0005	0.0011	0.0014	--	--	0.25	0.72	--	--	0.18	<0.25	8.50	<0.10	
MW-14	09/09/10	0.5	--	--	--	--	0.0013	0.0018	0.031	0.036	--	--	0.32	--	--	--	--	--	--	--	
MW-14	11/15/10	<0.25	--	--	--	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	0.35	--	--	--	--	--	--	--	
MW-14	03/01/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.020	--	--	--	--	--	--	--	
MW-14	05/24/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	0.18	--	--	0.10	0.25	14.00	0.10	
MW-14	08/29/11	0.41	--	--	--	--	<0.0010	0.0011	0.019	0.026	--	--	0.19	--	--	--	--	--	--	--	
MW-14	12/01/11	<0.25	--	--	--	--	<0.0010	<0.0010	<0.0010	0.0032	--	--	0.31	--	--	--	--	--	--	--	
MW-14	03/01/12	<0.25	--	--	--	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	1.10	--	--	--	--	--	--	--	
MW-14	05/31/12	<0.25	--	--	--	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	0.00	0.086	--	--	<0.050	<0.25	10.00	<0.10	
MW-14	08/25/12	<0.25	--	--	--	--	<0.00050	<0.00050	0.0028	0.0017	--	--	--	--	--	--	--	--	--	--	
MW-14	11/08/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	0.0041	--	--	--	--	--	--	--	--	--	--	
MW-14	02/28/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-14	04/09/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	0.25	--	--	<0.050	0.46 *c	9.2	<0.10	
MW-14	07/30/13	<0.25	--	--	--	--	<0.0005	0.00058	0.011	0.0092	--	--	--	--	--	--	--	--	--	--	
MW-14	10/03/13	<0.25	--	--	--	--	<0.001	<0.001	0.0034	0.022	--	--	0.00	--	--	--	--	--	--	--	
MW-14	01/22/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	5.98	--	--	--	--	--	--	--	
MW-14	04/21/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	0.23	--	--	<0.050	<0.25	8.8	<0.10	
MW-14	07/15/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.37	--	--	--	--	--	--	--	
MW-14	10/01/15	0.299	--	--	--	--	<0.001	<0.005	0.00106	0.0192	--	--	0.81	3.47	--	--	8.61 T8	<0.1	<5	<0.05	
MW-14	10/11/16	**1.11**	--	--	--	--	<0.001	<0.005	0.0257	0.0309	--	--	0.73	--	--	--	--	--	--	--	
MW-14	10/11/17	0.416	--	--	--	--	<0.00100	<0.00100	0.00251	0.00387	--	--	0.70	--	--	--	--	--	--	--	
MW-14	10/03/18	0.65	--	--	--	--	<0.001	0.00116	<0.001	0.00549	--	--	0.13	--	--	--	--	--	--	--	
MW-14	10/01/19	0.526	--	--	--	--	<0.00100	0.00109	<0.00100	0.00649	--	--	0.08	--	--	--	--	--	--	--	
MW-14	10/19/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	2.42	--	--	--	--	--	--	--	
MW-14	10/12/21	0.331	--	--	--	--	<0.00100	<0.00100	<0.00100	0.00316	--	--	0.07	--	--	--	--	--	--	--	
MW-16	02/13/02	<0.25	<0.25	--	<0.5	--	0.0013	0.0037	<0.0005	0.0011	--	--	--	--	--	--	--	--	--	--	
MW-16	05/21/02	<0.25	<0.5	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	08/29/02	<0.25	<0.5	--	<0.5	--	<0.0005	0.0022	<0.0005	0.00069	--	--	--	--	--	--	--	--	--	--	
MW-16	11/05/02	<0.25	0.29	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	02/19/03	<0.25	<0.25	--	<0.5	--	<0.0005	0.0018	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	06/10/03	<0.25	<0.25	--	<0.25	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	09/16/03	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	11/19/03	<0.25	<0.25	--	<0.50	--	<0.0005	0.0013	<0.0005	0.00062	--	--	--	--	--	--	--	--	--	--	
MW-16	02/25/04	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	05/11/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	08/26/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	12/15/04	<0.25	<0.25	--	<0.50	--	0.029	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	03/10/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	06/07/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	09/20/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	12/13/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	03/15/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	06/08/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-16	09/12/06	<0.25	<0.25	--	<0.50	--	<0.0005	0.00062	0.0012	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	12/12/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	06/19/07	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	06/04/08	0.39	0.43	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	--	--	--	--	--	--	--	--	
MW-16	06/03/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.48	--	--	--	--	--	--	--	
MW-16	06/09/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.0012	--	--	1.11	--	--	--	--	--	--	--	
MW-16	05/23/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.34	--	--	--	--	--	--	--	
MW-16	05/31/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.020	--	--	--	--	--	--	--	
MW-16	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	04/22/14	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-16	09/30/15	<0.100	--	<0.100	--	<0.25	<0.001	<0.005	<0.001	<0.003	--	--	0.48	--	--	--	--	--	--	--	
MW-16	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	--	--	0.88	--	--	--	--	--	--	--	
MW-16	10/13/17	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.79	--	--	--	--	--	--	--	
MW-16	10/03/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	--	--	0.27	--	--	--	--	--	--	--	
MW-16	10/04/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.24	--	--	--	--	--	--	--	
MW-16	10/22/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.40	--	--	--	--	--	--	--	
MW-17	05/23/11	0.3	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-18	02/13/02	**7.6**	0.77	--	<0.5	--	**1.8**	0.067	0.29	0.34	--	--	--	--	--	--	--	--	--	--	
MW-18	05/21/02	**1.2**	0.30	--	<0.5	--	**0.25**	0.016	0.068	0.068	--	--	--	--	--	--	--	--	--	--	
MW-18	08/29/02	**1.6**	<0.5	--	<0.5	--	**0.45**	0.014	0.032	0.044	--	--	--	--	--	--	--	--	--	--	
MW-18	11/05/02	**1.1**	<0.25	--	<0.5	--	<0.3	0.010	0.011	0.031	--	--	--	--	--	--	--	--	--	--	
MW-18	02/19/03	<0.25	<0.25	--	<0.5	--	0.0035	0.0047	<0.0005	0.0016	--	--	--	--	--	--	--	--	--	--	
MW-18	06/10/03	<0.25	<0.25	--	<0.25	--	0.022	0.0016	<0.0005	0.0040	--	--	--	--	--	--	--	--	--	--	
MW-18	09/16/03	<0.25	<0.50	--	<0.50	--	0.036	0.0019	<0.0005	0.0075	--	--	--	--	--	--	--	--	--	--	
MW-18	11/19/03	<0.25	<0.25	--	<0.50	--	0.0042	<0.0005	<0.0005	0.0015	--	--	--	--	--	--	--	--	--	--	
MW-18	02/25/04	0.58	<0.25	--	<0.50	--	**0.11**	0.0048	0.00087	0.026	--	--	--	--	--	--	--	--	--	--	
MW-18	05/11/04	**1.1**	<0.25	--	<0.50	--	**0.25**	0.0073	0.0016	0.037	--	--	--	--	--	--	--	--	--	--	
MW-18	08/26/04	<0.25	<0.25	--	<0.50	--	0.003	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-18	12/15/04	0.84	<0.25	--	<0.50	--	**0.14**	0.0060	0.0019	0.029	--	--	--	--	--	--	--	--	--	--	
MW-18	03/10/05	0.84	<0.25	--	<0.50	--	**0.25**	0.0049	0.0020	0.021	--	--	--	--	--	--	--	--	--	--	
MW-18	06/07/05	0.68	<0.25	--	<0.50	--	**0.17**	0.0039	0.0019	0.0098	--	--	--	--	--	--	--	--	--	--	
MW-18	09/20/05	**4.0**	<0.25	--	<0.50	--	**0.74**	0.021	0.0091	0.090	--	--	--	--	--	--	--	--	--	--	
MW-18	12/13/05	**2.3**	<0.25	--	<0.50	--	**0.45**	0.015	0.0067	0.033	--	--	--	--	--	--	--	--	--	--	
MW-18	03/15/06	**4.9**	<0.25	--	<0.50	--	**1.2**	0.035	0.025	0.12	--	--	--	--	--	--	--	--	--	--	
MW-18	06/08/06	**1.2**	<0.25	--	<0.50	--	**0.15**	0.011	0.011	0.034	--	--	--	--	--	--	--	--	--	--	
MW-18	09/12/06	0.35	<0.25	--	<0.50	--	0.023	0.0021	0.0022	0.0047	--	--	--	--	--	--	--	--	--	--	
MW-18	12/12/06	0.28	<0.25	--	<0.50	--	0.023	0.0018	0.0019	0.0060	--	--	--	--	--	--	--	--	--	--	
MW-18	03/27/07	0.78	--	--	--	--	0.022	0.0029	0.0051	0.012	--	--	3.20	--	--	--	--	--	--	--	
MW-18	06/19/07	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-18	09/24/07	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	3.20	--	--	--	--	--	--	--	
MW-18	12/11/07	<0.25	--	--	--	--	0.011	0.00075	<0.0005	0.0032	--	--	3.40	--	--	--	--	--	--	--	
MW-18	03/04/08	0.29	--	--	--	--	0.0090	0.0016	0.00050	0.00088	--	--	1.50	--	--	--	--	--	--	--	
MW-18	06/04/08	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	3.10	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-18	09/08/08	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.26	--	--	--	--	--	--	--	
MW-18	12/04/08	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.21	--	--	--	--	--	--	--	
MW-18	03/04/09	<0.25	--	--	--	--	0.00080	<0.0005	<0.0005	<0.0005	--	--	0.94	--	--	--	--	--	--	--	
MW-18	06/03/09	<0.25	--	--	--	--	0.00061	<0.0005	<0.0005	<0.0005	--	--	0.47	--	--	--	--	--	--	--	
MW-18	09/22/09	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.63	--	--	--	--	--	--	--	
MW-18	11/17/09	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	8.07	--	--	--	--	--	--	--	
MW-18	03/09/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	0.0011	--	--	0.90	--	--	--	--	--	--	--	
MW-18	06/08/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
MW-18	09/10/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	3.84	--	--	--	--	--	--	--	
MW-18	11/16/10	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.59	--	--	--	--	--	--	--	
MW-18	03/02/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.030	--	--	--	--	--	--	--	
MW-18	05/23/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
MW-18	08/30/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.28	--	--	--	--	--	--	--	
MW-18	12/02/11	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0010	--	--	0.57	--	--	--	--	--	--	--	
MW-18	03/02/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.57	--	--	--	--	--	--	--	
MW-18	05/31/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
MW-18	11/08/12	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-18	02/28/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-18	04/09/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-18	07/29/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-18	10/02/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
MW-18	01/22/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	5.50	--	--	--	--	--	--	--	
MW-18	04/22/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-18	07/15/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.15	--	--	--	--	--	--	--	
MW-18	03/18/15	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.23	--	--	--	--	--	--	--	
MW-18	09/30/15	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.47	--	--	--	--	--	--	--	
MW-18	03/29/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.65	--	--	--	--	--	--	--	
MW-18	10/12/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.67	--	--	--	--	--	--	--	
MW-18	03/29/17	<0.100	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	0.17	--	--	--	--	--	--	--	
MW-18	10/12/17	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.73	--	--	--	--	--	--	--	
MW-18	03/29/18	0.13 B	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	1.89	--	--	--	--	--	--	--	
MW-18	10/03/18	<0.1	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	0.15	--	--	--	--	--	--	--	
MW-18	04/03/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.1	--	--	--	--	--	--	--	
MW-18	10/03/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.13	--	--	--	--	--	--	--	
MW-18	03/27/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.25	--	--	--	--	--	--	--	
MW-18	10/21/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.09	--	--	--	--	--	--	--	
MW-18	04/13/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	1.21	--	--	--	--	--	--	--	
MW-18	10/14/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.16	--	--	--	--	--	--	--	
MW-19	02/13/02	**29**	6.8	--	<2.5	--	0.057	0.73	0.58	6.5	--	--	--	--	--	--	--	--	--	--	
MW-19	05/21/02	**30**	7.7	--	<0.5	--	0.049	0.65	0.53	6.5	--	--	--	--	--	--	--	--	--	--	
MW-19	08/29/02	**13**	**11**	--	<0.5	--	**0.14**	0.29	0.20	2.1	--	--	0.90	13.00	--	--	19.00	<0.25	<0.25	0.60	
MW-19	11/05/02	**8.2**	3.0	--	<0.5	--	**0.21**	0.37	0.16	1.7	--	--	2.70	10.00	--	--	19.00	<0.25	<0.25	0.40	
MW-19	02/20/03	**38**	**19**	--	<0.5	--	**0.091**	1.2	0.80	8.0	--	--	3.20	13.00	--	--	43.00	<0.25	23.00	0.50	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-19	06/11/03	**32**	**15**	--	<1.0	--	0.042	0.38	0.80	6.7	--	--	0.50	16.00	--	--	37.00	<0.25	11.00	0.40	
MW-19	09/16/03	**4.2**	**12**	--	<0.50	--	**0.19**	0.043	0.19	1.1	--	--	1.40	18.00	--	--	30.00	<0.25 b	5.20	0.70	
MW-19	11/20/03	**22**	**10**	--	<0.50	--	**0.11**	0.67	0.75	6.1	--	--	4.80	18.00	--	--	49.00	<0.25 c	10.00	0.50	
MW-19	02/24/04	**19**	**14**	--	<0.50	--	<0.015	0.49	0.63	4.7	--	--	2.10	20.00	--	--	39.00	<0.25 b	1.80	0.60	
MW-19	05/11/04	**27**	**13**	--	<0.50	--	<0.025	0.22	0.87	7.2	--	--	0.60	17.00	--	--	30.00	<0.25	0.98	0.24	
MW-19	08/26/04	**22**	0.72	--	<0.50	--	0.042	0.26	0.64	4.6	--	--	2.83	15.00	--	--	15.00	<0.25	<0.50	0.20	
MW-19	12/15/04	**15**	7.6	--	<0.50	--	0.039	0.12	0.37	2.7	--	--	3.89	21.00	--	--	44.00	<0.25	31.00	0.22	
MW-19	03/09/05	**27**	9.1	--	<0.50	--	**0.073**	0.18	0.56	3.4	--	--	3.42	22.00	--	--	25.00	<0.25	5.30	0.26	
MW-19	06/08/05	**17**	6.3	--	<0.50	--	**0.071**	0.17	0.61	2.8	--	--	0.89	15.00	--	--	18.00	<0.25	12.00	0.60	
MW-19	09/20/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-19	12/14/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-19	03/14/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-19	06/07/06	**14**	1.4	--	<0.50	--	<0.010	0.043	0.29	1.4	--	--	1.70	18.00	--	--	7.90	<0.25	<0.50	0.55	
MW-19	09/13/06	**11**	0.50	--	<0.50	--	0.032	0.047	0.41	1.1	--	--	2.10	19.00	--	--	10.00	<0.25	<0.50	1.30	
MW-19	12/13/06	**8.0**	1.4	--	<0.50	--	0.016	0.052	0.3	1.4	--	--	3.90	19.00	--	--	30.00	<0.25	16.00	0.43	
MW-19	03/27/07	**13**	--	--	--	--	<0.010	0.047	0.35	1.8	--	--	2.50	--	--	--	--	--	--	--	
MW-19	06/20/07	**12**	--	--	--	--	0.05	0.092	0.29	1.2	--	--	1.90	23.00	--	--	9.30	<0.25	<0.50	0.19	
MW-19	09/24/07	**10**	--	--	--	--	**0.13**	0.11	0.42	1.3	--	--	3.70	--	--	--	--	--	--	--	
MW-19	12/11/07	**12**	--	--	--	--	**0.11**	0.14	0.40	1.9	--	--	2.13	--	--	--	--	--	--	--	
MW-19	03/04/08	**17**	--	--	--	--	**0.15**	0.28	0.52	2.4	--	--	1.90	--	--	--	--	--	--	--	
MW-19	06/04/08	**11**	--	--	--	--	0.070	0.023	0.45	1.0	--	--	3.40	21.00	--	--	7.00	<0.25	0.86	0.46	
MW-19	09/08/08	**5.3**	--	--	--	--	**0.078**	0.0063	0.12	0.29	--	--	1.02	--	--	--	--	--	--	--	
MW-19	12/05/08	**7.8**	--	--	--	--	**0.071**	0.047	0.38	0.73	--	--	0.27	--	--	--	--	--	--	--	
MW-19	03/04/09	**9.4**	--	--	--	--	**0.076**	0.13	0.43	1.4	--	--	0.52	--	--	--	--	--	--	--	
MW-19	06/02/09	**13**	--	--	--	--	**0.071**	0.13	0.43	1.6	--	--	0.37	28.00	--	--	6.30	<0.25	<0.50	0.18	
MW-19	09/21/09	**8.4**	--	--	--	--	0.052	0.0097	0.32	0.29	--	--	0.35	--	--	--	--	--	--	--	
MW-19	11/17/09	**7.4**	--	--	--	--	0.023	0.049	0.34	1.2	--	--	0.86	--	--	--	--	--	--	--	
MW-19	03/08/10	**10**	--	--	--	--	0.017	0.11	0.46	1.8	--	--	0.69	--	--	--	--	--	--	--	
MW-19	06/08/10	**12**	--	--	--	--	0.042	0.17	0.55	1.6	--	--	0.00	27.00	--	--	10.00	<0.25	<0.50	<0.10	
MW-19	09/09/10	**7.3**	0.71	--	<0.50	--	0.039	0.020	0.42	0.18	--	--	0.41	--	--	--	--	<0.25	39.00	--	
MW-19	11/15/10	**4.5**	--	--	--	--	0.039	0.18	0.44	0.13	--	--	0.35	--	--	--	--	--	--	--	
MW-19	03/01/11	**9.6**	--	--	--	--	0.039	0.13	0.34	0.88	--	--	0.00	--	--	--	--	--	--	--	
MW-19	05/24/11	**7.4**	--	--	--	--	0.0028	0.011	0.17	0.38	--	--	0.69	28.00	--	--	1.70	<0.25	3.80	0.11	
MW-19	08/29/11	**7.0**	--	--	--	--	0.012	0.015	0.15	0.066	--	--	0.21	--	--	--	--	--	--	--	
MW-19	12/01/11	**7.5**	--	--	--	--	0.059	0.034	0.22	0.30	--	--	0.41	--	--	--	--	--	--	--	
MW-19	03/01/12	**6.4**	--	--	--	--	**0.15**	0.064	0.34	0.44	--	--	0.26	--	--	--	--	--	--	--	
MW-19	05/31/12	**8.3**	--	--	--	--	**0.079**	0.073	0.48	0.81	--	--	0.00	13.00	--	--	10.00	<0.25	<0.50	0.21	
MW-19	08/25/12	**5.2**	--	--	--	--	0.054	0.0076	0.27	0.089	--	--	--	--	--	--	--	--	--	--	
MW-19	11/08/12	**4.7**	--	--	--	--	0.042	0.0096	0.28	0.18	--	--	--	--	--	--	--	--	--	--	
MW-19	02/28/13	**8.1**	--	--	--	--	0.045	0.13	0.44	0.77	--	--	--	--	--	--	--	--	--	--	
MW-19	04/09/13	**6.9**	--	--	--	--	0.029	0.15	0.32	0.57	--	--	--	27	--	--	7.5	<0.25 *c	<0.50	<0.10	
MW-19	06/21/13	**2.8**	1.1 K	--	--	--	0.019	0.017	0.31	0.081	--	--	--	--	--	--	--	<0.25 *c	<0.50	0.13	Baseline monitoring event
MW-19	07/30/13	**4.4**	--	--	--	--	0.0086	0.0051	0.16	0.013	--	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-19	08/26/13	**2.3**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
MW-19	10/03/13	**3.2**	--	--	--	--	0.0076	0.0023	0.046	0.0020	--	--	0.00	--	--	--	--	--	--	--	
MW-19	01/22/14	**2.2**	--	--	--	--	0.021	0.00065	0.029	<0.0005	--	--	7.20	--	--	--	--	--	620	<0.10	
MW-19	04/21/14	**2.1**	--	--	--	--	0.0066	0.0039	0.16	0.0064	--	--	--	28	--	--	30	<0.25	190	0.23	
MW-19	07/15/14	**4.2**	--	--	--	--	0.0059	0.010	0.21	0.15	--	--	0.46	30	8.3	7.6	--	--	<0.50	<0.10	
MW-19 (DUP)	07/15/14	**4.4**	--	--	--	--	0.0052	0.0097	0.20	0.15	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-19
MW-19	03/17/15	**4.3**	--	--	--	--	0.0049	0.014	0.14	0.18	--	--	0.05	30	--	--	8.7	<0.25	1.9	<0.10	
MW-19	09/30/15	**2.02**	--	--	--	--	0.00341	<0.005	0.0157	<0.003	--	--	0.20	7.96	--	--	11.0 T8	<0.10	<5	<0.05	
MW-19	03/30/16	**1.69**	--	--	--	--	<0.001	<0.005	0.0365	0.0591	--	--	0.28	16.60	--	--	45.1	<0.10	170	<0.05	
MW-19	10/11/16	**1.98**	--	--	--	--	0.00527	<0.005	0.0119	0.00806	--	--	0.76	--	--	--	--	--	<5.0	--	
MW-19	03/28/17	**3.12**	--	--	--	--	<0.005	<0.005	0.0483	0.239	--	--	0.15	--	--	--	--	--	200	--	
MW-19	10/13/17	**1.91**	--	--	--	--	<0.00100	0.00157	0.00731	0.00979	--	--	0.63	--	--	--	--	--	<5.0	--	
MW-19	03/29/18	**2.31**	--	--	--	--	<0.001	0.00299	0.0678	0.136	--	--	0.13	--	--	--	--	--	<5.0	--	
MW-19	10/03/18	<0.1	--	--	--	--	0.00101	0.00158	0.00583	<0.003	--	--	0.14	--	--	--	--	--	28.3	--	
MW-19	04/02/19	0.810	--	--	--	--	0.00180	<0.00100	<0.00100	<0.00300	--	--	0.06	--	--	--	--	--	1,310	--	
MW-19	10/02/19	**1.23**	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.24	--	--	--	--	--	130	--	
MW-19	03/25/20	0.276	--	--	--	--	0.00107	<0.00100	0.00863	<0.00300	--	--	0.29	--	--	--	--	--	1,690	--	
MW-19	10/20/20	0.856	--	--	--	--	0.00409	<0.00100	<0.00100	<0.00300	--	--	0.04	--	--	--	--	--	557	--	
MW-19	04/12/21	**2.14**	--	--	--	--	0.00124	0.0170	0.157	0.0170	--	--	0.15	--	--	--	--	--	8.61	--	
MW-19	10/11/21	**1.90**	--	--	--	--	0.0183	0.0542	0.0254	0.0169	--	--	0.08	--	--	--	--	--	468	--	
MW-20	02/13/02	<0.25	0.64	--	<0.5	--	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
MW-20	05/20/02	<0.25	1.3	--	<0.5	--	0.018	0.0012	0.0048	0.014	--	--	--	--	--	--	--	--	--	--	
MW-20	08/29/02	0.6	1.1	--	<0.5	--	0.057	0.0065	0.021	0.084	--	--	2.60	12	--	--	5.4	<0.25	7.90	0.3	
MW-20	11/06/02	<0.25	0.81	--	<0.5	--	0.0023	0.00053	<0.0005	<0.0005	--	--	5.70	0.10	--	--	4.2	<0.25	610.00	0.3	
MW-20	02/19/03	<0.25	<0.25	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-20	06/11/03	<0.25	0.68	--	<0.25	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	15.00	<0.01	--	--	7.30	<0.25	2200.00	0.2	
MW-20	09/17/03	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	14.00	<0.010	--	--	2.00	<0.25 c	1800.00	0.5	
MW-20	11/20/03	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.00072	--	--	13.00	0.15	--	--	1.70	<0.25 c	1900.00	<0.1	
MW-20	02/25/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	14.00	0.026	--	--	0.34	<0.25 b	2100.00	--^	
MW-20	05/11/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	7.50	0.048	--	--	0.29	<0.25	2100.00	<0.10	
MW-20	08/26/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.00	16.00	--	--	140.00	<0.25	970.00	<0.10	
MW-20	12/15/04	<0.25	0.30	--	<0.50	--	0.0013	<0.0005	<0.0005	<0.0005	--	--	3.34	0.71	--	--	27.00	<0.25	550.00	0.28	
MW-20	03/09/05	<0.25	<0.25	--	<0.50	--	0.00074	<0.0005	<0.0005	<0.0005	--	--	2.82	0.25	--	--	18.00	<0.25	470.00	<0.10	
MW-20	06/08/05	<0.25	0.55	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.50	10.00	--	--	18.00	<0.25	480.00	0.20	
MW-20	09/21/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-20	12/14/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	3.20	0.28	--	--	15.00	<0.25	250.00	0.21	
MW-20	03/14/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	3.20	0.98	--	--	5.50	<0.25	56.00	<0.10	
MW-20	06/07/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.00	15.00	--	--	7.40	<0.25	68.00	<0.10	
MW-20	09/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.50	23.00	--	--	17.00	<0.25	110.00	<0.10	
MW-20	12/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.30	3.3	--	--	2.30	<0.25	69.00	<0.10	
MW-20	06/20/07	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	4.10	--	--	--	--	--	--	--	
MW-20	06/05/08	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.30	--	--	--	--	--	--	--	
MW-20	06/01/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.40	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-20	06/09/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	0.00054	0.0028	--	--	0.00	--	--	--	--	--	--	--	
MW-20	05/23/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
MW-20	05/31/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
MW-20	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-20	04/22/14	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-20	10/01/15	<0.100	--	0.378	--	<0.25	<0.001	<0.005	<0.001	<0.003	--	--	0.22	--	--	--	--	--	--	--	
MW-20	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	--	--	0.23	--	--	--	--	--	--	--	
MW-20	10/12/17	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.70	--	--	--	--	--	--	--	
MW-20	10/03/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	--	--	0.11	--	--	--	--	--	--	--	
MW-20	10/02/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.20	--	--	--	--	--	--	--	
MW-20	10/21/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.18	--	--	--	--	--	--	--	
MW-20	10/13/21	0.151 B	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.15	--	--	--	--	--	--	--	
MW-21	02/19/03	--	--	--	--	--	--	--	--	--	--	--	6.90	0.061	--	--	1.9	<0.25	1400	<0.1	
MW-21	06/10/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-21	06/11/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-21	09/17/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-21	11/20/03	0.97	**19**	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	0.90	0.013	--	--	2.80	<0.25 c	17.00	0.5	
MW-21	02/26/04	**2.3**	**35**	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	1.00	12.00	--	--	17.00	<0.25 b	12.00	0.9	
MW-21	05/11/04	**1.2**	**29**	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	1.80	4.70	--	--	12.00	<0.25	0.92	<0.10	
MW-21	08/26/04	**4.3**	**33**	--	<0.50	--	<0.001	<0.001	0.0013	0.0014	--	--	2.80	2.00	--	--	1.80	<0.25	<0.50	0.13	
MW-21	12/15/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-21	03/09/05	**2.4**	**140**	--	<5.0	--	<0.0015	<0.0015	0.0016	<0.0015	--	--	0.99	4.30	--	--	9.80	<0.25	<0.50	<0.10	
MW-21	06/08/05	**1.8**	**31**	--	0.50	--	<0.002	<0.002	0.0026	<0.002	--	--	3.50	1.80	--	--	11.00	<0.25	1.20	0.5	
MW-21	09/21/05	**1.7**	**46**	--	3.3	--	<0.0010	<0.0010	0.0013	<0.0010	--	--	2.40	15.00	--	--	7.20	<0.25	<0.50	0.14	
MW-21	12/14/05	**1.0**	6.1	--	0.54	--	<0.002	<0.002	0.0027	<0.002	--	--	1.20	18.00	--	--	0.19	<0.25	5.30	0.18	
MW-21	03/14/06	<0.25	**33**	--	3.1	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.20	<0.010	--	--	0.10	<0.25	3.20	<0.10	
MW-21	06/07/06	0.77	**18**	--	1.2	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	1.20	1.70	--	--	9.90	<0.25	2.30	0.37	
MW-21	09/13/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-21	12/13/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-21	03/27/07	<0.50	9.6	--	0.75	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	0.90	--	--	--	--	--	--	--	
MW-21	06/20/07	<0.50	8.5	--	0.66	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	2.10	9.10	--	--	4.20	<0.25	<0.50	<0.10	
MW-21	09/24/07	0.36	4.3	--	0.52	--	<0.0015	<0.0015	0.0018	<0.0015	--	--	2.50	--	--	--	--	--	--	--	
MW-21	12/11/07	<0.25	**34**	--	2.5	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	2.60	--	--	--	--	--	--	--	
MW-21	03/04/08	<0.50	**12**	--	0.92	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	2.50	--	--	--	--	--	--	--	
MW-21	06/04/08	<0.30	4.7	--	<0.50	--	<0.0015	<0.0015	<0.015	<0.0015	--	--	2.80	14.00	--	--	7.40	<0.25	<0.50	0.13	
MW-21	09/08/08	0.98	3.8	--	<0.50	--	<0.0015	0.0015	0.0049	0.0028	--	--	0.77	--	--	--	--	--	--	--	
MW-21	12/05/08	<1.0	4.8	--	<0.50	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	1.24	--	--	--	--	--	--	--	
MW-21	03/04/09	<0.50	6.4	--	0.89	--	<0.0025	<0.0025	<0.0025	0.0034	--	--	0.84	--	--	--	--	--	--	--	
MW-21	06/02/09	0.7	2.9	--	0.68	--	<0.0010	<0.0010	0.0016	<0.0010	--	--	1.29	7.10	--	--	4.00	<0.25	3.90	0.23	
MW-21	09/22/09	**1.7**	4.7	--	<0.50	--	<0.0025	<0.0025	0.0029	<0.0025	--	--	0.79	--	--	--	--	--	--	--	
MW-21	11/17/09	<0.25	0.87	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.17	--	--	--	--	--	--	--	
MW-21	03/09/10	<0.25	1.1	--	<0.50	--	0.0014	<0.0010	<0.0010	<0.0005	--	--	1.03	--	--	--	--	--	--	--	
MW-21	09/10/10	0.6	3.7	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

ARCADIS

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-21	11/15/10	<0.25	0.49	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.72	--	--	--	--	--	--	--	
MW-21	03/01/11	<0.25	1.2	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.11	--	--	--	--	--	--	--	
MW-21	05/23/11	<0.25	1.2	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.41	0.85	--	--	0.11	ND	4.30	0.10	
MW-21	08/29/11	0.35	3.7	--	0.98	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	0.55	--	--	--	--	--	--	--	
MW-21	12/01/11	<0.25	1.7	--	--	--	<0.0010	<0.0010	<0.0010	<0.0020	--	--	1.16	--	--	--	--	--	--	--	
MW-21	03/01/12	<0.25	0.51	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	0.79	--	--	--	--	--	--	--	
MW-21	05/31/12	<0.25	6.1	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	0.00	0.24	--	--	0.092	<0.25	5.70	0.22	
MW-21	08/25/12	0.56	1.8	--	0.59	--	<0.0025 o	<0.0025 o	<0.0025 o	<0.0025 o	--	--	--	--	--	--	--	--	--	--	
MW-21	11/08/12	<0.25	--	0.29	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
MW-21	02/28/13	<0.25	--	0.90	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-21	04/10/13	<0.25	--	0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	0.62	--	--	<0.050	0.70 *c	4.2	<0.10	
MW-21	07/30/13	0.32	2.9	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-21	10/03/13	<0.25	--	0.62	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.00	--	--	--	--	--	--	--	
MW-21	01/22/14	<0.25	2.3	--	0.77	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	8.32	--	--	--	--	--	--	--	
MW-21	04/24/14	<0.25	0.74	0.28	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	0.20	--	--	<0.050	<0.25	7.8	<0.10	
MW-21	07/14/14	<0.25	1.4	0.58	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.29	--	--	--	--	--	--	--	
MW-21	03/18/15	<0.25	--	<0.25	--	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	--	--	4.6	0.55	--	--	<0.050	0.28	2.0	<0.10	
MW-21	09/30/15	<0.100	--	3.12	--	1.59	<0.001	<0.005	<0.001	<0.003	--	--	0.28	2.51	--	--	4.36 T8	0.107	<5.0	0.081	
MW-21	03/30/16	<0.100	--	1.00	--	0.537	<0.001	<0.005	<0.001	<0.003	--	--	1.85	0.0797	--	--	<0.05	0.605	<5.0	<0.05	
MW-21	10/13/16	0.244	--	1.64	--	<0.500	<0.001	<0.005	<0.001	<0.003	--	--	0.34	--	--	--	--	--	--	--	
MW-21	03/29/17	<0.100	--	0.354	--	<0.500	<0.001	<0.001	<0.001	<0.003	--	--	3.25	--	--	--	--	--	--	--	
MW-21	10/12/17	0.168 B	--	1.68	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.63	--	--	--	--	--	--	--	
MW-21	03/28/18	<0.1	0.624	--	0.31	--	<0.001	<0.001	<0.001	<0.003	--	--	0.77	--	--	--	--	--	--	--	
MW-21	10/03/18	0.444	--	7.03	--	0.757	<0.001	<0.001	<0.001	<0.003	--	--	0.08	--	--	--	--	--	--	--	
MW-21	04/03/19	0.165 B	--	0.967	--	0.271 B	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.5	--	--	--	--	--	--	--	
MW-21	10/02/19	<0.100	--	1.15	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.14	--	--	--	--	--	--	--	
MW-21 (DUP)	10/02/19	<0.100	--	1.21	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.14	--	--	--	--	--	--	--	Duplicate of MW-21
MW-21	03/26/20	<0.500	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.96	--	--	--	--	--	--	--	
MW-21 (DUP)	03/26/20	<0.100	--	<0.200	--	<0.200	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.96	--	--	--	--	--	--	--	Duplicate of MW-21
MW-21	10/21/20	0.188	--	1.67	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.41	--	--	--	--	--	--	--	
MW-21 (DUP)	10/21/20	0.281 B	--	2.21	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.41	--	--	--	--	--	--	--	Duplicate of MW-21
MW-21	04/14/21	<0.100	--	0.780	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.90	--	--	--	--	--	--	--	
MW-21 (DUP)	04/14/21	<0.100	--	0.662	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.90	--	--	--	--	--	--	--	Duplicate of MW-21
MW-21	10/13/21	0.236	--	0.765	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.10	--	--	--	--	--	--	--	
MW-21 (DUP)	10/13/21	0.212 B	--	0.711	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.10	--	--	--	--	--	--	--	Duplicate of MW-21
MW-22	02/13/02	0.96	9.2	--	<0.5	--	0.012	0.0053	0.017	0.0097	--	--	--	--	--	--	--	--	--	--	
MW-22	05/21/02	**1.1**	7.7	--	<0.5	--	**0.16**	0.049	0.023	0.030	--	--	--	--	--	--	--	--	--	--	
MW-22	08/29/02	**1.4**	2.4	--	<0.5	--	**0.50**	0.0093	0.044	0.0066	--	--	0.70	2.4	--	--	9.1	<0.25	2.20	0.2	
MW-22	11/05/02	0.49	1.7	--	<0.5	--	**0.14**	0.0031	0.025	<0.001	--	--	1.60	1.1	--	--	5.6	<0.25	99.00	0.2	
MW-22	02/19/03	<0.25	9.1	--	<0.5	--	<0.001	<0.001	<0.001	<0.001	--	--	2.10	<0.01	--	--	4.7	<0.25	120	0.1	
MW-22	06/10/03	<0.25	7.4	--	0.87a	--	<0.001	<0.001	<0.001	<0.001	--	--	1.30	0.087	--	--	5.00	0.64	110.00	0.5	
MW-22	09/16/03	<0.25	2.7	--	<0.50	--	0.0018	<0.0005	<0.0005	<0.0005	--	--	2.40	2.0	--	--	55.00	<0.25 b	230.00	1.6	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-22	11/19/03	<0.50	8.4	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	--	--	6.60	0.056	--	--	2.30	<0.25 b	100.00	0.4	
MW-22	02/25/04	<0.25	6.4	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	8.20	<0.01	--	--	2.40	0.38 b	43.00	0.4	
MW-22	05/11/04	<0.25	2.0	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	5.10	<0.010	--	--	0.48	0.87	36.00	<0.10	
MW-22	08/25/04	<0.25	0.61	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	2.72	1.4	--	--	2.70	0.33	59.00	--*b	
MW-22	12/14/04	<0.25	1.1	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.35	3.2	--	--	5.50	1.20	65.00	<0.10	
MW-22	03/10/05	<0.25	2.2	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	1.40	0.38	--	--	9.20	0.49	23.00	0.61	
MW-22	06/07/05	<0.25	3.0	--	<0.50	--	0.0049	<0.001	<0.001	<0.001	--	--	4.20	0.53	--	--	6.30	<0.25	25.00	0.7	
MW-22	09/20/05	0.40	2.9	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	3.70	0.86	--	--	27.00	<0.25	24.00	0.16	
MW-22	12/13/05	<0.25	0.71	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	2.10	3.8	--	--	12.00	<0.25	25.00	3.0	
MW-22	03/15/06	<0.25	2.4	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.10	0.033	--	--	4.40	<0.25	14.00	<0.10	
MW-22	06/08/06	<0.25	0.89	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.60	0.62	--	--	4.50	<0.25	17.00	0.19	
MW-22	09/12/06	<0.25	0.45	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.60	2.2	--	--	4.50	<0.25	19.00	0.11	
MW-22	12/12/06	<0.25	1.4	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	0.90	0.010	--	--	2.20	<0.25	7.3	<0.10	
MW-22	06/19/07	<0.25	1.1	--	<0.50	--	0.0094	<0.0005	<0.0005	<0.0005	--	--	1.80	--	--	--	--	--	--	--	
MW-22	06/04/08	<0.25	0.77	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.60	--	--	--	--	--	--	--	
MW-22	06/03/09	<0.25	1.8	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.50	--	--	--	--	--	--	--	
MW-22	06/09/10	<0.25	1.2	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.0011	--	--	0.00	--	--	--	--	--	--	--	
MW-22	09/09/10	--	--	--	--	--	--	--	--	--	--	--	0.36	--	--	--	--	--	<0.50	--	
MW-22	05/23/11	<0.25	2.7	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	--	--	0.00	--	--	--	--	--	--	--	
MW-22	05/31/12	<1.0	2.1	--	0.73	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	0.00	--	--	--	--	--	--	--	
MW-22	04/09/13	<0.25	--	0.97	<0.50	--	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
MW-22	04/22/14	<0.25	2.9	0.38	<0.50	<0.50	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	
MW-22	09/30/15	<0.100	--	0.911	--	<0.25	<0.001	<0.005	<0.001	<0.003	--	--	0.36	--	--	--	--	--	--	--	
MW-22	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	--	--	0.84	--	--	--	--	--	--	--	
MW-22	10/11/17	<0.100	--	0.256	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.71	--	--	--	--	--	--	--	
MW-22	10/03/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	--	--	0.11	--	--	--	--	--	--	--	
MW-22	10/03/19	0.826	--	0.258	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.10	--	--	--	--	--	--	--	
MW-22	10/21/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.10	--	--	--	--	--	--	--	
MW-22	10/14/21	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.17	--	--	--	--	--	--	--	
MW-23	11/19/03	**5.3**	1.4	--	<0.50	--	**0.87**	0.016	0.098	0.23	--	--	--	--	--	--	--	--	--	--	
MW-23	02/25/04	**3.3**	0.85	--	<0.50	--	**0.91**	0.011	0.046	0.030	0.0052*	--	1.60	12	--	--	15	<0.25 b	13.00	0.4	
MW-23	05/12/04	**4.2**	1.3	--	<0.50	--	**1.1**	0.013	0.046	0.048	<0.0050*	--	1.80	13	--	--	19	<0.25	3.60	0.16	
MW-23	08/26/04	**5.3**	0.72	--	<0.50	--	**1.1**	0.023	0.20	0.17	**0.014***	--	1.41	10	--	--	14	<0.25	21.00	0.11	
MW-23	12/14/04	--	--	--	--	--	--	--	--	--	--	--	2.30	16	--	--	1.2	<0.25	<0.50	0.25	
MW-23	03/08/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-23	06/07/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-23	09/20/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-23	12/13/05	**6.3**	<0.25	--	<0.50	--	**1.3**	0.014	0.048	0.044	<0.0050*	--	--	--	--	--	--	--	--	--	
MW-23	03/15/06	**7.0**	0.28	--	<0.50	--	**1.4**	0.015	0.19	0.21	<0.0050*	--	2.30	17	--	--	20	<0.25	<0.50	0.23	
MW-23	06/08/06	**5.2**	1.3	--	<0.50	--	**1.4**	0.014	0.11	0.11	<0.0050*	--	1.10	18	--	--	18	<0.25	<0.50	0.20	
MW-23	09/12/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-23	12/12/06	**8.1**	<0.25	--	<0.50	--	**1.8**	0.02	0.11	0.16	<0.0050*	--	1.90	27	--	--	27	<0.25	<0.50	0.24	
MW-23	03/27/07	**8.4**	--	--	--	--	**1.8**	0.019	0.16	0.16	--	--	2.40	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-23	06/19/07	**8.7**	--	--	--	--	**1.8**	0.021	0.23	0.23	<0.0050	--	1.20	13	--	--	18	<0.25	<1.0	0.19	
MW-23	09/25/07	**6.9**	--	--	--	--	**1.5**	0.021	0.085	0.11	--	--	2.90	--	--	--	--	--	--	--	
MW-23	12/11/07	**9.1**	--	--	--	--	**1.3**	0.022	0.053	0.097	--	--	2.77	--	--	--	--	--	--	--	
MW-23	03/04/08	**7.8**	--	--	--	--	**1.5**	0.018	0.089	0.10	--	--	2.40	--	--	--	--	--	--	--	
MW-23	06/04/08	**19**	--	--	--	--	**2.4**	0.061	0.59	3.2	<0.0050	--	1.70	12	--	--	63	<0.25	1.0	0.48	
MW-23	09/08/08	**6.4**	--	--	--	--	**0.79**	0.014	0.07	0.038	--	--	--	--	--	--	--	--	--	--	
MW-23	12/04/08	**5.4**	--	--	--	--	**0.52**	0.0088	0.091	0.063	--	--	0.53	--	--	--	--	--	--	--	
MW-23	03/04/09	**4.8**	--	--	--	--	**0.81**	0.012	0.27	0.11	--	--	0.80	--	--	--	--	--	--	--	
MW-23	06/02/09	**5.7**	--	--	--	--	**0.21**	0.0061	0.17	0.054	<0.0050	--	0.42	9.5	--	--	17	<0.25	57	0.92	
MW-23	09/21/09	**5.9**	--	--	--	--	**0.64**	0.013	0.26	0.025	--	--	0.60	--	--	--	--	--	--	--	
MW-23	11/16/09	**6.2**	--	--	--	--	**0.80**	0.017	0.45	0.036	--	--	0.43	--	--	--	--	--	--	--	
MW-23	03/08/10	**4.8**	--	--	--	--	**0.25**	0.0077	0.19	0.031	--	--	0.26	--	--	--	--	--	--	--	
MW-23	06/08/10	**5.5**	--	--	--	--	**0.39**	0.0082	0.17	0.025	<0.0050	--	0.15	11.00	--	--	22.00	<0.25	4.20	0.52	
MW-23	09/10/10	**4.9**	--	--	--	--	**0.21**	0.0044	0.11	0.019	--	--	3.49	--	--	--	--	--	--	--	
MW-23	11/16/10	**4.5**	--	--	--	--	**0.37**	0.010	0.23	0.02	--	--	0.46	--	--	--	--	--	--	--	
MW-23	03/02/11	**5.0**	--	--	--	--	**0.21**	0.0060	0.15	0.023	--	--	0.00	--	--	--	--	--	--	--	
MW-23	05/24/11	**6.0**	--	--	--	--	**0.32**	0.0053	0.16	0.027	<0.0050	--	0.33	14.00	--	--	31.00	<0.25	0.80	0.10	
MW-23	08/30/11	**6.0**	--	--	--	--	**0.15**	0.0030	0.093	0.015	--	--	1.10	--	--	--	--	--	--	--	
MW-23	12/02/11	**5.3**	--	--	--	--	**0.29**	0.0076	0.13	0.017	--	--	0.89	--	--	--	--	--	--	--	
MW-23	03/02/12	**4.0**	--	--	--	--	**0.12**	0.0029	0.13	0.027	--	--	0.65	--	--	--	--	--	--	--	
MW-23	05/30/12	**4.5**	--	--	--	--	**0.087**	<0.0025	0.14	0.022	<0.0050	--	0.00	5.50	--	--	41.00	<0.25	74.00	0.38	
MW-23	08/25/12	**2.6**	--	--	--	--	0.050	<0.0025 o	0.059	0.0046	--	--	--	--	--	--	--	--	--	--	
MW-23	11/08/12	**2.3**	--	--	--	--	0.021	<0.001	0.065	0.0038	--	--	--	--	--	--	--	--	--	--	
MW-23	02/28/13	**2.6**	--	--	--	--	0.034	<0.0025	0.16	0.010	--	--	--	--	--	--	--	--	--	--	
MW-23	04/10/13	0.54	--	--	--	--	0.015	<0.001	0.015	0.0013	<0.0050	--	--	1.9	--	--	92	<0.25	1,000	<0.10	
MW-23	07/29/13	**1.7**	--	--	--	--	0.0097	<0.001	0.025	0.0011	--	--	--	--	--	--	--	--	--	--	
MW-23	10/02/13	0.39	--	--	--	--	0.015	<0.001	0.0019	<0.001	--	--	0.00	--	--	--	--	--	--	--	
MW-23	01/21/14	0.27	--	--	--	--	0.011	<0.001	<0.001	<0.001	--	--	5.42	--	--	--	--	--	--	--	
MW-23	04/23/14	**1.7**	--	--	--	--	0.039	<0.001	<0.001	0.0026	<0.0050	--	--	3.1	--	--	23	<0.25	470	<0.10	
MW-23	07/15/14	**2.5**	--	--	--	--	**0.11**	0.0020	0.063	0.0071	--	--	0.30	--	--	--	--	--	--	--	
MW-23	03/18/15	**2.1**	--	--	--	--	0.056	0.0013	0.028	0.0039	--	--	--	--	--	--	--	--	--	--	Surrogate recovery above lab limits
MW-23 (DUP)	03/18/15	**1.4**	--	--	--	--	0.045	0.0011	0.024	0.0029	--	--	0.07	6.5	--	--	9.5	<0.25	260	0.15	
MW-23	10/01/15	**1.68**	--	--	--	--	**0.0873**	<0.005	0.00684	0.00331	--	--	0.19	6.03	--	--	6.48 T8	<0.10	58.3	<0.05	
MW-23	03/31/16	**1.39**	--	--	--	--	0.0139	<0.005	0.0180	<0.003	--	--	0.36	6.08	--	--	7.93	<0.10	26.0	<0.05	
MW-23 (DUP)	03/31/16	**1.36**	--	--	--	--	0.0121	<0.005	0.0157	<0.003			--	--	--	--	--	--	--	--	
MW-23	10/14/16	**1.63**	--	--	--	--	**0.0852**	<0.005	<0.001	<0.003	<0.002	<0.002	0.70	5.36	--	--	15.4	<0.10	42.3	<0.05	
MW-23	03/29/17	0.433	--	--	--	--	0.00210	<0.001	<0.001	<0.003	--	--	0.20	--	--	--	--	--	--	--	
MW-23 (DUP)	03/29/17	0.489	--	--	--	--	0.00248	0.001	<0.001	<0.003	--	--	--	--	--	--	--	--	--	--	
MW-23	10/11/17	**1.73**	--	--	--	--	0.0665	0.00106	0.0134	<0.00300	<0.00200	<0.00100	0.56	8.26	--	--	4.89 T8	<0.100	<5.00	<0.0500	
MW-23	03/28/18	**2.06**	--	--	--	--	0.06	0.00154	0.00648	<0.003	--	--	0.28	--	--	--	--	--	--	--	
MW-23	10/04/18	**2.61**	--	--	--	--	**0.307**	0.00449	0.0011	<0.003	<0.002	<0.002	0.05	13.8	--	--	5.22 T8	<0.1	<5.0	<0.05	
MW-23	04/03/19	**1.74**	--	--	--	--	**0.240**	0.00369	0.00231	0.00760	--	--	0.09	--	--	--	--	--	--	--	
MW-23 (DUP)	04/03/19	**1.65**	--	--	--	--	**0.255**	0.00397	0.00245	0.00630	--	--	0.09	--	--	--	--	--	--	--	Duplicate of MW-23

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-23	10/04/19	**3.17**	--	--	--	--	**0.360**	0.00797	0.00370	0.00539	<0.00200	<0.00200	0.22	18.7	--	--	14.9 T8	<0.100	<5.00	<0.0500	
MW-23	03/27/20	**1.66**	--	--	--	--	**0.258**	0.00539	0.00555	<0.0150	--	--	0.16	--	--	--	--	--	--	--	
MW-23 (DUP)	03/27/20	**1.60**	--	--	--	--	**0.305**	0.00562	0.00635	0.00662	--	--	0.16	--	--	--	--	--	--	--	Duplicate of MW-23
MW-23	10/22/20	**3.77**	--	--	--	--	**0.309**	0.00859	0.00968	<0.0150	<0.00500	<0.00500	0.09	17.7	--	--	13.0 T8	0.105	<5.00	<0.0500	
MW-23	04/13/21	**2.34 B**	--	--	--	--	**0.206**	0.0118	0.0106	0.0150	--	--	0.14	--	--	--	--	--	--	--	
MW-23	10/13/21	**4.39**	--	--	--	--	**0.228**	<0.00500	0.0111	0.0169	<0.00200	<0.00200	0.13	9.89	--	--	14.8 T8	<0.100	<5.00	<0.0500	
MW-24	11/19/03	**34**	6.4	--	0.54	--	**2.8**	0.54	1.4	6.0	--	--	--	--	--	--	--	--	--	--	
MW-24	02/25/04	**26**	3.0	--	<0.50	--	**4.3**	0.085	1.0	3.3	<0.0050*	--	1.70	15	--	--	22	<0.25 b	6.40	0.3	
MW-24	05/12/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	08/26/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	12/14/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	03/08/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	06/07/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	09/20/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	12/13/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	12/14/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	03/15/06	**26**	0.34	--	<0.50	--	**4.4**	0.064	0.88	4.2	**0.0069**	--	--	25	--	--	46	<0.25	<0.50	0.23	
MW-24	06/08/06	**21**	<0.25	--	<0.50	--	**1.5**	0.039	0.86	4.9	**0.0068**	--	1.60	7.6	--	--	9.1	<0.25	<0.50	0.42	
MW-24	09/12/06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-24	12/12/06	**20**	1.1	--	<0.50	--	**1.5**	0.037	0.69	3.2	**0.0078***	--	2.30	16	--	--	3.2	<0.25	<0.50	0.31	
MW-24	03/27/07	**27**	--	--	--	--	**3.4**	0.062	1.3	4.6	--	--	2.20	--	--	--	--	--	--	--	
MW-24	06/19/07	**31**	--	--	--	--	**3.0**	0.063	1.0	5.7	**0.022**	--	1.40	15	--	--	68	<0.25	<0.50	1.7	
MW-24	09/25/07	**16**	--	--	--	--	**2.0**	0.036	0.79	2.3	--	--	2.30	--	--	--	--	--	--	--	
MW-24	12/11/07	**40**	--	--	--	--	**1.5**	0.066	1.8	9.2	--	--	1.19	--	--	--	--	--	--	--	
MW-24	03/04/08	**41**	--	--	--	--	**1.8**	0.052	1.4	7.7	--	--	2.20	--	--	--	--	--	--	--	
MW-24	06/04/08	**5.5**	--	--	--	--	**1.2**	0.013	0.027	0.027	<0.0050	--	2.10	15	--	--	17	<0.25	7.4	0.85	
MW-24	09/08/08	**46**	--	--	--	--	**3.5**	0.081	1.9	7.3	--	--	1.38	--	--	--	--	--	--	--	
MW-24	12/05/08	**32**	--	--	--	--	**2.4**	0.061	1.6	4.3	--	--	0.33	--	--	--	--	--	--	--	
MW-24	03/04/09	**26**	--	--	--	--	**2.3**	0.056	1.5	5.3	--	--	0.83	--	--	--	--	--	--	--	
MW-24	06/02/09	**37**	--	--	--	--	**2.5**	0.064	1.7	4.4	**0.0062**	--	0.46	12	--	--	37	<0.25	<0.50	<0.10	
MW-24	09/21/09	**28**	--	--	--	--	**1.6**	0.042	1.3	4.2	--	--	0.77	--	--	--	--	--	--	--	
MW-24	11/16/09	**20**	--	--	--	--	**1.1**	0.027	0.94	2.7	--	--	0.78	--	--	--	--	--	--	--	
MW-24	03/08/10	**31**	--	--	--	--	**2.5**	0.058	1.6	5.1	--	--	0.29	--	--	--	--	--	--	--	
MW-24	06/08/10	**37**	--	--	--	--	**3.1**	0.084	2.2	7.1	**0.019**	--	0.00	12.00	--	--	35.00	<0.25	<0.50	0.23	
MW-24	09/10/10	**28**	--	--	--	--	**2.4**	0.066	1.8	4.3	--	--	3.70	--	--	--	--	--	--	--	
MW-24	11/16/10	**26**	--	--	--	--	**1.3**	0.051	1.5	5.8	--	--	0.47	--	--	--	--	--	--	--	
MW-24	03/02/11	**26**	--	--	--	--	**2.2**	0.057	1.3	4.8	--	--	0.00	--	--	--	--	--	--	--	
MW-24	05/24/11	**11**	--	--	--	--	**1.2**	0.028	0.51	1.3	<0.0050	--	0.53	12.00	--	--	26.00	<0.25	0.78	0.11	
MW-24	08/30/11	**30**	--	--	--	--	**2**	0.057	1.4	4.2	--	--	0.39	--	--	--	--	--	--	--	
MW-24	12/02/11	**18**	--	--	--	--	**0.37**	0.016	0.42	2.56	--	--	0.48	--	--	--	--	--	--	--	
MW-24	03/02/12	**8.7**	--	--	--	--	**0.53**	0.014	0.25	1.1	--	--	1.52	--	--	--	--	--	--	--	
MW-24	05/30/12	**7.3**	--	--	--	--	**0.39**	0.013	0.3	0.88	<0.0050	--	0.00	7.50	--	--	31.00	<0.25	2.40	0.15	
MW-24	08/25/12	**11**	--	--	--	--	**0.56**	<0.020 V	0.41	1.4	--	--	--	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-24 (DUP)	08/25/12	**8.0**	--	--	--	--	**0.41**	<0.015 V	0.30	1.1	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	11/08/12	**20**	--	--	--	--	**1.7**	0.057	1.4	4.1	--	--	--	--	--	--	--	--	--	--	
MW-24	11/08/12	**19**	--	--	--	--	**1.7**	0.057	1.4	4.2	--	--	--	--	--	--	--	--	--	--	
MW-24	02/28/13	**6.6**	--	--	--	--	**0.29**	<0.01	0.39	0.84	--	--	--	--	--	--	--	--	--	--	
MW-24	02/28/13	**9.0**	--	--	--	--	**0.48**	0.016	0.59	1.3	--	--	--	--	--	--	--	--	--	--	
MW-24	04/10/13	**20**	--	--	--	--	**1.1**	0.048	0.22	3.8	--	--	--	19	--	--	35	<0.25	1.0	<0.10	
MW-24	04/10/13	**23**	--	--	--	--	**1.2**	0.061	1.7	4.1	**0.01**	--	--	--	--	--	--	--	--	--	
MW-24	07/29/13	**27**	--	--	--	--	**1.1**	0.059	2.1	4.7	--	--	--	--	--	--	--	--	--	--	
MW-24	10/02/13	**33**	--	--	--	--	**1.1**	0.072	2.6	6.3	--	--	0.00	--	--	--	--	--	--	--	
MW-24 (DUP)	10/02/13	**29**	--	--	--	--	**1.4**	0.076	2.5	5.6	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	01/22/14	**3.1**	--	--	--	--	**0.088**	0.0034	0.18	0.33	--	--	--	--	--	--	--	--	--	--	
MW-24 (DUP)	01/22/14	**2.2**	--	--	--	--	0.056	0.0026	0.12	0.2	--	--	0.00	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	04/23/14	**23**	--	--	--	--	**1.0**	0.051	1.7	3.6	**0.0085**	--	--	13	--	--	52	0.95	2.3	<0.10	
MW-24 (DUP)	04/23/14	**24**	--	--	--	--	**1.0**	0.048	1.7	3.7	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	07/15/14	**24**	--	--	--	--	**1.1**	0.055	1.7	3.7	--	--	0.20	--	--	--	--	--	--	--	
MW-24 (DUP)	07/15/14	**22**	--	--	--	--	**1.1**	0.05	1.7	3.6	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	03/18/15	**28**	--	--	--	--	**1.4**	0.066	1.8	2.6	--	--	0.18	23	--	--	40	<0.25	1.2	<0.10	
MW-24	10/01/15	**13.6**	--	--	--	--	**0.641**	<0.100	1.13	1.80	0.00282	<0.002	0.29	10.4	--	--	31.3 T8	<0.10	<5.0	<0.05	
MW-24 (DUP)	10/01/15	**14.5**	--	--	--	--	**0.637**	0.0264	0.934	1.51	0.00249	<0.002	--	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	03/31/16	**3.44**	--	--	--	--	**0.136**	0.00605	0.106	0.115	--	--	0.45	9.40	--	--	12.6	<0.10	<5.0	<0.05	
MW-24	10/14/16	**5.28**	--	--	--	--	**0.106**	<0.05	0.201	0.280	0.00390	<0.002	0.30	2.53	--	--	6.23	<0.10	<5.0	<0.05	
MW-24 (DUP)	10/14/16	**5.59**	--	--	--	--	**0.113**	<0.05	0.206	0.287	0.00404	<0.002	--	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	03/29/17	**12.8**	--	--	--	--	**0.160**	<0.100	0.446	0.452	--	--	3.51	--	--	--	--	--	--	--	
MW-24	10/11/17	**7.22**	--	--	--	--	**0.649**	0.0260	0.773	0.732	0.00281	<0.00100	0.58	14.4	--	--	22.9 T8	<0.100	<5.00	<0.0500	
MW-24 (DUP)	10/11/17	**7.12**	--	--	--	--	**0.649**	0.0252	0.735	0.641	0.00266 B	<0.00100	0.58	13.3	--	--	25.7 T8	<0.100	<5.00	<0.0500	Duplicate of MW-24
MW-24	03/28/18	**10.5**	--	--	--	--	0.829	0.023	1.04	0.612	--	--	0.11	--	--	--	--	--	--	--	
MW-24 (DUP)	03/28/18	**9.3**	--	--	--	--	0.591	0.0260	0.869	0.535	--	--	--	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	10/04/18	**10.4**	--	--	--	--	0.337	0.0168	0.643	0.208	<0.002	<0.002	0.11	12.9	--	--	15.7 T8	<0.1	<5.0	<0.05	
MW-24 (DUP)	10/04/18	**10.8**	--	0.568	--	<0.25	0.378	0.0173	0.815	0.259	<0.002	<0.002	--	--	--	--	--	--	--	--	Duplicate of MW-24
MW-24	04/03/19	**13.6**	--	--	--	--	**0.719**	0.0274	1.23	0.309	--	--	0.09	--	--	--	--	--	--	--	
MW-24	10/04/19	**10.3**	--	--	--	--	**0.581**	0.0173	0.643	0.112	<0.00200	<0.00200	0.76	19.6	--	--	53.0 T8	<0.100	<5.00	<0.0500	
MW-24	03/27/20	**2.15**	--	--	--	--	**0.222**	<0.010	0.144	0.0412	--	--	0.32	--	--	--	--	--	--	--	
MW-24	10/22/20	**9.00**	--	--	--	--	**0.859**	0.0371	0.708	0.244	<0.00500	<0.00500	0.12	18.7	--	--	55.2 T8	<0.100	<5.00	<0.0500 J6	
MW-24	04/13/21	**6.71**	--	--	--	--	**0.508**	0.0243	0.683	0.313	--	--	0.09	--	--	--	--	--	--	--	
MW-24	10/13/21	**9.63**	--	--	--	--	**0.440**	0.0304	0.737	0.216	0.00224	<0.00200	0.00	11.8	--	--	56.7 T8	<0.100	<5.00	<0.0500	
MW-25	11/20/03	<0.25	1.3	--	<0.50	--	0.0061	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	--	--	--	
MW-25	02/26/04	0.38	8.9	--	<0.50	--	0.0011	<0.0005	0.0027	<0.0005	**0.012***	--	1.30	1.5	--	--	27	<0.25 b	120.00	0.9	
MW-25	05/12/04	<0.25	1.6	--	<0.50	--	<0.0005	<0.0005	0.0034	<0.0005	<0.0050*	--	1.90	2.0	--	--	12	<0.25	140.00	0.10	
MW-25	08/26/04	<0.25	0.27	--	<0.50	--	0.013	<0.0005	<0.0005	<0.0005	**0.034*a**	--	1.78	1.7	--	--	5.4	<0.25	380.00	0.13	
MW-25	12/14/04	<0.25	1.4	--	<0.50	--	0.0035	<0.001	<0.001	<0.001	<0.0050*	--	2.10	0.40	--	--	2.7	<0.25	370.00	<0.10	
MW-25	03/10/05	0.31	3.7	--	<0.50	--	0.0014	<0.0005	0.00064	<0.0005	<0.0050*	--	2.10	2.0	--	--	3.5	<0.25	180.00	0.21	
MW-25	06/07/05	0.40	3.2	--	<0.50	--	<0.001	<0.001	0.0014	<0.001	<0.0050*	--	1.75	2.2	--	--	4.7	<0.25	160.00	0.7	
MW-25	09/20/05	0.30	1.4	--	<0.50	--	0.0016	<0.0005	<0.0005	<0.0005	**0.059*a**	--	1.30	0.91	--	--	1.8	<0.25	270.00	0.12	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
MW-25	12/13/05	<0.25	1.2	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	<0.0050*	--	2.50	1.8	--	--	1.8	<0.25	140.00	0.23	
MW-25	03/15/06	<0.25	1.0	--	<0.50	--	0.0019	<0.001	<0.001	<0.001	<0.0050*	--	2.50	0.92	--	--	4.6	<0.25	210.00	0.38	
MW-25	06/08/06	<0.25	1.4	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.20	1.9	--	--	6.5	<0.25	120.00	0.13	
MW-25	09/12/06	<0.25	0.31	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.80	0.84	--	--	5.9	<0.25	250.00	<0.10	
MW-25	12/12/06	<0.25	0.86	--	<0.50	--	0.0052	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.10	1.6	--	--	15	<0.25	400.00	<0.10	
MW-25	06/19/07	<0.50	1.6	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	<0.0050	--	2.10	--	--	--	--	--	--	--	
MW-25	06/04/08	<0.25	0.26	--	<0.50	--	0.0020	<0.0005	<0.0005	<0.0005	<0.0050	--	2.40	--	--	--	--	--	--	--	
MW-25	06/03/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.62	--	--	--	--	--	--	--	
MW-25	06/09/10	<0.25	0.32	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	<0.0050	--	0.00	--	--	--	--	--	--	--	
MW-25	05/25/11	<0.50	1.4	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	<0.0050	--	1.17	--	--	--	--	--	--	--	
MW-25	06/01/12	<0.25	<0.25	--	<0.50	--	0.0011	<0.0010	<0.0010	<0.0010	<0.0050	--	0.00	--	--	--	--	--	--	--	
MW-25	04/10/13	<0.25	--	<0.25	<0.50	--	0.0013	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-25	04/23/14	<0.25	0.65	0.25	<0.50	<0.50	0.0014	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	--	
MW-25	10/02/15	<0.100	--	1.19	--	1.19	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.19	--	--	--	--	--	--	--	
MW-25	10/13/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.62	--	--	--	--	--	--	--	
MW-25	10/11/17	0.110	--	1.60	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.46	--	--	--	--	--	--	--	
MW-25	10/02/18	<0.1	--	0.669	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.12	--	--	--	--	--	--	--	
MW-25	10/03/19	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.16	--	--	--	--	--	--	--	
MW-25	10/23/20	<0.100	--	0.633	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.07	--	--	--	--	--	--	--	
MW-25	10/12/21	<0.100	--	0.437	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	0.00293	<0.00200	0.09	--	--	--	--	--	--	--	
MW-26	10/25/11	<0.25		<0.25		<0.50	<0.00050	<0.00050	<0.00050	<0.00050	--	--	--	--	--	--	--	--	--	--	
SH-02	12/20/00	0.078	<0.25	--	<0.5	--	0.001	<0.001	<0.001	<0.003	**0.015****	--	--	5.40	--	--	0.86	0.040	14.00	0.32	
SH-02	Destroyed during construction activities																				
SH-02R	02/13/02	<0.25	0.56	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
SH-02R	05/21/02	<0.25	2.4	--	<0.5	--	0.037	<0.0005	<0.0005	<0.0005	0.005*	--	--	--	--	--	--	--	--	--	
SH-02R	08/28/02	<0.25	4.3	--	<0.5	--	**0.087**	0.0038	0.00061	0.0023	**0.006***	--	1.50	4.90	--	--	17.00	<0.25	3.80	<0.1	
SH-02R	11/05/02	<0.25	1.1	--	<0.5	--	0.016	<0.0005	<0.0005	<0.0005	0.005*	--	2.10	6.10	--	--	20.00	<0.25	13.00	<0.1	
SH-02R	02/19/03	<0.25	<0.5	--	<0.5	--	<0.0005	0.00086	<0.0005	<0.0005	<0.005*	--	2.50	0.29	--	--	2.40	0.33	10.00	0.60	
SH-02R	06/10/03	<0.25	0.97	--	<0.25	--	<0.0005	0.00051	<0.0005	<0.0005	**0.0059***	--	1.30	1.40	--	--	5.10	<0.25	6.80	0.30	
SH-02R	09/16/03	<0.25	3.0	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.010***	--	1.90	5.20	--	--	19.00	<0.25 b	5.10	0.40	
SH-02R	11/19/03	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.10	1.50	--	--	4.60	0.34 b	7.10	0.20	
SH-02R	02/25/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	3.40	5.00	--	--	14.00	0.46 b	5.20	0.40	
SH-02R	05/12/04	<0.25	0.74	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.00	3.20	--	--	7.40	<0.25	4.40	<0.10	
SH-02R	08/26/04	<0.25	0.58	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.24	2.10	--	--	3.80	<0.25	5.80	<0.10	
SH-02R	12/15/04	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.98	0.092	--	--	0.055	0.44	100.00	<0.10	
SH-02R	03/09/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.59	0.38	--	--	1.50	<0.25	380.00	<0.10	
SH-02R	06/08/05	<0.25	0.31	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.00	1.20	--	--	0.11	<0.25	110.00	<0.2	
SH-02R	09/21/05	<0.25	0.58	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.50	4.40	--	--	0.72	<0.25	31.00	<0.10	
SH-02R	12/14/05	<0.25	0.30	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0078*	--	0.70	2.20	--	--	0.28	<0.25	11.00	<0.10	
SH-02R	03/14/06	<0.25	0.30	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0072*	--	0.70	0.42	--	--	1.40	<0.25	25.00	<0.10	
SH-02R	06/07/06	<0.25	0.59	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050*	--	0.90	3.10	--	--	4.40	<0.25	20.00	<0.10	
SH-02R	09/13/06	<0.25	<0.25	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050*	--	1.70	3.90	--	--	5.50	<0.25	24.00	<0.10	
SH-02R	12/13/06	<0.25	0.49	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	0.90	0.38	--	--	1.30	0.34	10.00	<0.10	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

ARCADIS

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
SH-02R	06/20/07	<0.25	0.77	--	<0.50	--	<0.0010	<0.0010	<0.0010	0.0016	<0.0050	--	2.00	--	--	--	--	--	--	--	
SH-02R	06/05/08	<0.25	0.28	--	<0.50	--	<0.0005	<0.0005	<0.0005	0.00073	<0.0050	--	3.10	--	--	--	--	--	--	--	
SH-02R	06/01/09	<0.25	0.37	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.25	--	--	--	--	--	--	--	
SH-02R	06/08/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.24	--	--	--	--	--	--	--	
SH-02R	05/23/11	<0.25	0.29	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	--	0.41	--	--	--	--	--	--	0.0050	
SH-02R	06/01/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.00	--	--	--	--	--	--	0.0050	
SH-02R	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	<0.10	
SH-02R	04/23/14	<0.25	0.28	<0.25	<0.50	<0.50	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	<0.10	
SH-02R	09/30/15	<0.100	--	1.00	--	0.298	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.38	4.26	--	--	3.88	<0.1	<5	<0.05	
SH-02R	10/12/16	<0.100	--	<0.250	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.61	--	--	--	--	--	--	--	
SH-02R	10/11/17	0.145 B	--	0.331	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.61	--	--	--	--	--	--	--	
SH-02R	10/04/18	0.129	--	0.594	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.08	--	--	--	--	--	--	--	
SH-02R	10/03/19	<0.100	--	0.565	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.17	--	--	--	--	--	--	--	
SH-02R	10/21/20	0.220 B	--	0.252	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.08	--	--	--	--	--	--	--	
SH-02R	10/14/21	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.04	--	--	--	--	--	--	--	
SH-05	12/20/00	<0.05	1.0	--	<0.5	--	<0.001	<0.001	<0.003	<0.001	**0.017****	--	--	0.010	--	--	1.80	0.14	6.00	<0.01	
SH-05R	05/21/02	0.71	**11**	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	--	--	--	--	--	--	--	--	
SH-05R	08/28/02	0.77	**10**	--	<0.5	--	<0.0005	0.0015	<0.0005	<0.0005	**0.006***	--	1.40	1.00	--	--	11.00	<0.25	1.40	0.50	
SH-05R	11/05/02	**1.4**	7.1	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.008***	--	1.50	1.20	--	--	17.00	<0.25	6.30	<0.1	
SH-05R	02/19/03	0.8	6.8	--	<0.5	--	<0.001	0.0016	<0.001	<0.001	<0.005*	--	2.60	2.90	--	--	32.00	<0.25	28.00	<0.1	
SH-05R	06/10/03	**1.1**	**45**	--	<0.25	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.04***	--	1.40	1.50	--	--	33.00	<0.25	2.80	0.60	
SH-05R	09/16/03	<0.25	**23**	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.074***	--	1.20	1.60	--	--	41.00	<0.25 b	0.46	0.90	
SH-05R	11/19/03	0.62	**19**	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.075***	--	3.10	1.60	--	--	36.00	<0.25 b	71.00	0.50	
SH-05R	02/25/04	<0.25	5.3	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.50	0.56	--	--	0.087	0.76 b	120.00	0.20	
SH-05R	05/12/04	0.43	4.3	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.12	2.10	--	--	16.00	<0.25	4.60	<0.10	
SH-05R	08/26/04	0.63	3.0	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.96	2.00	--	--	6.40	<0.25	0.63	<0.10	
SH-05R	12/15/04	0.30	**10**	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0056*	--	2.80	3.70	--	--	26.00	<0.25	26.00	<0.10	
SH-05R	03/09/05	0.78	4.3	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.56	3.40	--	--	2.00	<0.25	7.50	<0.10	
SH-05R	06/08/05	0.32	4.0	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.50	3.80	--	--	19.00	<0.25	30.00	<0.2	
SH-05R	09/21/05	0.61	2.8	--	1.0	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	0.80	3.10	--	--	9.10	<0.25	<0.50	<0.10	
SH-05R	12/14/05	0.78	1.3	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.30	5.40	--	--	23.00	<0.25	16.00	<0.10	
SH-05R	03/14/06	<0.25	1.4	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0074*	--	2.30	0.11	--	--	0.087	<0.25	35.00	<0.10	
SH-05R	06/07/06	<0.25	1.4	--	<0.50	--	<0.001	<0.001	<0.001	<0.001	<0.0050*	--	1.20	1.90	--	--	8.40	0.34	21.00	<0.10	
SH-05R	09/13/06	0.34	0.56	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.40	2.20	--	--	7.40	<0.25	<0.50	<0.10	
SH-05R	12/13/06	<0.50	1.9	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	<0.0050*	--	2.70	0.14	--	--	0.11	2.10	100.00	<0.10	
SH-05R	06/20/07	0.59	1.8	--	<0.50	--	<0.0005	0.00058	<0.0005	<0.0005	<0.0050	--	0.90	--	--	--	--	--	--	--	
SH-05R	06/05/08	<0.25	1.7	--	<0.50	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	--	2.90	--	--	--	--	--	--	--	
SH-05R	06/01/09	0.36	0.99	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.01	--	--	--	--	--	--	--	
SH-05R	06/08/10	<0.25	0.28	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	0.00	--	--	--	--	--	--	--	
SH-05R	05/23/11	<0.25	1.4	--	<0.50	--	<0.0025	<0.0025	<0.0025	<0.0025	<0.0050	--	1.39	--	--	--	--	--	--	0.0050	
SH-05R	10/01/15	<0.100	--	1.80	--	0.320	<0.001	<0.005	<0.001	0.003	<0.002	<0.002	0.42	--	--	--	--	--	--	--	
SH-05R	10/12/16	0.257	--	0.543	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.61	--	--	--	--	--	--	--	
SH-05R	10/11/17	0.267 B	--	0.586	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.73	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
SH-05R	10/04/18	0.242	--	0.7	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.07	--	--	--	--	--	--	--	
SH-05R	10/03/19	<0.100	--	0.391	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.13	--	--	--	--	--	--	--	
SH-05R	10/21/20	0.180 B	--	0.314	--	<0.2500	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.14	--	--	--	--	--	--	--	
SH-05R	10/14/21	<0.100	--	0.413	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.06	--	--	--	--	--	--	--	
MW-07R	02/13/02	<0.25	1.2	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.035***	--	--	--	--	--	--	--	--	--	
MW-07R	05/21/02	<0.25	2.1	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	0.005*	--	--	--	--	--	--	--	--	--	
MW-07R	08/28/02	<0.25	2.4	--	<0.5	--	<0.0005	0.0028	<0.0005	0.0012	**0.006***	--	1.60	0.17	--	--	6.90	<0.25	9.00	0.10	
MW-07R	11/05/02	<0.25	3.7	--	<0.5	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005*	--	1.60	0.16	--	--	12.00	<0.25	2.70	<0.1	
MW-07R	02/19/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-07R	06/10/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Sampled
MW-07R	09/16/03	<0.25	1.9	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.045***	--	1.40	0.26	--	--	26.00	<0.25 b	9.10	1.60	
MW-07R	11/19/03	<0.25	2.1	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.020***	--	2.20	0.017	--	--	4.90	0.77 b	14.00	0.30	
MW-07R	02/25/04	<0.25	<0.50	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.10	<0.01	--	--	1.80	0.42 b	5.70	0.30	
MW-07R	05/12/04	<0.25	0.48	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.49	<0.010	--	--	2.20	0.74	3.40	<0.10	
MW-07R	08/26/04	<0.25	0.42	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.05	0.011	--	--	0.12	<0.25	12.00	<0.10	
MW-07R	12/15/04	<0.25	0.85	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	0.0076*	--	2.00	0.034	--	--	1.40	0.36	10.00	<0.10	
MW-07R	03/09/05	<0.25	0.54	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.15	0.030	--	--	4.20	<0.25	120.00	<0.10	
MW-07R	06/08/05	<0.25	0.46	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.98	<0.010	--	--	0.25	0.89	5.70	<0.2	
MW-07R	09/21/05	<0.25	0.70	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.80	0.13	--	--	<0.050	<0.25	15.00	<0.10	
MW-07R	12/14/05	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.50	<0.010	--	--	<0.050	0.29	5.70	<0.10	
MW-07R	03/14/06	<0.25	0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.50	0.23	--	--	2.30	0.51	8.90	<0.10	
MW-07R	06/07/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	2.20	<0.010	--	--	0.28	2.40	3.90	<0.10	
MW-07R	09/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	**0.0065**	--	1.20	0.26	--	--	3.40	<0.25	8.50	<0.10	
MW-07R	12/13/06	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050*	--	1.90	<0.010	--	--	<0.050	1.90	23.00	<0.10	
MW-07R	06/20/07	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.70	--	--	--	--	--	--	--	
MW-07R	06/05/08	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.90	--	--	--	--	--	--	--	
MW-07R	06/01/09	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.29	--	--	--	--	--	--	--	
MW-07R	06/08/10	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.11	--	--	--	--	--	--	--	
MW-07R	05/23/11	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	3.20	--	--	--	--	--	--	0.0050	
MW-07R	06/01/12	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	1.03	--	--	--	--	--	--	0.0050	
MW-07R	04/09/13	<0.25	--	<0.25	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	<0.10	
MW-07R	04/23/14	<0.25	<0.25	--	<0.50	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0050	--	--	--	--	--	--	--	--	<0.10	
MW-07R	10/01/15	<0.100	--	2.61	--	0.373	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.37	1.54	--	--	11.8 T8	<0.1	<5	<0.05	
MW-07R	10/12/16	<0.100	--	0.280	--	<0.500	<0.001	<0.005	<0.001	<0.003	<0.002	<0.002	0.58	--	--	--	--	--	--	--	
MW-07R	10/11/17	0.423	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00100	0.67	--	--	--	--	--	--	--	
MW-07R	10/04/18	<0.1	--	<0.2	--	<0.25	<0.001	<0.001	<0.001	<0.003	<0.002	<0.002	0.05	--	--	--	--	--	--	--	
MW-07R	10/03/19	<0.100	--	0.229	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.13	--	--	--	--	--	--	--	
MW-07R	10/20/20	<0.100	--	<0.200	--	<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00500	<0.00500	0.17	--	--	--	--	--	--	--	
MW-07R	10/14/21	<0.100		<0.200		<0.250	<0.00100	<0.00100	<0.00100	<0.00300	<0.00200	<0.00200	0.06	--	--	--	--	--	--	--	
TMW-B1	10/29/09	**5.7**	<0.25	--	<0.50	--	**0.12**	0.0070	0.058	0.15	--	--	--	--	--	--	--	--	--	--	
TMW-B1	06/09/10	--	--	--	--	--	--	--	--	--	--	--	1.06	--	--	--	--	--	3.60	--	
TMW-B1	09/09/10	--	--	--	--	--	--	--	--	--	--	--	0.25	--	--	--	--	--	<0.50	--	
TMW-B1	05/25/11	**9.1**	--	--	--	--	0.024	<0.0050	0.24	0.56	--	--	1.51	--	--	--	--	--	--	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
TMW-B1	12/02/11	**6.6**	--	--	--	--	**0.091**	<0.0050	0.15	0.26	--	--	0.33	--	--	--	--	--	--	--	
TMW-B1	03/01/12	**8.0**	--	--	--	--	**0.079**	<0.0025	0.28	0.55	--	--	0.30	--	--	--	--	--	--	--	
TMW-B1	11/08/12	**3.7**	--	--	--	--	**0.16**	0.010	0.019	0.036	--	--	--	--	--	--	--	--	--	--	
TMW-B1	02/28/13	**14**	--	--	--	--	0.026	<0.01	0.50	0.87	--	--	--	--	--	--	--	--	--	--	
TMW-B1	10/02/13	**5.8**	--	--	--	--	0.039	<0.005	0.16	0.24	--	--	0.00	--	--	--	--	--	--	--	
TMW-B1	09/29/15	**7.22**	--	--	--	--	0.0355	<0.01	0.213	0.106	--	--	0.33	--	--	--	--	--	--	--	
TMW-B1	10/14/16	**7.03**	--	--	--	--	0.0227	<0.05	0.0690	<0.03	--	--	0.23	9.42	--	--	15.2	<0.10	<5.0	<0.05	
TMW-B1	10/12/17	**6.71**	--	--	--	--	0.0304	0.00266	0.0738	0.0276	--	--	0.62	11.4	--	--	12.7 T8	<0.100	<5.00	<0.0500	
TMW-B1	10/04/18	**6.36**	--	--	--	--	**0.0827**	0.00427	0.0428	0.01	--	--	0.14	6.6	--	--	8.34 T8	<0.1	<5.0	<0.05	
TMW-B1	10/04/19	**5.68**	--	--	--	--	0.0599	0.00758	0.0259	0.00913	--	--	0.08	6.57	--	--	<1.25 T8	<0.100	<5.00	<0.0500	
TMW-B1	10/22/20	**6.00**	--	--	--	--	**0.0796**	0.00869	0.0293	0.0124	--	--	0.05	10.8	--	--	12.1 T8	<0.100	<5.00	<0.0500	
TMW-B1	10/13/21	**4.72**	--	--	--	--	**0.0751**	0.00697	0.0143	0.00883	--	--	0.01	5.83	--	--	11.7 T8	<0.100	<5.00	<0.0500	
TMW-1	06/21/13	<0.25	<0.25	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	0.41 *c	11	<0.10	Baseline monitoring event
TMW-1	07/30/13	<0.25	--	--	--	--	--	--	--	--	--	--	--	0.075	10	<0.30	--	0.28	1,900	<0.10	
TMW-1	08/26/13	<0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
TMW-1	10/03/13	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	2.92	0.081	13	5.2	--	<0.50 *c	980	<0.10	
TMW-1	01/22/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	9.27	--	--	--	--	--	450	<0.10	
TMW-1	04/21/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	--	--	--	--	--	<0.25	670	<0.10	
TMW-1	07/14/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.87	<0.010	4.0	3.1	--	--	650	<0.10	
TMW-1	03/17/15	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	5.42	0.040	--	--	0.65	0.32	640	<0.10	
TMW-1	09/29/15	**2.03**	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	1.80	<0.010	--	--	1.40 T8	0.571	1,090	<0.05	
TMW-1	03/30/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	6.11	<0.010	--	--	1.74	<0.10	816	<0.05	
TMW-1	10/12/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	4.86	--	--	--	--	--	314	--	
TMW-1	03/28/17	<0.100	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	6.65	--	--	--	--	--	511	--	
TMW-1	10/13/17	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.73	--	--	--	--	--	851	--	
TMW-1	03/29/18	<0.1	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	8.20	--	--	--	--	--	667	--	
TMW-1	10/03/18	<0.1	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	1.92	--	--	--	--	--	810	--	
TMW-1	04/02/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	6.77	--	--	--	--	--	627	--	
TMW-1	10/02/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	3.94	--	--	--	--	--	641	--	
TMW-1	03/25/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	9.59	--	--	--	--	--	669	--	
TMW-1	10/20/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	4.46	--	--	--	--	--	331	--	
TMW-1	04/12/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	8.40	--	--	--	--	--	963	--	
TMW-1	10/11/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.01	--	--	--	--	--	294	--	
TMW-2	06/21/13	0.25	0.28	--	--	--	0.0075	0.00097	<0.0005	0.00068	--	--	--	--	--	--	--	<0.25 *c	0.83	<0.10	Baseline monitoring event
TMW-2	07/30/13	0.26	--	--	--	--	--	--	--	--	--	--	--	17	29	1.2	--	<0.25	6.4	<0.10	
TMW-2	08/26/13	0.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
TMW-2	10/03/13	0.50	--	--	--	--	0.013	0.00074	<0.0005	0.0024	--	--	0.00	15	160	110	--	<0.50 *c	2,000	<0.10	
TMW-2	01/22/14	0.28	--	--	--	--	0.011	<0.0005	<0.0005	<0.0005	--	--	6.12	--	--	--	--	--	3,000	<0.10	
TMW-2	04/21/14	<0.25	--	--	--	--	<0.001	<0.001	<0.001	<0.001	--	--	--	--	--	--	--	<0.25	2,600	<0.10	
TMW-2	07/14/14	<0.25	--	--	--	--	0.0028	<0.0005	<0.0005	<0.0005	--	--	0.10	7.1	68	67	--	--	2,700	<0.10	
TMW-2	03/17/15	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.24	2.7	--	--	16	<0.25	1,500	<0.10	
TMW-2	10/01/15	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.34	0.0843	--	--	34.8 T8	<0.10	1,810	<0.05	
TMW-2	03/30/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.32	6.71	--	--	9.26	<0.10	1,340	<0.05	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
TMW-2	10/12/16	<0.100	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.23	--	--	--	--	--	1,200	--	
TMW-2	03/28/17	<0.100	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	0.41	--	--	--	--	--	1,480	--	
TMW-2	10/13/17	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.56	--	--	--	--	--	1,390	--	
TMW-2	03/29/18	<0.1	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	0.08	--	--	--	--	--	1,250	--	
TMW-2	10/03/18	<0.1	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	0.12	--	--	--	--	--	1,730	--	
TMW-2	04/02/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.09	--	--	--	--	--	1,480	--	
TMW-2	10/02/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.22	--	--	--	--	--	1,370	--	
TMW-2	03/25/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	7.42	--	--	--	--	--	1,390	--	
TMW-2	10/20/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.03	--	--	--	--	--	1,160	--	
TMW-2	04/12/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	1.03	--	--	--	--	--	1,220	--	
TMW-2	10/11/21	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.65	--	--	--	--	--	1,030	--	
TMW-3	06/24/13	0.86	0.85	--	--	--	<0.0005	0.00052	<0.0005	0.00087	--	--	--	--	--	--	--	<0.25	4.4	<0.10	Baseline monitoring event
TMW-3	07/30/13	0.98	--	--	--	--	--	--	--	--	--	--	--	2.6	10	<0.30	--	<0.25	3.1	<0.10	
TMW-3	08/26/13	**1.2**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
TMW-3	10/03/13	0.92	--	--	--	--	0.00057	0.0018	0.0076	0.0072	--	--	0.00	3.8	43	18	--	<0.50 *c	1,100	<0.10	
TMW-3	01/22/14	0.75	--	--	--	--	<0.001	0.0022	<0.001	<0.001	--	--	0.00	--	--	--	--	--	3,800	<0.10	
TMW-3	04/24/14	0.51	--	--	--	--	<0.0005	0.0046	0.0011	<0.0005	--	--	--	--	--	--	--	<0.25	2,500	<0.10	
TMW-3	07/14/14	<0.25	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.27	1.3	19	17	--	--	3,100	<0.10	
TMW-3	03/18/15	0.62	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005	--	--	0.07	1.3	--	--	9.3	<0.25	1,300	<0.10	
TMW-3	09/30/15	0.358	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.17	0.890	--	--	13.4 T8	<0.10	984	<0.05	
TMW-3	03/30/16	0.266	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.38	0.494	--	--	5.5	<0.10	1,380	<0.05	
TMW-3	10/12/16	0.607	--	--	--	--	<0.001	<0.005	<0.001	<0.003	--	--	0.24	--	--	--	--	--	1,190	--	
TMW-3	03/29/17	0.170	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	0.23	--	--	--	--	--	1,800	--	
TMW-3	10/12/17	0.610	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.54	--	--	--	--	--	1,320	--	
TMW-3	03/29/18	0.309	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	0.12	--	--	--	--	--	1,150	--	
TMW-3	10/04/18	**1.15**	--	--	--	--	<0.001	<0.001	0.0012	<0.003	--	--	0.24	--	--	--	--	--	1,220	--	
TMW-3	04/03/19	0.553	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.01	--	--	--	--	--	909	--	
TMW-3	10/03/19	0.955	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.16	--	--	--	--	--	513	--	
TMW-3	03/26/20	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.21	--	--	--	--	--	1,100	--	
TMW-3	10/20/20	0.136 B	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.16	--	--	--	--	--	912	--	
TMW-3	04/13/21	0.167	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.46	--	--	--	--	--	1,120	--	
TMW-3	10/12/21	0.559	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.29	--	--	--	--	--	730	--	
TMW-4	06/24/13	**4.9**	2.5 Z	--	--	--	**0.17**	0.084	0.23	0.95	--	--	--	--	--	--	--	<0.25	32	0.11	Baseline monitoring event
TMW-4	07/30/13	**5.1**	--	--	--	--	--	--	--	--	--	--	--	13	24	5.0	--	0.48	1.4	0.11	
TMW-4	08/26/13	**9.2**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
TMW-4	10/03/13	**4.7**	--	--	--	--	**0.13**	0.12	0.29	1.3	--	--	0.00	16	410	17	--	0.36 J*	2,800	<0.10	
TMW-4	01/22/14	**6.0**	--	--	--	--	**0.21**	0.070	0.40	0.99	--	--	0.00	--	--	--	--	--	2,800	<0.10	
TMW-4	04/24/14	**4.0**	--	--	--	--	**0.16**	0.044	0.39	0.84	--	--	--	--	--	--	--	<0.25	1,400	<0.10	
TMW-4	07/14/14	**5.6**	--	--	--	--	**0.19**	0.016	0.38	0.35	--	--	0.12	7.9	130	130	--	--	940	<0.10	
TMW-4	03/18/15	**7.5**	--	--	--	--	**0.21**	0.019	0.53	0.38	--	--	0.08	7.5	--	--	30	<0.25	410	<0.10	
TMW-4	09/30/15	**3.49**	--	--	--	--	**0.107**	<0.125	0.455	<0.075	--	--	0.12	1.12	--	--	43.4 T8	<0.10	374	<0.05	
TMW-4	03/30/16	**2.23**	--	--	--	--	0.0471	<0.005	0.343	0.0141	--	--	1.01	1.96	--	--	5.01	<0.10	1,940	<0.05	
TMW-4	10/14/16	**3.13**	--	--	--	--	0.0250	<0.025	0.211	<0.015	--	--	0.67	--	--	--	--	--	936	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
TMW-4	03/29/17	**3.48**	--	--	--	--	0.0139	0.00301	0.194	0.00977	--	--	0.18	--	--	--	--	--	1,880	--	
TMW-4	10/12/17	**3.52**	--	--	--	--	0.0345	0.0430	0.308	0.117	--	--	0.39	--	--	--	--	--	494	--	
TMW-4	03/29/18	**3.85**	--	--	--	--	0.00497	0.00913	**0.282**	0.0439	--	--	0.05	--	--	--	--	--	741	--	
TMW-4	10/04/18	**6.35**	--	--	--	--	0.0103	0.0451	**0.435**	0.341	--	--	0.13	--	--	--	--	--	1,360	--	
TMW-4	04/03/19	**3.07**	--	--	--	--	<0.0100	<0.0100	0.257	<0.0300	--	--	0.07	--	--	--	--	--	696	--	
TMW-4	10/03/19	**6.02**	--	--	--	--	0.00347	0.0532	0.263	0.337	--	--	0.10	--	--	--	--	--	446	--	
TMW-4	03/26/20	**1.35**	--	--	--	--	0.00132	0.00324	0.275	0.00576	--	--	3.36	--	--	--	--	--	1,520	--	
TMW-4	10/20/20	**2.49 B**	--	--	--	--	<0.00500	<0.00500	0.00512	<0.0150	--	--	0.15	--	--	--	--	--	1,680	--	
TMW-4	04/13/21	**2.51**	--	--	--	--	0.00434	0.00224	0.0461	0.00398	--	--	0.19	--	--	--	--	--	1,180	--	
TMW-4	10/12/21	**4.54**	--	--	--	--	0.00122	0.0318	0.335	0.179	--	--	0.15	--	--	--	--	--	805	--	
TMW-5	06/21/13	**1.3**	0.65 K	--	--	--	**0.10**	0.0097	0.022	0.02	--	--	--	--	--	--	--	<0.25 *c	4.3	<0.10	Baseline monitoring event
TMW-5	07/30/13	**4.3**	--	--	--	--	--	--	--	--	--	--	--	7.6	11	<0.30	--	<0.25	0.67	0.25	
TMW-5	08/26/13	**4.2**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
TMW-5	10/03/13	**1.9**	--	--	--	--	0.044	0.0063	0.00380	0.0088	--	--	0.00	5.6	39	16	--	<0.50 *c	2,500	0.10	
TMW-5	01/22/14	**1.9**	--	--	--	--	0.0039	0.0031	0.00120	0.0023	--	--	7.18	--	--	--	--	--	2,600	0.10	
TMW-5	04/24/14	**1.4**	--	--	--	--	<0.0015	0.0026	0.0017	0.0021	--	--	--	--	--	--	--	<0.25	4,000	<0.10	
TMW-5	07/14/14	**1.4**	--	--	--	--	0.01	0.0016	<0.0005	0.00062	--	--	0.09	2.4	8.0	0.82	--	--	1,300	<0.10	
TMW-5	03/18/15	**3.0**	--	--	--	--	0.046	0.0069	0.016	0.016	--	--	0.04	8.9	--	--	0.069	<0.25	700	0.20	
TMW-5	09/30/15	**1.20**	--	--	--	--	0.00943	<0.005	<0.001	<0.003	--	--	0.09	2.00	--	--	43.1 T8	<0.10	734	6.72	
TMW-5	03/30/16	0.865	--	--	--	--	0.0220	<0.005	0.00831	<0.003	--	--	0.27	4.12	--	--	2.21	<0.10	1,500	<0.05	
TMW-5	10/12/16	**1.27**	--	--	--	--	0.00812	<0.005	<0.001	<0.003	--	--	0.17	--	--	--	--	--	765	--	
TMW-5	03/29/17	**1.53**	--	--	--	--	0.01580	0.00107	0.0053	<0.003	--	--	0.28	--	--	--	--	--	1,730	--	
TMW-5	10/12/17	**1.06**	--	--	--	--	0.00928	0.00139	<0.00100	<0.00300	--	--	0.38	--	--	--	--	--	686	--	
TMW-5	03/29/18	**1.42**	--	--	--	--	<0.001	<0.001	0.00304	<0.003	--	--	0.09	--	--	--	--	--	727	--	
TMW-5	10/04/18	0.99	--	--	--	--	<0.001	<0.001	<0.001	<0.003	--	--	0.09	--	--	--	--	--	1,210	--	
TMW-5	04/03/19	**1.04**	--	--	--	--	<0.00100	<0.00100	0.00200	<0.00300	--	--	0.01	--	--	--	--	--	832	--	
TMW-5	10/02/19	<0.100	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.29	--	--	--	--	--	581	--	
TMW-5	03/26/20	0.316	--	--	--	--	<0.00100	<0.00100	0.00506	<0.00300	--	--	0.21	--	--	--	--	--	1,940	--	
TMW-5	10/20/20	0.790	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00300	--	--	0.23	--	--	--	--	--	1,210	--	
TMW-5	04/12/21	**1.100**	--	--	--	--	0.00158	<0.00100	0.00355	<0.00300	--	--	0.27	--	--	--	--	--	763	--	
TMW-5	10/11/21	**1.030**	--	--	--	--	0.00916	0.00238	<0.00100	<0.00300	--	--	0.10	--	--	--	--	--	495	--	
TMW-6	06/24/13	**4.9**	1.8 Z	--	--	--	0.067	0.0099	0.1500	0.55	--	--	--	--	--	--	--	<0.25	16	0.14	Baseline monitoring event
TMW-6	07/30/13	**7.8**	--	--	--	--	--	--	--	--	--	--	--	5.4	13	2.4	--	<0.25	5.0	0.14	
TMW-6	08/26/13	**8.5**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Two-month monitoring event
TMW-6	10/03/13	**5.4**	--	--	--	--	0.028	0.010	0.18000	0.42	--	--	0.00	5.6	290	250	--	<0.50 *c	1,700	<0.10	
TMW-6	01/22/14	**7.0**	--	--	--	--	0.06	0.010	0.28000	0.53	--	--	3.60	--	--	--	--	--	2,300	<0.10	
TMW-6	04/24/14	**5.1**	--	--	--	--	0.015	0.0036	0.19000	0.37	--	--	--	--	--	--	--	<0.25	1,800	<0.10	
TMW-6	07/14/14	**3.9**	--	--	--	--	0.064	0.0047	0.1600	0.21	--	--	0.22	6.5	100	98	--	--	1,600	<0.10	
TMW-6	03/18/15	**5.0**	--	--	--	--	0.003	0.0028	0.15	0.12	--	--	0.09	0.54	--	--	2.0	<0.25	1,000	<0.10	
TMW-6	09/30/15	**5.09**	--	--	--	--	0.00287	<0.005	0.133	0.189	--	--	0.19	1.15	--	--	41.7 T8	<0.10	1,400	<0.05	
TMW-6	03/30/16	**2.00**	--	--	--	--	<0.001	<0.005	0.05630	0.0546	--	--	0.66	0.254	--	--	14.9	<0.10	1,560	<0.05	
TMW-6	10/12/16	**5.82**	--	--	--	--	0.00278	0.00667	0.26700	0.392	--	--	0.27	--	--	--	--	--	1,530	--	
TMW-6	04/20/17	**3.85**	--	--	--	--	<0.010	<0.010	0.12400	0.144	--	--	0.36	--	--	--	--	--	1,770	--	

Appendix E
Historical Groundwater Analytical Results
Kinder Morgan Liquids Terminals, LLC
Harbor Island Terminal
2720 13th Avenue Southwest, Seattle, Washington

Well ID	Date Sampled	GRO mg/L	DRO mg/L	DRO, SGC mg/L	HO mg/L	HO, SGC mg/L	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylenes mg/L	Total Lead mg/L	Dissolved Lead mg/L	Dissolved Oxygen mg/L	Methane mg/L	Total Iron mg/L	Dissolved Iron mg/L	Ferrous Iron mg/L	Nitrate mg/L	Sulfate mg/L	Sulfide mg/L	Comments
Site-Specific Cleanup Levels:		**1.0**	**10**	**10**	**10**	**10**	**0.071**	**200**	**29.0**	**N/A**	**0.0058**										
TMW-6	10/12/17	**9.33**	--	--	--	--	<0.0100	0.0109	0.5790	0.526	--	--	0.54	--	--	--	--	--	1,400	--	
TMW-6	03/28/18	**9.31**	--	--	--	--	<0.001	0.00212	0.286	0.27	--	--	0.08	--	--	--	--	--	796	--	
TMW-6	10/03/18	**9.79**	--	--	--	--	0.00157	0.00623	0.548	0.374	--	--	0.07	--	--	--	--	--	1,250	--	
TMW-6	04/03/19	**4.77**	--	--	--	--	<0.00100	<0.00100	0.289	0.413	--	--	0.05	--	--	--	--	--	344	--	
TMW-6	10/02/19	**11.6**	--	--	--	--	<0.00100	0.00486	0.640	1.09	--	--	0.13	--	--	--	--	--	416	--	
TMW-6	03/26/20	**2.16**	--	--	--	--	<0.00100	<0.00100	0.145	0.0812	--	--	0.26	--	--	--	--	--	3,720	--	
TMW-6	10/21/20	**6.74**	--	--	--	--	<0.00100	0.00123	0.300	0.313	--	--	0.20	--	--	--	--	--	1,010	--	
TMW-6	04/13/21	**2.16**	--	--	--	--	<0.00100	<0.00100	0.290	0.473	--	--	0.30	--	--	--	--	--	411	--	
TMW-6	10/13/21	**10.3**	--	--	--	--	<0.0100	<0.0100	0.691	0.977	--	--	0.17	--	--	--	--	--	622	--	

Arcadis U.S., Inc.
1100 Olive Way, Suite 800
Seattle
Washington 98101
Phone: 206 325 5254
Fax: 206 325 8218
www.arcadis.com