REMEDIAL INVESTIGATION REPORT
FORMER CHEVRON BULK PLANT NO. 207407
612 Union Street
Camas, Washington

August 19, 2015

Prepared for:
Washington State Department of Ecology
PO Box 47775
Olympia, Washington 98504-7774

Prepared by:
Leidos Engineering, LLC
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Portland, Oregon 97204

On behalf of:
Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, California 94583

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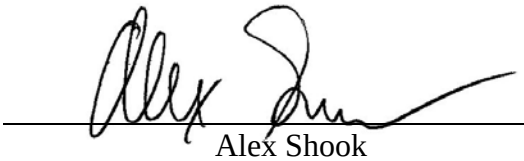

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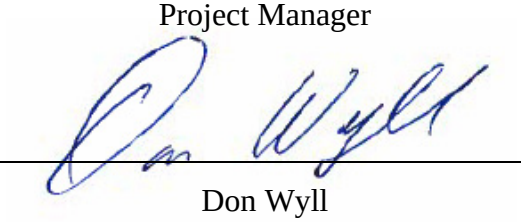
Project Manager



Don Wyll
Senior Project Manager

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TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

REMEDIAL INVESTIGATION REPORT
FORMER CHEVRON BULK PLANT NO. 1001875

1. INTRODUCTION

1.1 OBJECTIVE

Leidos Engineering, LLC (Leidos), formerly SAIC Energy, Environment & Infrastructure, LLC (SAIC), on behalf of Chevron Environmental Management Company (Chevron), prepared this report to document the activities and findings of a Remedial Investigation (RI) at Former Chevron Facility No. 207407 located at 612 Union Street, Camas, Washington (site).

This report is intended to fulfill the requirements of the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Washington Administrative Code (WAC) 173-340-350[7, 8] and WAC 173-340-360, and is being submitted in accordance with Agreed Order No. 02TCPSR-3991.

The Agreed Order states in section 2b: "*Once all RI work is complete, Chevron shall perform a Risk Assessment and focused Feasibility Study (in the event that site media exceed cleanup standards that are appropriate for the use of the property.)*". As demonstrated in this report and based on an evaluation of all site data collected during the RI, there are no exceedances of cleanup standards for site media. Therefore, this report is being submitted solely as an RI report.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION

Former Chevron Bulk Terminal No. 207407 is a decommissioned bulk fuel facility located on a 1.5-acre irregularly shaped lot at the southeast corner of the intersection of SE Sixth Avenue and SE Union Street in Camas, Washington.

The site is bounded to the north by a railroad mainline. The east side of the site was formerly bordered by a railroad spur, and is currently bordered by a post office. The site is bounded to the south by the Tidland Corporation a light industrial company and land use to the west of the site across Union Avenue is residential. The site is located approximately 800 feet southeast of the Washougal River and 1,700 feet north of the Columbia River. The City of Camas (City) municipal well No. 6 is located approximately 250 feet north of the site. The City municipal well No. 5 is located approximately 1,000 feet southeast of the site.

Based on City zoning, the site is located in an area designated as Heavy Industrial (HI). This zone provides for a wide range of industrial and manufacturing uses. Types of activities in this zone include assembly, manufacturing, fabrication, processing, bulk handling and storage, research facilities, associated warehousing, and heavy trucking.

A site vicinity map is presented on Figure 1 and a site map is presented on Figure 2.

2.2 SITE HISTORY

The former facility operated as a bulk fuel storage plant from the 1920s to 1983. In 1918 Standard Oil (Chevron) acquired a large lot encompassing the current site. From 1918 to 1919 pieces of this large lot were sold until Standard Oil owned only the current property. The site was decommissioned in 1983 and all above ground storage tanks (ASTs) and associated piping were removed. All site buildings and warehouses were removed in 1984 except for the office

building located in the southern portion of the site. Chevron sold the property in November 1994 to Triangle Resources who uses the property for wood recycling.

2.3 PREVIOUS ENVIRONMENTAL INVESTIGATIONS AND REMEDIAL ACTIONS

Between 1987 and 1994, several rounds of site investigations were conducted. The results of the investigations were reported by Rittenhouse-Zeman & Associates, Inc. (RZA) in 1987, 1988, and 1991 and by Hart Crowser in 1994. All historical reports sited in the RI report are provided on a CD (Appendix E).

In December 1987 two soil borings (B-1 and B-2) were completed to approximately 20 to 23 feet below ground surface (bgs; RZA, 1987).

In September 1988, four monitoring wells (MW-1 through MW-4) were completed to approximately 20 to 23 feet bgs (RZA, 1988).

Between January and February 1990, three monitoring wells (MW-5 through MW-7) were completed to approximately 45 feet bgs (RZA, 1991).

In February 1990, a heating-oil underground storage tank (UST) located in the southern corner of the site was removed (RZA, 1991).

In September 1994, 19 test pits (TP-1 through TP-19) were completed at the site at depths varying from 1.5 to 14.5 feet bgs. One sump containing an oil/water mixture was discovered at that time (Hart Crowser, 1994a).

In November 1994, a remedial excavation was completed at the site to depths ranging from approximately 2 to 16 feet bgs. Approximately 830 cubic yards of petroleum impacted soil were excavated. The previously discovered sump was also excavated. Monitoring wells MW-1 through MW-4 were abandoned (Hart Crowser, 1994b).

A timeline of site investigation activities completed under the Agreed Order is detailed below.

Between July and August, 2004, three soil borings (SB-1 through SB-3) to depths of approximately 25 feet bgs and seven groundwater monitoring wells (MW-8 through MW-14) to depths between approximately 49.7 and 53 feet bgs were completed at the site. Monitoring well MW-7 was abandoned at this time. During this site investigation, TPH-G was detected in soil borings SB-1 at depths between 6 and 14 feet bgs and SB-2 at depths between 19 and 24 feet bgs. TPH-D was also detected in soil boring SB-2 at a depth of 19 feet bgs (SAIC, 2012).

In July 2008, two groundwater monitoring wells (MW-15 and MW-16) were completed to approximately 49.2 feet bgs. During this site investigation, no contaminants of concern were detected at concentrations above MTCA Method A cleanup levels in any of the soil samples (SAIC, 2012).

Between August and September 2014, three soil borings (SB-4, SB-5, and SB-6) were completed to approximately 22 and 36 feet bgs. The objective of this investigation was to determine the magnitude of petroleum-impacted soil remaining in the vadose zone from areas previously identified as having the highest contaminant concentrations on site and to assess the extent of natural attenuation in these areas over time. In addition, MTCA Method B site-specific total petroleum hydrocarbon (TPH) cleanup levels were recalculated using analytical results from soil samples collected during this investigation. No contaminants of concern were detected at

concentrations above the newly recalculated site-specific MTCA Method B cleanup levels in any of the soil samples (Leidos, 2014).

Groundwater monitoring was performed at the site from February 1990 through November 1995 and was resumed in 2004. The most recent groundwater monitoring event was conducted in June 2015.

Historical soil and groundwater analytical data are included in Tables 1 through 3.

3. SUBSURFACE CONDITIONS

3.1 GEOLOGY

Soil borings indicate that lithology is consistent across the site. The site subsurface soil typically consists of gravelly silt between ground surface and 3 to 5 feet bgs. Underlying this layer is very dense gravelly silt and sandy gravel with cobbles and boulders (up to 4 feet in diameter) to a depth of approximately 20 feet bgs. The cobble and boulder content decreases as the sand content increases from approximately 20 to 50 feet bgs. Well logs for City municipal water wells show that the gravel layer continues to about 80 to 85 feet bgs where a harder rock layer is encountered. This layer is likely weathered basalt.

3.2 HYDROGEOLOGY

Groundwater occurs in a shallow aquifer which is used in the area as a source of irrigation and drinking water. The groundwater depths range between approximately 26 and 45 feet bgs with historical groundwater flow direction to the northeast, northwest, and south-southwest. Results from a rose diagram created using historical groundwater flow direction data and municipal well No. 6 operation records; indicate that operations of the municipal well No. 6 have influenced groundwater flow direction at the site. During the municipal well No. 6 operations the groundwater flow at the site trends in a north-northeast direction. In contrast, when the well is not operating, the groundwater flow trends in a westerly direction.

An analysis of groundwater flow was conducted by Ecology and documented in a June 24, 2013 letter *Agency Comments on July 26, 2012 Draft Final Remedial Investigation/Feasibility Study Report* (Ecology, 2013). Ecology's analysis states: "*The five-year (2007-2011) prevailing groundwater flow direction-including times when No. 6 well was operating-is towards the west (azimuth bearing of 275º)*". The evaluation concluded that "*Clearly, the probability of groundwater beneath the source area transporting contaminants to the Camas City Well No. 6 is minimal*."

4. CONCEPTUAL SITE MODEL

In order to more fully understand the relationship between contaminants, affected environmental media, indoor media, and human receptors, a conceptual site model was developed. MTCA defines a conceptual site model as "a conceptual understanding of a site that identifies potential or suspected sources of hazardous substances, types and concentrations of hazardous substances, potentially impacted media, and actual and potential exposure pathways and receptors." These components will be discussed in the sections below, as an introduction to presenting the conceptual site model.

4.1 CONTAMINANTS OF CONCERN

MTCA defines a contaminant as "any hazardous substance that does not occur naturally or occurs at greater than natural background levels." Contaminants of concern (COCs) include those hazardous substances that are known to be present at a site, or which are suspected to be present based on information regarding the nature of a known release or past operations at a site.

Sampling data from past environmental investigations and cleanup actions have confirmed the presence of the following COCs for each of the impacted media at the site:

COCs	Groundwater	Soil
TPH Gasoline Range	•	•
TPH Diesel Range	•	•
TPH Heavy-Oil Range	•	•

4.2 POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS

MTCA (WAC 173-340-200) defines an exposure pathway as "the path a hazardous substance takes or could take from a source to an exposed organism. An exposure pathway describes the mechanism by which an individual or population is exposed, or has the potential to be exposed, to hazardous substances at or originating from a site." Primary exposure pathways are those routes that are known to be currently transporting petroleum contaminants to or within a certain medium (such as soil impacts to groundwater). Secondary exposure pathways are those routes that (a) have transported contaminants in the past, but may not be currently (such as releases from ASTs); or (b) may transport contaminants in the future, but do not currently. Precluded exposure pathways are those that are not possible at any time based on physical evidence, and are therefore considered closed pathways.

Petroleum constituents have been detected in soil and groundwater samples collected at the site. Therefore, soil and groundwater are impacted media but may also be considered secondary contaminant sources. The potential exposure pathways associated with each medium/source are discussed below, along with the rationale for excluding or including that pathway.

4.2.1 Groundwater

Petroleum-impacted groundwater has the potential to serve as a source of hazardous substance exposure through the following exposure pathways:

Potential Exposure Pathways –Groundwater	
Potential Groundwater Exposure Pathway/Scenario	**Applicability**
Drinking Water: ingestion of contaminated groundwater	**Precluded –** Concentrations of COCs in groundwater have consistently been below MTCA Method A cleanup levels (8 or more quarters) and in most instances concentrations have been below laboratory method detection limits. In addition, the City municipal well No. 6 is located approximately 250 feet north of the site and the City municipal well No. 5 is located approximately 1,000 feet southeast of the site. The distance of the municipal water wells from the site combined with a very low groundwater gradient limits the possibility of site groundwater reaching the water supply. Ecology's assessment of site groundwater flow direction (Ecology, 2013 included in Appendix A) indicated that the probability of site groundwater reaching the City well is minimal.
Direct Contact: dermal contact with contaminated groundwater	**Precluded –** Concentrations of COCs in groundwater have consistently been below MTCA Method A cleanup levels (8 or more quarters) and in most instances concentrations have been below laboratory method detection limits. In addition, groundwater is encountered at depths below 26 feet bgs and therefore could not be encountered during routine site development or utility construction activities.
Surface Water: contamination of surface water by hazardous substance migration through groundwater	**Precluded –** Concentrations of COCs in groundwater have consistently been below MTCA Method A cleanup levels (8 or more quarters). In addition, the site is located approximately 800 feet southeast of the Washougal River and 1,700 feet north of the Columbia River (Figure 1). The distance from the site eliminates the possibility of the site groundwater reaching to surface water bodies and sediments. Therefore, surface water is not considered to be a receptor of concern.

4.2.2 Soil

Petroleum-impacted soil has the potential to serve as a source of hazardous substance exposure through the following exposure pathways:

Potential Exposure Pathways –Soil	
Potential Soil Exposure Pathway/Scenario	**Applicability**
Direct contact: ingestion of, or dermal contact with, contaminated soil	**Precluded –** Concentrations of COCs in soil are below the calculated MTCA Method B soil cleanup level for total TPH protection of groundwater and direct contact (see Section 4.4.2 and Appendix B).
Leaching to Groundwater: contamination of groundwater by hazardous substances leaching from soil	**Precluded –** Empirical data from current groundwater conditions (which are below Method A cleanup levels) and recent soil analytical data (which are below the site-specific MTCA Method B cleanup levels for protection of groundwater) demonstrate that soil conditions are protective of groundwater**.**
Ecological: direct contact with soil for ecological receptors	**Precluded –** Results of a terrestrial ecological evaluation show there is no risk of direct contact for ecological receptors (see Section 4.3 and Appendix C).

4.2.3 Vapor

Petroleum-impacted groundwater and soil have the potential to serve as sources of hazardous substance exposure through the following exposure pathways:

Potential Exposure Pathways – Vapor	
Potential Vapor Exposure Pathway/Scenario	**Applicability**
Vapor Intrusion: inhalation of hazardous substances that have volatilized from contaminated soil and migrated to indoor air	**Precluded –** Currently the site is used as a wood recycling facility with a temporary trailer being the only building on the property. Therefore there is no vapor intrusion risk to current receptors. Zoning for the site is Heavy Industrial so any potential future use will be industrial in nature. A remedial excavation completed at the site in November 1994 removed the majority of petroleum impacted soil to approximately 15 feet bgs. Based on confirmation soil samples collected at the site in 2008 and 2014, concentrations of COCs are below the MTCA Method B cleanup levels. In addition, the vertical separation between ground surface and petroleum-impacted soil is at least 15 feet. The current site use and zoning as well as the COC concentrations below the MTCA Method B cleanup levels indicate that site soil does not pose a risk to human health or the environment.
Vapor Intrusion: inhalation of hazardous substances that have volatilized from contaminated groundwater and LNAPL and migrated to indoor air	**Precluded –** Concentrations of COCs in groundwater have consistently been below MTCA Method A cleanup levels (8 or more quarters) and in most instances concentrations have been below laboratory method detection limits. In addition, groundwater depths at the site range between approximately 26 and 45 feet bgs, which provide a vertical separation between ground surface and groundwater of more than 15 feet.

4.3 TERRESTRIAL ECOLOGICAL EVALUATION

In addition to evaluation of human health risk, MTCA (WAC 173-340-7490) requires that one of the following actions be taken after the release of hazardous substances to the soil at a site to determine the potential impacts to terrestrial organisms at the site:

- Documentation of an exclusion from any further terrestrial ecological evaluation (TEE) using the criteria outlined in WAC 173-340-7491.
- Completion of a simplified TEE as specified in WAC 173-340-7492.
- Completion of a site-specific TEE as specified in WAC 173-340-7493.

A site may be excluded from the requirement for a TEE if any of the following criteria are met at the site:

- All soil contaminated with hazardous substance is, or will be located below the point of compliance established under WAC 173-340-7490(4).
- All soil contaminated with hazardous substance is, or will be, covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed to the soil contamination.
- There is less than 0.25 acre of contiguous undeveloped land on or within 500 feet of any area of the site contaminated with chlorinated dioxins or furans, PCB mixtures, DDT,

DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene.

- There is less than 1.5 acres of contiguous undeveloped land on the site or within 500 feet of any area of the site and the contamination at the site does not include any of the contaminants listed in the preceding bullet.

The site is not excluded from the simplified TEE requirement (WAC 173-340-7490) based on the following:

- There are greater than 4 acres of contiguous undeveloped land within 500 feet of the site.

The simplified terrestrial ecological evaluation was ended based on WAC173-340-7492 2(a) (i). The total area of contamination above the point of compliance is less than 350 square feet. TEE Documentation Form and Table 749-1 are included as Appendix C.

4.4 CLEANUP LEVELS

Under MTCA (WAC 173-340-200), a cleanup level is defined as "the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions." Cleanup levels, in combination with points of compliance, typically define the area or volume of soil, water, air, or sediment at a site that must be cleaned up.

MTCA provides three approaches for establishing soil cleanup levels: Method A, Method B, and Method C. MTCA states that cleanup levels shall be based on the reasonable maximum exposure expected to occur during both current and future land use. By default, MTCA further states that residential land use represents the reasonable maximum exposure. Therefore, cleanup levels must be protective of residential or unrestricted land use.

Method A may be used on sites involving relatively few hazardous substances or where cleanup action may be routine. Under Method A, cleanup levels are determined by the most stringent criteria specified under state and federal laws and Tables 720-1, 740-1, and 745-1 of MTCA.

Method B is the universal method for determining cleanup levels at all sites. For sites contaminated with TPH, Method B cleanup levels are determined by using the fractionated analytical approach for petroleum. This approach involves testing of the samples to determine the LNAPL composition. Cleanup levels must consider the measured or predicted ability of the fractions to migrate from one medium to other media. When multiple exposure pathways are identified for a single media, the most stringent cleanup level is selected.

Method C is used in situations such as industrial sites. Site cleanups under Method C will require restrictions placed on the property to ensure future protection of human health and the environment.

Based on WAC 173-340-700(8)(b)(i) and Ecology's Implementation Memorandum No. 15 (Ecology, 2016), when sufficient information is provided to document that an empirical demonstration has been made, Method A can be used for some substances or media, and Method B or C for others.

4.4.1 Groundwater Cleanup Levels and Points of Compliance

MTCA requires that groundwater cleanup levels be based on the highest beneficial use and reasonable maximum exposure under both current and future land use at a site. For groundwater, MTCA specifies that drinking water is the highest beneficial use and that ingestion of drinking water represents the reasonable maximum exposure. Therefore Method A cleanup levels for groundwater are applicable to this site.

MTCA states that groundwater cleanup levels shall be attained in all groundwater from the point of compliance to the outer boundary of the hazardous substance plume. The standard point of compliance as defined by MTCA is throughout a site from the uppermost level of the saturated zone extending vertically to the lowest depth that could potentially be affected by a site.

4.4.2 Soil Cleanup Levels and Points of Compliance

For this site MTCA Method B has been selected for determining cleanup levels. When multiple exposure pathways are identified for a single media, the most stringent cleanup level is selected. As detailed below Method B soil cleanup levels were calculated for the direct contact and protection of groundwater (leaching) pathways. Because protection of groundwater is the most stringent this cleanup level has been selected.

The site-specific MTCA Method B cleanup level for TPH in soil was calculated for the site using data collected during the 2014 investigation (Leidos, 2014). Method B cleanup levels were calculated individually from soil data collected from borings SB-4-15, SB-5-16, and SB-6-19. Petroleum hydrocarbons were analyzed using United States Environmental Protection Agency (USEPA) methods 8260B, EPH, and VPH. The highest detected results were used in the calculations. In addition, when a compound was detected below the laboratory method detection limit, half of the method detection limit was used in the calculation. Calculated results for the direct contact pathway from each sample location are listed below.

- SB-4-15: 2,453 milligrams per kilogram (mg/kg).
- SB-5-16: 2,603 mg/kg.
- SB-6-19: 2,840 mg/kg.

As recommended in the Ecology *Guidance for Remediation of Petroleum Contaminated Sites* September 2001, the median value of these results, 2,603 mg/kg, will be used as the site-specific MTCA Method B cleanup level for direct contact with TPH in soil (Ecology, 2001).

The site-specific Method B cleanup levels for TPH for protection of groundwater quality (leaching) pathway was also calculated from the same sample data and are listed below.

- SB-4-15: 72,000 mg/kg (100% NAPL)
- SB-5-16: 72,000 mg/kg (100% NAPL)
- SB-6-19: 2,006 mg/kg

TPH concentrations in samples SB-4-15 and SB-5-16 do not pose a leaching hazard from soil to groundwater (Soil-to-Groundwater is not a critical pathway). A more conservative cleanup level protective of groundwater was calculated from sample SB-6-19 at 2006 mg/kg. Protection of groundwater is also supported in that contaminants in sampled monitoring wells have been below the MTCA Method A cleanup levels for 8 or more quarters.

The 2014 investigation data support the fact that natural attenuation has occurred at locations where soil data were collected in the past. As stated in Ecology letter *Chevron Camas Cleanup site (FSID: #1043). Acceptance of Supplemental Vadose-Zone Investigation. Path-forward Milestones* dated April 9, 2015 "During the ten-year period from 2004 to 2014 the concentrations have diminished by an average of 83% (median: 90%; range: 52-100%). These data indicate the threat to underlying groundwater is essentially negligible, and that natural attenuation has occurred at a reasonable rate" (Ecology, 2015).

The MTCA Method B calculation sheets and associated analytical data from the 2014 soil sampling activities are presented in Appendix B.

The soil cleanup levels combined with the point of compliance determines the cleanup standard for the site. Under MTCA, the point of compliance is pathway dependent. Potential pathways for exposure to contaminants in the soil are discussed below.

The point of compliance for protection of human exposure via direct contact/incidental ingestion is in the soils throughout the site to a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface during site development activities (i.e., ground surface to 15 feet bgs).

The standard point of compliance for protection of ecological receptors is in the soils throughout the site from ground surface to 15 feet bgs (the reasonable depth of soil that could be excavated during site development and could result in exposure to ecological organisms).

The point of compliance for protection of groundwater is throughout the site.

5. NATURE AND EXTENT OF IMPACTS

5.1 NATURE AND EXTENT OF GROUNDWATER IMPACTS

Concentrations of COCs in all monitoring wells have been below the MTCA Method A cleanup levels for eight quarters or more. Data collected to date indicate that no groundwater plume is present beneath the site. Groundwater analytical results are summarized in Table 1. Groundwater analytical results for most recent monitoring events are presented on Figure 3. Hydrographs depicting concentrations trends over time for monitoring wells are provided as Appendix D.

5.2 NATURE AND EXTENT OF SOIL IMPACTS

Soil impacts exceeding MTCA Method A cleanup levels were previously identified in the central portion of the site and appeared to be located in the area of the former product lines and ASTs at depths ranging from approximately 10.5 feet bgs to 20 feet bgs.

During the 1994 remedial excavation most areas of impacted soil were removed with the exception of six locations (B-2, TP-13, ES-3, ES-4, ES-5, and ES-7) where petroleum-impacted soil was left in place (Hart Crowser, 1994).

The soil data discussed above were collected at the site approximately 10 and 20 years ago, therefore, are not representative of the current site conditions. Additional soil investigations completed at the site in 2008 and 2014 characterize existing soil conditions and supersede historical data (SAIC, 2012; Leidos, 2014).

During the 2008 site investigation, no COCs were detected at concentrations above the MTCA Method A cleanup levels in any of the soil samples (SAIC, 2012).

The 2014 site investigation soil data was used to calculate the site specific MTCA Method B cleanup levels.

- Soil contamination left at locations B-2 (5 to 20 feet bgs is 1987) and TP-13 (10 to 10.5 feet bgs in 1994) were below the calculated MTCA Method B soil cleanup levels protective of groundwater.
- Soil contamination left at location ES-3 (16 feet bgs in 1994) was reassessed from sampling nearby SB-5 (16 feet in 2004). Concentrations of COCs in SB-5 are below the calculated MTCA Method B soil cleanup levels protective of groundwater. Natural attenuation has occurred here reducing the total TPH concentration from 4,000 mg/kg to 1,100 mg/kg in a 10 year period.
- Soil contamination left at location ES-5 (15 feet bgs in 1994) was reassessed from sampling nearby SB-1 (14 feet bgs in 2004) and SB-4 (15 feet bgs in 2014). Concentrations of COCs in SB-1 and SB-4 are below the calculated MTCA Method B soil cleanup levels protective of groundwater. Natural attenuation has occurred here reducing the total TPH concentration from 3,800 mg/kg at ES-5 to 1,280 mg/kg at SB-2 (in 10 years) and to 610 mg/kg at SB-4 in 20 years.
- Soil contamination left at location ES-7 (15 feet bgs in 1994) was reassessed from sampling nearby SB-2 (19 feet bgs in 2004) and SB-6 (19 feet bgs in 2014). Concentration of TPH at SB-2 (7,000 mg/kg) were higher than ES-7 concentration (4,600 mg/kg) from a deeper sampling location. However, SB-6 concentrations (at the same depth as SB-2) are below the calculated MTCA Method B soil cleanup levels protective of groundwater. Natural attenuation has occurred here reducing the total TPH concentration from 7,000 mg/kg in SB-2 to 318 mg/kg in SB-6 in 10 years.
- Soil contamination left at location ES-4 (15 feet bgs in 1994) was above the calculated MTCA Method B soil cleanup levels protective of groundwater. It has not been reassessed by sampling but has likely reduced in concentration by natural attenuation as evident from other nearby borings reassessment sampling.

Soil analytical results are summarized in Tables 2 and 3. Soil analytical results from the 2014 investigation are presented on Figure 4 (Leidos, 2014).

6. CONCLUSIONS

As discussed above, soil and groundwater beneath the site were historically impacted by the bulk plant operations. This remedial investigation delineated the nature and extent of soil and groundwater impacts and evaluated the potential of risk to current and likely future receptors. As discussed in section 4.4, MTCA Method A cleanup levels are proposed as cleanup criteria for groundwater and MTCA Method B cleanup levels are proposed as final cleanup standards for site soil. .

Site soil and groundwater conditions have been evaluated compared against the proposed cleanup levels and points of compliance established in this RI. This comparison clearly shows

that this site meets MTCA requirements since all exposure pathways have been eliminated and soil and groundwater concentrations do not exceed established cleanup levels.

Because there are no exceedances of applicable cleanup standards and additional cleanup of the site is not necessary there is no reason to complete a Feasibility Study. In addition, based on the results and conclusions of this remedial investigation, a No Further Action determination is requested.

Following acceptance of this RI by Ecology, a draft Cleanup Action Plan (CAP) will be prepared per MTCA requirements. This Draft CAP will recommend no further action at the site.

7. REFERENCES

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REPORT LIMITATIONS

This technical document was prepared on behalf of CEMC and is intended for its sole use and for use by the local, state, or federal regulatory agency that the technical document was sent to by Leidos. Any other person or entity obtaining, using, or relying on this technical document hereby acknowledges that they do so at their own risk, and Leidos shall have no responsibility or liability for the consequences thereof.

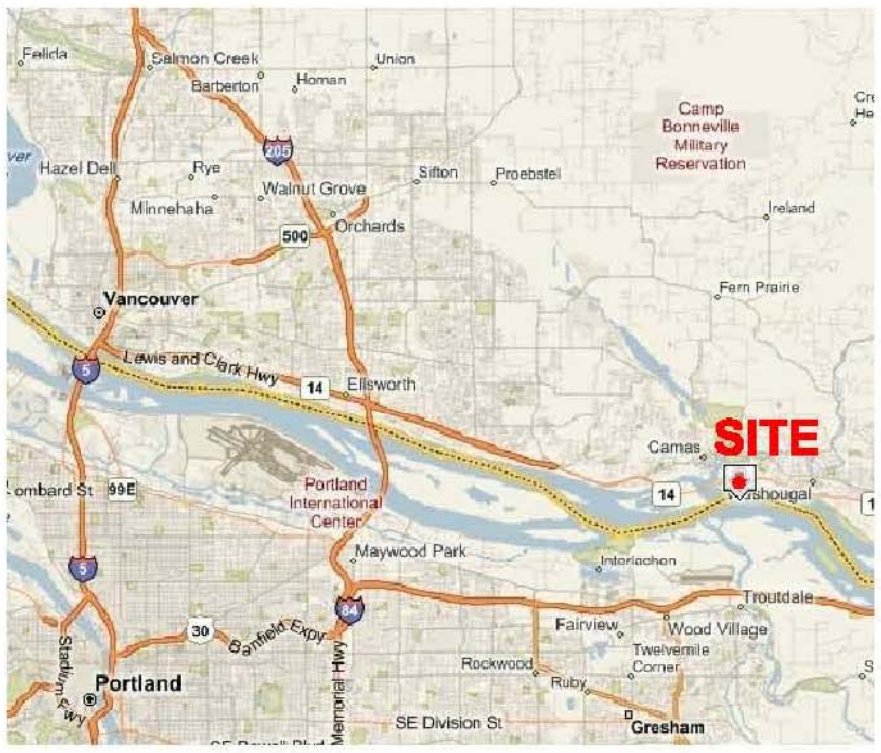
Site history and background information provided in this technical document are based on sources that may include interviews with environmental regulatory agencies and property management personnel and a review of acquired environmental regulatory agency documents and property information obtained from CEMC and others. Leidos has not made, nor has it been asked to make, any independent investigation concerning the accuracy, reliability, or completeness of such information beyond that described in this technical document.

Recognizing reasonable limits of time and cost, this technical document cannot wholly eliminate uncertainty regarding the vertical and lateral extent of impacted environmental media.

Opinions and recommendations presented in this technical document apply only to site conditions and features as they existed at the time of Leidos site visits or site work and cannot be applied to conditions and features of which Leidos is unaware and has not had the opportunity to evaluate.

All sources of information on which Leidos has relied in making its conclusions (including direct field observations) are identified by reference in this technical document or in appendices attached to this technical document. Any information not listed by reference or in appendices has not been evaluated or relied on by Leidos in the context of this technical document. The conclusions, therefore, represent our professional opinion based on the identified sources of information.

Figures



Maps Provided by Seattle.gov

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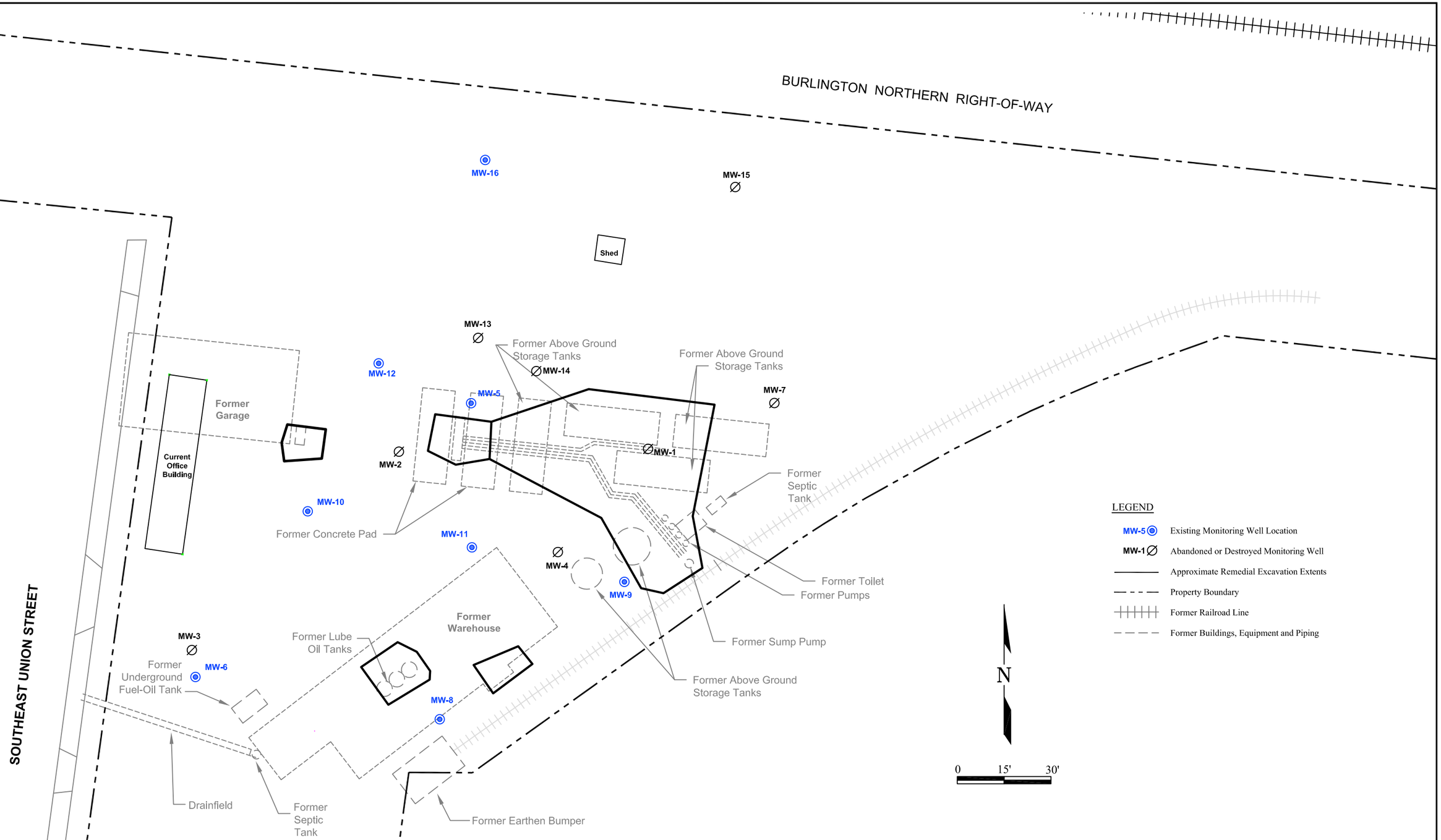
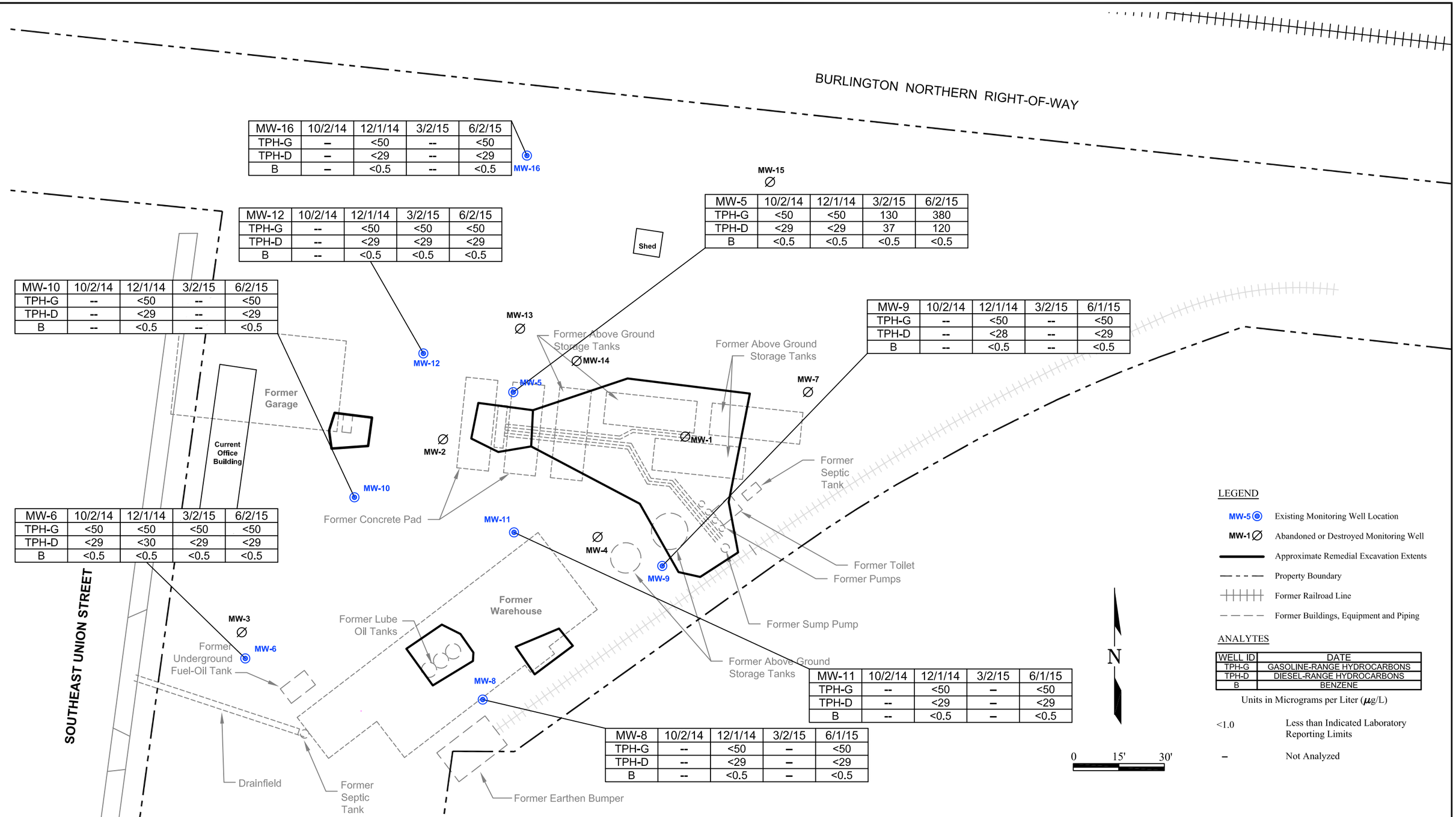
Former Chevron Bulk Terminal No. 207407 612 SE Union Street Camas, Washington	FIGURE 1 Vicinity Map	
	FILE NAME: 207407 Vicinity Map.dwg	DATE: 9/27/2017



leidos	Site Map Former Chevron Bulk Terminal No. 20-7407 612 SE Union Street Camas, Washington	FIGURE 2
207407 Site Map 2014.dwg	Date: 9/27/2017 Revised By: CW	



MW-16	10/2/14	12/1/14	3/2/15	6/2/15
TPH-G	–	<50	--	<50
TPH-D	–	<29	--	<29
B	–	<0.5	--	<0.5

MW-12	10/2/14	12/1/14	3/2/15	6/2/15
TPH-G	--	<50	<50	<50
TPH-D	--	<29	<29	<29
B	--	<0.5	<0.5	<0.5

MW-5	10/2/14	12/1/14	3/2/15	6/2/15
TPH-G	<50	<50	130	380
TPH-D	<29	<29	37	120
B	<0.5	<0.5	<0.5	<0.5

MW-10	10/2/14	12/1/14	3/2/15	6/2/15
TPH-G	--	<50	--	<50
TPH-D	--	<29	--	<29
B	--	<0.5	--	<0.5

MW-9	10/2/14	12/1/14	3/2/15	6/1/15
TPH-G	--	<50	--	<50
TPH-D	--	<28	--	<29
B	--	<0.5	--	<0.5

MW-6	10/2/14	12/1/14	3/2/15	6/2/15
TPH-G	<50	<50	<50	<50
TPH-D	<29	<30	<29	<29
B	<0.5	<0.5	<0.5	<0.5

MW-11	10/2/14	12/1/14	3/2/15	6/1/15
TPH-G	--	<50	–	<50
TPH-D	--	<29	–	<29
B	--	<0.5	–	<0.5

MW-8	10/2/14	12/1/14	3/2/15	6/1/15
TPH-G	--	<50	–	<50
TPH-D	--	<29	–	<29
B	--	<0.5	–	<0.5

LEGEND

- MW-5 ◉ Existing Monitoring Well Location
- MW-1 ∅ Abandoned or Destroyed Monitoring Well
- Approximate Remedial Excavation Extents
- Property Boundary
- Former Railroad Line
- Former Buildings, Equipment and Piping

ANALYTES

WELL ID	DATE
TPH-G	GASOLINE-RANGE HYDROCARBONS
TPH-D	DIESEL-RANGE HYDROCARBONS
B	BENZENE

Units in Micrograms per Liter (μg/L)

<1.0 Less than Indicated Laboratory Reporting Limits

– Not Analyzed

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Former Chevron Bulk Terminal No. 207407
612 SE Union Street
Camas, Washington

FIGURE 3
Groundwater Analytical Results

DATE: 9/27/2017 | DRAWING: 207407 Site Map 2014.dwg

BURLINGTON NORTHERN RIGHT-OF-WAY

SB-5			
SAMPLE DEPTH (FT)	TPH-G	TPH-D	BENZENE
16	540	570	<0.028
36	<1.1	120	<0.0005

SB-4			
SAMPLE DEPTH (FT)	TPH-G	TPH-D	BENZENE
15	150	460	<0.030
20	<1.5	46	<0.0005

SB-6			
SAMPLE DEPTH (FT)	TPH-G	TPH-D	BENZENE
19	310	230	<0.026
25	<1.1	4.1	<0.0005

MW-16 MW-15 Shed MW-13 MW-12 MW-14 MW-5 MW-7 MW-1 MW-10 MW-11 MW-4 MW-9 MW-3 MW-6 MW-8 MW-2

TP-19 TP-5 TP-6 TP-7 TP-14 TP-15 TP-17 TP-8 TP-13 TP-18 (3') TP-16 TP-3 TP-12 TP-18 (9') TP-11 TP-10 TP-9 TP-4 TP-1 TP-2

ES-8 ES-3 ES-7 ES-5 ES-6 ES-4 ES-9 ES-1 ES-2

SB-5 SB-4 SB-6 SB-1 SB-3 SB-2 B-1 B-2

Former Garage
Current Office Building
Former Tank Truck Loading Rack (TTLR)
Former Above Ground Storage Tanks
Former Above Ground Storage Tanks
Former Concrete Pad
Former Septic Tank
Former Toilet
Former Pumps
Former Sump Pump
Former Above Ground Storage Tanks
Former Warehouse
Former Lube Oil Tanks
Former Underground Fuel-Oil Tank
Drainfield
Former Septic Tank
Former Earthen Bumper

N

0 15' 30'

LEGEND

MW-5	◉	Existing Monitoring Well Location
MW-1	∅	Abandoned or Destroyed Monitoring Well
SB-1	✦	Remedial Investigation Soil Boring Location
TP-1	■	Test Pit Location (Gray Indicates Location Removed During the 1994 Excavation)
B-1/ES-1	●	Historic Soil Boring / Excavation Sampling Location (Gray Indicates Location Removed During the 1994 Excavation)
SB-4	▲	Soil Boring Location
	———	Approximate Remedial Excavation Extents
	— - —	Property Boundary
	++++++	Former Railroad Line
	– – – –	Former Buildings, Equipment and Piping

ANALYTES

TPH-G	Gasoline-Range Hydrocarbon concentration in milligrams per kilogram (mg/kg)
TPH-D	Diesel-Range Hydrocarbon concentration in milligrams per kilogram (mg/kg) (analyzed by method NWTPH-Dx without silica-gel cleanup)
BENZENE	Benzene-Range Hydrocarbon concentration in milligrams per kilogram (mg/kg)

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Former Chevron Bulk Terminal No. 207407
612 SE Union Street
Camas, Washington

FIGURE 4
Soil Analytical Results
September 21, 2014

DATE: 6/17/2015 DRAWING: 207407 Site Map 2014.dwg

Tables

TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-5	02/22/90		--	--	--	--	--	--	--	--	--	--	--	6.2	--
	12/30/93		--	--	--	--	--	670	7.0	--	61	1.4	--	6.4	--
	03/03/94		--	--	--	--	--	**1,000**	11	--	54	0.8	--	--	--
	08/17/94		--	--	--	--	--	--	--	--	--	--	--	--	--
	11/29/94		--	--	--	--	--	**3,600**	19	--	120	11	--	--	--
	05/25/95		--	--	--	--	--	770	0.83	--	5.7	--	--	--	--
	11/27/95		--	--	--	--	--	--	--	--	--	--	--	--	--
	08/23/04		50.47	DRY	--	--	--	--	--	--	--	--	--	--	--
	11/08/04		50.47	38.78	11.69	260	130	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		50.47	37.86	12.61	200	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	04/11/05		50.47	37.66	12.81	150	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/19/05		50.47	38.30	12.17	370	<99	79	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/22/06	LFP	50.47	31.25	19.22	200	340	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/21/06		50.47	43.02	7.45	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--	--	--	--
	12/05/06	LFP	50.47	35.58	14.89	**2,200**	<500	100	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	50.47	34.42	16.05	380	**1,100**	63	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07	LFP	50.47	36.25	14.22	<960	**3,100**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07		50.47	43.32	--	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--	--	--	--
	12/06-07/07	LFP	50.47	34.05	16.42	450	<99	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08	LFP	50.47	35.85	14.62	**3,900**	**3,500**	74	<0.5	<0.5	<0.5	<1.5	<0.5	--	1.1
	06/24/08	LFP	50.47	30.96	19.51	<77	<96	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08		44.72	43.10	--	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--	--	--	--
	12/13-14/08	LFP	44.72	38.65	6.07	**2,500**	440	200	<0.5	<0.5	<0.5	<1.5	<0.5	--	0.48
	03/27-28/09	LFP	44.72	36.70	8.02	280	<69	340	<0.5	<0.5	<0.5	<1.5	<0.5	--	0.34
	06/12/09	LFP	44.72	30.80	13.92	100	250	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09		44.72	42.80	1.92	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--	--	--	--
	12/09/09	LFP	44.72	39.33	5.39	**7,900**	<690	460	<0.5	<0.5	<0.5	<1.5	<0.5	--	0.68
	12/09/09 (D)		--	--	--	**5,100**	<700	550	<0.5	<0.5	<0.5	<1.5	<0.5	--	0.69
	03/26/10		44.72	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	06/16/10		44.72	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	09/24/10		44.72	42.80	1.92	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--	--	--	--
	12/15/10		44.72	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	03/25/11		44.72	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	06/30/11	LFP	44.72	26.28	18.44	81	**680**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

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GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-5 (cont.)	09/30/11	LFP	44.72	41.30	3.42	91	<67	170	<2.0	<0.5	<0.5	<1.5	<0.5	--	0.57
	12/06/11	LFP	44.72	37.90	6.82	<30	<69	61	<0.5	<0.5	<0.5	<1.5	<0.5	--	0.15
	03/05/12	LFP	44.72	36.45	8.27	160	<70	330	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/04/12	LFP	44.72	32.00	12.72	<30	140	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12	LFP	44.72	40.05	4.67	130	<72	380	<0.5	<2.0	<0.5	<1.5	--	--	--
	12/03/12	LFP	44.72	34.09	10.63	38	<72	230	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13	LFP	44.72	36.97	7.75	65	90	210	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/03/13	LFP	44.72	32.33	12.39	<30	130	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13	LFP	44.72	42.51	2.21	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/02/13	LFP	44.72	37.33	7.39	99	<67	250	<0.5	<0.5	<0.5	1.6	--	--	--
	03/03/14	LFP	44.72	35.41	9.31	61	<67	280	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/02/14	LFP	44.72	29.56	15.16	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14	LFP	44.72	42.79	1.93	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/01/14	LFP	44.72	34.08	10.64	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15	LFP	44.72	35.10	9.62	37	<67	130	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/02/15	LFP	44.72	37.63	7.09	120	<68	380	<0.5	<0.5	<0.5	<1.5	--	--	--
MW-6	02/22/90		--	--	--	--	--	--	--	--	--	--	--	--	--
	12/30/93		--	--	--	--	--	--	--	--	--	--	--	<6.0	--
	03/03/94		--	--	--	--	--	--	--	--	--	--	--	5.4	--
	08/17/94		--	--	--	--	--	--	--	--	--	--	--	--	--
	11/29/94		--	--	--	--	--	--	--	--	--	--	--	--	--
	05/25/95		--	--	--	--	--	--	--	--	--	--	--	--	--
	11/27/95		--	--	--	--	--	--	--	--	--	--	--	--	--
	08/23/04		50.00	44.07	5.93	--	--	--	--	--	--	--	--	--	--
	11/08/04		50.00	38.36	11.64	<80	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		50.00	37.42	12.58	<78	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	04/11/05		50.00	37.24	12.76	<75	<94	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/19/05		50.00	37.86	12.14	100	<100	<48	<0.5	0.6	<0.5	<1.5	--	--	--
	06/22/06	LFP	50.00	30.76	19.24	<81	190	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/21/06	LFP	50.00	42.57	7.43	**2,500**	**12,000**	<48	<0.5	0.5	<0.5	<1.5	--	--	--
	12/05/06	LFP	50.00	35.17	14.83	<82	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	50.00	34.03	15.97	<160	**1,100**	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07	LFP	50.00	35.70	14.30	<85	<110	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07		50.00	DRY	--	--	--	--	--	--	--	--	--	--	--
	12/06-07/07	LFP	50.00	33.68	16.32	<76	330	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

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FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-6 (cont.)	03/20-21/08	LFP	50.00	35.41	14.59	<79	210	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/24/08	LFP	50.00	30.35	19.65	120	<95	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08	LFP	44.24	42.69	1.55	**35,000**	**210,000**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	44.24	38.20	6.04	110	380	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	44.24	36.30	7.94	<30	<69	65	<0.5	<0.5	<0.5	<1.5	<0.5	--	<0.050
	06/12/09	LFP	44.24	30.25	13.99	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09	LFP	44.24	42.35	1.89	**2,000**	**7,600**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09	LFP	44.24	38.91	5.33	220	**600**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10	LFP	44.24	38.50	5.74	44	300	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	44.24	27.97	16.27	39	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10	LFP	44.24	42.02	2.22	<31	<71	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10	LFP	44.24	32.38	11.86	77	450	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11	LFP	44.24	32.09	12.15	350	**1,800**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/30/11	LFP	44.24	25.86	18.38	<150	**760**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/30/11	LFP	44.24	40.95	3.29	280	450	71	<0.5	<0.5	<0.5	<1.5	<0.5	--	<0.080
	12/06/11	LFP	44.24	37.46	6.78	<30	170	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12	LFP	44.24	36.00	8.24	58	**950**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12 (D)	LFP	44.24	36.00	8.24	<30	330	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/04/12	LFP	44.24	31.55	12.69	120	**850**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/04/12 (D)	LFP	44.24	31.55	12.69	110	**810**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12	LFP	44.24	39.60	4.64	51	390	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12 (D)	LFP	44.24	39.60	4.64	<29	80	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/03/12	LFP	44.24	33.75	10.49	79	**640**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/03/12 (D)	LFP	44.24	33.75	10.49	46	480	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13	LFP	44.24	36.59	7.65	<28	220	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13 (D)	LFP	44.24	36.59	7.65	43	410	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/03/13	LFP	44.24	31.50	12.74	100	**640**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/03/13 (D)	LFP	44.24	31.50	12.74	49	290	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13	LFP	44.24	42.38	1.86	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13 (D)	LFP	44.24	42.38	1.86	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/02/13	LFP	44.24	37.11	7.13	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/02/13 (D)	LFP	44.24	37.11	7.13	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14	LFP	44.24	34.97	9.27	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14 (D)	LFP	44.24	34.97	9.27	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

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TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-6 (cont.)	06/02/14	LFP	44.24	29.10	15.14	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/02/14 (D)	LFP	44.24	29.10	15.14	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14	LFP	44.24	42.38	1.86	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14 (D)	LFP	44.24	42.38	1.86	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/01/14	LFP	44.24	33.71	10.53	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/01/14 (D)	LFP	44.24	33.71	10.53	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15	LFP	44.24	36.22	8.02	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15 (D)	LFP	44.24	36.22	8.02	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/02/15	LFP	44.24	37.26	6.98	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/02/15 (D)	LFP	44.24	37.26	6.98	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
MW-8	08/23/04		50.70	45.33	5.37	<92	210	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/23/04		50.70	45.33	5.37	<160	<200	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	11/08/04		50.70	39.00	11.70	<77	<97	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		50.70	38.08	12.62	<78	<97	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	04/11/05		50.70	37.88	12.82	<75	<94	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/20/05		50.70	38.54	12.16	<78	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/22/06	LFP	50.70	31.35	19.35	100	<110	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/21/06	LFP	50.70	43.15	7.55	<75	<94	<48	0.6	1	<0.5	<1.5	--	--	--
	12/05/06	LFP	50.70	35.83	14.87	<77	<97	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	50.70	34.66	16.04	<78	<97	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07	LFP	50.70	36.44	14.26	<80	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07	LFP	50.70	45.42	5.28	<76	<95	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06-07/07	LFP	50.70	34.29	16.41	<80	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08	LFP	50.70	36.00	14.70	330	<98	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/24/08	LFP	50.70	31.09	19.61	210	<96	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08	LFP	44.96	43.32	1.64	<83	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	44.96	38.85	6.11	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	44.96	36.95	8.01	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09	LFP	44.96	30.98	13.98	70	<74	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09	LFP	44.96	42.95	2.01	<31	<73	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09	LFP	44.96	39.54	5.42	150	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10	LFP	44.96	39.13	5.83	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	44.96	28.60	16.36	40	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10	LFP	44.96	42.55	2.41	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10	LFP	44.96	32.95	12.01	85	470	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11	LFP	44.96	32.72	12.24	31	190	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

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TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-8 (cont.)	06/30/11	LFP	44.96	26.57	18.39	<31	140	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/30/11	LFP	44.96	41.55	3.41	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06/11	LFP	44.96	38.18	6.78	<30	120	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12		44.96	35.50	9.46	--	--	--	--	--	--	--	--	--	--
	06/04/12	LFP	44.96	32.20	12.76	<30	<71	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12		44.96	40.23	4.73	--	--	--	--	--	--	--	--	--	--
	12/03/12	LFP	44.96	38.47	6.49	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13		44.96	36.60	8.36	--	--	--	--	--	--	--	--	--	--
	06/03/13	LFP	44.96	32.52	12.44	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13		44.96	43.48	1.48	--	--	--	--	--	--	--	--	--	--
	12/02/13	LFP	44.96	37.65	7.31	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14		44.96	40.99	3.97	--	--	--	--	--	--	--	--	--	--
	06/02/14		44.96	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	10/02/14		44.96	DRY											
	12/01/14		44.96	34.13	10.83	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15		44.96	36.81	8.15	--	--	--	--	--	--	--	--	--	--
	06/01/15	LFP	44.96	37.83	7.13	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
MW-9	08/23/04		51.22	45.83	5.39	<80	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	11/08/04		51.22	39.50	11.72	<79	<99	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		51.22	38.58	12.64	<77	<96	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	04/11/05		51.22	38.38	12.84	<74	<93	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/19/05		51.22	39.02	12.20	<80	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/22/06	LFP	51.22	30.63	20.59	<80	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/21/06	LFP	51.22	43.63	7.59	<76	<95	<48	0.7	1.1	<0.5	<1.5	--	--	--
	12/05/06	LFP	51.22	36.31	14.91	<79	<99	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	51.22	35.15	16.07	110	<99	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07	LFP	51.22	36.98	14.24	250	<110	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07	LFP	51.22	43.50	7.72	93	130	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06-07/07	LFP	51.22	34.78	16.44	<79	<99	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08	LFP	51.22	36.52	14.70	<79	<99	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/24/08	LFP	51.22	31.65	19.57	<77	<96	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08	LFP	45.48	43.83	1.65	<80	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	45.48	39.36	6.12	<27	<64	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	45.48	37.44	8.04	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09	LFP	45.48	31.51	13.97	51	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

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GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-9 (cont.)	09/18/09	LFP	45.48	43.44	2.04	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09		45.48	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	03/26/10	LFP	45.48	38.97	6.51	<29	77	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	45.48	29.09	16.39	30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10	LFP	45.48	43.05	2.43	<29	120	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10	LFP	45.48	33.41	12.07	97.0	440	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10 (D)		--	--	--	<30	170	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11	LFP	45.48	33.22	12.26	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/30/11	LFP	45.48	27.05	18.43	<150	**600**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/30/11	LFP	45.48	42.00	3.48	<30	<71	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06/11	LFP	45.48	38.66	6.82	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12		45.48	34.40	11.08	--	--	--	--	--	--	--	--	--	--
	06/04/12	LFP	45.48	32.70	12.78	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12		45.48	40.72	4.76	--	--	--	--	--	--	--	--	--	--
	12/03/12	LFP	45.48	34.83	10.65	<31	<71	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13		45.48	37.06	8.42	--	--	--	--	--	--	--	--	--	--
	06/03/13	Monitoring Well Damaged			--	--	--	--	--	--	--	--	--	--	--
	09/03/13		45.48	43.52	1.96	--	--	--	--	--	--	--	--	--	--
	12/02/13	LFP	45.48	38.12	7.36	<31	<73	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14		45.48	40.88	4.60	--	--	--	--	--	--	--	--	--	--
	06/02/14	LFP	45.48	30.26	15.22	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14		45.48	42.77	2.71	--	--	--	--	--	--	--	--	--	--
	12/01/14	LFP	45.48	34.82	10.66	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15		45.48	37.11	8.37	--	--	--	--	--	--	--	--	--	--
	06/01/15	LFP	45.48	37.99	7.49	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
MW-10	08/23/04		50.14	44.86	5.28	<160	<200	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	11/08/04		50.14	38.48	11.66	<79	<99	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		50.14	37.55	12.59	<80	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	04/11/05		50.14	37.35	12.79	<77	<96	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/19/05		50.14	38.03	12.11	<79	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/22/06	LFP	50.14	30.99	19.15	<78	130	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/21/06	LFP	50.14	42.68	7.46	<75	120	<48	0.7	0.9	<0.5	<1.5	--	--	--
	12/05/06	LFP	50.14	35.28	14.86	140	<99	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	50.14	34.12	16.02	<78	<97	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07	LFP	50.14	35.93	14.21	210	<110	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

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GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-10 (cont.)	09/25/07	LFP	50.14	44.92	5.22	110	120	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06-07/07	LFP	50.14	33.77	16.37	<78	<97	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08	LFP	50.14	35.51	14.63	250	370	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/24/08	LFP	50.14	30.62	19.52	97	<98	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08	LFP	44.41	42.84	1.57	<75	<94	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	44.41	38.35	6.06	<31	<71	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	44.41	36.41	8.00	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09	LFP	44.41	30.50	13.91	31	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09	LFP	44.41	42.46	1.95	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09	LFP	44.41	39.03	5.38	67	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10	LFP	44.41	38.60	5.81	<29	88	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	44.41	28.09	16.32	61	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10	LFP	44.41	42.06	2.35	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10	LFP	44.41	32.51	11.90	240	**1,600**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11	LFP	44.41	32.21	12.20	130	**530**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/30/11	LFP	44.41	26.04	18.37	<31	<72	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/30/11	LFP	44.41	41.05	3.36	<30	<71	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06/11	LFP	44.41	37.62	6.79	<76	420	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12		44.41	36.20	8.21	--	--	--	--	--	--	--	--	--	--
	06/04/12	LFP	44.41	32.20	12.21	<30	230	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12		44.41	39.76	4.65	--	--	--	--	--	--	--	--	--	--
	12/03/12	LFP	44.41	33.81	10.60	<28	140	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13		44.41	36.58	7.83	--	--	--	--	--	--	--	--	--	--
	06/03/13	LFP	44.41	32.00	12.41	<31	<73	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13		44.41	41.93	2.48	--	--	--	--	--	--	--	--	--	--
	12/02/13	LFP	44.41	37.02	7.39	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14		44.41	33.10	11.31	--	--	--	--	--	--	--	--	--	--
	06/02/14	LFP	44.41	29.23	15.18	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14		44.41	DRY											
	12/01/14	LFP	44.41	33.80	10.61	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15		44.41	36.38	8.03	--	--	--	--	--	--	--	--	--	--
	06/02/15	LFP	44.41	37.30	7.11	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
MW-11	08/23/04		50.73	45.35	5.38	<77	<96	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	11/08/04		50.73	39.05	11.68	<77	<96	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		50.73	38.13	12.60	<80	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--

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TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-11 (cont.)	04/11/05		50.73	37.90	12.83	<78	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/19/05		50.73	38.58	12.15	<77	<97	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/22/06	LFP	50.73	31.50	19.23	<79	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/21/06	LFP	50.73	43.21	7.52	<75	<94	<48	0.8	1.1	<0.5	<1.5	--	--	--
	12/05/06	LFP	50.73	35.86	14.87	<85	<110	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	50.73	34.71	16.02	<90	<110	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07	LFP	50.73	36.52	14.21	290	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07	LFP	50.73	45.49	5.24	87	<110	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06-07/07	LFP	50.73	34.33	16.40	87	<110	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08	LFP	50.73	36.04	14.69	<88	<110	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/24/08	LFP	50.73	31.21	19.52	140	<95	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08	LFP	45.00	43.40	1.60	<78	<97	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	45.00	38.92	6.08	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	45.00	36.98	8.02	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09	LFP	45.00	31.06	13.94	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09	LFP	45.00	43.00	2.00	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09	LFP	45.00	39.58	5.42	39	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10	LFP	45.00	39.17	5.83	<29	98	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	45.00	28.65	16.35	70	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10	LFP	45.00	42.61	2.39	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10	LFP	45.00	32.97	12.03	<32	<75	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11	LFP	45.00	32.77	12.23	<29	120	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/30/11	LFP	45.00	26.60	18.40	<59	320	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/30/11	LFP	45.00	41.60	3.40	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06/11	LFP	45.00	38.21	6.79	<74	210	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12		45.00	36.30	8.70	--	--	--	--	--	--	--	--	--	--
	06/04/12	LFP	45.00	32.25	12.75	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12		45.00	40.30	4.70	--	--	--	--	--	--	--	--	--	--
	12/03/12	LFP	45.00	34.38	10.62	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13		45.00	36.61	8.39	--	--	--	--	--	--	--	--	--	--
	06/03/13	LFP	45.00	32.58	12.42	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13		45.00	41.80	3.20	--	--	--	--	--	--	--	--	--	--
	12/02/13	LFP	45.00	37.64	7.36	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14		45.00	41.33	3.67	--	--	--	--	--	--	--	--	--	--

TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-11 (cont.)	06/02/14	LFP	45.00	29.79	15.21	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14		45.00	DRY											
	12/01/14	LFP	45.00	34.31	10.69	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15		45.00	36.88	8.12	--	--	--	--	--	--	--	--	--	--
	06/01/15	LFP	45.00	37.41	7.59	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
MW-12	08/23/04		50.11	44.82	5.29	<160	<200	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	11/08/04		50.11	38.43	11.68	<78	<98	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		50.11	37.50	12.61	<79	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	04/11/05		50.11	37.33	12.78	<82	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/20/05		50.11	37.99	12.12	97	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/22/06	LFP	50.11	30.94	19.17	<78	110	<48	<0.5	1.5	<0.5	<1.5	--	--	--
	09/21/06	LFP	50.11	42.71	7.40	180	<100	<48	0.8	1.2	<0.5	<1.5	--	--	--
	12/05/06	LFP	50.11	35.22	14.89	<79	260	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	50.11	34.09	16.02	<79	130	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07	LFP	50.11	35.84	14.27	100	140	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07	LFP	50.11	44.89	5.22	<76	100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06-07/07	LFP	50.11	33.67	16.44	95	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08	LFP	50.11	35.52	14.59	**1,200**	**880**	53	<0.5	<0.5	<0.5	<1.5	<5[8]	--	<0.050
	06/24/08	LFP	50.11	30.62	19.49	98	<98	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08	LFP	44.32	42.72	1.60	<78	<97	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08 (D)		--	--	--	<78	<97	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	44.32	38.25	6.07	**5,800**	**12,000**	<50	<0.5	0.8	<0.5	<1.5	--	--	--
	12/13-14/08 (D)		--	--	--	**3,400**	**7,200**	<50	<0.5	1.4	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	44.32	36.31	8.01	69	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09 (D)		--	--	--	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09	LFP	44.32	30.44	13.88	140	290	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09 (D)		--	--	--	130	300	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09	LFP	44.32	42.34	1.98	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09 (D)		--	--	--	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09		44.32	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	03/26/10	LFP	44.32	38.48	5.84	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10 (D)		--	--	--	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	44.32	27.97	16.35	160	230	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10 (D)		--	--	--	32	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10	LFP	44.32	41.96	2.36	35	220	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

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GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-12 (cont.)	09/24/10 (D)		--	--	--	160	**600**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10	LFP	44.32	32.32	12.00	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11	LFP	44.32	32.11	12.21	<150	**730**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11 (D)		--	--	--	**700**	**1,400**	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/30/11	LFP	44.32	25.93	18.39	<30	250	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/30/11 (D)		--	--	--	<30	170	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/30/11	LFP	44.32	40.90	3.42	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06/11	LFP	44.32	37.55	6.77	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12	LFP	44.32	36.00	8.32	<30	190	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/04/12	LFP	44.32	31.55	12.77	<32	<76	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12	LFP	44.32	39.65	4.67	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/03/12	LFP	44.32	33.68	10.64	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13	LFP	44.32	36.60	7.72	<28	<66	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/03/13	LFP	44.32	31.95	12.37	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13	LFP	44.32	42.47	1.85	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/02/13	LFP	44.32	36.87	7.45	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14	LFP	44.32	34.96	9.36	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/02/14	LFP	44.32	29.15	15.17	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14		44.32	DRY											
	12/01/14	LFP	44.32	33.68	10.64	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15	LFP	44.32	34.67	9.65	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/02/15	LFP	44.32	37.81	6.51	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
MW-13	08/23/04		50.41	45.12	5.29	150	<95	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	11/08/04		50.41	38.73	11.68	440	<98	670	<0.5	<0.5	1.0	<1.5	--	--	--
	02/03/05		50.41	37.80	12.61	320	<96	**1,000**	<0.5	<0.5	1.7	<1.5	--	--	--
	04/11/05		50.41	37.60	12.81	**720**	<95	**1,100**	<2.0	<0.5	<2.0	<1.5	--	--	--
	07/20/05		50.41	38.33	12.08	**720**	<96	540	<2.0	<0.5	0.5	<1.5	--	--	--
	07/20/05 (D)		--	--	--	**1,000**	120	520	<2.0	<0.5	0.5	<1.5	--	--	--
	06/22/06[6]	LFP	50.41	31.33	19.08	**2,000**	**2,500**	160	<0.5	11	<0.5	<1.5	--	--	--
	09/21/06[6]	LFP	50.41	43.10	7.31	**4,200**	**5,300**	690	1.7	45	0.5	<1.5	--	--	--
	09/21/06 (D)		--	--	--	**3,000**	**4,800**	630	<2.0	45	0.5	<1.5	--	--	--
	12/05/06	LFP	50.41	35.53	14.88	**650**	**710**	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/05/06 (D)		--	--	--	**500**	**1,600**	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	50.41	34.42	15.99	140	460	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07 (D)		--	--	--	290	**1,100**	<48	<0.5	<0.5	<0.5	<1.5	--	--	--

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GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-13 (cont.)	06/21-22/07	LFP	50.41	36.22	14.19	380	270	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07 (D)		--	--	--	360	240	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07	LFP	50.41	45.18	5.23	<82	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07 (D)		--	--	--	<91	<110	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06-07/07	LFP	50.41	34.02	16.39	180	190	61	<0.5	<0.5	<0.5	<1.5	<0.5	0.11	--
	12/06-07/07 (D)		--	--	--	200	160	85	<0.5	<0.5	<0.5	<1.5	<0.5	0.11	--
	03/20-21/08	LFP	50.41	35.64	14.77	<82	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08 (D)		--	--	--	<76	230	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/24/08	LFP	50.41	30.90	19.51	84	160	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/24/08 (D)		--	--	--	96	120	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	12/13-14/08		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	03/27-28/09		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	06/12/09		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	09/18/09		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	12/09/09		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	03/26/10		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	06/16/10		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	09/24/10		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	12/15/10		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	03/25/11		44.60	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	06/30/11		44.60	DAMAGED		--	--	--	--	--	--	--	--	--	--
	09/30/11		44.60	DAMAGED		--	--	--	--	--	--	--	--	--	--
	12/07/11		Monitoring Well Decommissioned												
MW-14	08/23/04		50.59	45.30	5.29	**1,100**	100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	11/08/04		50.59	38.90	11.69	300	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		50.59	37.97	12.62	<81	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		50.59	37.97	12.62	<78	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	04/11/05		50.59	37.78	12.81	<81	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/19/05		50.59	38.43	12.16	300	<110	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/22/06	LFP	50.59	31.41	19.18	<87	<110	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/21/06	LFP	50.59	43.23	7.36	150	310	<48	<0.5	0.7	<0.5	<1.5	--	--	--
	12/05/06	LFP	50.59	35.73	14.86	<80	<100	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07	LFP	50.59	34.55	16.04	<78	<98	<48	<0.5	<0.5	<0.5	<1.5	--	--	--

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TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-14 (cont.)	06/21-22/07	LFP	50.59	36.40	14.19	120	<97	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07	LFP	50.59	45.35	5.24	<82	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06-07/07	LFP	50.59	34.18	16.41	<81	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08	LFP	50.59	35.90	14.69	<78	<98	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/24/08	LFP	50.59	31.11	19.48	<76	<95	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08	LFP	44.86	43.25	1.61	<78	<97	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	44.86	38.79	6.07	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	44.86	36.85	8.01	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09	LFP	44.86	30.98	13.88	87	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09	LFP	44.86	42.86	2.00	34	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09	LFP	44.86	39.43	5.43	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10	LFP	44.86	39.00	5.86	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	44.86	28.51	16.35	180	120	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10	LFP	44.86	42.47	2.39	75	110	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10	LFP	44.86	32.81	12.05	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11	LFP	44.86	32.65	12.21	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/30/11		44.86	DAMAGED		--	--	--	--	--	--	--	--	--	--
	09/30/11		44.86	DAMAGED		--	--	--	--	--	--	--	--	--	--
	12/07/11		44.86	DAMAGED		--	--	--	--	--	--	--	--	--	--
	12/07/11		Monitoring Well Decommissioned												
MW-15	09/19-20/08	LFP	45.45	43.79	1.66	<80	<100	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	45.45	39.31	6.14	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	45.45	37.36	8.09	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09	LFP	45.45	31.60	13.85	<30	<71	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	05/10/13		Monitoring Well Decommissioned												
MW-16	09/18/09		45.45	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	12/09/09	LFP	45.45	39.97	5.48	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10	LFP	45.45	39.52	5.93	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	45.45	29.05	16.40	33	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10		45.45	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	12/15/10		45.45	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	03/25/11		45.45	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	06/30/11	LFP	45.45	27.04	18.41	<59	300	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/30/11		45.45	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--

TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
MW-16 (cont.)	12/06/11	LFP	45.45	38.60	6.85	<30	<70	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12		45.45	32.10	13.35	--	--	--	--	--	--	--	--	--	--
	06/04/12	LFP	45.45	32.65	12.80	<31	<72	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12	LFP	45.45	40.68	4.77	--	--	--	--	--	--	--	--	--	--
	12/03/12		Monitoring Well Damaged												
	09/19-20/08	LFP	44.35	42.75	1.60	<79	<99	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08	LFP	44.35	38.28	6.07	31	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09	LFP	44.35	36.31	8.04	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09	LFP	44.35	30.52	13.83	99	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09	LFP	44.35	42.36	1.99	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09	LFP	44.35	38.93	5.42	45	<72	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10	LFP	44.35	38.49	5.86	35	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10	LFP	44.35	28.00	16.35	<29	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10	LFP	44.35	41.96	2.39	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/15/10	LFP	44.35	32.27	12.08	<32	82	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11	LFP	44.35	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	06/30/11	LFP	44.35	25.96	18.39	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/30/11		44.34	INACCESSIBLE		--	--	--	--	--	--	--	--	--	--
	12/06/11	LFP	44.35	37.50	6.85	<31	<72	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12		44.35	35.50	8.85	--	--	--	--	--	--	--	--	--	--
	06/04/12	LFP	44.35	31.60	12.75	<30	<69	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12	LFP	44.35	40.10	4.25	--	--	--	--	--	--	--	--	--	--
	12/03/12	LFP	44.35	33.70	10.65	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13		44.35	37.01	7.34	--	--	--	--	--	--	--	--	--	--
	06/03/13	LFP	44.35	31.95	12.40	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13		44.35	42.44	1.91	--	--	--	--	--	--	--	--	--	--
	12/02/13	LFP	44.35	36.86	7.49	<31	<71	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14		44.35	34.98	9.37	--	--	--	--	--	--	--	--	--	--
	06/02/14	LFP	44.35	29.90	14.45	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14		44.35	DRY											
	12/01/14	LFP	44.35	34.83	9.52	<29	<67	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15		44.35	36.27	8.08	--	--	--	--	--	--	--	--	--	--
	06/02/15	LFP	44.35	38.33	6.02	<29	<68	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
PURGE[8]	09/30/11		--	--	--	<31	<72	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	12/06/11		--	--	--	<29	<67	<50	<0.5	<0.5	<0.5	<0.5	--	--	<0.080
	03/05/12		--	--	--	39	<67	<50	<0.5	<0.5	<0.5	<0.5	--	--	<0.080
	06/04/12		--	--	--	<29	<67	<50	<0.5	<0.5	<0.5	<0.5	--	--	<0.080
	09/04/12		--	--	--	<28	<66	<50	<0.5	<0.5	<0.5	<0.5	--	--	<0.034
	12/03/12		--	--	--	<28	<65	110	<0.5	<0.5	<0.5	<0.5	--	--	<0.047
	03/04/13		--	--	--	<28	<66	<50	<0.5	<0.5	<0.5	<0.5	--	--	<0.047
	06/03/13		--	--	--	<28	<66	<50	<0.5	<0.5	<0.5	<0.5	--	--	0.30
	09/03/13		--	--	--	<28	<66	<50	<0.5	<0.5	<0.5	<0.5	--	--	<0.085
	12/02/13		--	--	--	<31	<72	<50	<0.5	<0.5	<0.5	<0.5	--	--	0.00040
	03/03/14		--	--	--	<29	<68	<50	<0.5	<0.5	<0.5	<0.5	--	--	0.00080
	06/03/14		--	--	--	<29	<68	<50	<0.5	<0.5	<0.5	<0.5	--	--	1.2
	10/02/14		--	--	--	41	<67	<50	<0.5	<0.5	<0.5	<0.5	--	--	0.18
	12/01/14		--	--	--	<29	<68	<50	<0.5	<0.5	<0.5	<0.5	--	--	<0.082
TRIP BLANK QA	08/22/04		--	--	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--	--
	02/03/05		--	--	--	--	--	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	04/11/05		--	--	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--	--
	07/20/05		--	--	--	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/22/06		--	--	--	--	--	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/21/06		--	--	--	--	--	<48	<0.5	<0.5	<0.5	<1.5	--	--	
	12/05/06		--	--	--	--	--	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/15/07		--	--	--	--	--	<48	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/21-22/07		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/25/07		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06-07/07		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/20-21/08[7]		--	--	--	--	--	--	--	--	--	--	--	--	--
	06/24/08		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/19-20/08		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/13-14/08		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/27-28/09		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/12/09		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/18/09		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/09/09		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/26/10		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/16/10		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/24/10		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--

TABLE 1

GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS[1]
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street
Camas, Washington
Concentrations reported in µg/L

Well ID	Date	Purge Method	TOC[2] (ft.)	DTW (ft.)	GWE[3] (ft.)	TPH-DRO	TPH-HRO	TPH-GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	T. Lead	D. Lead
TRIP BLANK QA (cont.)	12/15/10		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/25/11		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/30/11		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/06/11		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/05/12		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/04/12		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/04/12		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/03/12		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/04/13		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/03/13		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	09/03/13		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/02/13		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/03/14		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/02/14		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	10/02/14		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	12/01/14		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	03/02/15		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/01/15		--	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.5	--	--	--
Standard Laboratory Reporting Limits:						--	--	50	0.5	0.5	0.5	1.5	0.5	0.050	0.050
MTCA Method A Cleanup Levels:						500	500	800/1,000	5	1,000	700	1,000	20	15	15
Current Method[5]:						NWTPH-Dx + Extended[4]		NWTPH-Gx	USEPA 8021B				USEPA 8260	USEPA 6020	USEPA 6020

Abbreviations:

(D) = Duplicate
D. Lead = Dissolved Lead
DTW = Depth to Water
(ft.) = Feet
GWE = Groundwater Elevation
LFP = Low Flow Purge
MTBE = Methyl Tertiary Butyl Ether
MTCA = Model Toxics Control Act
QA = Quality Assurance/Trip Blank
T. Lead = Total Lead
TOC = Top of Casing
TPH = Total Petroleum Hydrocarbons
TPH-DRO = TPH as Diesel-Range Organics
TPH-GRO = TPH as Gasoline-Range Organics
TPH-HRO = TPH as Heavy Oil-Range Organics
USEPA = United States Environmental Protection Agency
µg/L = Micrograms per liter
-- = Not Measured/Not Analyzed

Notes:

1 Analytical results in bold font indicate concentrations exceed MTCA Method A cleanup levels.
2 TOC Elevations surveyed August 18, 2008. Elevations based on benchmark #242 "Lacamas-19" Elevation = 39.03 feet.
3 Groundwater Elevations relative to site datum, surveyed in December 2003.
4 Analyzed with silica-gel cleanup.
5 Laboratory analytical methods for historical data may not be consistent with list of current analytical methods. When necessary, consult original laboratory reports to verify methods used.
6 Unable to take duplicate sample due to the close proximity of a truck filled with mulch. The equipment was moved for safety purposes.
7 Laboratory unable to run QA, vials not received.
8 Purge water BTEX constituents analyzed by USEPA Method 8260.

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TABLE 2
SOIL ANALYTICAL RESULTS
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street, Camas, Washington
Concentrations reported in mg/kg

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	TPH-GRO	TPH-DRO	TPH-HRO	Total TPH
B-1 (0-5)*	0-5	10/12/87	0.007	3.045	--	21.365	--	--	--	7,870
B-1 (5-10)*	5-10	10/12/87	0.010	0.743	--	12.995	--	--	--	6,870
B-1 (10-15)*	10-15	10/12/87	U	0.009	--	0.133	--	--	--	2,240
B-1 (15-20)*	15-20	10/12/87	U	0.005	--	0.164	--	--	--	429
B-2 (0-5)	0-5	10/13/87	U	U	--	U	--	--	--	549
B-2 (5-10)	5-10	10/13/87	U	0.007	--	3.92	--	--	--	1,420
B-2 (10-15)	10-15	10/13/87	U	0.080	--	7.135	--	--	--	881
B-2 (15-20)	15-20	10/13/87	0.151	4.960	--	21.945	--	--	--	1,200
MW-1 (8.5-9.5)*	8.5-9.5	09/01/88	U	U	U	U	--	--	--	552
MW-1 (22-23)	22-23	09/01/88	U	U	U	U	--	--	--	552
MW-2 (3.5-4.0	3.5-4.0	09/02/88	U	U	U	U	--	--	--	<5.0
MW-2 (22.5-23.5)	22.5-23.5	09/02/88	U	U	U	U	--	--	--	<5.0
MW-3 (8.5-9.5)	8.5-9.5	09/06/88	U	U	U	U	--	--	--	111
MW-3 (22.5-24.0)	22.5-24	09/06/88	U	U	U	U	--	--	--	<5.0
MW-4 (3.5-4.0)	3.5-4.0	09/07/88	U	U	U	U	--	--	--	24
MW-4 (16-17)	16-17	09/07/88	U	U	U	U	--	--	--	8.6
MW-4A (16-17) (D)	16-17	09/07/88	U	U	U	U	--	--	--	11.0
MW-5 (20)	20	02/08/90	<0.05	<0.05	<0.05	<0.05	--	--	--	7.0
MW-5 (25.5)	25.5	02/08/90	<0.05	<0.05	<0.05	<0.05	--	--	--	<5.0
MW-5 (39.5)	39.5	02/08/90	<0.05	<0.05	<0.05	<0.05	--	--	--	10
MW-6 (21)	21	02/09/90	<0.05	<0.05	<0.05	<0.05	--	--	--	13
MW-6 (25.5)	25.5	02/09/90	<0.05	<0.05	<0.05	<0.05	--	--	--	<5.0
MW-6 (35)	35	02/09/90	<0.05	<0.05	<0.05	<0.05	--	--	--	10
MW-7 (20.5)	20.5	02/23/90	<0.05	<0.05	<0.05	<0.05	--	--	--	11
MW-7 (25)	25	02/23/90	<0.05	<0.05	<0.05	<0.05	--	--	--	<5.0
MW-7 (34.5)	34.5	02/23/90	<0.05	<0.05	<0.05	<0.05	--	--	--	5.4
TP-1 (1.5-2.0)*	1.5-2.0	09/08/94	--	--	--	--	--	380	820	1,200
TP-1 (5.5-6.0)*	5.5-6.0	09/08/94	--	--	--	--	--	92	168	260
TP-2 (1.5-2.0)*	1.5-2.0	09/08/94	--	--	--	--	--	130	310	440
TP-3 (1.5-2.0)	1.5-2.0	09/08/94	--	--	--	--	--	45	115	160
TP-3 (8.0-8.5)	8.0-8.5	09/08/94	--	--	--	--	--	--	--	--
TP-4 (1.5-2.0)	1.5-2.0	09/08/94	--	--	--	--	--	--	--	--
TP-4 (5.0-5.5)	5.0-5.5	09/08/94	--	--	--	--	--	--	--	--

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TABLE 2
SOIL ANALYTICAL RESULTS
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street, Camas, Washington
Concentrations reported in mg/kg

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	TPH-GRO	TPH-DRO	TPH-HRO	Total TPH
TP-5 (1.5-2.0)*	1.5-2.0	09/08/94	<0.031	<0.031	0.30	1.3	590	13,000	14,000	27,590
TP-5 (9.0-9.5)*	9.0-9.5	09/08/94	<0.030	<0.030	0.37	1.3	720	4,900	11,100	16,720
TP-6 (1.5-2.0)	1.5-2.0	09/08/94	--	--	--	--	--	--	--	--
TP-7 (1.5-2.0)	1.5-2.0	09/08/94	<0.027	<0.027	<0.027	<0.027	<5.5	220	1,080	1,300
TP-7 (5.5-6.0)	5.5-6.0	09/08/94	--	--	--	--	--	120	370	490
TP-8 (1.5-2.0)*	1.5-2.0	09/08/94	--	--	--	--	--	70	400	470
TP-8 (5.5-6.0)*	5.5-6.0	09/08/94	--	--	--	--	--	27	103	130
TP-9 (1.5-2.0)*	1.5-2.0	09/09/94	<0.027	<0.027	<0.027	<0.027	25	2,500	1,200	3,725
TP-10 (1.5-2.0)*	1.5-2.0	09/09/94	--	--	--	--	--	400	180	580
TP-10 (6.5-7.0)*	6.5-7.0	09/09/94	--	--	--	--	--	<22	79	79
TP-11 (2.5-3.0)*	2.5-3.0	09/09/94	--	--	--	--	--	--	--	--
TP-11 (6.0-6.5)*	6.0-6.5	09/09/94	--	--	--	--	--	24	54	78
TP-12 (2.0-2.5)	2.0-2.5	09/09/94	--	--	--	--	--	--	--	--
TP-13 (1.5-2.0)	1.5-2.0	09/09/94	<0.029	<0.029	5.7	24.0	87	530	60	677
TP-13 (10.0-10.5)	10.0-10.5	09/09/94	<0.030	<0.030	0.095	0.46	300	--	--	300
TP-14 (2.0-2.5)	2.0-2.5	09/09/94	--	--	--	--	--	67	233	300
TP-14 (7.5-8.0)	7.5-8.0	09/09/94	--	--	--	--	--	27	113	140
TP-15 (1.5-2.0)*	1.5-2.0	09/09/94	<0.027	<0.027	<0.027	0.37	300	1,500	500	2,300
TP-15 (7.0-7.5)*	7.0-7.5	09/09/94	<0.028	<0.028	<0.028	1.5	350	2,000	300	2,650
TP-16 (2.0-2.5)*	2.0-2.5	09/09/94	--	--	--	--	--	130	80	210
TP-16 (7.0-7.5)*	7.0-7.5	09/09/94	--	--	--	--	--	260	80	340
TP-17 (1.5-2.0)	1.5-2.0	09/09/94	--	--	--	--	--	--	--	--
TP-17 (5.5-6.0)	5.5-6.0	09/09/94	--	--	--	--	--	110	180	290
TP-18 (3.0-3.5)*	3.0-3.5	09/09/94	<0.030	<0.030	0.75	2.3	1,200	7,500	600	9,300
TP-18 (9.0-9.5)	9.0-9.5	09/09/94	<0.029	<0.029	<0.029	0.075	57	420	80	557
TP-18 (14.0-14.5)*	14.0-14.5	09/09/94	<0.030	<0.030	0.80	1.9	1,100	7,100	900	9,100
TP-19 (2.0-2.5)	2.0-2.5	09/09/94	--	--	--	--	--	--	--	--
ES-1 (6)*	6	11/07/94	<0.031	<0.031	<0.031	<0.031	<6.2	<25	<120	0
ES-2 (4)*	4	11/07/94	<0.030	<0.030	<0.030	<0.030	<6.0	<24	<120	0
ES-3 (16)**	16	11/07/94	<0.034	<0.034	0.51	1.6	400	3,600	<140	4,000
ES-4 (15)**	15	11/07/94	<0.029	<0.029	1.8	8.3	510	2,600	<120	3,110
ES-5 (15)**	15	11/08/94	<0.035	<0.035	5.9	47	1,800	2,000	<140	3,800
ES-6 (11)*	11	11/08/94	<0.030	<0.030	<0.030	<0.035	10	1,000	200	1,210

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TABLE 2
SOIL ANALYTICAL RESULTS
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street, Camas, Washington
Concentrations reported in mg/kg

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	TPH-GRO	TPH-DRO	TPH-HRO	Total TPH
ES-7 (15)**	15	11/08/94	<0.030	<0.030	1.9	7.9	1,700	2,900	<120	4,600
ES-8 (11)*	11	11/08/94	<0.029	<0.029	<0.029	<0.029	<5.9	28	<120	28
ES-9 (5.5)*	5.5	11/08/94	<0.029	<0.029	<0.029	<0.029	<5.7	74	<110	74
SB-1-6**	6	07/16/04	<0.05	<0.05	<0.2	<1.5	1,600	960	<100	2,560
SB-1-14**	14	07/16/04	<0.005	<0.005	<0.02	<0.2	400	880	<100	1,280
SB-1-19**	19	07/16/04	<0.005	<0.005	<0.02	<0.2	69	110	12	191
SB-1-24**	24	07/16/04	<0.005	<0.005	<0.02	<0.2	<1.0	110	19	129
SB-2-19**	19	08/22/04	<0.2	<0.2	<0.4	4.9	3,300	3,700	<200	7,000
SB-2-24**	24	08/22/04	<0.005	<0.005	<0.005	0.03	110	390	37	537
SB-3-14	14	08/22/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
SB-3-19	19	08/22/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-8-24	24	08/20/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-8-29	29	08/20/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-9-19	19	07/16/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-10-29	29	08/22/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-11-19	19	08/21/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-12-19	19	07/18/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-13-24	24	07/17/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-13-44	44	07/17/04	<0.005	<0.005	<0.005	<0.02	<1.0	4.8	<10	4.8
MW-14-24	24	07/19/04	<0.005	<0.005	<0.005	<0.02	<1.0	<3.0	<10	0
MW-15-30	30	07/30/08	<0.0006	<0.001	<0.001	<0.001	<1	<3.4	<11	0
MW-15-35	35	07/30/08	<0.0004	<0.0008	<0.0008	<0.0008	<0.9	<3.2	<11	0
MW-15-40	40	07/30/08	<0.0005	<0.0009	<0.0009	<0.0009	<1.2	<3.4	<11	0
MW-15-45	45	07/30/08	<0.0005	<0.001	<0.001	<0.001	<1.1	<3.3	<11	0
MW-15-50	50	07/30/08	<0.0005	<0.001	<0.001	<0.001	<1.4	<3.5	<12	0
MW-16-25	25	07/31/08	<0.0004	<0.0009	<0.0009	<0.0009	<1	<3.3	<11	0
MW-16-30	30	07/31/08	<0.0005	<0.001	<0.001	<0.001	<1	4.1	<12	4.1
MW-16-35	35	07/31/08	<0.0005	<0.0009	<0.0009	<0.0009	<1.2	<3.2	<11	0
MW-16-40	40	07/31/08	<0.0005	<0.0009	<0.0009	<0.0009	<1.2	<3.4	<11	0
MW-16-45	45	07/31/08	<0.0005	<0.0009	<0.0009	<0.0009	<1.2	<3.2	<11	0
MW-16-50	50	07/31/08	<0.0006	<0.001	<0.001	<0.001	<0.9	<3.4	<11	0
SB-4-15	15	09/21/14	<0.030	<0.0610	<0.0610	<0.122	150	360/460[1]	<11/<11[1]	610
SB-4-20	20	09/21/14	<0.0005	<0.001	<0.001	<0.001	<1.5	38/46[1]	<11<11[1]	46

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TABLE 2
SOIL ANALYTICAL RESULTS
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street, Camas, Washington
Concentrations reported in mg/kg

Sample ID	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethylbenzene	Xylenes	TPH-GRO	TPH-DRO	TPH-HRO	Total TPH
SB-5-16	16	09/21/14	<0.028	<0.0598	0.061	2.10	540	480/570[1]	<11<23[1]	1,110
SB-5-36	36	09/21/14	<0.0005	<0.001	<0.001	<0.001	<1.1	83/120[1]	<11/19[1]	139
SB-6-19	19	09/21/14	<0.026	<0.052	<0.053	<0.052	310	210/230[1]	56/88[1]	318
SB-6-25	25	09/21/14	<0.0005	<0.001	<0.001	<0.001	<1.1	6.1/4.1[1]	<11<11[1]	6.1
MTCA Method A CULs			0.03	7	6	9	30/100	2,000	2,000	-
MTCA Method B CULs			18	6,400	8,000	16,000	-	-	-	2,603

EXPLANATIONS:
MTCA Method B cleanup levels for Direct Contact, Unrestricted Land Uses.
TPH prior to 1994 measured by Method 418.1; recent values are the sum of Gasoline, Diesel, and Lube oil-range Hydrocarbons.

1 Results for TPH-DRO and TPH-HRO analyzed by Northwest Method NWTPH-Dx with silica-gel cleanup / Northwest Method NWTPH-Dx without silica-gel cleanup.
CULs = Cleanup levels
(D) = Duplicate
mg/kg = Milligrams per kilogram
MTCA = Model Toxics Control Act
TPH = Total Petroleum Hydrocarbons
TPH-DRO = TPH as Diesel-Range Organics
TPH-GRO = TPH as Gasoline-Range Organics
TPH-HRO = TPH as Heavy Oil-Range Organics
U = The analyte was not detected at or above the laboratory detection limit
* = locations removed during the 1994 soil excavation.
** = Data not used for characterizing existing conditions. More recent data supercedes these values.
-- = Not Measured/Not Analyzed
- = Not Established

TABLE 3
SOIL ANALYTICAL RESULTS - Lead, MTBE, and PAHs
FORMER CHEVRON BULK TERMINAL NO. 207407
612 SE Union Street, Camas, Washington
Concentrations reported in mg/kg

Sample ID	Sample Depth (feet)	Sample Date	Lead	MTBE	Benzo(a) anthracene	Chrysene	Benzo(b) fluoranthene	Benze(k) fluoranthene	Benzo(a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz(a,h) anthracene	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	n-hexane	EDB	EDC
SB-1-6	6	07/16/04	54.2	<0.5	0.003	0.008	0.005	<0.003	<0.003	<0.003	<0.003	--	--	0.12	--	<0.13	<0.13
SB-1-14	14	07/16/04	4.34	<0.05	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--	0.024	--	<0.12	<0.12
SB-1-19	19	07/16/04	3.10	<0.05	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--	<0.010	--	<0.12	<0.12
SB-1-24	24	07/16/04	--	<0.05	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--	<0.010	--	--	--
SB-2-19	19	08/22/04	4.88	<2.0	0.004	0.009	<0.003	<0.003	<0.003	<0.003	<0.003	--	--	0.19	<0.13	<0.13	<0.13
SB-2-24	24	08/22/04	4.43	<0.05	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--	--	--	<0.001	<0.001
SB-3-19	19	08/22/04	--	<0.05	--	--	--	--	--	--	--	--	--	<0.001	<0.001	--	--
MW-13-44	44	07/17/04	--	-	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--	<0.001	--	--	--
SB-4-15	15	09/21/14	--	<0.030	<0.00076	0.0020	<0.00076	<0.00076	<0.00076	<0.00076	<0.00076	0.0036	0.0053	0.0018	<0.061	<0.061	<0.061
SB-5-16	16	09/21/14	--	<0.028	0.0057	0.012	0.0023	<0.00076	0.0016	<0.00076	<0.00076	2.7	3.8	0.12	<0.056	<0.056	<0.056
SB-6-19	19	09/21/14	--	<0.026	0.0035	0.0090	0.0051	0.0017	0.0033	0.0017	<0.00072	0.51	0.76	0.043	<0.052	<0.052	<0.052
MTCA Method A CULs			250	0.1	-	-	-	-	0.1	-	-	-	-	5	-	0.005	-
MTCA Method B CULs			-	556	1.37	-	1.37	13.7	0.137	1.37	0.137	-	-	1,600	-	0.5	-

EXPLANATIONS:
MTCA Method B cleanup levels for Direct Contact, Unrestricted Land Uses.

PAHs = Polycyclic aromatic hydrocarbons
CULs = Cleanup levels
EDB = Ethylene dibromide (1,2-dibromoethane)
EDC = Ethylene dichloride (1,2-dichloroethane)
mg/kg = Milligrams per kilogram
MTBE = Methyl Tertiary Butyl Ether
MTCA = Model Toxics Control Act
-- = Not Measured/Not Analyzed
- = Not Established

Appendix A:
Agency Comments on July 26, 2012 Draft Final Remedial Investigation/Feasibility Study Report.

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

MS: 70 ▪ 2108 Grand Boulevard ▪ Vancouver, Washington 98661-4622 ▪ (360) 690-7171

June 24, 2013

Ms. Marlea Harmon
Chevron Environmental Management Company
6101 Bollinger Canyon Rd – Room 5228
San Ramon, CA 94583

Re: Chevron Bulk Plant Camas - WA Site / ISIS No.1043
Agency Comments on July 26, 2012 Draft Final
Remedial Investigation / Feasibility Study Report

Dear Ms. Harmon:

The Washington State Department of Ecology (Ecology) has reviewed the above-referenced report prepared by Science Applications International Corporation (SAIC) on behalf of Chevron Environmental Management Company (Chevron). Ecology also examined issues of potential concern.

The draft report was received prior to a formal agency declaration that the Remedial Investigation (RI) for this Site was complete. However, such a declaration—notwithstanding a recent minor cleanup-level exceedance in a single groundwater monitoring well—would have been issued by Ecology following receipt of groundwater monitoring reports for the third and fourth quarters of 2012 if it had been complimented by repeat sampling of the 1994 and 2004 soil sample locations that had significant contamination. After either 8 or 18 years (depending on sample date), the current levels of contamination could be significantly lower, possibly reducing the likelihood that the more complex cleanup alternatives presented in the Feasibility Study (FS) are needed.

In addition to the report review, Ecology conducted an independent assessment of the potential risk of Site contaminants reaching City of Camas drinking water well No.6, located approximately 100 yards north-northeast of the Site's primary source area. The agency considers avoiding contamination of this well a major objective of the Site cleanup. Ecology's situation analysis indicated a nearly negligible threat to the well.

Ecology declares the RI complete contingent on Chevron's conducting a soil sampling and analysis project to characterize the *current* contamination levels that exist in areas delineated by red boundaries in Figures 4 and 5 of the draft RI/FS report (areas that are beneath the bottom of 1994 interim-action excavation pits) plus the soil between those boundaries and the water table. Ecology is requiring submittal of a Work Plan for this supplemental investigation, without which the agency would not accept a cleanup approach employing only Monitored Natural Attenuation (MNA). Ecology considers the FS section of the combined RI/FS report to be subject to possible needed revisions if subsurface soil concentrations have diminished significantly since the 1994 and 2004 samples were analyzed, bolstering evidence that natural attenuation has occurred and may be a viable approach for remediation.

Specific Ecology Comments on the Draft Final RI/FS Report:

1. Page 4, Section 3.2. The referenced groundwater flow-direction rose diagram on Figure 6, based on pre-2008 data, indicates an average azimuth bearing of 291°. Using a vector analysis algorithm, Ecology calculated a gradient-weighted average azimuth bearing of 275° for 20 quarters (2007-2011). This is close to the Figure 6 value, and both suggest a *long-term* flow direction bearing that is more than 90° counterclockwise from the direction to city well No.6. Using very conservative assumptions, Ecology estimated long-term asymptotic particle-track bearing of 315°, which is 70° counterclockwise from the city well direction.

2. Page 4, Pathway Table. The "Applicability" comment associated with the *Groundwater to surface water/sediment* pathway indicates that the possibility of contaminated groundwater reaching surface water is eliminated because of the distance. This is true for most intents and purposes, but it is indeed possible that some level of contaminants—although well within all applicable standards—could exist in the groundwater from beneath the Site reaching surface water.
3. Pages 7-8, Section 5.3 and Appendix F. The use of Ecology's MTCA calculation approach for determining Method B cleanup levels (CUL) for soil appears correct. Although the laboratory analytical methods for carbon-number petroleum fractionation and for the ranges of TPH prescribe mass concentration units (mg/kg) on a dry basis, and it is very likely that the chosen laboratory reported the results correctly. However, the laboratory report for samples (including SB-2-19, the one used for the CUL determination) only referenced the method, and did not explicitly indicate that the results were on a dry basis. This should be confirmed.
4. Page 11, Sections 7.2 and 7.2.1. Both an "Alternative 2" and an "Alternative 2A" are used in describing the subject remediation approach. There is only one approach mentioned in this section; hence, it is likely that only "Alternative 2" is the appropriate name.
5. Page 12, Section 7.4.1. The third sentence is inaccurate unless it ends with "above cleanup levels."
6. Page 13. In the first sentence in the second complete paragraph, "most permanent" should be used instead of "permanent" alone.
7. Page 15, last sentence. Although the sentence indicates that present worth calculations used three discount rates (3, 5, and 7 percent), the cost breakdown for each of the four finalist remediation alternatives in Appendix G does not address these rates. Because the time periods assigned to the alternatives is not extensive, the rate selection may not make a relatively significant difference unless the required duration becomes longer than anticipated. Nevertheless, the text section and the appendix tables table should be consistent and offer explanations of use or non-use of discount rates.
8. Page 15, last sentence. Please note that the final Cleanup Action Plan (CAP) will be an Ecology document.
9. Table 4, Summary of Cleanup Action Alternatives. The suspended dot symbol under Alternative 4 on the "Off-Site Disposal" line should be removed, because such disposal would not be significant compared to excavated soil (and no costs for this activity were included in the cost summary in Appendix G). There could possibly be minor disposal costs associates with depleted carbon absorption media if it is employed (and disposed instead of regenerated), but no mention was made of this process unit in the report.
10. Table 3. Under on-site treatment, in-situ treatment employing oxygen-releasing chemicals (ORC) was not included. The same constraint that led to the rejection of bioremediation (i.e., difficulty on uniform distribution of the treatment medium into the vadose-zone soil) may apply to ORC use, but no mention of this method was made. Was it rejected in an earlier group subjected to vetting?

<u>Ecology Requirements Related to the Draft Final RI/FS Report</u>:

A. Before August 15, 2013, submit a draft Work Plan to characterize the nature and extent of contaminants in the vadose-zone regions delineated by red boundaries in Figures 4 and 5 of the draft RI/FS report plus the soil between these regions and the water table.
B. Confirm that the mass concentration values in the laboratory reports and subsequently used in the calculation of Method B cleanup levels were indeed on a dry basis.
C. Expand, with explanation, Chevron/SAIC's use/non-use of present-worth discount rates for the costs related to the remediation alternatives.
D. Explain why ORC use and bioventing were not included in Table 3 *(Initial Screening of Cleanup Alternative Components—Soil and Groundwater*).

<u>Ecology Assessment of Site Groundwater Flow Direction</u>

Of particular concern regarding the Site is the proximity of Camas City Well No.6, located across the Site-adjacent railroad tracks approximately 300 ft north-northeast of the source area (see attached Figure 1). The five-year (2007-2011) prevailing groundwater flow direction—including times when No.6 well was operating—is towards the west (azimuth bearing of 275°). When operating, this city well affects the groundwater flow direction beneath the Site, causing it to flow generally towards the north. The horizontal and vertical spatial relationship between the source area and city well No.6 is shown in Figure 2.

In 2008, groundwater monitoring wells No.15 and 16 were installed north of the primary source area. Although contaminants have never been detected in samples from these two Ecology-required sentinel wells, Ecology desired additional evidence to support a basis upon which the agency could reasonably conclude that the threat of Chevron-Site contaminants entering the No.6 well screen is essentially negligible. The following evidence provides that confidence basis:

- The extremely high petroleum hydrocarbon concentrations previously existing in the Site monitoring wells near the primary source area have diminished greatly—with near consistent non-detectable contamination or levels below MTCA CULs. The most recent data (December 2012 and March 2013) indicated all current monitoring well samples were within CULs. See Table 1.
- The groundwater is not likely to move to city well No. 6. Table 2 presents the derivation of the average groundwater flow direction based on quarterly sampling event flow determinations over multiple years. A vector-based method for averaging individual azimuth bearings was employed and the directions were weighted by the respective measured groundwater gradients. The five consecutive recent years in which data were collected in all four quarters were selected for estimating a representative prevailing flow direction. For 2007 through 2011, the weighted vector average for each quarter (ie, the average of five 1st-qtr events, five 2nd-qtr events, etc.) was calculated. The five-year prevailing azimuth direction was also determined:
    - Average groundwater flow direction for five 1st quarters: 272°
    - Average groundwater flow direction for five 2nd quarters: 280°
    - Average groundwater flow direction for five 3rd quarters: 278°
    - Average groundwater flow direction for five 4th quarters: 265°
    - Average groundwater flow direction for all 20 quarters: 275° (prevailing direction)
- Data presented in Figure 3 indicate the water table elevation for each quarter year-over-year is quite consistent. This adds confidence to predictions based on quarterly measurements of flow direction.
- As shown in Figure 4, Camas City Well No.6 pump operates for only limited periods (primarily June, July, and August), and its use had decreased in recent years. This makes the conservative assumptions for the water particle track estimate (next bullet) even more conservative than what may be apparent.
- Because the groundwater flow direction does shift toward the north when the subject city well is operating, Ecology estimated what path a particle of groundwater would follow over time. The assumptions made for the worst-case estimate included city well No.6 operating for 25% of the time and that during operation, the groundwater would flow towards the northeast (the most extreme direction shift measured). The upper plot on Figure 5 illustrates what the path would be with a conservative 25%/75%-NE/W time-direction scenario assuming equal velocity in each direction (W used here is 275°, not quite true west). The slope in the illustration is exaggerated for conservatism.
- The oscillating black line on lower plot of Figure 5 is the azimuth bearing (relative to a particle's original position) as a function of time. The bearing after a long time (ie, its asymptotic value) would be near 315° azimuth (northwest) using the 25/75-45°/275° time-direction assumption.

Clearly, the probability of groundwater beneath the source area transporting contaminants to the Camas City Well No.6 is minimal. Nevertheless, Ecology has apprised Chevron that the agency may, as part of compliance confirmation efforts, require the installation of another groundwater well(s) at the north edge of the Site property in the direction of the city well.

Please contact me if you have questions or comments.

Regards,

RA Schmall

Rod Schmall
Ecology Site Manager

Attachments

cc: Alex Shook. Don Wyll / SAIC
Kent Zeigler / Triangle Resources P.O. Box 1101, Camas, WA 98607
Scott Rose / Ecology-SWRO
Central Files / Ecology-SWRO

Certified Mail / Return Receipt (7011 0470 0002 9304 6808)

Figure 1

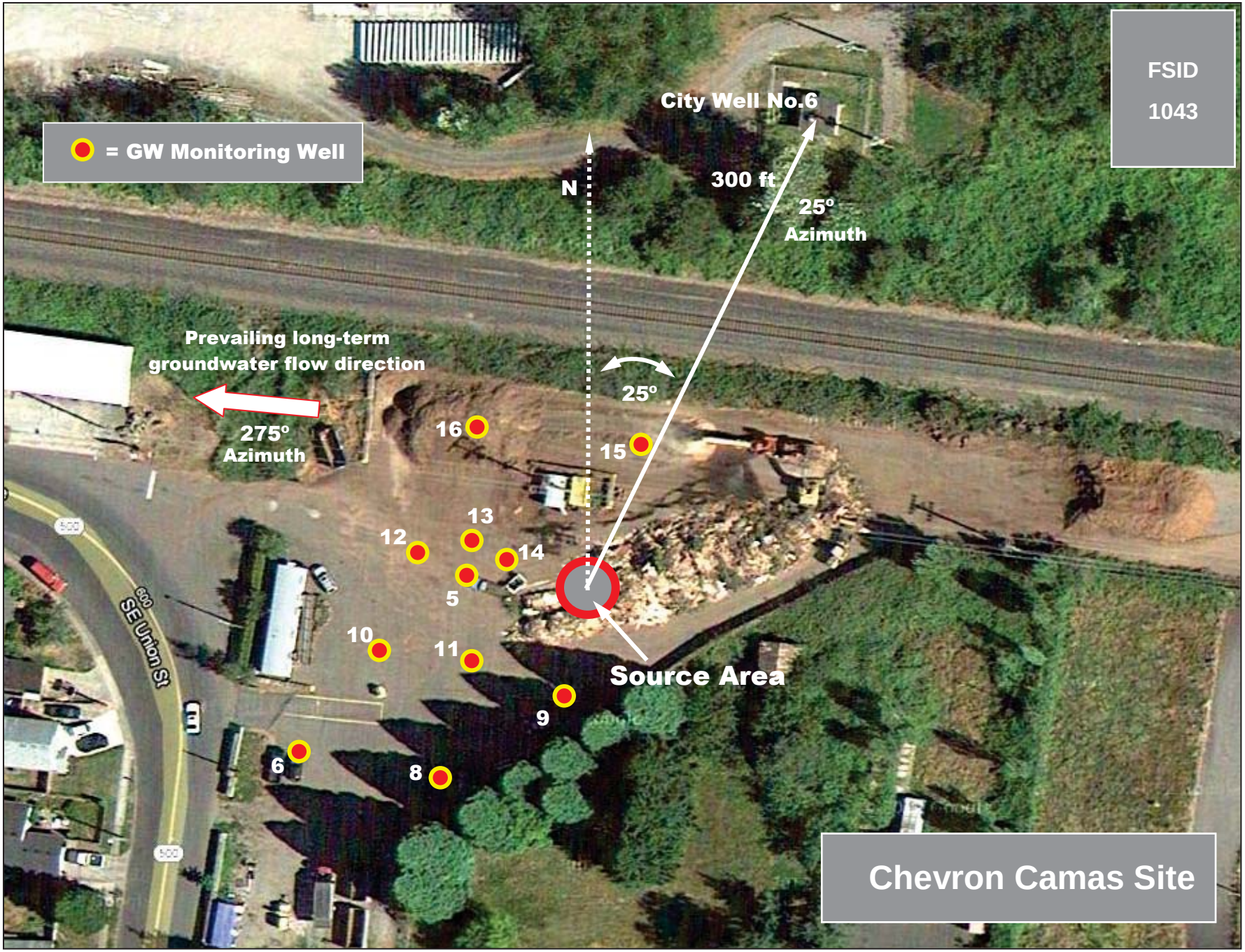

FSID
1043
= GW Monitoring Well
City Well No.6
300 ft
25º
Azimuth
N
Prevailing long-term
groundwater flow direction
275º
Azimuth
25º
16
15
13
12
14
5
10
11
9
6
8
Source Area
SE Union St
Chevron Camas Site

Figure 2

Location of Camas City Well No.6 Relative to Chevron/Camas Cleanup Site

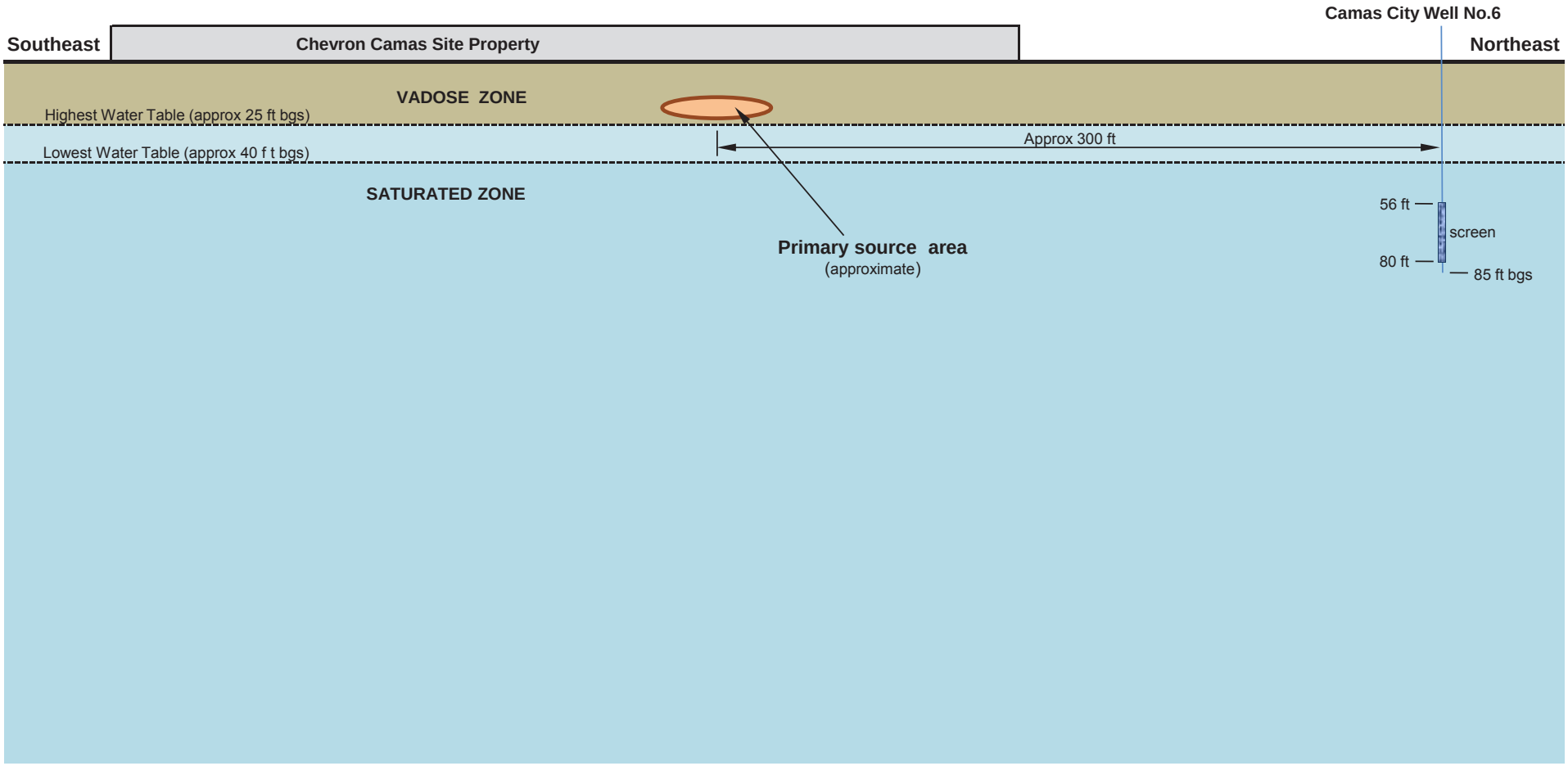


Table 1

Chevron/Camas - Groundwater Data

Well No.		Most Recent Concentration				Most Recent Exceedance						Highest Concentration Measured							
		TPH for Indicated Range				TPH for Indicated Range						TPH for Indicated Range							
		Diesel	Hvy Oil	Gas	Date	Diesel	Hvy Oil	Gas	Date	Benzene		Diesel		Hvy Oil		Gas		Benzene	
		(µg/L)	(µg/L)	(µg/L)		(µg/L)	(µg/L)	(µg/L)		(µg/L)	Date	(µg/L)	Mo/Yr	(µg/L)	Mo/Yr	(µg/L)	Mo/Yr	(µg/L)	Mo/Yr
5		65	90	210	3/4/13	---	**680**	---	6/30/11	**19**	11/29/94	**7900**	Dec/09	**3500**	Mar/08	**3600**	Nov/94	**19**	Nov/94
6	D	<28/43	220/410	<50	3/4/13	---	***640**	---	12/3/12	ND	---	**3500**	Sep/08	**210,000**	Sep/08	ND	---	ND	---
8		<29	<67	<50	12/3/12	---	---	---		ND	---	ND	---	ND	---	ND	---	ND	---
9		<31	<71	<50	12/3/12	**600**	---	---	6/30/11	ND	---	**600**	Jun/11	ND	---	ND	---	ND	---
10		<28	140	<50	12/3/12	---	**530**	---	3/25/11	ND	---	ND	---	**1600**	Dec/10	ND	---	ND	---
11		<28	<66	<50	12/3/12	---	---	---		ND	---	ND	---	ND	---	ND	---	ND	---
12		<28	<66	<50	3/4/13	**700**	**1400**	---	6/30/11	ND	---	**5800**	Dec/08	**12,000**	Dec/08	ND	---	ND	---
13		96	120	<50	[2]6/24/08	---	**1100**	---	3/15/07	ND	---	**4200**	Sep/06	**5300**	Sep/06	**1100**	Nov/05	ND	---
14		<29	<68	<50	[2]3/25/11	**1100**	---	---	3/25/11	ND	---	**1100**	Aug/04	ND	---	ND	---	ND	---
15		<31	<72	<50	[2]6/4/12	---	---	---		ND	---	ND	---	ND	---	ND	---	ND	---
16		<29	<67	<50	12/3/12	---	---	---		ND	---	ND	---	ND	---	ND	---	ND	---
MTCA A:		500	500	800/1000[1]		500	500	800/1000[1]		5		500		500		800/1000[1]		5	

[1] *1000 µg/L if benzene is not present (it is not)*

[2] *Abandoned following this date*

D = Duplicate samples analyzed

* *Duplicate sample analysis result was 480*

Bold font *indicates concentration above MTCA Method A Cleanup Levels*

Table 2

Chevron Camas Cleanup Site -- Groundwater Flow

(Camas City Well) →No.6 pumping?

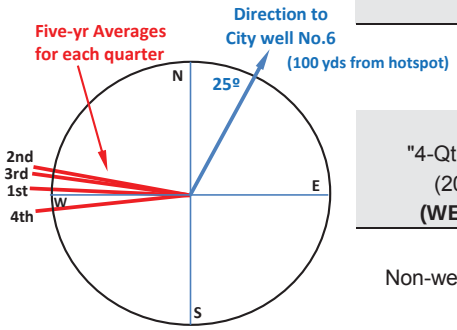
Year	Qtr	Date	Direction (Approx)	Azimuth (nearest 5º)	Gradient (ft/ft)	Ft Elev (MW 10)	↓	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
							↓	Azimuth Degrees				Gradient Values			
2012	4														
	3	9/4	?	?	?	4.65				?				?	
	2	6/4	SW	250	0.001	12.21			250				0.001		
	1	3/5	W	265	0.035	8.21		265				0.035			
2011	4	12/6	SW	220	0.001	6.79					220				0.001
	3	9/30	SW	250	0.001	3.36				250				0.001	
	2	6/30	W	265	0.001	18.37	No		265				0.001		
	1	3/25	W	265	0.001	12.20		265				0.001			
2010	4	12/15	W	265	0.002	11.90					265				0.002
	3	9/24	SW	245	0.001	2.35				245				0.001	
	2	6/16	SW	250	0.001	16.32	No		250				0.001		
	1	3/26	SW	245	0.001	5.81		245				0.001			
2009	4	12/9	W	275	0.005	5.38					275				0.005
	3	9/18	W	275	0.001	1.95				275				0.001	
	2	6/12	N-NW	245	0.001	13.91	Yes		245				0.001		
	1	3/27	SW	240	0.001	8.00		240				0.001			
2008	4	12/13	W	275	0.001	6.06					275				0.001
	3	9/19	W	270	0.001	1.57				270				0.001	
	2	6/24	N	5	0.001	19.52	Yes		5				0.001		
	1	3/20	W	265	0.004	14.63		265				0.004			
2007	4	12/6	W-SW	245	0.001	16.37					245				0.001
	3	9/25	NW	295	0.004	5.22				295				0.004	
	2**	6/21	N	360	0.002	14.21	Yes								
	1	3/15	NW	290	0.005	16.02		290				0.005			
2006	4	12/5	SW	240	0.004	14.86					240				0.004
	3	9/21	N-NW	355	0.004	7.46				355				0.004	
	2	6/22	NW	320	0.025	19.15			320				0.025		

** *Camas City Well No.6 was operated at near capacity on 6/21 and the preceding 17 days*

6/12/09: 994,000 gal (48% of nameplate capacity)

6/24/08: 1,906,000 gal (91% of capacity)

		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
All Qtrs with Data	Number:	6	7	7	6	Number:	6	7	6	6
	Highest:	290	360	355	275	Highest:	0.035	0.025	0.004	0.005
	Lowest:	240	5	245	5	Lowest:	0.001	0.001	0.001	0.001
						Arith Ave:	0.008	0.004	0.002	0.002
"4-Qtr" Yr Data (2007-2011)	Number:	5	5	5	5	Number:	5	5	5	5
	Highest:	290	360	295	275	Highest:	0.005	0.002	0.004	0.005
	Lowest:	240	5	245	220	Lowest:	0.001	0.001	0.001	0.001
	Vector Ave:	**261**	**278**	**267**	**256**	Arith Ave:	0.002	0.001	0.002	0.002



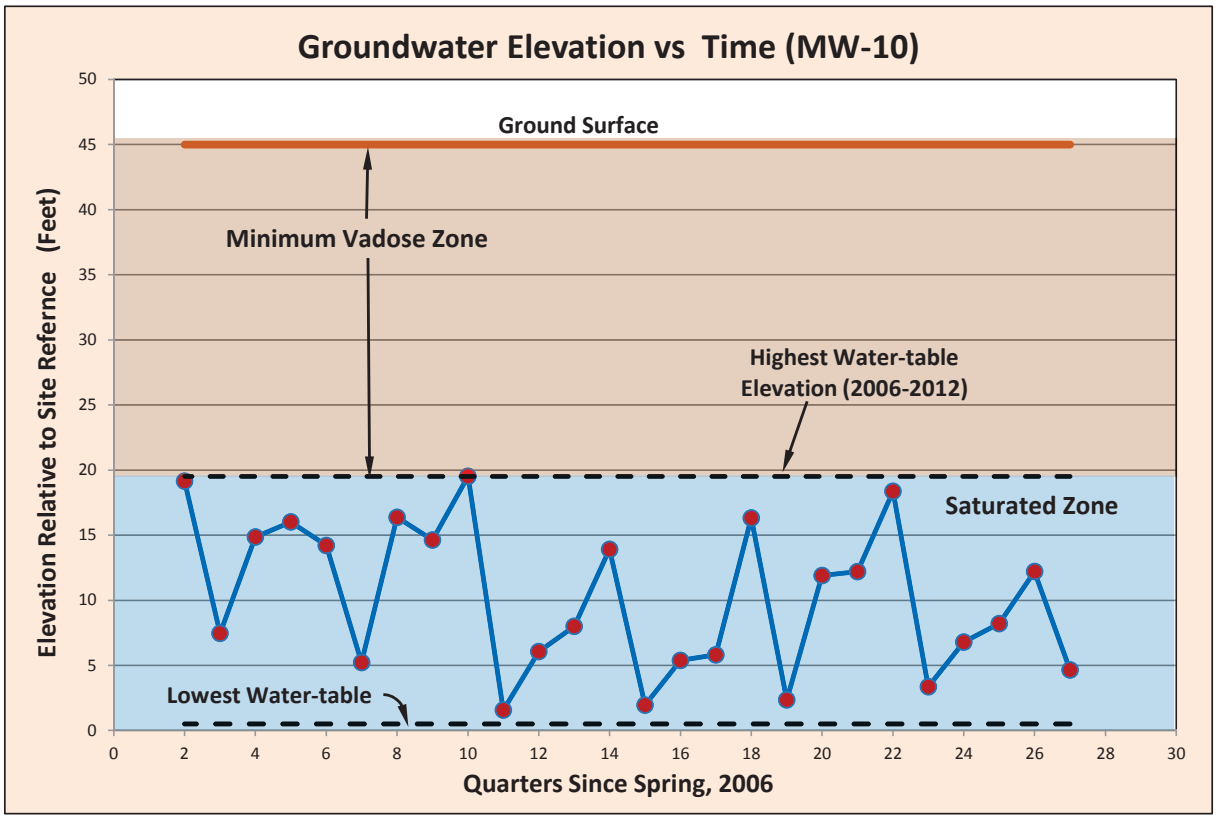
		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
"4-Qtr" Yr Data (2007-2011) **(WEIGHTED)**	Number:	5	5	5	5
	Highest:	290	360	295	275
	Lowest:	240	5	245	220
	Vector Ave:	**272**	**280**	**278**	**265**

← Vector average weighted with gradient values

Non-weighted Vector Ave of these five-yr quarterly averages: **274º**

Weighted Vector Ave of all 20 quarters 2007-2011: **275º**

Figure 3


Groundwater Elevation vs Time (MW-10)
Ground Surface
Minimum Vadose Zone
Highest Water-table
Elevation (2006-2012)
Saturated Zone
Lowest Water-table
Elevation Relative to Site Refernce (Feet)
Quarters Since Spring, 2006

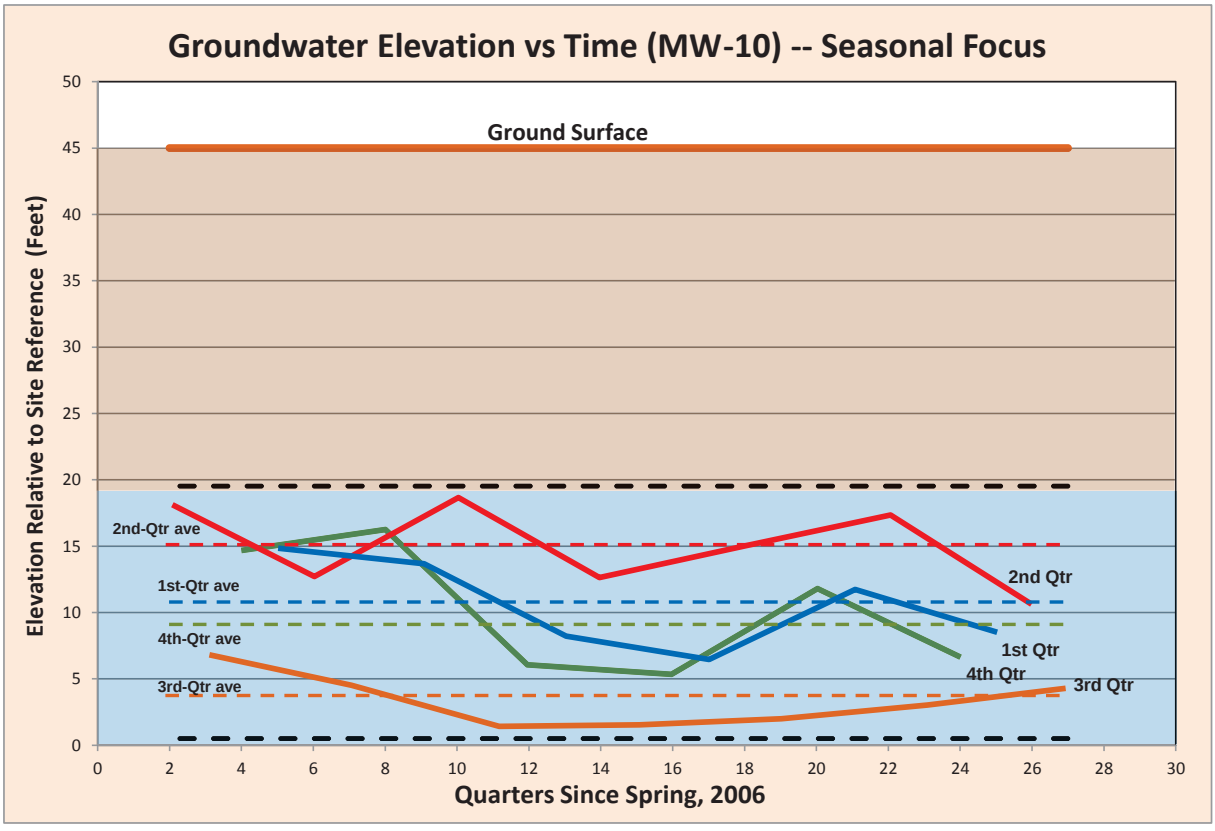
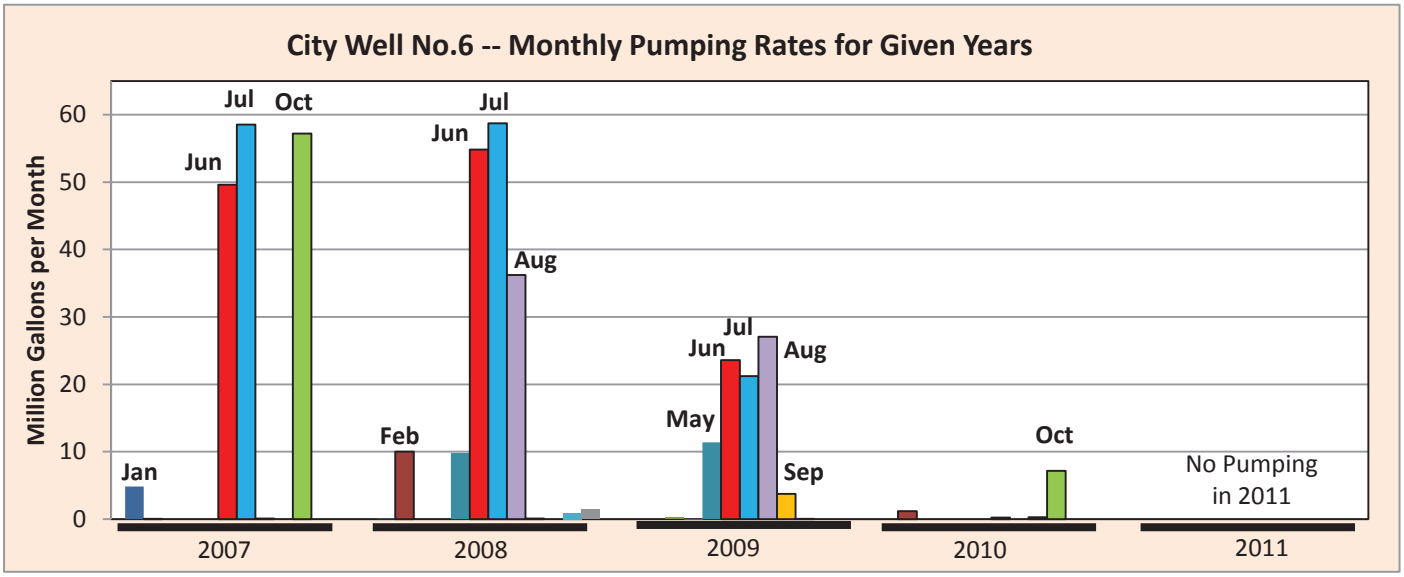

Groundwater Elevation vs Time (MW-10) -- Seasonal Focus
Ground Surface
2nd-Qtr ave
1st-Qtr ave
4th-Qtr ave
3rd-Qtr ave
2nd Qtr
1st Qtr
4th Qtr
3rd Qtr
Elevation Relative to Site Reference (Feet)
Quarters Since Spring, 2006

Figure 4

Camas City Well No.6 Data:

Million Gallons

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2007	4.837	0.043				49.594	58.556	0.103		57.212		
2008	0.080	10.021			9.795	54.817	58.721	36.205	0.073		0.874	1.480
2009			0.213	0.014	11.366	23.605	21.206	27.046	3.722	0.050		
2010		1.195					0.221		0.271	7.173		
2011	(no pumping of well No.6 in 2011)											



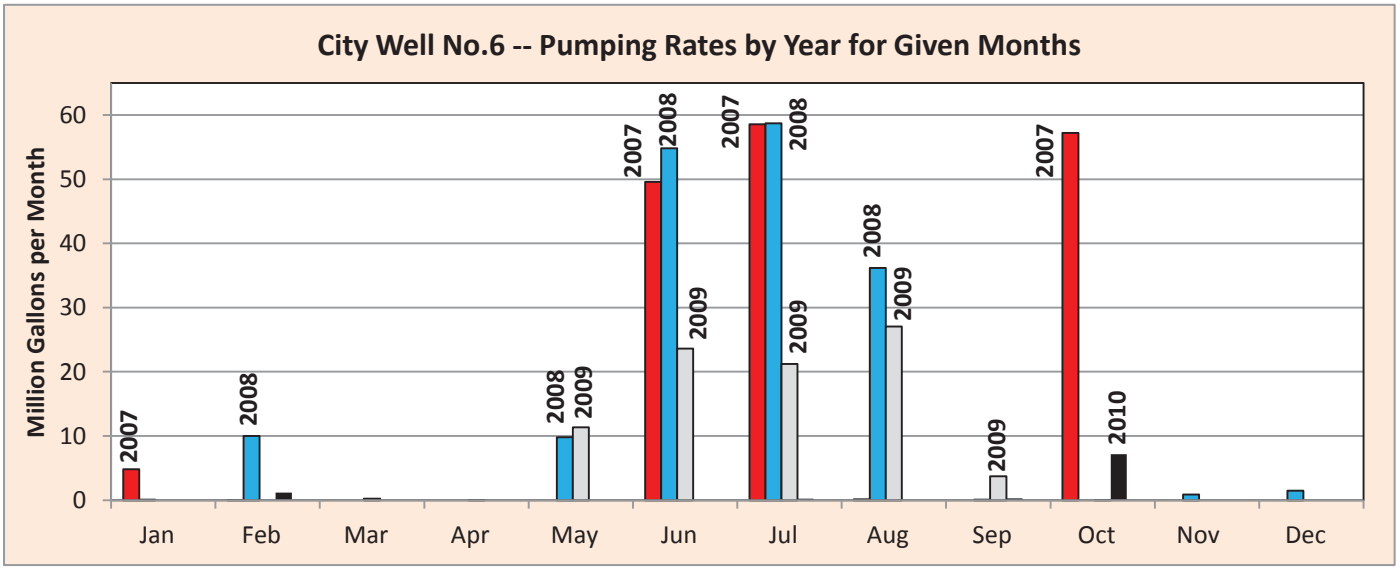
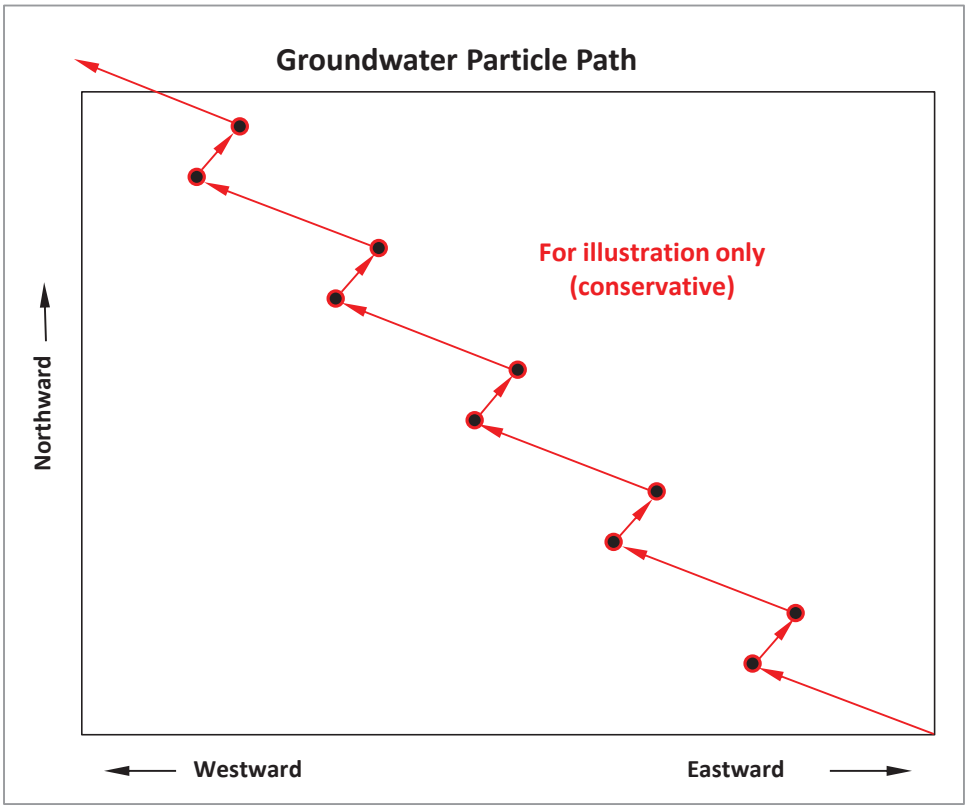
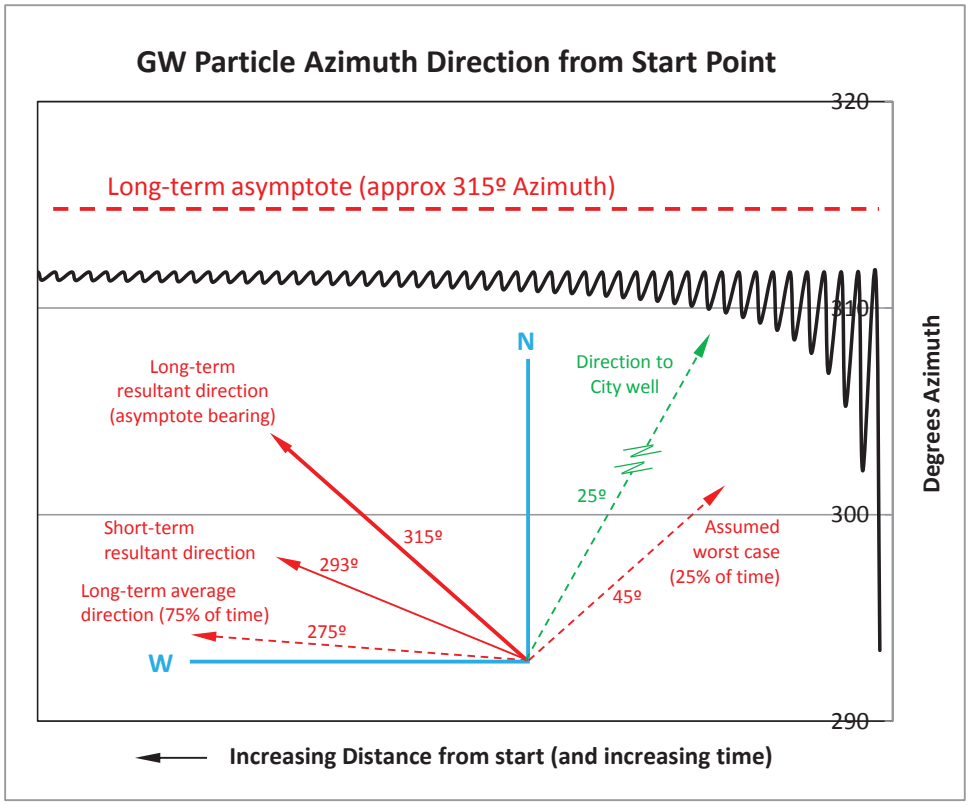


Figure 5

Groundwater Flow Direction / Particle Path Estimate

Assumptions:
- Northeast groundwater flow direction for 25% of the time
- 275º Azimuth groundwater flow direction for 75% of the time
- Same flow velocity for both of the above directions





Appendix B:
MTCA Method B Cleanup Level Calculations

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/03/14
Site Name: 207407 Camas, WA
Sample Name: SB-4-15

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	0	0.00%
AL_EC >6-8	1.525	0.26%
AL_EC >8-10	8.56	1.44%
AL_EC >10-12	35	5.91%
AL_EC >12-16	260	43.88%
AL_EC >16-21	150	25.32%
AL_EC >21-34	12	2.03%
AR_EC >8-10	8.819	1.49%
AR_EC >10-12	1.4982	0.25%
AR_EC >12-16	21.9911	3.71%
AR_EC >16-21	83	14.01%
AR_EC >21-34	9.9961	1.69%
Benzene	0	0.00%
Toluene	0	0.00%
Ethylbenzene	0.0305	0.01%
Total Xylenes	0.0305	0.01%
Naphthalene	0.0018	0.00%
1-Methyl Naphthalene	0.0036	0.00%
2-Methyl Naphthalene	0.0053	0.00%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.00038	0.00%
Benzo(b)fluoranthene	0.00038	0.00%
Benzo(k)fluoranthene	0.00038	0.00%
Benzo(a)pyrene	0.00038	0.00%
Chrysene	0.002	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0.00038	0.00%
Sum	592.465	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:

1) Half detection limits used for AL_EC>6-8, total xylenes, ethylbenzene, benzo(a)antrhacene, benzo(b)fluoranthene, benzo(k)fluroanthene, and benzo(a)pyrene.

2) The following parameters have never been detected on the site so a value of zero was entered: benzene, MTBE, toluene, n-hexane, EDB, EDC, AL_EC>5-6, and dibenz(a,h)anthracene.

3) double counting was avoided for E-C fractions

4) default value were used for total porosity and soil bulk density.

5) A dilution factor of 20 was entered for unsaturated soil zones.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.00112	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 10/3/2014
Site Name: 207407 Camas, WA
Sample Name: SB-4-15
Measured Soil TPH Concentration, mg/kg: **592.465**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,453	5.32E-09	2.42E-01	Pass
	Method C	30,511	1.32E-09	1.94E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	100% NAPL	6.61E-12	1.33E-01	Pass
	NA	NA	NA	NA	NA

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,452.61**	**30,510.68**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.45E+03	2.20E-08	1.00E+00	YES	3.05E+04	6.81E-08	1.00E+00
Total Risk=1E-5	*NO*	1.11E+06	1.00E-05	4.54E+02	*NO*	4.48E+06	1.00E-05	1.47E+02
Risk of Benzene= 1E-6	NA	NA	NA	NA	NA			
Risk of cPAHs mixture= 1E-6	*NO*	1.11E+05	1.00E-06	4.54E+01				
EDB	NA	NA	NA	NA				
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**NA**
Protective Ground Water Concentration, ug/L	**NA**
Protective Soil Concentration, mg/kg	**Soil-to-Ground Water is not a critical pathway!**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	1.10E+02	6.48E-12	1.65E-01	100% NAPL
Total Risk = 1E-5	YES	1.10E+02	6.48E-12	1.65E-01	100% NAPL
Total Risk = 1E-6	YES	1.10E+02	6.48E-12	1.65E-01	100% NAPL
Risk of cPAHs mixture= 1E-5	YES	1.10E+02	6.48E-12	1.65E-01	100% NAPL
Benzene MCL = 5 ug/L	NA	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 71000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
NA	NA	NA	NA	**NA**

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/06/14
Site Name: 207407 Camas, WA
Sample Name: SB-5-16

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	0	0.00%
AL_EC >6-8	6.63	0.37%
AL_EC >8-10	106	5.85%
AL_EC >10-12	110	6.08%
AL_EC >12-16	540	29.82%
AL_EC >16-21	440	24.30%
AL_EC >21-34	41	2.26%
AR_EC >8-10	103.839	5.73%
AR_EC >10-12	39.88	2.20%
AR_EC >12-16	113.5	6.27%
AR_EC >16-21	260	14.36%
AR_EC >21-34	40.97764	2.26%
Benzene	0	0.00%
Toluene	0	0.00%
Ethylbenzene	0.061	0.00%
Total Xylenes	2.1	0.12%
Naphthalene	0.12	0.01%
1-Methyl Naphthalene	2.7	0.15%
2-Methyl Naphthalene	3.8	0.21%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.0057	0.00%
Benzo(b)fluoranthene	0.0023	0.00%
Benzo(k)fluoranthene	0.00038	0.00%
Benzo(a)pyrene	0.0016	0.00%
Chrysene	0.012	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0.00038	0.00%
Sum	1810.63	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
1) half detection limits used for Benzo(k)fluoranthene and Indeno(1,2,3-cd)pyrene.

2) The following parameters have never been detected on the site so a value of zero was entered: benzene, MTBE, toluene, n-hexane, EDB, EDC, AL_EC>5-6, and dibenz(a,h)anthracene.

3) double counting was avoided for E-C fractions

4) default value were used for total porosity and soil bulk density.

5) A dilution factor of 20 was entered for unsaturated soil zones.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.00112	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 10/6/2014
Site Name: 207407 Camas, WA
Sample Name: SB-5-16
Measured Soil TPH Concentration, mg/kg: **1,810.630**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,603	2.50E-08	6.95E-01	Pass
	Method C	34,200	6.22E-09	5.29E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	100% NAPL	1.60E-11	7.43E-01	Pass
	NA	NA	NA	NA	NA

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,603.23**	**34,200.41**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.60E+03	3.60E-08	1.00E+00	YES	3.42E+04	1.17E-07	1.00E+00
Total Risk=1E-5	*NO*	7.23E+05	1.00E-05	2.78E+02	*NO*	2.91E+06	1.00E-05	8.51E+01
Risk of Benzene= 1E-6	NA	NA	NA	NA	NA			
Risk of cPAHs mixture= 1E-6	*NO*	7.23E+04	1.00E-06	2.78E+01				
EDB	NA	NA	NA	NA				
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**NA**
Protective Ground Water Concentration, ug/L	**NA**
Protective Soil Concentration, mg/kg	**Soil-to-Ground Water is not a critical pathway!**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	3.89E+02	1.58E-11	7.90E-01	100% NAPL
Total Risk = 1E-5	YES	3.89E+02	1.58E-11	7.90E-01	100% NAPL
Total Risk = 1E-6	YES	3.89E+02	1.58E-11	7.90E-01	100% NAPL
Risk of cPAHs mixture= 1E-5	YES	3.89E+02	1.58E-11	7.90E-01	100% NAPL
Benzene MCL = 5 ug/L	NA	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 72000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
NA	NA	NA	NA	**NA**

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/06/14
Site Name: 207407 Camas, WA
Sample Name: SB-6-19

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	0	0.00%
AL_EC >6-8	8.52	1.47%
AL_EC >8-10	127	21.95%
AL_EC >10-12	72	12.44%
AL_EC >12-16	81	14.00%
AL_EC >16-21	68	11.75%
AL_EC >21-34	39	6.74%
AR_EC >8-10	86.021	14.87%
AR_EC >10-12	6.957	1.20%
AR_EC >12-16	16.73	2.89%
AR_EC >16-21	46	7.95%
AR_EC >21-34	25.9757	4.49%
Benzene	0	0.00%
Toluene	0	0.00%
Ethylbenzene	0.053	0.01%
Total Xylenes	0.026	0.00%
Naphthalene	0.043	0.01%
1-Methyl Naphthalene	0.51	0.09%
2-Methyl Naphthalene	0.76	0.13%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.0035	0.00%
Benzo(b)fluoranthene	0.0051	0.00%
Benzo(k)fluoranthene	0.0017	0.00%
Benzo(a)pyrene	0.0033	0.00%
Chrysene	0.009	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0.0017	0.00%
Sum	578.62	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
1) Half detection limits used for Total Xylenes.

2) The following parameters have never been detected on the site so a value of zero was entered: benzene, MTBE, toluene, n-hexane, EDB, EDC, AL_EC>5-6, and dibenz(a,h)anthracene.

3) double counting was avoided for E-C fractions

4) default value were used for total porosity and soil bulk density.

5) A dilution factor of 20 was entered for unsaturated soil zones.

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.00112	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 10/6/2014
Site Name: 207407 Camas, WA
Sample Name: SB-6-19
Measured Soil TPH Concentration, mg/kg: **578.620**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,840	4.43E-08	2.04E-01	Pass
	Method C	43,128	1.10E-08	1.34E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	2,006	5.10E-11	8.83E-01	Pass
	NA	NA	NA	NA	NA

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,839.86**	**43,128.01**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.84E+03	2.17E-07	1.00E+00	YES	4.31E+04	8.19E-07	1.00E+00
Total Risk=1E-5	*NO*	1.31E+05	1.00E-05	4.60E+01	*NO*	5.26E+05	1.00E-05	1.22E+01
Risk of Benzene= 1E-6	NA	NA	NA	NA	NA			
Risk of cPAHs mixture= 1E-6	*NO*	1.31E+04	1.00E-06	4.60E+00				
EDB	NA	NA	NA	NA				
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**HI=1**
Protective Ground Water Concentration, ug/L	**670.40**
Protective Soil Concentration, mg/kg	**2005.63**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	6.70E+02	4.84E-11	1.00E+00	2.01E+03
Total Risk = 1E-5	*NO*	7.11E+02	4.74E-11	1.05E+00	100% NAPL
Total Risk = 1E-6	*NO*	7.11E+02	4.74E-11	1.05E+00	100% NAPL
Risk of cPAHs mixture= 1E-5	*NO*	7.11E+02	4.74E-11	1.05E+00	100% NAPL
Benzene MCL = 5 ug/L	NA	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 70000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
NA	NA	NA	NA	**NA**

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

October 03, 2014

Project: 207407

Submittal Date: 09/23/2014
Group Number: 1505510
PO Number: 0015143985
Release Number: ROEHL

State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
SB-4-15 Grab Soil	7610669
SB-4-20 Grab Soil	7610670
SB-5-16 Grab Soil	7610671
SB-5-36 Grab Soil	7610672
SB-6-19 Grab Soil	7610673
SB-6-25 Grab Soil	7610674
TB-092114 Water	7610675

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO Leidos Attn: Alex Shook

Respectfully Submitted,

Lynn M. Frederiksen
Principal Specialist Group Leader

(717) 556-7255

Sample Description: SB-4-15 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610669
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 11:00 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

41507

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.030	53.05
10237	1,2-Dibromoethane	106-93-4	N.D.	0.061	53.05
10237	1,2-Dichloroethane	107-06-2	N.D.	0.061	53.05
10237	Ethylbenzene	100-41-4	N.D.	0.061	53.05
10237	n-Hexane	110-54-3	N.D.	0.061	53.05
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.030	53.05
10237	Toluene	108-88-3	N.D.	0.061	53.05
10237	Xylene (Total)	1330-20-7	N.D.	0.061	53.05
Reporting limits were raised due to interference from the sample matrix.					
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	N.D.	0.00076	1
10725	Benzo(a)pyrene	50-32-8	N.D.	0.00076	1
10725	Benzo(b)fluoranthene	205-99-2	N.D.	0.00076	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00076	1
10725	Chrysene	218-01-9	0.0020	0.00038	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00076	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00076	1
10725	1-Methylnaphthalene	90-12-0	0.0036	0.00076	1
10725	2-Methylnaphthalene	91-57-6	0.0053	0.00076	1
10725	Naphthalene	91-20-3	0.0018	0.00076	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	150	10	220.96
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	460	3.4	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	35	1.1	1
05970	>C10-C12 Aromatic	n.a.	1.5	1.1	1
05970	>C12-C16 Aliphatic	n.a.	260	1.1	1
05970	>C12-C16 Aromatic	n.a.	22	1.1	1
05970	>C16-C21 Aliphatic	n.a.	150	3.3	1
05970	>C16-C21 Aromatic	n.a.	83	2.2	1
05970	>C21-C34 Aliphatic	n.a.	12	6.6	1
05970	>C21-C34 Aromatic	n.a.	10	2.2	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	N.D.	0.0610	53.34
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.	3.05	53.34
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	N.D.	3.05	53.34
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	8.56	3.05	53.34
05666	C8-C10 Aromatic Hydrocarbons	n.a.	8.88	3.05	53.34

Sample Description: SB-4-15 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610669
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 11:00 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

41507

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	
05666	Ethylbenzene	100-41-4	N.D.	0.0610	53.34
05666	Methyl t-butyl ether	1634-04-4	N.D.	0.0610	53.34
05666	Toluene	108-88-3	N.D.	0.0610	53.34
05666	o-Xylene	95-47-6	N.D.	0.0610	53.34
05666	m,p-Xylenes	179601-23-1	N.D.	0.122	53.34
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
12006	DRO C12-C24 w/Si Gel	n.a.	360	3.4	1
12006	HRO C24-C40 w/Si Gel	n.a.	N.D.	11	1
	The reverse surrogate, capric acid, is present at <1%.				
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	12.6	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	Q142691AA	09/26/2014 23:51	Andrea E Lando	53.05
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201426735702	09/21/2014 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201426735702	09/21/2014 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201426835706	09/21/2014 11:00	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14273SLC026	10/02/2014 04:09	Mark A Clark	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	14273SLC026	09/30/2014 18:40	Sally L Appleyard	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14267A31A	09/25/2014 22:29	Marie D Beamenderfer	220.96
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201426735702	09/21/2014 11:00	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	142720027A	09/30/2014 19:37	Glorines Suarez-Rivera	1

Sample Description: SB-4-15 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610669
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 11:00 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

41507

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	142720020A	10/02/2014 00:02	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	142720020A	10/02/2014 00:42	Heather E Williams	1
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14274A54A	10/01/2014 14:08	Nicholas R Rossi	53.34
12006	NWTPH-Dx soil w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	142690015A	09/29/2014 14:33	Glorines Suarez-Rivera	1
12008	NW Dx soil w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	142690015A	09/27/2014 11:15	Olivia Arosemena	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	142720027A	09/30/2014 10:20	Denise L Trimby	1
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	142720020A	09/30/2014 05:10	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201426735702	09/21/2014 11:00	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	142720020A	09/30/2014 09:45	Roman Kuropatkin	1
00111	Moisture	SM 2540 G-1997	1	14269820003A	09/26/2014 17:41	Scott W Freisher	1

Sample Description: SB-4-20 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610670
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 11:50 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

42007

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.98
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.98
10237	Toluene	108-88-3	N.D.	0.001	0.98
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.98
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	1.5	32.52
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	46	3.3	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
12006	DRO C12-C24 w/Si Gel	n.a.	38	3.3	1
12006	HRO C24-C40 w/Si Gel	n.a.	N.D.	11	1
	The reverse surrogate, capric acid, is present at <1%.				
Wet Chemistry	**SM 5310 B modified-2000**		**% by wt.**	**% by wt.**	
02079	TOC Solids/Sludges Combustion	n.a.	N.D.	0.0112	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	10.5	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX 8260 Soil	SW-846 8260B	1	X142681AA	09/25/2014 16:44	Chelsea B Stong	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201426735702	09/21/2014 11:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201426735702	09/21/2014 11:50	Client Supplied	1

Sample Description: SB-4-20 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610670
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 11:50 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

42007

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201426735702	09/21/2014 11:50	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14267A31A	09/25/2014 18:36	Marie D Beamenderfer	32.52
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201426735702	09/21/2014 11:50	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	142720027A	09/30/2014 18:07	Christine E Dolman	1
12006	NWTPH-Dx soil w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	142690015A	09/29/2014 16:08	Glorines Suarez-Rivera	1
12008	NW Dx soil w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	142690015A	09/27/2014 11:15	Olivia Arosemena	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	142720027A	09/30/2014 10:20	Denise L Trimby	1
02079	TOC Solids/Sludges Combustion	SM 5310 B modified-2000	1	14273049531A	10/01/2014 00:39	James S Mathiot	1
00111	Moisture	SM 2540 G-1997	1	14269820003A	09/26/2014 17:41	Scott W Freisher	1

Sample Description: SB-5-16 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610671
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 13:00 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

51607

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.028	49.33
10237	1,2-Dibromoethane	106-93-4	N.D.	0.056	49.33
10237	1,2-Dichloroethane	107-06-2	N.D.	0.056	49.33
10237	Ethylbenzene	100-41-4	0.061	0.056	49.33
10237	n-Hexane	110-54-3	N.D.	0.056	49.33
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.028	49.33
10237	Toluene	108-88-3	N.D.	0.056	49.33
10237	Xylene (Total)	1330-20-7	2.1	0.056	49.33
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	0.0057	0.00076	1
10725	Benzo(a)pyrene	50-32-8	0.0016	0.00076	1
10725	Benzo(b)fluoranthene	205-99-2	0.0023	0.00076	1
10725	Benzo(k)fluoranthene	207-08-9	N.D.	0.00076	1
10725	Chrysene	218-01-9	0.012	0.00038	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00076	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00076	1
10725	1-Methylnaphthalene	90-12-0	2.7	0.038	50
10725	2-Methylnaphthalene	91-57-6	3.8	0.038	50
10725	Naphthalene	91-20-3	0.12	0.00076	1
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.				
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	540	22	493.35
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	570	6.8	2
08272	Heavy Range Organics C24-C40	n.a.	N.D.	23	2
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	110	2.2	2
05970	>C10-C12 Aromatic	n.a.	40	1.1	1
05970	>C12-C16 Aliphatic	n.a.	540	2.2	2
05970	>C12-C16 Aromatic	n.a.	120	1.1	1
05970	>C16-C21 Aliphatic	n.a.	440	6.7	2
05970	>C16-C21 Aromatic	n.a.	260	2.2	1
05970	>C21-C34 Aliphatic	n.a.	41	13	2
05970	>C21-C34 Aromatic	n.a.	27	2.2	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	N.D.	0.0598	52.72
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.	2.99	52.72
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	6.63	2.99	52.72
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	106	15.0	263.6

Sample Description: SB-5-16 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610671
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 13:00 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

51607

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	
05666	C8-C10 Aromatic Hydrocarbons	n.a.	105	15.0	263.6
05666	Ethylbenzene	100-41-4	N.D.	0.0598	52.72
05666	Methyl t-butyl ether	1634-04-4	N.D.	0.0598	52.72
05666	Toluene	108-88-3	N.D.	0.0598	52.72
05666	o-Xylene	95-47-6	N.D.	0.0598	52.72
05666	m,p-Xylenes	179601-23-1	2.30	0.120	52.72
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
12006	DRO C12-C24 w/Si Gel	n.a.	480	3.3	1
12006	HRO C24-C40 w/Si Gel	n.a.	N.D.	11	1
	The reverse surrogate, capric acid, is present at <1%.				
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	11.9	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	Q142691AA	09/27/2014 00:15	Andrea E Lando	49.33
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201426735702	09/21/2014 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201426735702	09/21/2014 13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201426735702	09/21/2014 13:00	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14273SLC026	10/02/2014 05:49	Mark A Clark	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14273SLC026	10/02/2014 06:55	Mark A Clark	50
10811	BNA Soil Microwave SIM	SW-846 3546	1	14273SLC026	09/30/2014 18:40	Sally L Appleyard	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14267A31A	09/25/2014 23:05	Marie D Beamenderfer	493.35
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201426735702	09/21/2014 13:00	Client Supplied	n.a.

Sample Description: SB-5-16 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610671
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 13:00 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

51607

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	142720027A	10/02/2014 19:58	Christine E Dolman	2
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	142720020A	10/02/2014 05:21	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	142720020A	10/02/2014 13:16	Heather E Williams	2
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14274A54A	10/01/2014 14:48	Nicholas R Rossi	52.72
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14274A54A	10/01/2014 16:08	Nicholas R Rossi	263.6
12006	NWTPH-Dx soil w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	142690015A	09/29/2014 16:30	Glorines Suarez-Rivera	1
12008	NW Dx soil w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	142690015A	09/27/2014 11:15	Olivia Arosemena	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	142720027A	09/30/2014 10:20	Denise L Trimby	1
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	142720020A	09/30/2014 05:10	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201426735702	09/21/2014 13:00	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	142720020A	09/30/2014 09:45	Roman Kuropatkin	1
00111	Moisture	SM 2540 G-1997	1	14269820003A	09/26/2014 17:41	Scott W Freisher	1

Sample Description: SB-5-36 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610672
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 15:00 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

53607

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.96
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.96
10237	Toluene	108-88-3	N.D.	0.001	0.96
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.96
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	1.1	23.95
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	120	3.4	1
08272	Heavy Range Organics C24-C40	n.a.	19	11	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
12006	DRO C12-C24 w/Si Gel	n.a.	83	3.3	1
12006	HRO C24-C40 w/Si Gel	n.a.	N.D.	11	1
	The reverse surrogate, capric acid, is present at <1%.				
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	11.2	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX 8260 Soil	SW-846 8260B	1	X142681AA	09/25/2014 17:30	Chelsea B Stong	0.96
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201426735702	09/21/2014 15:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201426735702	09/21/2014 15:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201426735702	09/21/2014 15:00	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14267A31A	09/25/2014 19:13	Marie D Beamenderfer	23.95

Sample Description: SB-5-36 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610672
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 15:00 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

53607

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201426735702	09/21/2014 15:00	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	142720027A	09/30/2014 19:59	Christine E Dolman	1
12006	NWTPH-Dx soil w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	142690015A	09/29/2014 16:52	Glorines Suarez-Rivera	1
12008	NW Dx soil w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	142690015A	09/27/2014 11:15	Olivia Arosemena	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	142720027A	09/30/2014 10:20	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	14269820003A	09/26/2014 17:41	Scott W Freisher	1

Sample Description: SB-6-19 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610673
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 16:15 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

61907

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.026	48.34
10237	1,2-Dibromoethane	106-93-4	N.D.	0.052	48.34
10237	1,2-Dichloroethane	107-06-2	N.D.	0.052	48.34
10237	Ethylbenzene	100-41-4	0.053	0.052	48.34
10237	n-Hexane	110-54-3	N.D.	0.052	48.34
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.026	48.34
10237	Toluene	108-88-3	N.D.	0.052	48.34
10237	Xylene (Total)	1330-20-7	N.D.	0.052	48.34
Reporting limits were raised due to interference from the sample matrix.					
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10725	Benzo(a)anthracene	56-55-3	0.0035	0.00072	1
10725	Benzo(a)pyrene	50-32-8	0.0033	0.00072	1
10725	Benzo(b)fluoranthene	205-99-2	0.0051	0.00072	1
10725	Benzo(k)fluoranthene	207-08-9	0.0017	0.00072	1
10725	Chrysene	218-01-9	0.0090	0.00036	1
10725	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00072	1
10725	Indeno(1,2,3-cd)pyrene	193-39-5	0.0017	0.00072	1
10725	1-Methylnaphthalene	90-12-0	0.51	0.0072	10
10725	2-Methylnaphthalene	91-57-6	0.76	0.0072	10
10725	Naphthalene	91-20-3	0.043	0.00072	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	310	25	565.93
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	230	3.2	1
08272	Heavy Range Organics C24-C40	n.a.	88	11	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA EPH**		**mg/kg**	**mg/kg**	
05970	>C10-C12 Aliphatic	n.a.	72	1.1	1
05970	>C10-C12 Aromatic	n.a.	7.0	1.1	1
05970	>C12-C16 Aliphatic	n.a.	81	1.1	1
05970	>C12-C16 Aromatic	n.a.	18	1.1	1
05970	>C16-C21 Aliphatic	n.a.	68	3.2	1
05970	>C16-C21 Aromatic	n.a.	46	2.1	1
05970	>C21-C34 Aliphatic	n.a.	39	6.3	1
05970	>C21-C34 Aromatic	n.a.	26	2.1	1
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	
05666	Benzene	71-43-2	N.D.	0.0562	51.83
05666	C5-C6 Aliphatic Hydrocarbons	n.a.	N.D.	2.81	51.83
05666	C6-C8 Aliphatic Hydrocarbons	n.a.	8.52	2.81	51.83
05666	C8-C10 Aliphatic Hydrocarbons	n.a.	127	14.0	259.17
05666	C8-C10 Aromatic Hydrocarbons	n.a.	86.1	2.81	51.83

Sample Description: SB-6-19 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610673
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 16:15 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

61907

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**ECY 97-602 WA VPH**		**mg/kg**	**mg/kg**	
05666	Ethylbenzene	100-41-4	N.D.	0.0562	51.83
05666	Methyl t-butyl ether	1634-04-4	N.D.	0.0562	51.83
05666	Toluene	108-88-3	N.D.	0.0562	51.83
05666	o-Xylene	95-47-6	N.D.	0.0562	51.83
05666	m,p-Xylenes	179601-23-1	N.D.	0.112	51.83
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
12006	DRO C12-C24 w/Si Gel	n.a.	210	3.2	1
12006	HRO C24-C40 w/Si Gel	n.a.	56	11	1
	The reverse surrogate, capric acid, is present at <1%.				
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	7.7	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

State of Washington Lab Certification No. C457
Carcinogenic PAHs have been reported for this sample.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	Q142691AA	09/27/2014 00:38	Andrea E Lando	48.34
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201426735702	09/21/2014 16:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201426735702	09/21/2014 16:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201426735702	09/21/2014 16:15	Client Supplied	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14273SLC026	10/02/2014 06:22	Mark A Clark	1
10725	SIM SVOA (microwave)	SW-846 8270C SIM	1	14273SLC026	10/03/2014 03:45	Mark A Clark	10
10811	BNA Soil Microwave SIM	SW-846 3546	1	14273SLC026	09/30/2014 18:40	Sally L Appleyard	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14267A31A	09/26/2014 16:02	Marie D Beamenderfer	565.93
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201426735702	09/21/2014 16:15	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	142720027A	09/30/2014 20:43	Christine E Dolman	1

Sample Description: SB-6-19 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610673
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 16:15 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

61907

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	142720020A	10/02/2014 06:41	Heather E Williams	1
05970	WA EPH in Soil	ECY 97-602 WA EPH	1	142720020A	10/02/2014 07:20	Heather E Williams	1
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14274A54A	10/01/2014 15:28	Nicholas R Rossi	51.83
05666	WA- VPH soils	ECY 97-602 WA VPH	1	14274A54A	10/02/2014 08:49	Nicholas R Rossi	259.17
12006	NWTPH-Dx soil w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	142690015A	09/29/2014 18:07	Glorines Suarez-Rivera	1
12008	NW Dx soil w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	142690015A	09/27/2014 11:15	Olivia Arosemena	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	142720027A	09/30/2014 10:20	Denise L Trimby	1
11213	WA EPH Soils Extraction	ECY 97-602 WA EPH	1	142720020A	09/30/2014 05:10	Roman Kuropatkin	1
00388	GC - Field Preserved (MA-VPH)	MA DEP VPH modified	1	201426735702	09/21/2014 16:15	Client Supplied	1
00497	Silica Gel Fractionation	SW-846 3630C modified	1	142720020A	09/30/2014 09:45	Roman Kuropatkin	1
00111	Moisture	SM 2540 G-1997	1	14269820003A	09/26/2014 17:41	Scott W Freisher	1

Sample Description: SB-6-25 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610674
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 16:30 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

62507

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.9
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.9
10237	Toluene	108-88-3	N.D.	0.001	0.9
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.9
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**mg/kg**	**mg/kg**	
02005	NWTPH-GX Soil C7-C12	n.a.	N.D.	1.1	23.93
GC Petroleum Hydrocarbons	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
08272	Diesel Range Organics C12-C24	n.a.	4.8	3.3	1
08272	Heavy Range Organics C24-C40	n.a.	N.D.	11	1
GC Petroleum Hydrocarbons w/Si	**ECY 97-602 NWTPH-Dx modified**		**mg/kg**	**mg/kg**	
12006	DRO C12-C24 w/Si Gel	n.a.	6.1	3.3	1
12006	HRO C24-C40 w/Si Gel	n.a.	N.D.	11	1
	The reverse surrogate, capric acid, is present at <1%.				
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	10.2	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX 8260 Soil	SW-846 8260B	1	X142681AA	09/25/2014 17:07	Chelsea B Stong	0.9
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201426735702	09/21/2014 16:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201426735702	09/21/2014 16:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201426735702	09/21/2014 16:30	Client Supplied	1
02005	NWTPH-GX Soil C7-C12	ECY 97-602 NWTPH-Gx	1	14267A31A	09/25/2014 19:49	Marie D Beamenderfer	23.93

Sample Description: SB-6-25 Grab Soil
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # SW 7610674
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 16:30 by JW

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

62507

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201426735702	09/21/2014 16:30	Client Supplied	n.a.
08272	NWTPH-Dx soil	ECY 97-602 NWTPH-Dx modified	1	142720027A	09/30/2014 18:52	Christine E Dolman	1
12006	NWTPH-Dx soil w/ 10g Si Gel	ECY 97-602 NWTPH-Dx modified	1	142690015A	09/29/2014 17:15	Glorines Suarez-Rivera	1
12008	NW Dx soil w/ 10g column	ECY 97-602 NWTPH-Dx 06/97	1	142690015A	09/27/2014 11:15	Olivia Arosemena	1
11234	WA DRO NW DX Soils (Non SG)	ECY 97-602 NWTPH-Dx 06/97	1	142720027A	09/30/2014 10:20	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	1	14269820003A	09/26/2014 17:41	Scott W Freisher	1

Sample Description: TB-092114 Water
Facility# 207407
612 SE Union St-Camas, WA

LL Sample # WW 7610675
LL Group # 1505510
Account # 11255

Project Name: 207407

Collected: 09/21/2014 17:50

Submitted: 09/23/2014 09:20
Reported: 10/03/2014 14:10

Chevron
L4310
6001 Bollinger Canyon Road
San Ramon CA 94583

TBL07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**ECY 97-602 NWTPH-Gx**		**ug/l**	**ug/l**	
08273	NWTPH-Gx water C7-C12	n.a.	N.D.	50	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX 8260B Water	SW-846 8260B	1	Z142672AA	09/24/2014 13:51	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z142672AA	09/24/2014 13:51	Daniel H Heller	1
08273	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	14268B53A	09/26/2014 12:49	Miranda P Tillinghast	1
01146	GC VOA Water Prep	SW-846 5030B	1	14268B53A	09/26/2014 12:49	Miranda P Tillinghast	1

Quality Control Summary

Client Name: Chevron Group Number: 1505510
Reported: 10/03/14 at 02:10 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q142691AA	Sample number(s): 7610669,7610671,7610673							
Benzene	N.D.	0.025	mg/kg	109	100	80-120	9	30
1,2-Dibromoethane	N.D.	0.050	mg/kg	111	99	80-120	11	30
1,2-Dichloroethane	N.D.	0.050	mg/kg	110	100	77-130	10	30
Ethylbenzene	N.D.	0.050	mg/kg	109	98	80-120	10	30
n-Hexane	N.D.	0.050	mg/kg	94	88	42-134	6	30
Methyl Tertiary Butyl Ether	N.D.	0.025	mg/kg	110	99	76-122	10	30
Toluene	N.D.	0.050	mg/kg	110	100	80-120	10	30
Xylene (Total)	N.D.	0.050	mg/kg	110	99	80-120	11	30
Batch number: X142681AA	Sample number(s): 7610670,7610672,7610674							
Benzene	N.D.	0.0005	mg/kg	100	98	80-120	3	30
Ethylbenzene	N.D.	0.001	mg/kg	95	91	80-120	4	30
Toluene	N.D.	0.001	mg/kg	96	93	80-120	4	30
Xylene (Total)	N.D.	0.001	mg/kg	92	88	80-120	4	30
Batch number: Z142672AA	Sample number(s): 7610675							
Benzene	N.D.	0.5	ug/l	89		78-120		
Ethylbenzene	N.D.	0.5	ug/l	94		79-120		
Toluene	N.D.	0.5	ug/l	93		80-120		
Xylene (Total)	N.D.	0.5	ug/l	98		80-120		
Batch number: 14273SLC026	Sample number(s): 7610669,7610671,7610673							
Benzo(a)anthracene	N.D.	0.00067	mg/kg	103		84-126		
Benzo(a)pyrene	N.D.	0.00067	mg/kg	101		80-117		
Benzo(b)fluoranthene	N.D.	0.00067	mg/kg	113		87-135		
Benzo(k)fluoranthene	N.D.	0.00067	mg/kg	100		79-123		
Chrysene	N.D.	0.00033	mg/kg	102		82-122		
Dibenz(a,h)anthracene	N.D.	0.00067	mg/kg	101		83-123		
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	mg/kg	98		82-123		
1-Methylnaphthalene	N.D.	0.00067	mg/kg	102		78-119		
2-Methylnaphthalene	N.D.	0.00067	mg/kg	101		78-121		
Naphthalene	N.D.	0.00067	mg/kg	101		79-113		
Batch number: 14267A31A	Sample number(s): 7610669-7610674							
NWTPH-GX Soil C7-C12	N.D.	1.0	mg/kg	87	76	65-120	13	30
Batch number: 14268B53A	Sample number(s): 7610675							
NWTPH-Gx water C7-C12	N.D.	50.	ug/l	102	103	75-135	1	30
Batch number: 142720020A	Sample number(s): 7610669,7610671,7610673							
>C10-C12 Aliphatic	N.D.	1.0	mg/kg	82		31-137		
>C10-C12 Aromatic	N.D.	1.0	mg/kg	96		22-119		
>C12-C16 Aliphatic	N.D.	1.0	mg/kg	88		42-146		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Group Number: 1505510
Reported: 10/03/14 at 02:10 PM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
>C12-C16 Aromatic	N.D.	1.0	mg/kg	95		24-136		
>C16-C21 Aliphatic	N.D.	3.0	mg/kg	86		57-111		
>C16-C21 Aromatic	N.D.	2.0	mg/kg	103		34-143		
>C21-C34 Aliphatic	N.D.	6.0	mg/kg	92		50-124		
>C21-C34 Aromatic	N.D.	2.0	mg/kg	98		44-134		
Batch number: 142720027A	Sample number(s): 7610669-7610674							
Diesel Range Organics C12-C24	N.D.	3.0	mg/kg	77		71-115		
Heavy Range Organics C24-C40	N.D.	10.	mg/kg					
Batch number: 14274A54A	Sample number(s): 7610669,7610671,7610673							
Benzene	N.D.	0.0500	mg/kg	99	94	70-130	5	50
C5-C6 Aliphatic Hydrocarbons	N.D.	2.50	mg/kg	103	100	70-130	3	50
C6-C8 Aliphatic Hydrocarbons	N.D.	2.50	mg/kg	100	97	70-130	3	50
C8-C10 Aliphatic Hydrocarbons	N.D.	2.50	mg/kg	87	89	70-130	3	50
C8-C10 Aromatic Hydrocarbons	N.D.	2.50	mg/kg	97	94	70-130	3	50
Ethylbenzene	N.D.	0.0500	mg/kg	96	92	70-130	4	50
Methyl t-butyl ether	N.D.	0.0500	mg/kg	98	93	70-130	6	50
Toluene	N.D.	0.0500	mg/kg	96	92	70-130	4	50
o-Xylene	N.D.	0.0500	mg/kg	100	97	70-130	3	50
m,p-Xylenes	N.D.	0.100	mg/kg	100	97	70-130	3	50
Batch number: 142690015A	Sample number(s): 7610669-7610674							
DRO C12-C24 w/Si Gel	N.D.	3.0	mg/kg	65		50-133		
HRO C24-C40 w/Si Gel	N.D.	10.	mg/kg					
Batch number: 14273049531A	Sample number(s): 7610670							
TOC Solids/Sludges Combustion	N.D.	0.0100	% by wt.	114		47-143		
Batch number: 14269820003A	Sample number(s): 7610669-7610674							
Moisture				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: Z142672AA	Sample number(s): 7610675 UNSPK: P607919								
Benzene	100	99	72-134	1	30				
Ethylbenzene	104	106	71-134	2	30				
Toluene	105	106	80-125	1	30				
Xylene (Total)	106	108	79-125	2	30				
Batch number: 14273SLC026	Sample number(s): 7610669,7610671,7610673 UNSPK: 7610669								
Benzo(a)anthracene	96	101	54-149	4	30				
Benzo(a)pyrene	99	102	40-154	3	30				
Benzo(b)fluoranthene	116	118	26-142	2	30				
Benzo(k)fluoranthene	108	110	49-144	2	30				
Chrysene	93	100	43-141	7	30				
Dibenz(a,h)anthracene	67	69	24-138	4	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Group Number: 1505510
Reported: 10/03/14 at 02:10 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Indeno(1,2,3-cd)pyrene	63	66	26-139	5	30				
1-Methylnaphthalene	74	68*	69-121	8	30				
2-Methylnaphthalene	93	93	63-130	0	30				
Naphthalene	107	104	44-148	2	30				
Batch number: 142720020A	Sample number(s): 7610669,7610671,7610673 UNSPK: 7610669 BKG: 7610669								
>C10-C12 Aliphatic	108 (2)		31-137			31	44	36*	25
>C10-C12 Aromatic	88		22-119			1.3	1.2	5 (1)	25
>C12-C16 Aliphatic	237 (2)		42-146			230	300	27*	25
>C12-C16 Aromatic	104		42-122			19	19	0 (1)	25
>C16-C21 Aliphatic	50 (2)		57-111			130	160	17	25
>C16-C21 Aromatic	121		53-132			73	82	12	25
>C21-C34 Aliphatic	88		38-120			11	14	25 (1)	25
>C21-C34 Aromatic	96		55-126			9.1	9.6	6 (1)	25
Batch number: 142720027A	Sample number(s): 7610669-7610674 BKG: 7610669								
Diesel Range Organics C12-C24						400	310	25*	20
Heavy Range Organics C24-C40						N.D.	N.D.	0 (1)	20
Batch number: 142690015A	Sample number(s): 7610669-7610674 BKG: 7610669								
DRO C12-C24 w/Si Gel						320	450	35*	20
HRO C24-C40 w/Si Gel						N.D.	N.D.	0 (1)	20
Batch number: 14273049531A	Sample number(s): 7610670 UNSPK: 7610670 BKG: 7610670								
TOC Solids/Sludges Combustion	104		22-155			N.D.	N.D.	0 (1)	13
Batch number: 14269820003A	Sample number(s): 7610669-7610674 BKG: P610686								
Moisture						12.4	12.5	1	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- Solid by 8260B
Batch number: Q142691AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7610669	86	94	93	93
7610671	82	88	86	91
7610673	96	101	100	101
Blank	95	99	99	98
LCS	110	109	110	111
LCSD	97	98	100	101
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: X142681AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7610670	101	101	103	98

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Group Number: 1505510
Reported: 10/03/14 at 02:10 PM

Surrogate Quality Control

7610672	99	101	103	97
7610674	100	101	102	99
Blank	100	101	102	99
LCS	99	97	102	103
LCSD	99	98	102	104
Limits:	50-141	54-135	52-141	50-131

Analysis Name: UST VOCs + GRO by 8260B-Water
Batch number: Z142672AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7610675	99	98	99	97
Blank	99	96	98	97
LCS	96	97	98	102
MS	97	99	99	103
MSD	97	96	100	104
Limits:	80-116	77-113	80-113	78-113

Analysis Name: SIM SVOA (microwave)
Batch number: 14273SLC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7610669	132*	109	98
7610671	158*	110	121
7610673	117	114	111
Blank	97	105	96
LCS	100	110	100
MS	134*	108	111
MSD	120	111	105
Limits:	58-128	55-144	62-121

Analysis Name: NWTPH-GX Soil C7-C12
Batch number: 14267A31A

	Trifluorotoluene-F
7610669	88
7610670	74
7610671	95
7610672	72
7610673	101
7610674	70
Blank	84
LCS	93
LCSD	79
Limits:	50-142

Analysis Name: NWTPH-Gx water C7-C12
Batch number: 14268B53A

	Trifluorotoluene-F
7610675	65
Blank	65
LCS	72
LCSD	72
Limits:	63-135

Analysis Name: NWTPH-Dx soil w/ 10g Si Gel
Batch number: 142690015A

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Group Number: 1505510
Reported: 10/03/14 at 02:10 PM

Surrogate Quality Control

	Orthoterphenyl
7610669	64
7610670	79
7610671	76
7610672	74
7610673	93
7610674	77
Blank	73
DUP	63
LCS	80
Limits:	50-150

Analysis Name: WA EPH in Soil
Batch number: 142720020A

	Orthoterphenyl	1-chlorooctadecane
7610669	101	70
7610671	107	112
7610673	93	46
Blank	84	57
DUP	91	76
LCS	90	56
MS	86	64
Limits:	50-142	33-122

Analysis Name: NWTPH-Dx soil
Batch number: 142720027A

	Orthoterphenyl
7610669	70
7610670	83
7610671	96
7610672	86
7610673	97
7610674	88
Blank	81
DUP	70
LCS	88
Limits:	50-150

Analysis Name: WA- VPH soils
Batch number: 14274A54A

	Trifluorotoluene-P	Trifluorotoluene-F
7610669	67	84
7610671	64	83
7610673	67	96
Blank	82	97
LCS	94	97
LCSD	91	96
Limits:	60-140	60-140

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Chevron Northwest Region Analysis Request/Chain of Custody

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For Lancaster Laboratories use only
Acct. # 11255 Group # 1505570 Sample # 7610669-75
Instructions on reverse side correspond with circled numbers.

SCR #: ______

(1) Client Information

- Facility #: 207407
- WBS:
- Site Address: 612 SE Union Street Camas, WA
- Chevron PM: Eric Roehl
- Lead Consultant: Leidos
- Consultant/Office: Portland OR
- Consultant Project Mgr.: Alex Shook
- Consultant Phone #: 503 220 1646
- Sampler: J. Wertz / A. Lembrick

(4) Matrix: ☐ Sediment ☐ Ground ☐ Surface; ☐ Potable ☐ NPDES ☐ Air; ☐ Soil, Water, ☐ Oil

(5) Analyses Requested: BTEX + ~~MTBE~~ 8021 ☐ 8260 ☒ Naphth ☐; ~~8260 full scan~~ N Hexane, EDB, EDC, MTBE 8260; Oxygenates; NWTPH GX; NWTPH DX ☒ Silica Gel Cleanup ☒ exp; Lead Total ☐ Diss. ☐ Method; WAVPH ☒ WAEPH ☒; NWTPH-Dx without silica gel cleanup; moisture; cPAHs / Naphthalene 8270; FOC

- ☒ Results in Dry Weight
- ☐ J value reporting needed
- ☐ Must meet lowest detection limits possible for 8260 compounds
- ☐ 8021 MTBE Confirmation
- ☐ Confirm MTBE + Naphthalene
- ☐ Confirm highest hit by 8260
- ☐ Confirm all hits by 8260
- ☐ Run ______ oxy's on highest hit
- ☐ Run ______ oxy's on all hits

(2) Sample Identification	Collected Date	Collected Time	(3) Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE 8021/8260 Naphth	8260 full scan (N Hexane, EDB, EDC, MTBE 8260)	Oxygenates	NWTPH GX	NWTPH DX (Silica Gel Cleanup)	Lead	WAVPH / WAEPH	NWTPH-Dx without silica gel cleanup	moisture	cPAHs / Naphthalene 8270	FOC	
SB-4-15	9/21/14	1100	X		X			8	✓	X		X	X		X	X	X	X		
SB-4-20	9/21/14	1150	X		X			7	✓			X	X			X	X		X	
SB-5-16	9/21/14	1300	X		X			8	✓	X		X	X		X	X	X	X		
SB-5-36	9/21/14	1500	X		X			7	✓			X	X			X	X			
SB-6-19	9/21/14	1615	X		X			8	✓	X		X	X		X	X	X	X		
SB-6-25	9/21/14	1630	X		X			7	✓			X	X			X	X			
TB-92114	9/21/14	1750	X			X		2	✓			X								

(6) Remarks

Run and report TPH Dx with and without Silica gel cleanup.

- Include analysis for 1 and 2 methyl napthalene ~~methylnaph~~ in 8270 analysis. JZW 9/22/14

(7) Turnaround Time Requested (TAT) (please circle)

(Standard) 5 day 4 day
72 hour 48 hour 24 hour

(8) Data Package Options (please circle if required)

Type I - Full Type VI (Raw Data)

Relinquished by	Date	Time	Received by	Date	Time
[signature]	9/22/14	1340			
Relinquished by Commercial Carrier: UPS ✓ FedEx ___ Other ___			[signature]	9/23/14	0920

(9)

Temperature Upon Receipt 0.7 °C
Custody Seals Intact? (Yes) No

Lancaster Laboratories, Inc. • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300
The white copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the client.

Issued by Dept. 40 Management
7051.01

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

Appendix C:
Terrestrial Ecological Evaluation

Washington State Department of Ecology
Toxics Cleanup Program

Terrestrial Ecological Evaluation Process- Simplified Evaluation

Documentation Form

Criteria # (Concern)	Criteria	Response (Circle One)
1 (exposure)	Is the total area of soil contamination at the site less than or equal to 350 square feet	**Yes (End TEE)** / **No**
2 (exposure)	Does land use at the site and surrounding area make substantial wildlife exposure unlikely based on completion of Table 749-1?	**Yes (End TEE) / No**
3 (pathway)	Is there a potential exposure pathway from soil contamination to soil biota, plants, or wildlife?	**Yes / No (End TEE)**
4 (contaminant)	Are the hazardous substances at your site listed in Table 749-2 and is (or will) their location in the soil at your site be at a depth not exceeding the point of compliance, and at concentrations that do not exceed the values provided in Table 749-2.	**Yes (End TEE) / No** **Note: You must perform bioassays for contaminants at your site if no table value is provided.**
5 (contaminant)	Will hazardous substances listed in Table 749-2 be present in the soil at your site within 6 feet of the ground surface at concentrations likely to be toxic, or with the potential to bioaccumulate, based on bioassays using methods approved by the department.	**Yes / No (End TEE)**

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493] [Index of Tables]

[TEE Home]

Table 749-1

Simplified Terrestrial Ecological Evaluation-Exposure Analysis Procedure

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre).	
1) From the table below, find the number of points corresponding to the area and enter this number in the field to the right.	
Area (acres) / Points 0.25 or less / 4 0.5 / 5 1.0 / 6 1.5 / 7 2.0 / 8 2.5 / 9 3.0 / 10 3.5 / 11 4.0 or more / 12	12
2) Is this an industrial or commercial property? If yes, enter a score of 3. If no, enter a score of 1	3
3)[a] Enter a score in the box to the right for the habitat quality of the site, using the following rating system[b]. High=1, Intermediate=2, Low=3	3
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2.[c]	1
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	4
6) Add the numbers in the boxes on lines 2-5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified evaluation may be ended.	11

Notes for Table 749-1

[a] It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score of (1) for questions 3 and 4.

[b] **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:

> **Low:** Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.

High: Area is ecologically significant for one or more of the following reasons: Late-successional native plant communities present; relatively high species diversity; used by an uncommon or rare species; priority habitat (as defined by the Washington Department of fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.

Intermediate: Area does not rate as either high or low.

[c] Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use b mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.

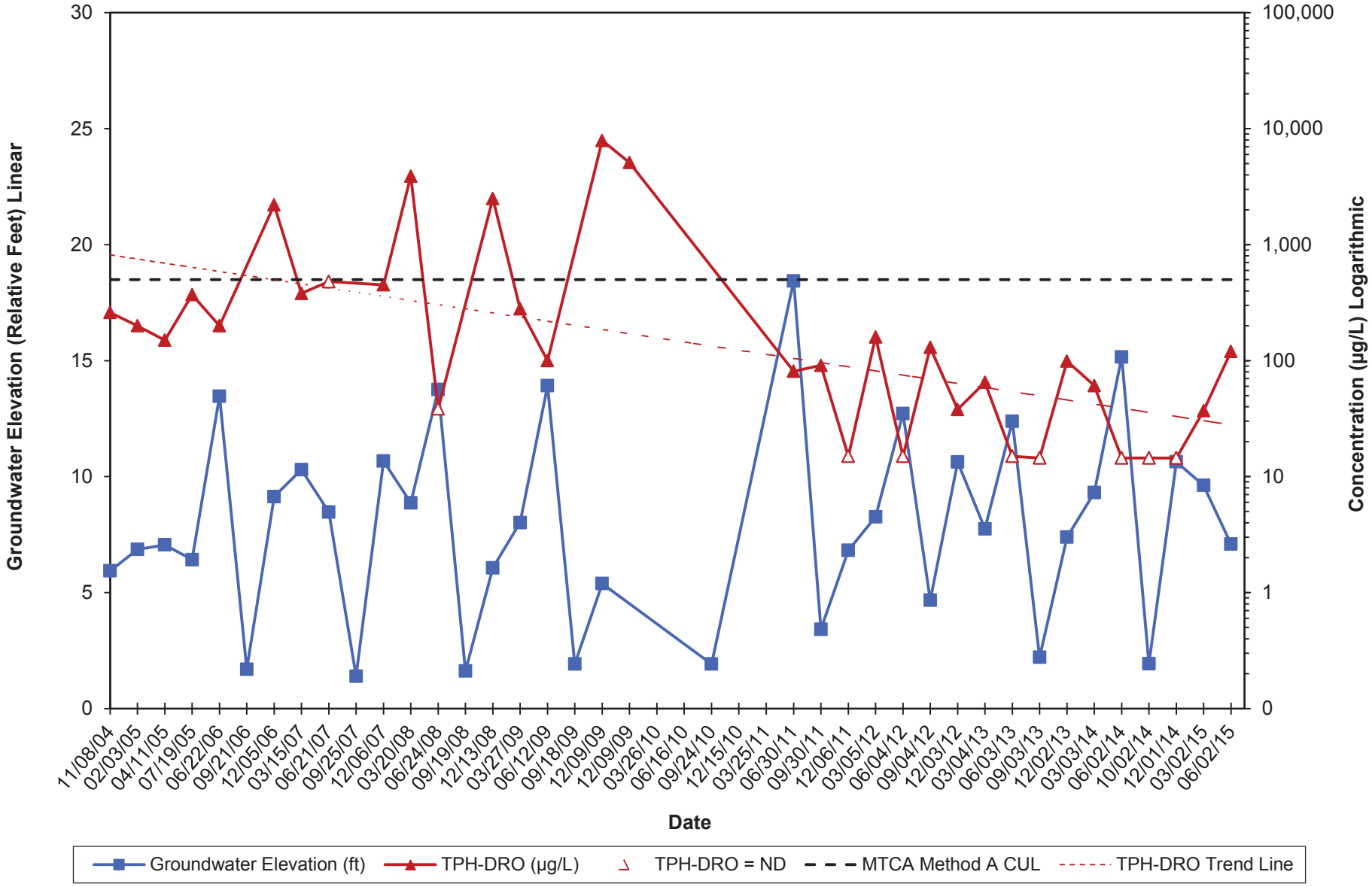
[Area Calculation Aid] [Aerial Photo with Area Designations] [TEE Table 749-1] [Index of Tables]

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493]

[TEE Home]

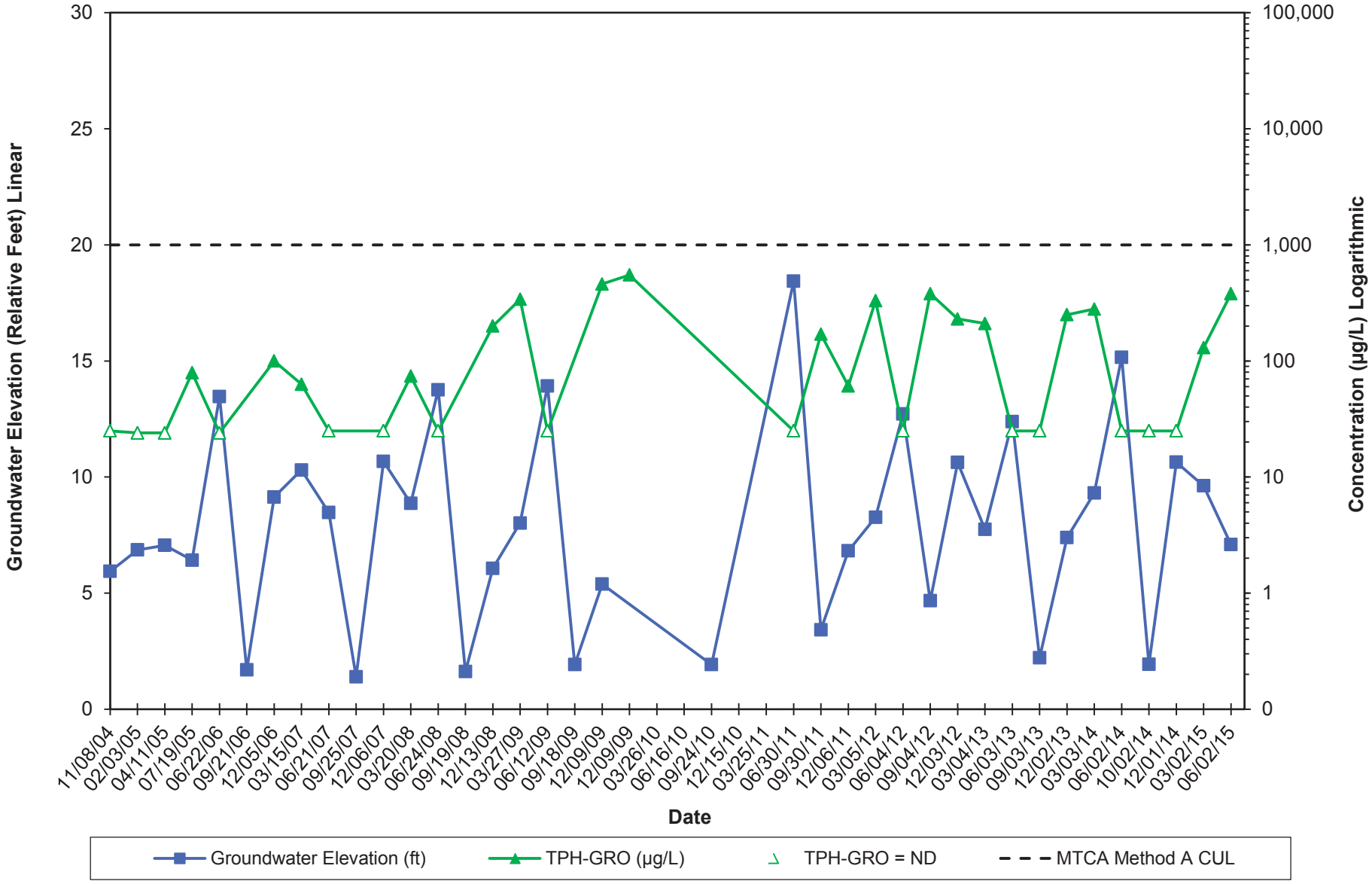
Appendix D:
Hydrographs

Well MW-5
Hydrograph - Diesel-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



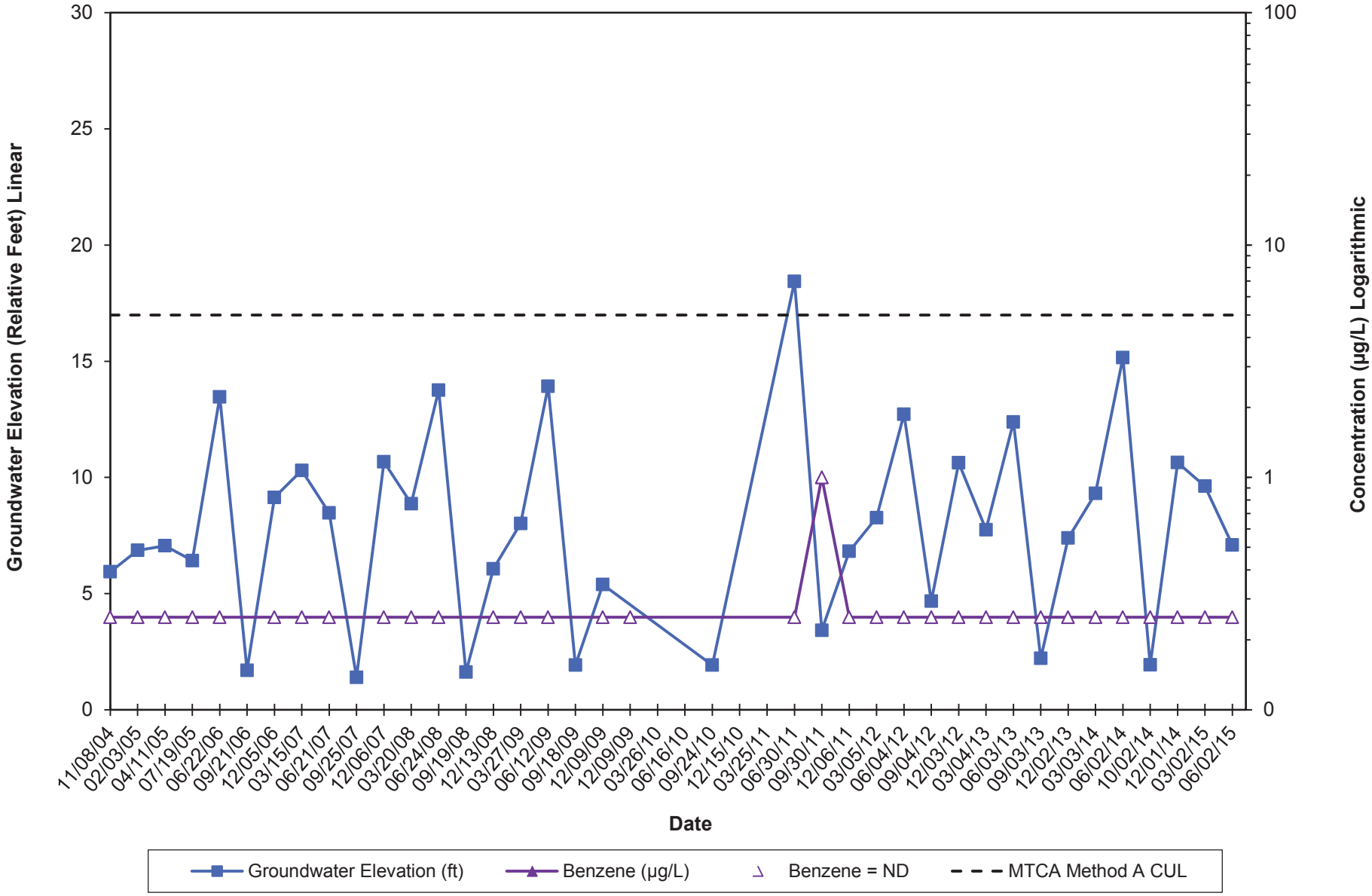
leidos

Well MW-5
Hydrograph - Gasoline-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



leidos

Well MW-5
Hydrograph - Benzene Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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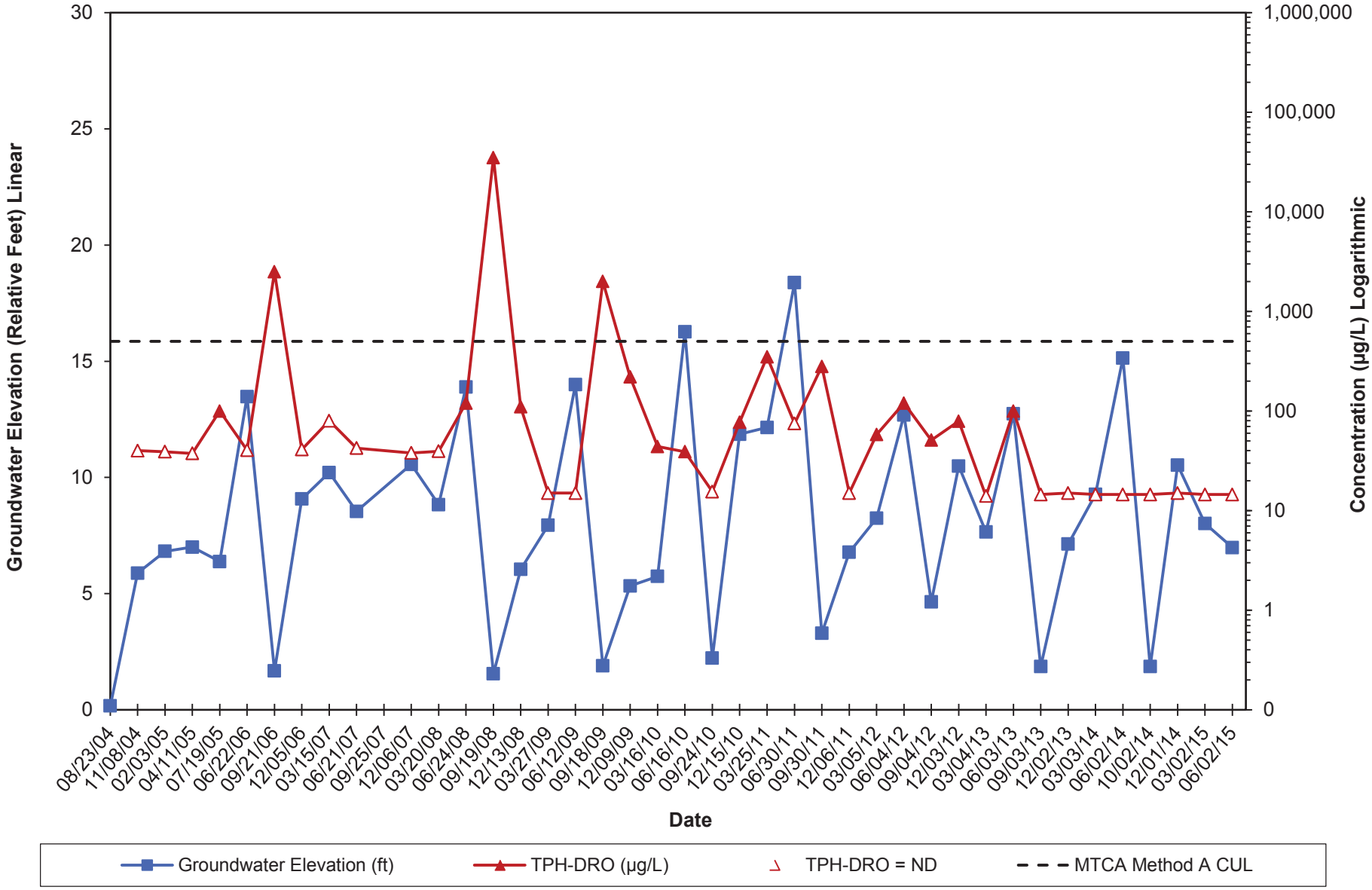
Well MW-6
Hydrograph - Diesel-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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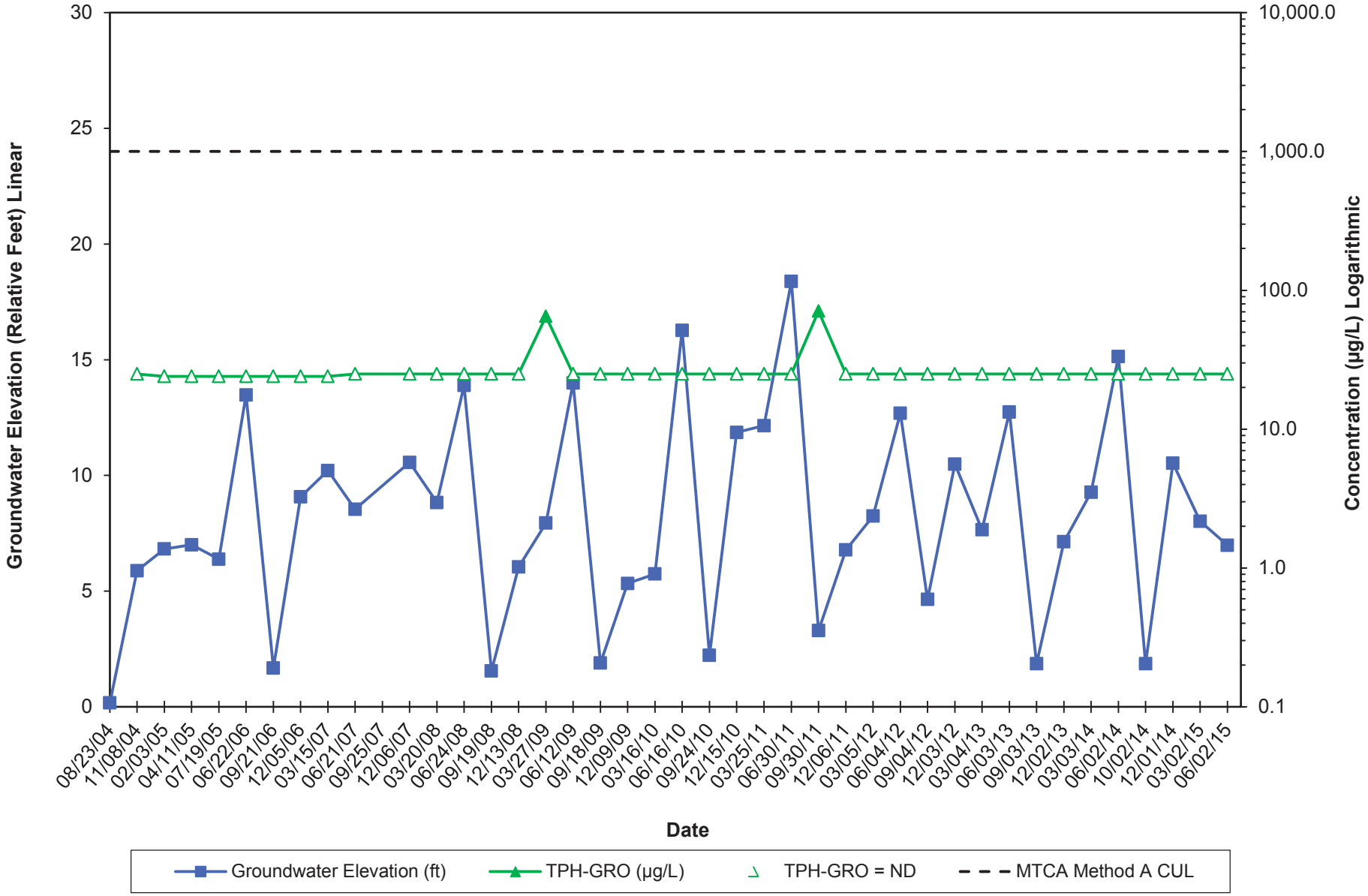
Well MW-6
Hydrograph - Gasoline-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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Well MW-6
Hydrograph - Benzene
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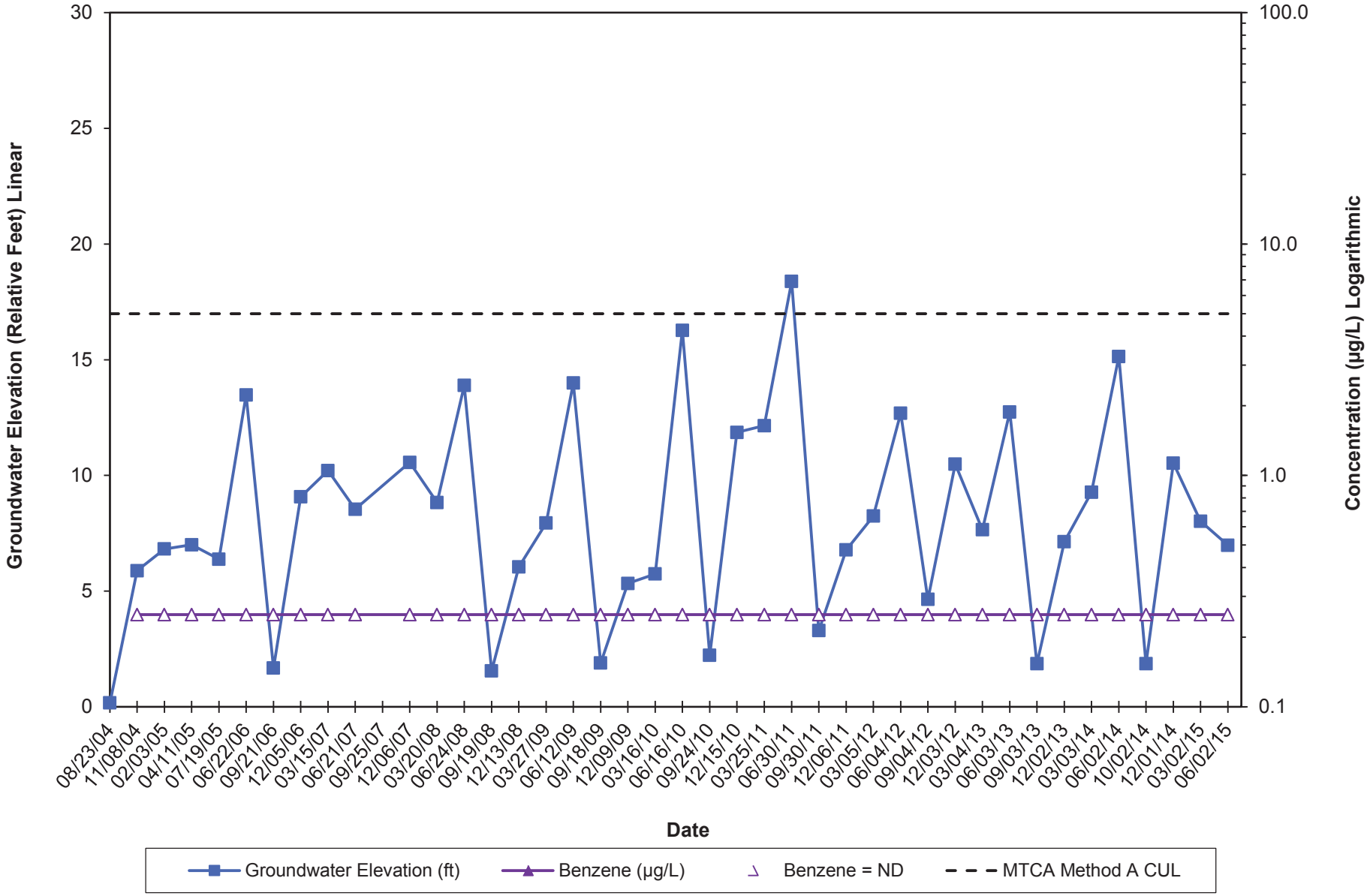

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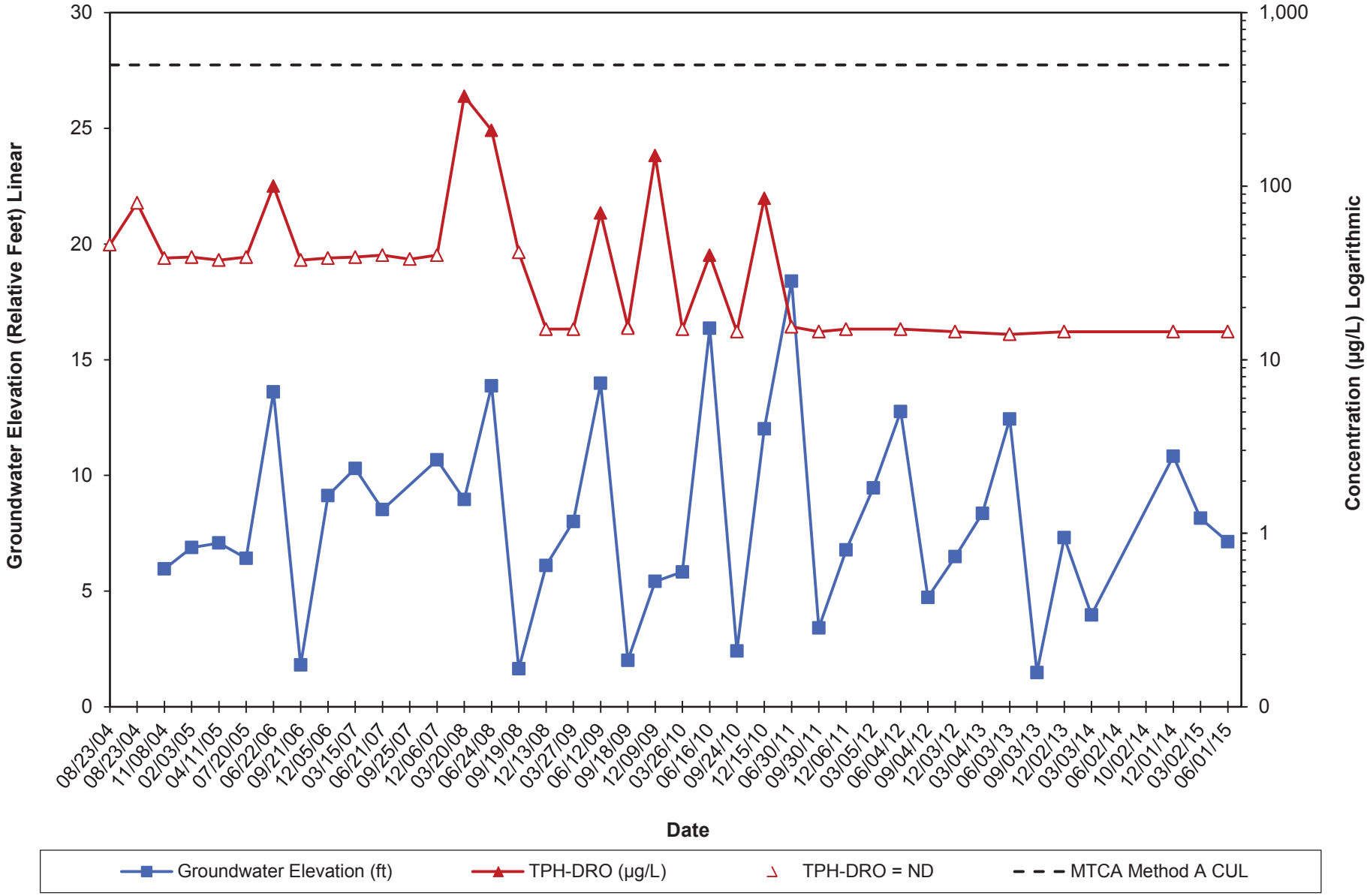
Well MW-8
Hydrograph - Diesel-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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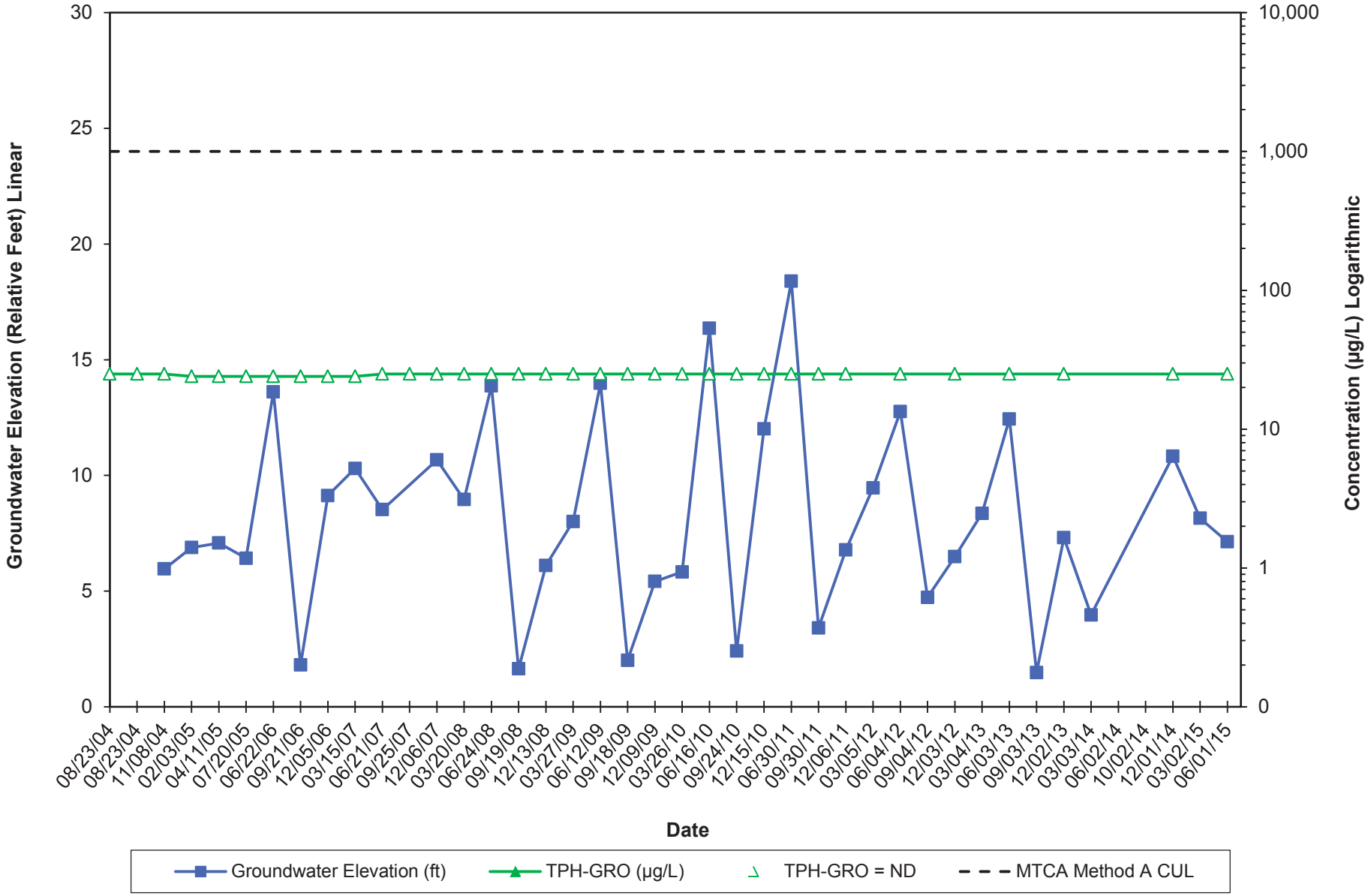
Well MW-8
Hydrograph - Gasoline-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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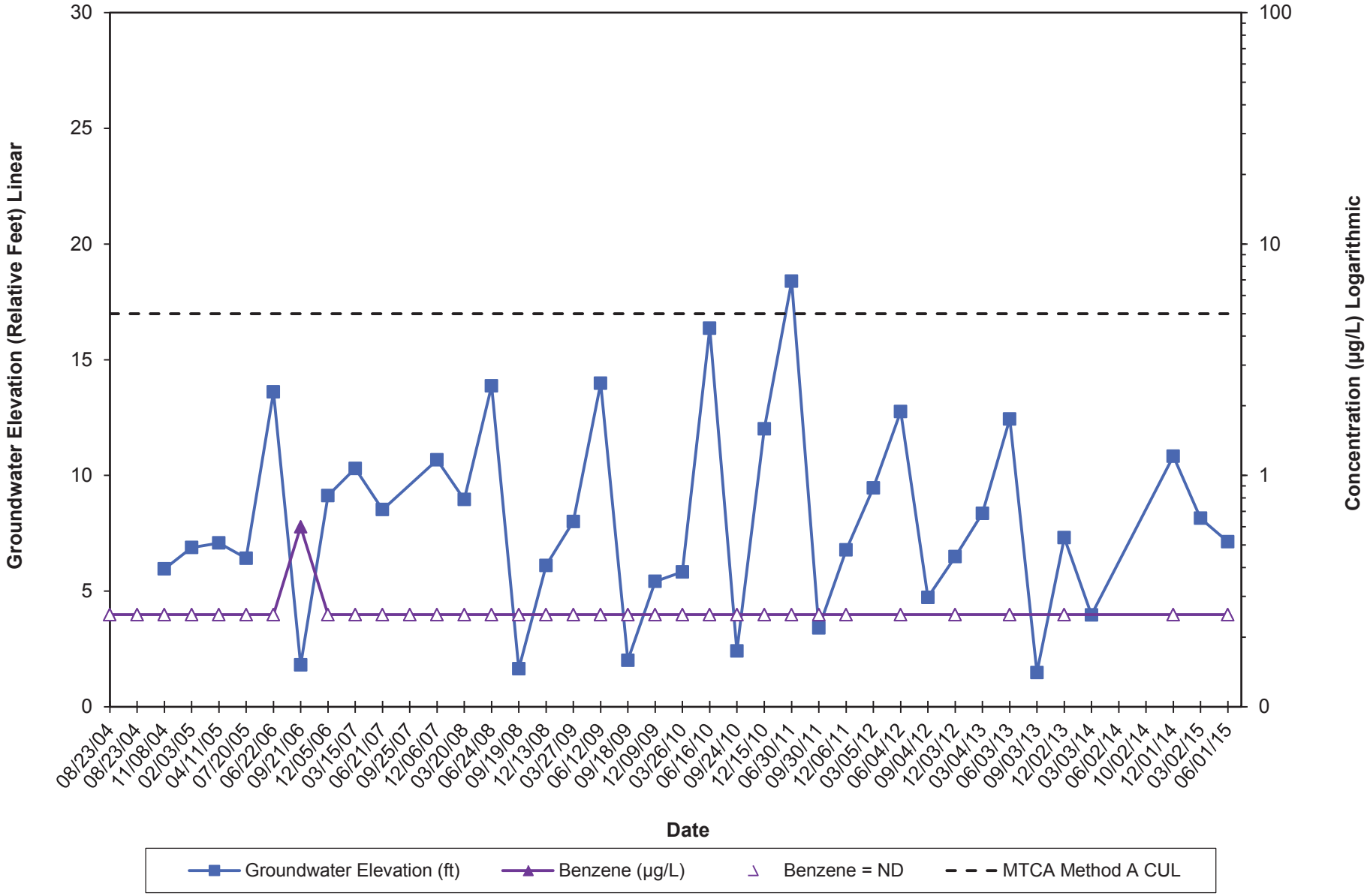
Well MW-8
Hydrograph - Benzene
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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Well MW-9
Hydrograph - Diesel-Range Hydrocarbons
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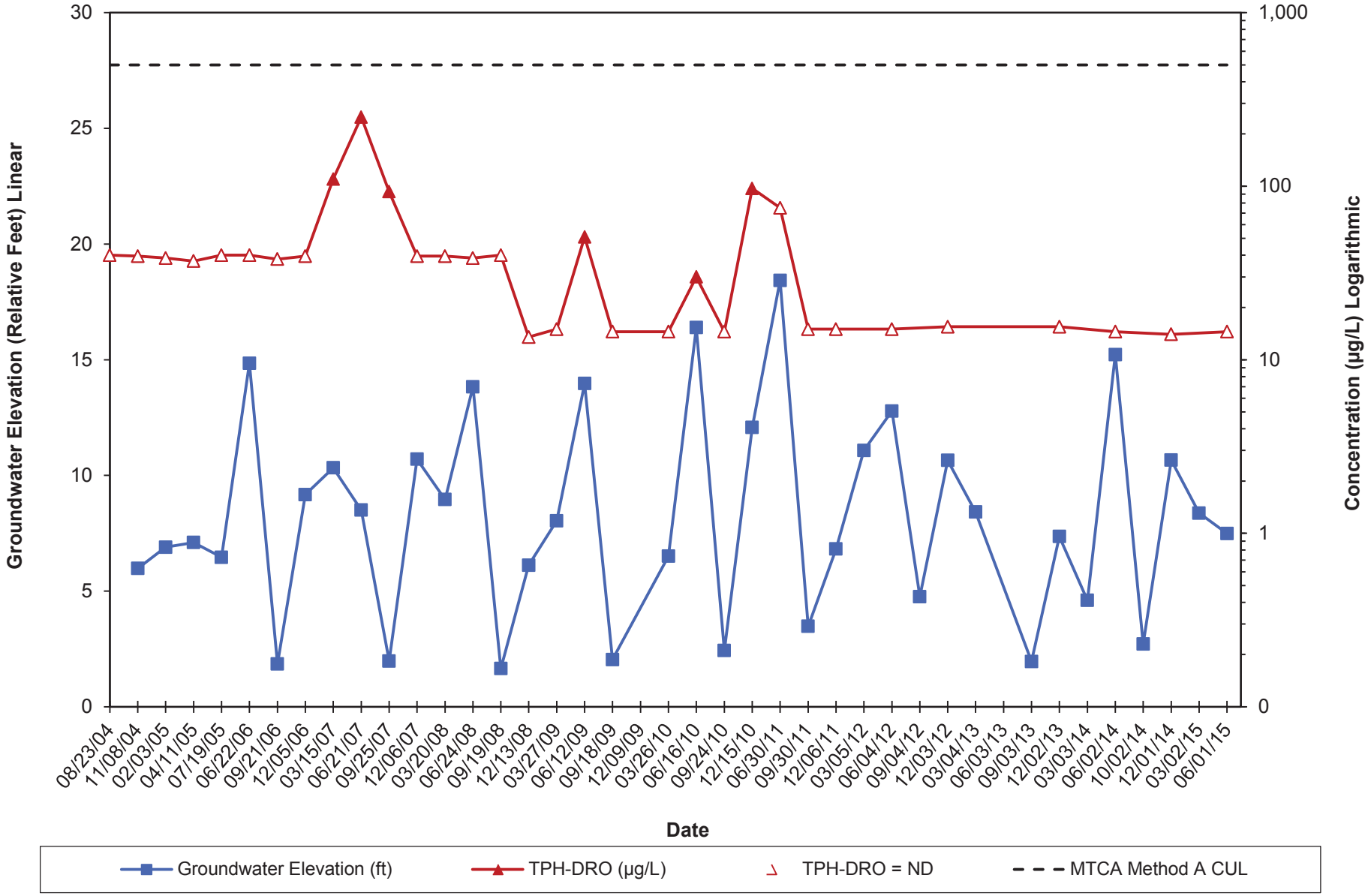
612 SE Union Street, Camas, WA



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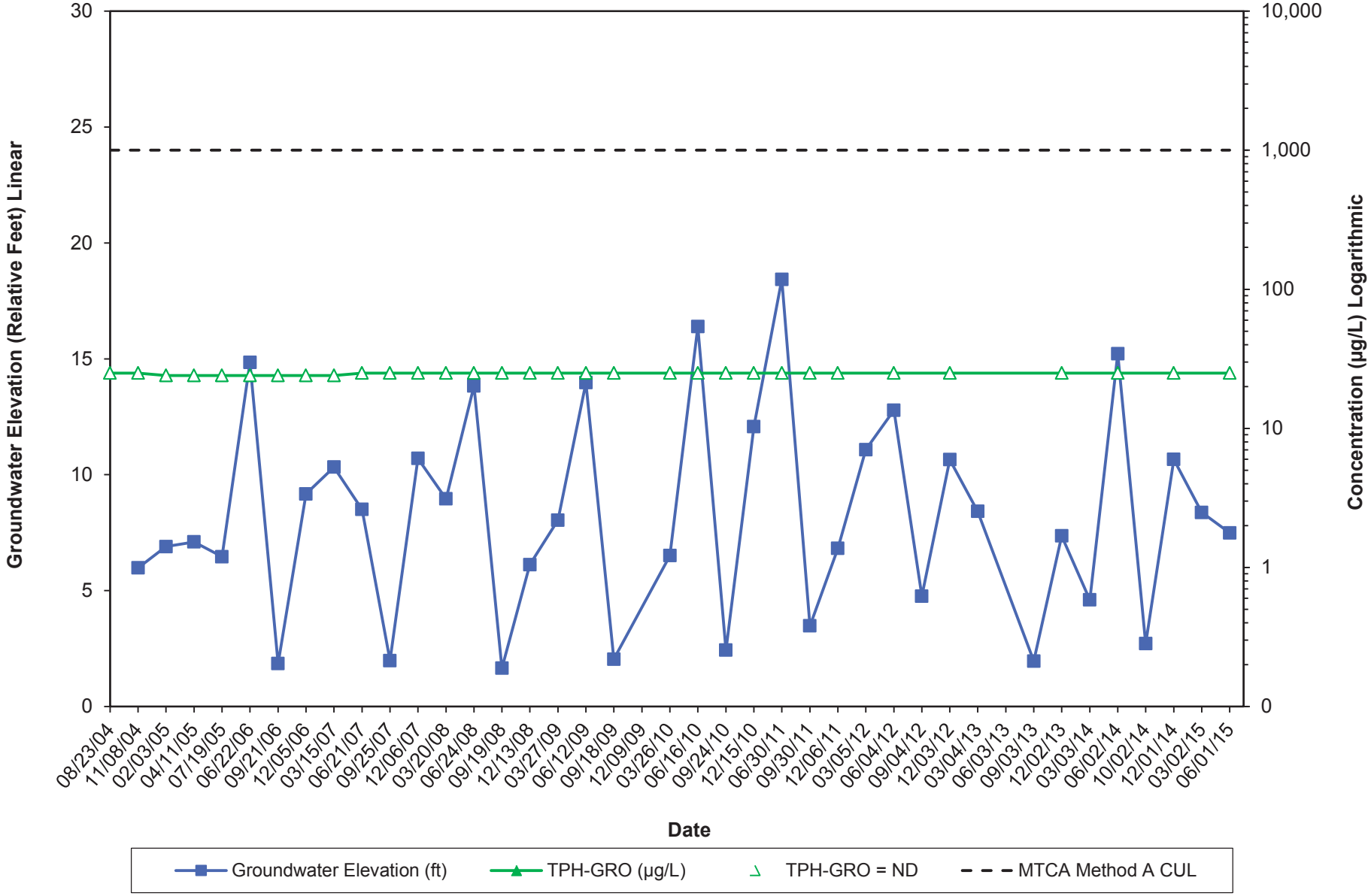
Well MW-9
Hydrograph - Gasoline-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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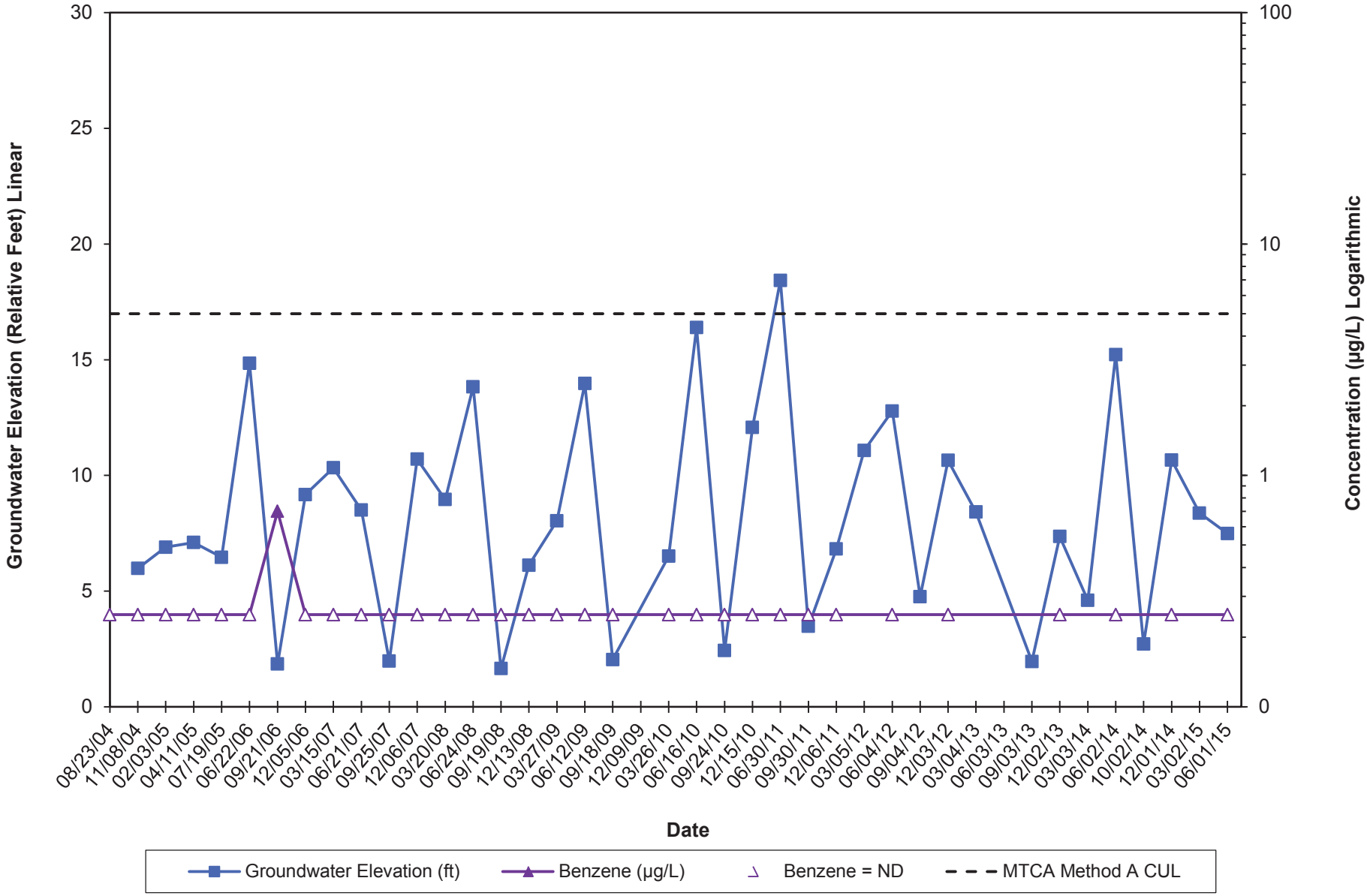
Well MW-9
Hydrograph - Benzene
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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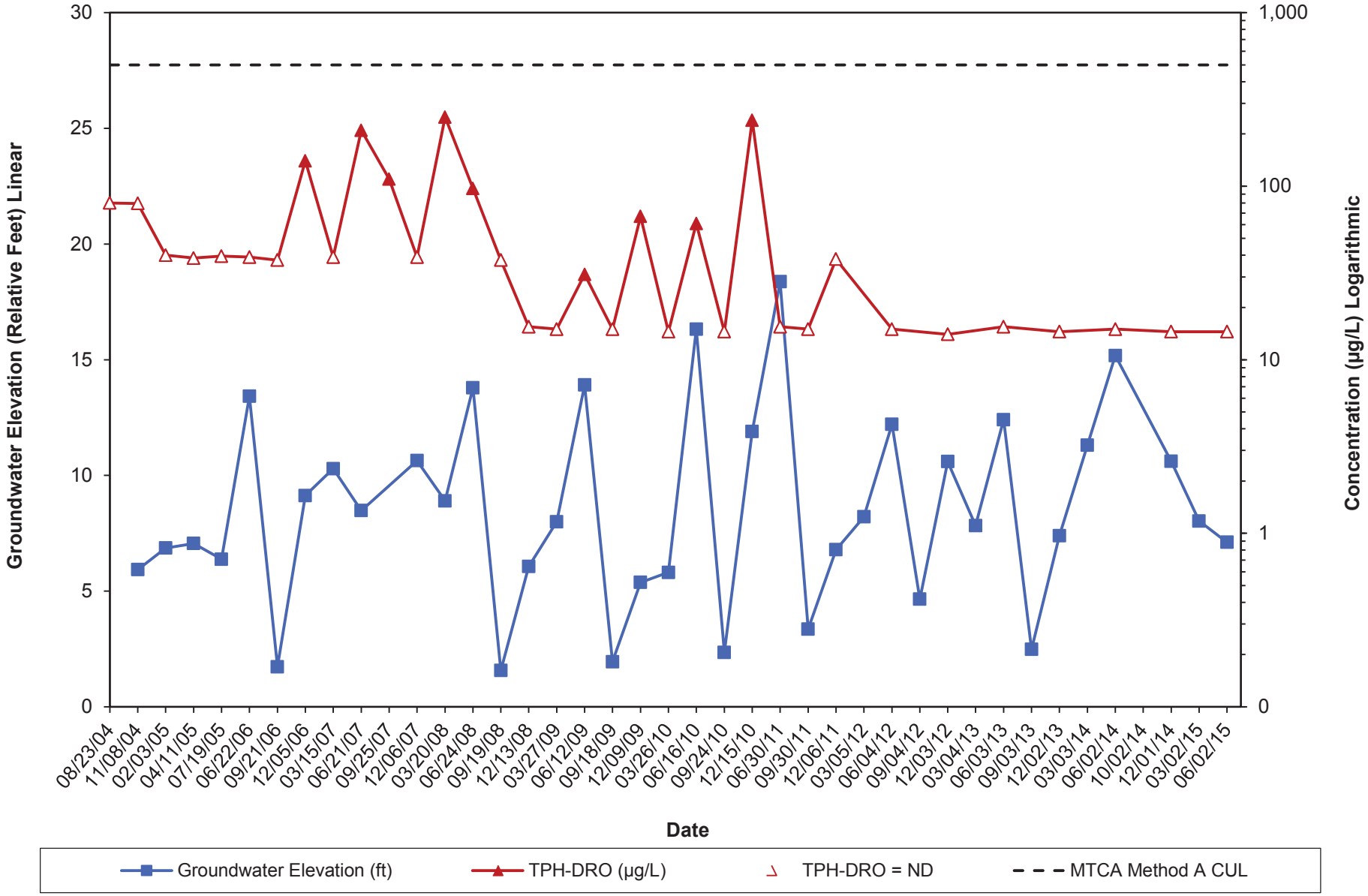
Well MW-10
Hydrograph - Diesel-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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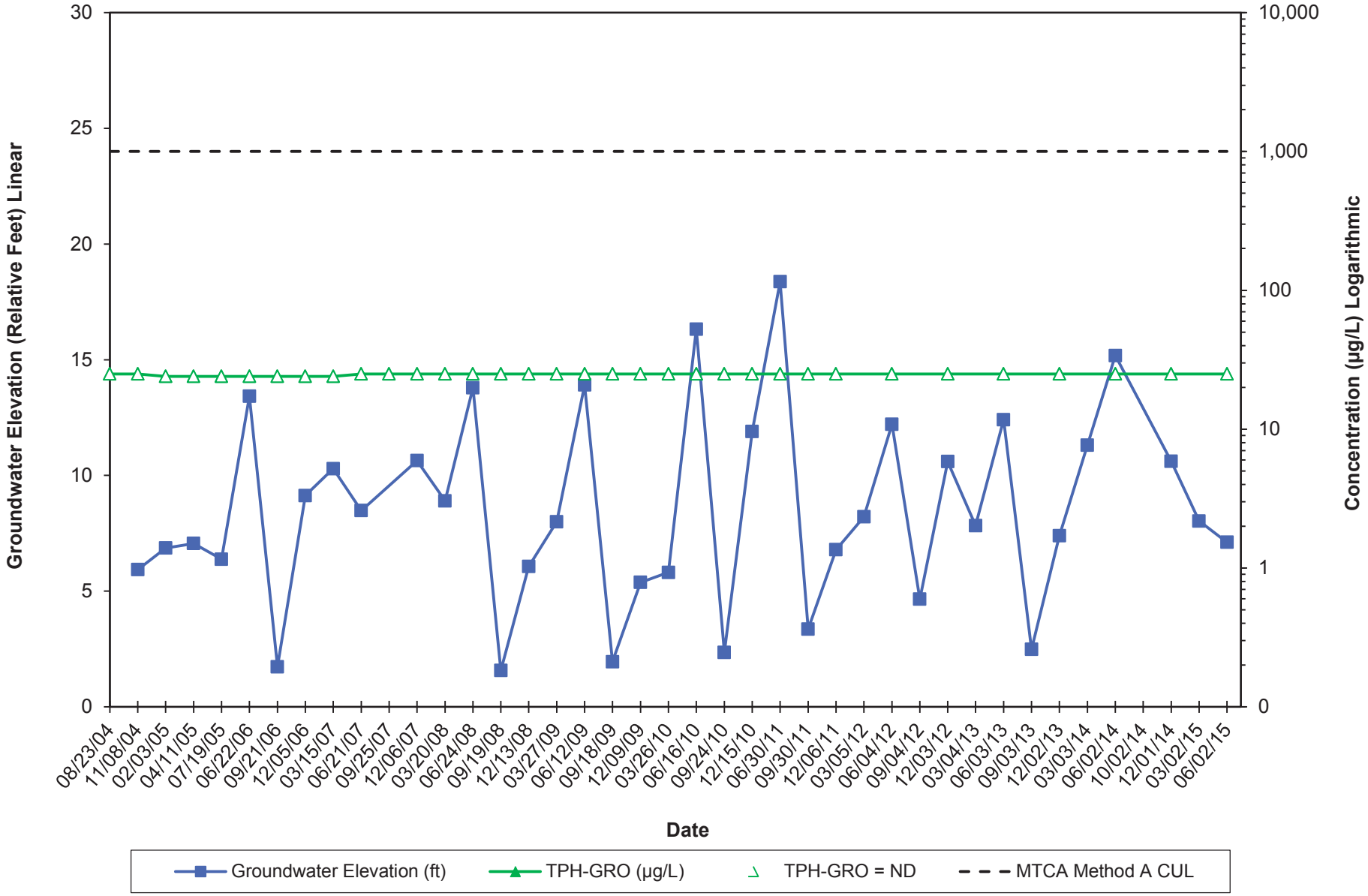
Well MW-10
Hydrograph - Gasoline-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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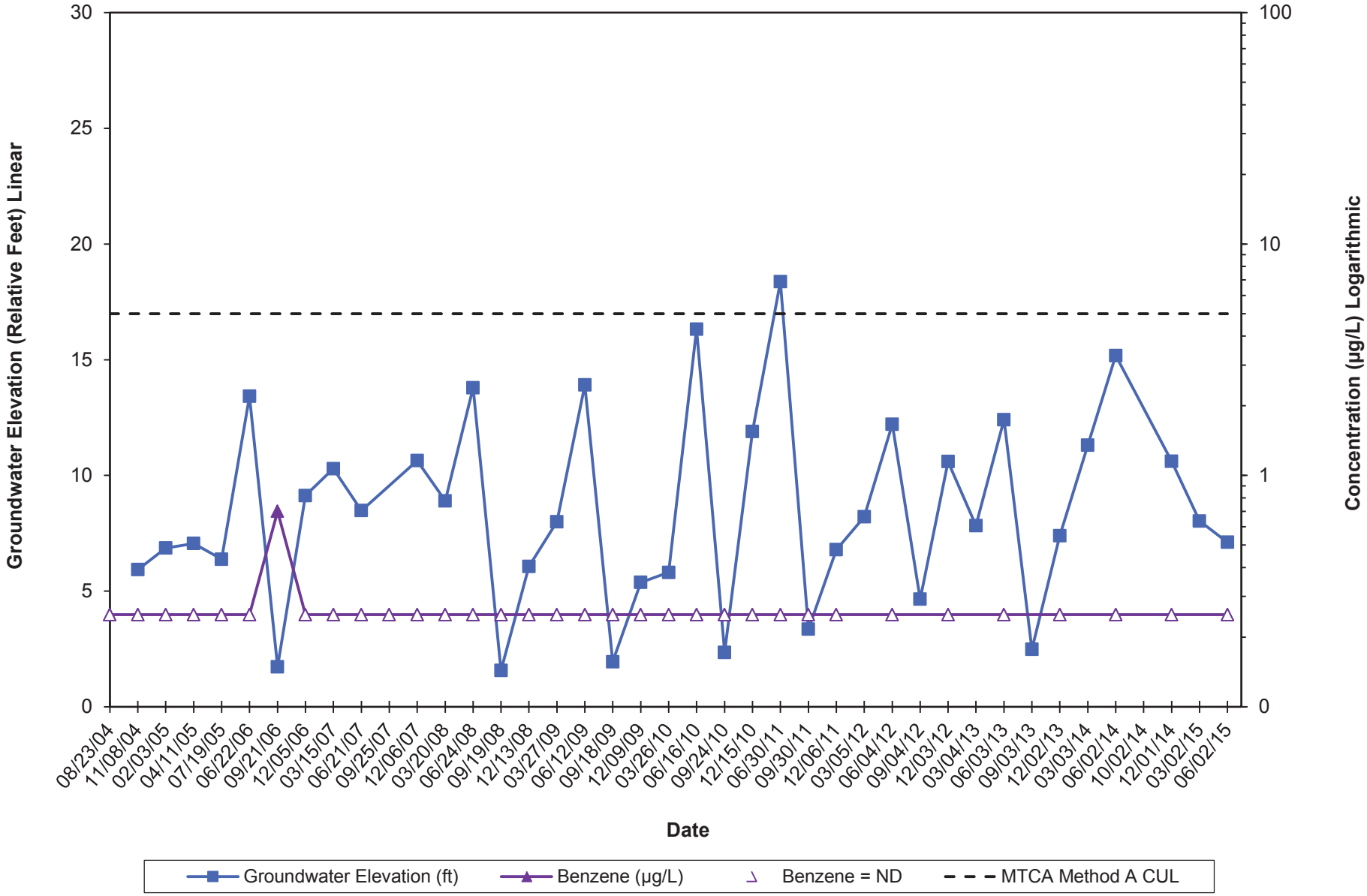
Well MW-10
Hydrograph - Benzene
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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Well MW-11
Hydrograph - Diesel-Range Hydrocarbons
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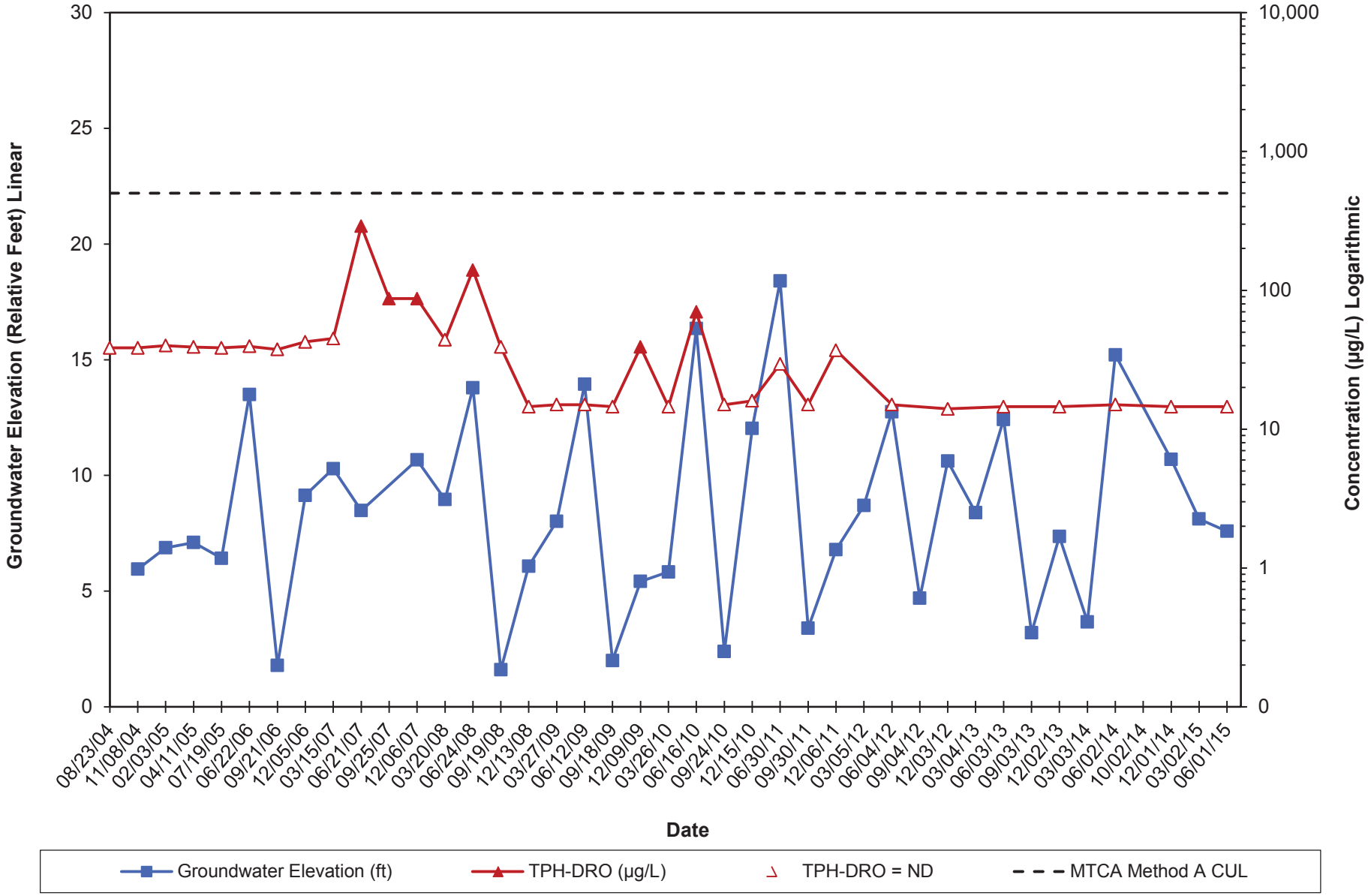
612 SE Union Street, Camas, WA



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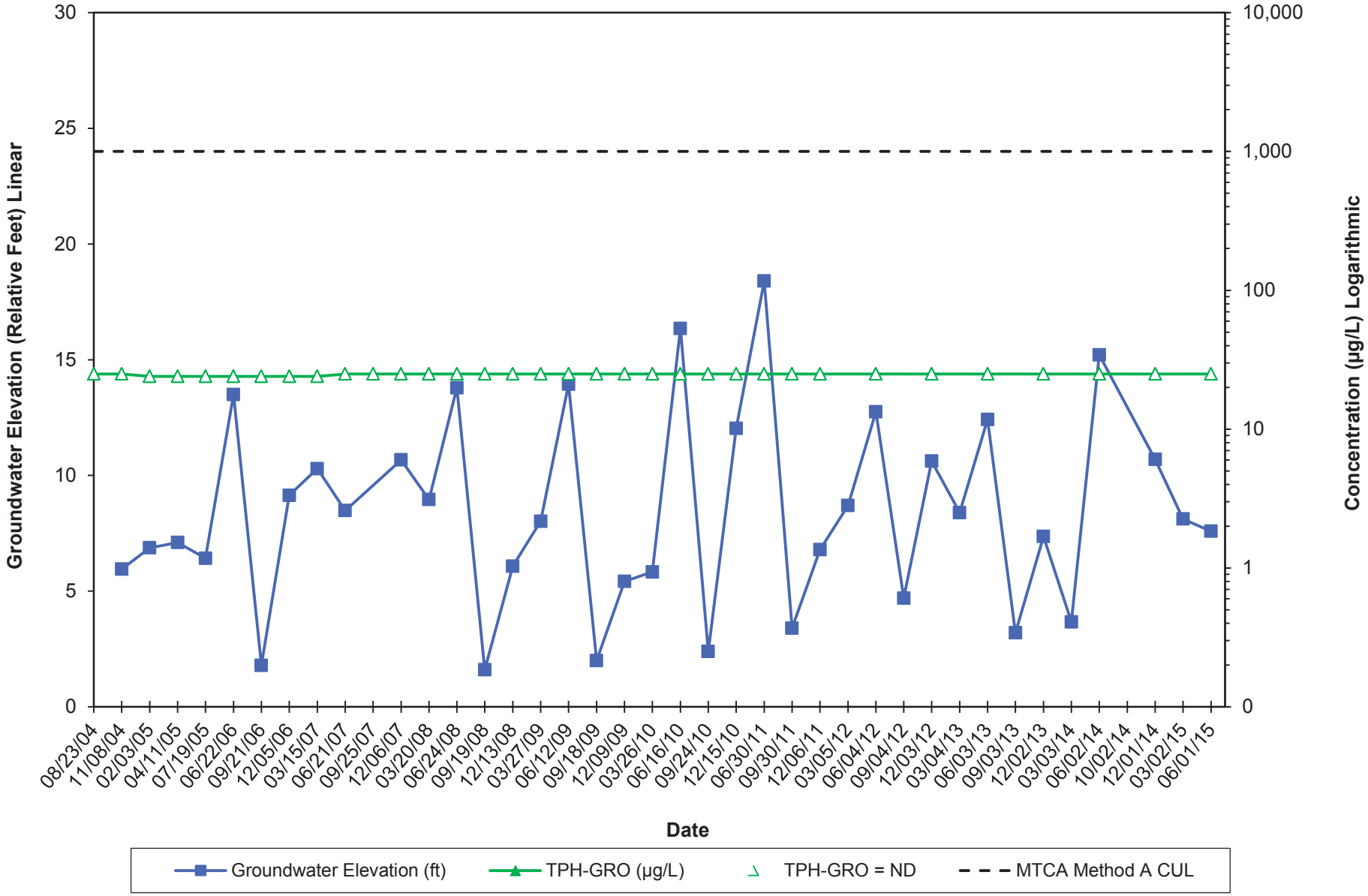
Well MW-11
Hydrograph - Gasoline-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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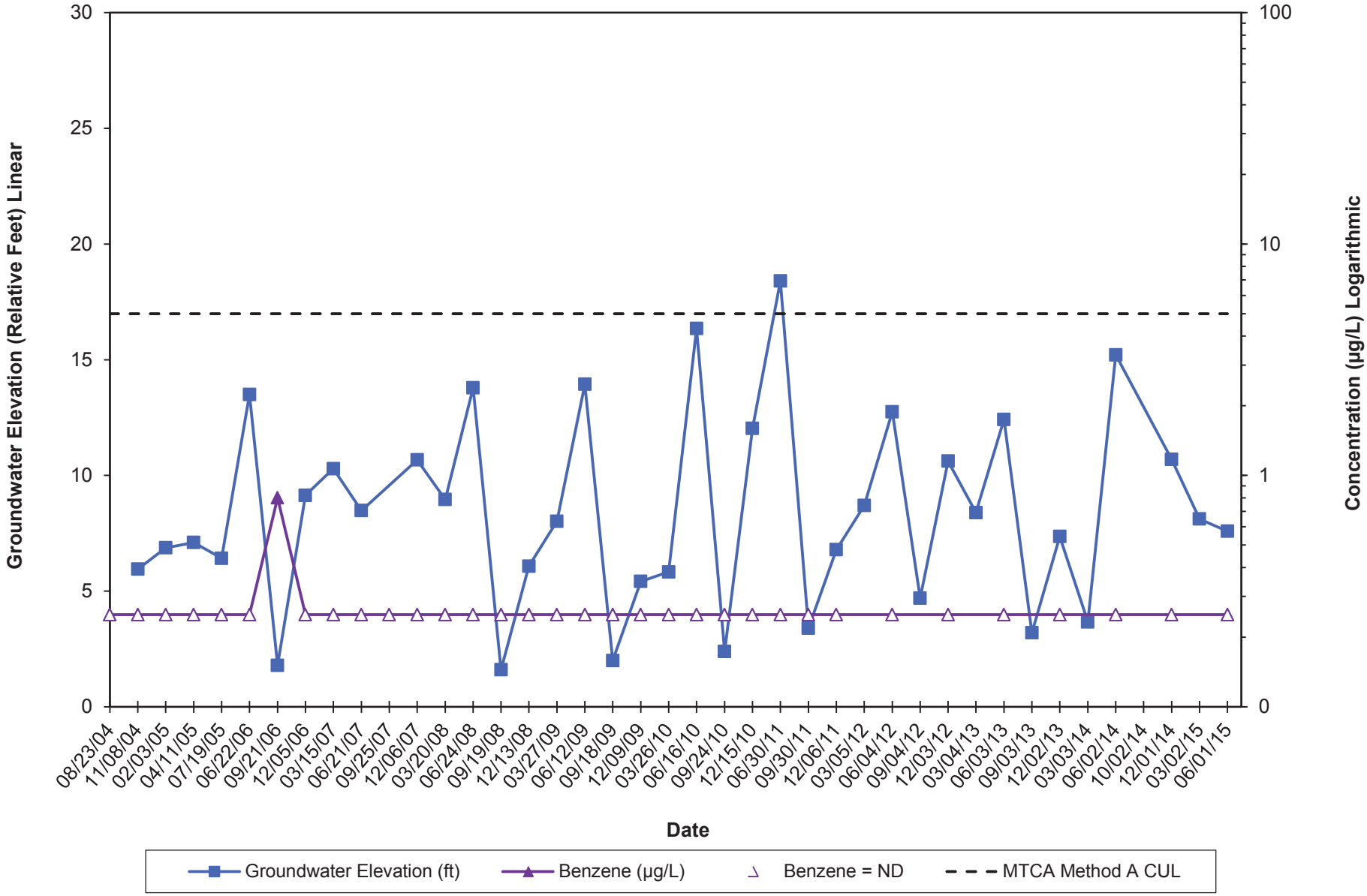
Well MW-11
Hydrograph - Benzene
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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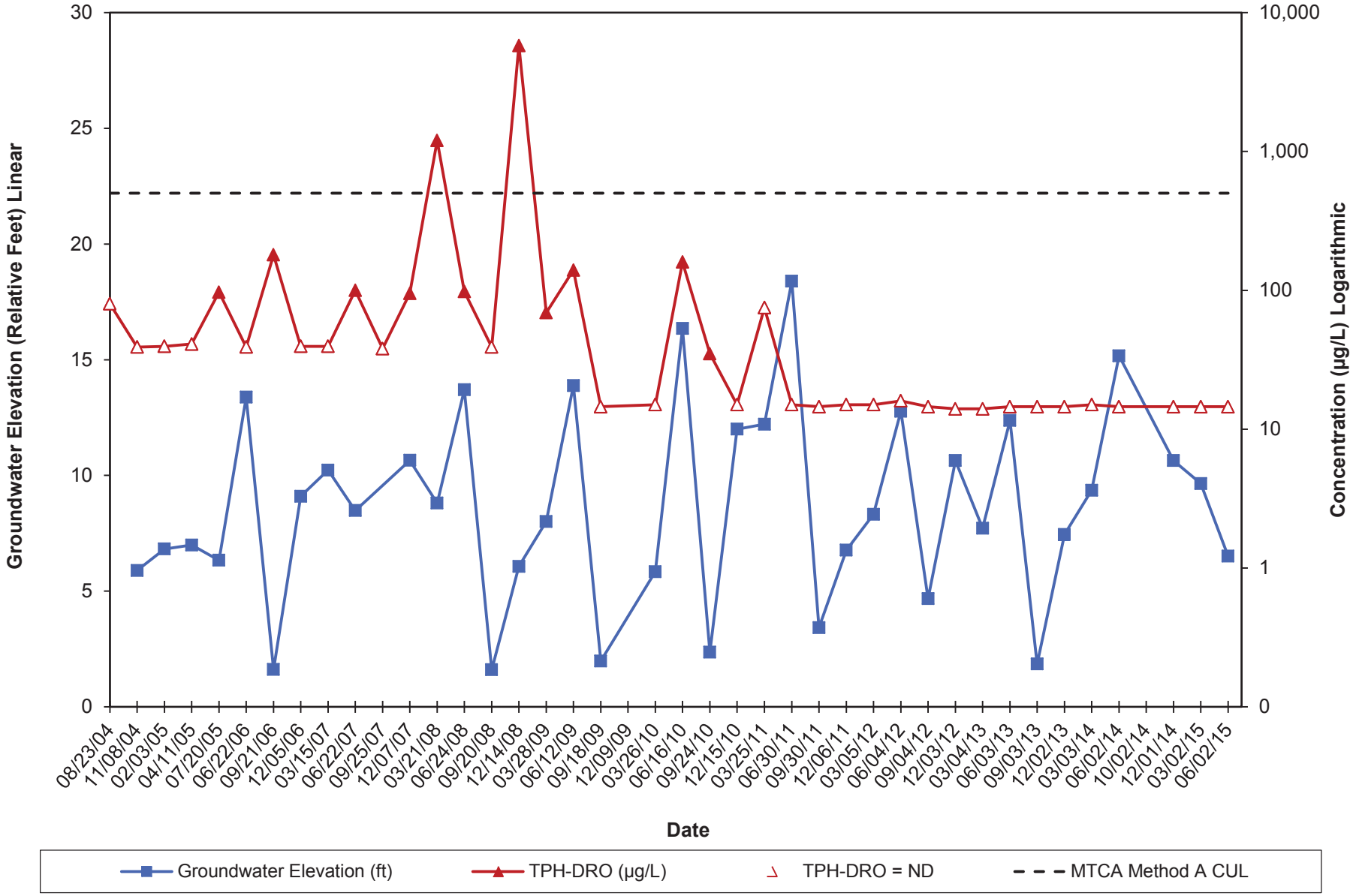
Well MW-12
Hydrograph - Diesel-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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Well MW-12
Hydrograph - Gasoline-Range Hydrocarbons
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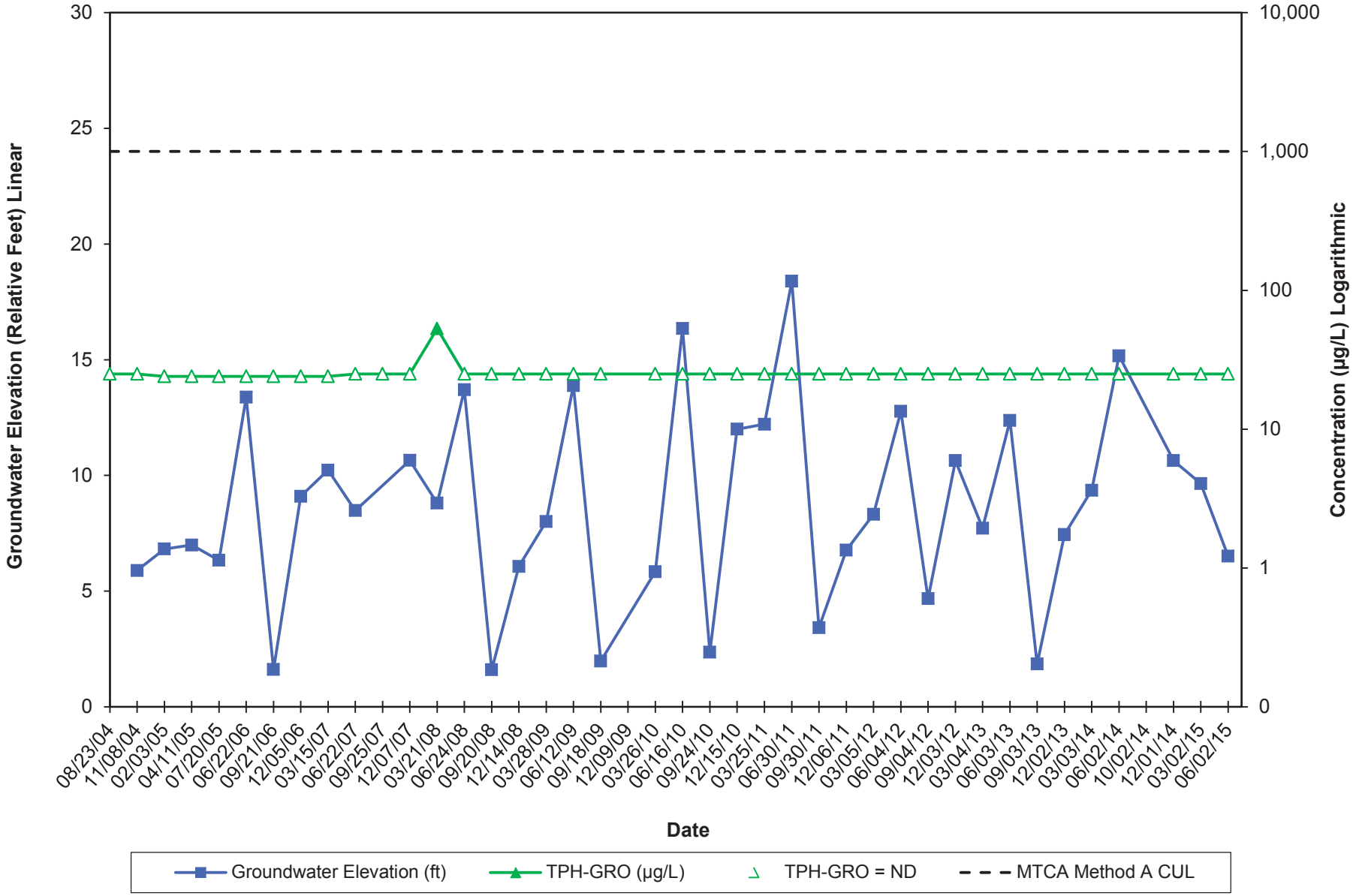
612 SE Union Street, Camas, WA



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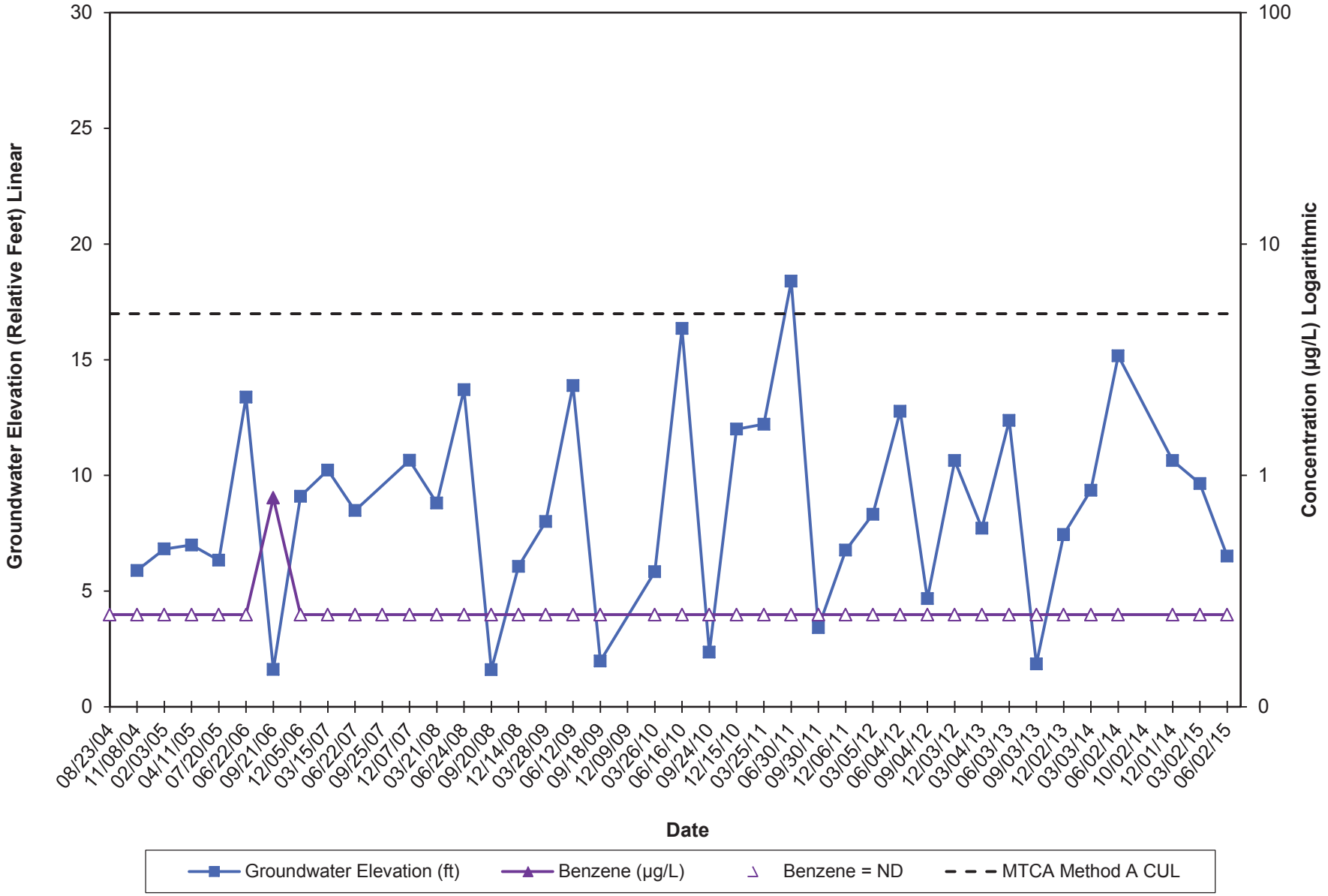
Well MW-12
Hydrograph - Benzene
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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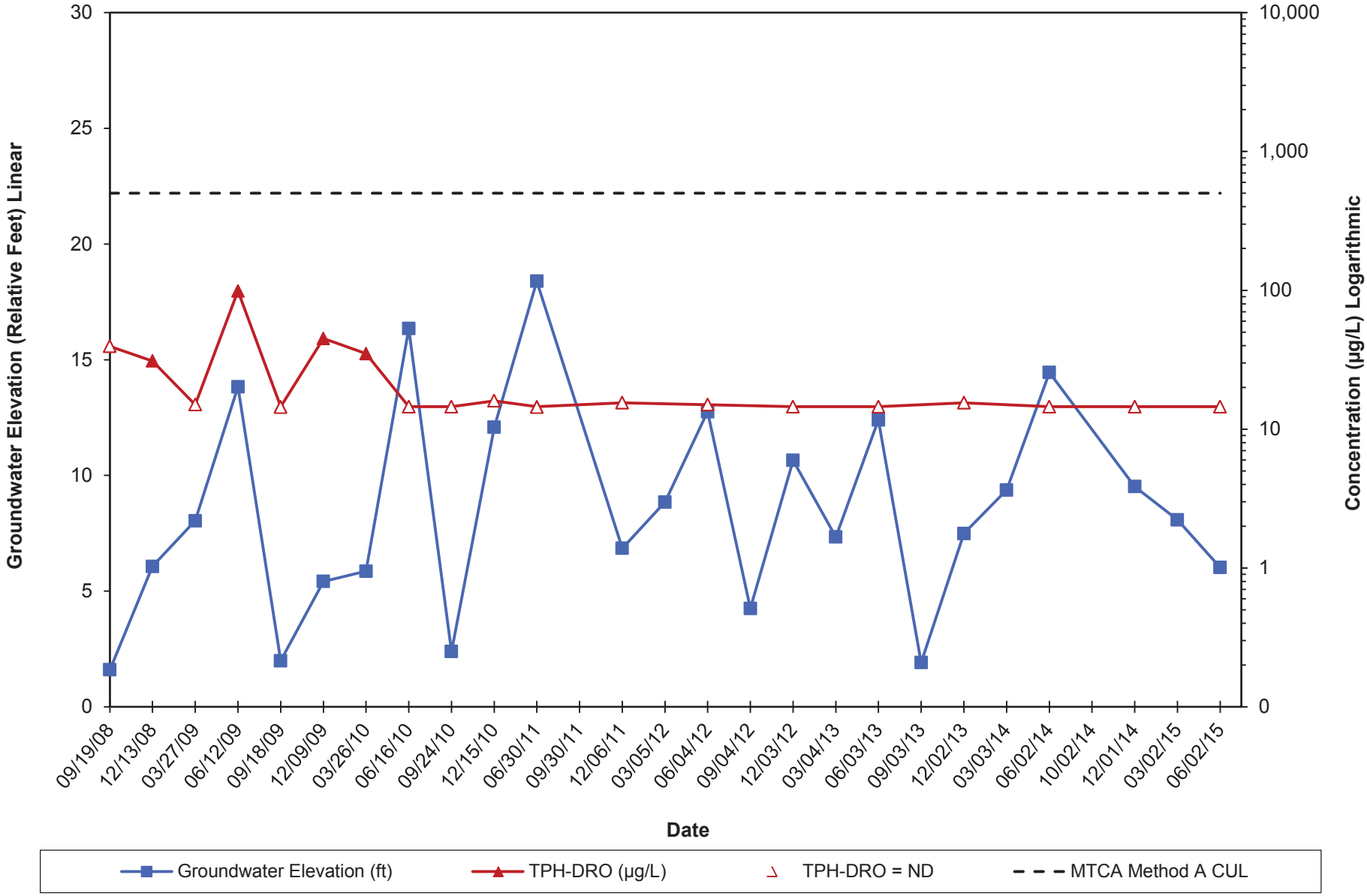
Well MW-16
Hydrograph - Diesel-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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Well MW-16
Hydrograph - Gasoline-Range Hydrocarbons
Former Chevron Bulk Terminal No. 207407
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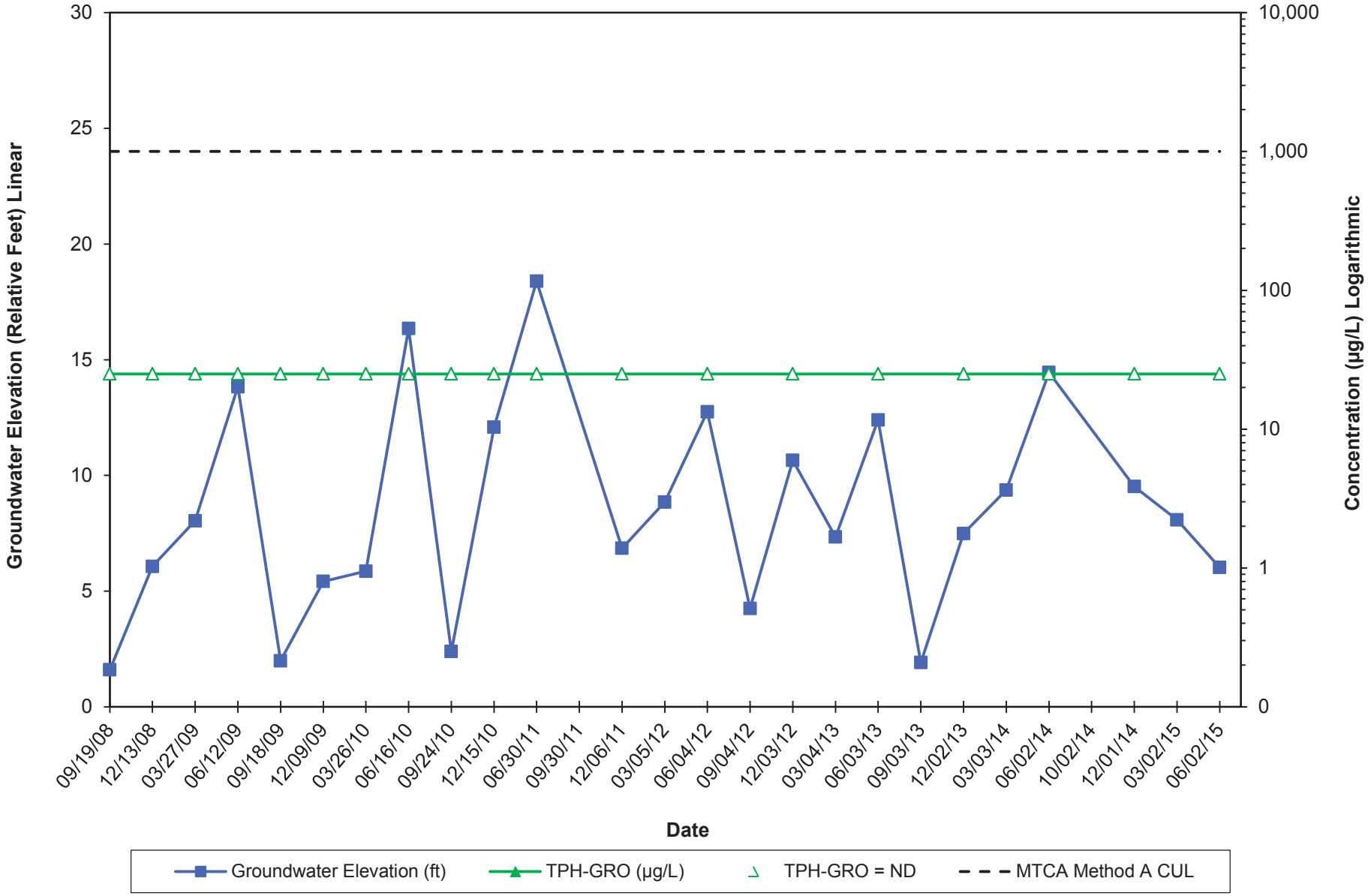

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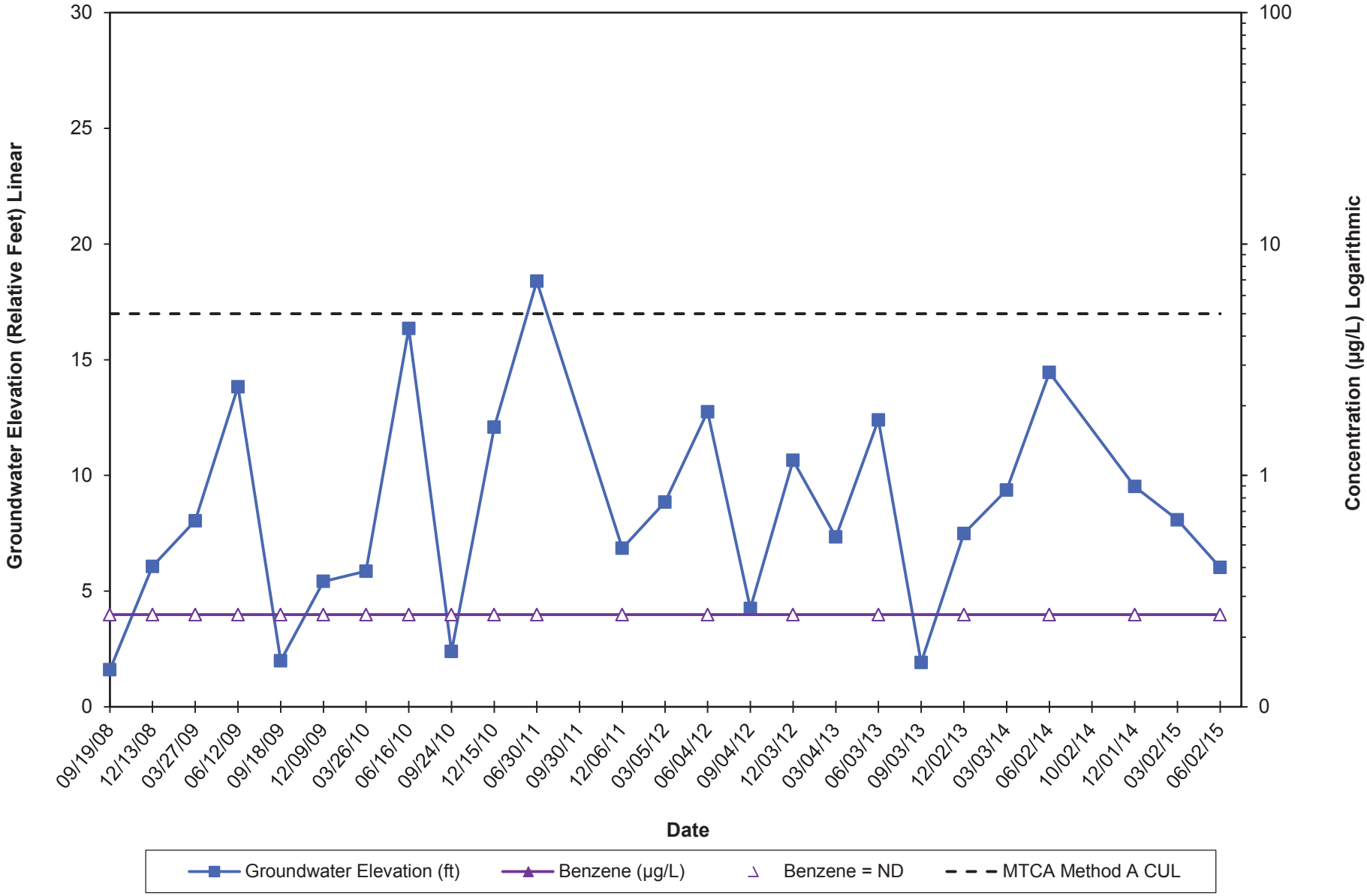
Well MW-16
Hydrograph - Benzene
Former Chevron Bulk Terminal No. 207407
612 SE Union Street, Camas, WA



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