2024
Third Quarter Progress Report/ Second Quarter Groundwater Performance Monitoring Report

SeaPort Seattle Terminal
(Former ARCO/BP Harbor Island Terminal)
Cleanup Site ID 4426
Consent Decree No. 00-2-05714-8SEA

October 2024

Submitted to:
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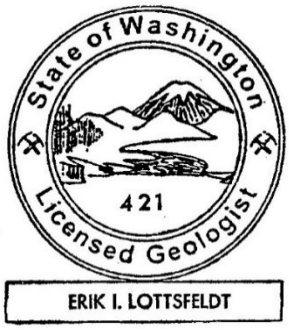

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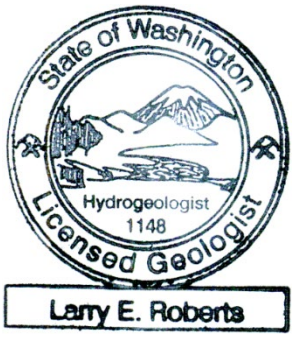

TechSolve Environmental

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ACRONYMS AND ABBREVIATIONS

AG&M	ARCADIS Geraghty & Miller
ARCO	Atlantic Richfield Company
BP	British Petroleum West Coast Products Company
CAP	Cleanup Action Plan
CCR	Construction Completion Report
CUL	cleanup level
Ecology	Washington State Department of Ecology
EDR	Engineering Design Report
GPM	gallons per minute
GWCMCP	Groundwater Compliance Monitoring and Contingency Program
IHS	indicator hazardous substance
KCDNRP	King County Department of Natural Resources and Parks
LNAPL	light non-aqueous phase liquid
MNA	Monitored Natural Attenuation
NAVD88	North American Vertical Datum of 1988
NGVD29	National Geodetic Vertical Datum of 1929
O&M	operation and maintenance
POC	point of compliance
RI/FS	Remedial Investigation/Feasibility Study
SVE	soil vapor extraction
TechSolv	TechSolv Consulting Group, Inc. (predecessor of TechSolve Environmental, Inc.)
TechSolve	TechSolve Environmental, Inc.
TPH	total petroleum hydrocarbons
TPH-D	total petroleum hydrocarbons as diesel
TPH-G	total petroleum hydrocarbons as gasoline
TPH-O	total petroleum hydrocarbons as oil
WAC	Washington Administrative Code

EXECUTIVE SUMMARY

This report summarizes the operation of remediation systems during the Third Quarter 2024 (July through September) and groundwater monitoring during the Second Quarter 2024 (April through June) at the SeaPort Seattle Terminal (the Site). The Site is located on Harbor Island at 1652 SW Lander Street in Seattle, Washington. The difference between the quarters being reported is due to the timing of receipt of laboratory data.

There were no anomalous conditions noted in the remediation systems during the third quarter. One monitoring well, GM-14S, showed elevated concentrations of dissolved-phase Indicator Hazardous Substances (IHSs) above cleanup levels (CULs) during the second quarter of groundwater performance monitoring. Concentrations of IHSs in other wells were below the CULs.

In accordance with Washington State Department of Ecology (Ecology) Consent Decree No. 00-2-05714-8SEA (Ecology 2000b), the Fourth Quarter Progress Report/Third Quarter Groundwater Monitoring Report will be the next report submitted to Ecology. That report will be submitted to Ecology by January 15, 2025.

1 INTRODUCTION

TechSolve Environmental, Inc. (TechSolve) is submitting this report on behalf of TLP Management Services LLC to summarize groundwater monitoring during the Second Quarter 2024 (April through June) and operation and maintenance of the waterfront remediation system during the Third Quarter 2024 (July through September) for the SeaPort Seattle Terminal (the Site) (Figure 1). The Site is located on Harbor Island at 1652 SW Lander Street in Seattle, Washington, and is the location of the former Atlantic Richfield Company (ARCO)/British Petroleum West Coast Products Company (BP) Terminal site.

These two summary reports are combined based upon an Ecology recommendation (Ecology 2004a). This progress report satisfies reporting requirements pursuant to Ecology Consent Decree No. 00-2-05714-8SEA (Ecology 2000). The quarterly reports primarily summarize the results of operation of the remediations systems at the Site and the results of groundwater monitoring for the reporting period. Data trends and the effects of the soil and groundwater remediation systems are discussed in further detail in the Annual Site Reports.

2 REMEDIATION SYSTEM OPERATIONS

Remediation systems were installed and completed at the Site in accordance with specifications of the Engineering Design Report (EDR) prepared by TechSolv Consulting Group, Inc. (TechSolv), predecessor of TechSolve Environmental, Inc., and ARCADIS Geraghty & Miller (AG&M) (TechSolv and AG&M 2000), and the Site Cleanup Action Plan (CAP) (Ecology 1999). A waterfront groundwater/light non-aqueous phase liquid (LNAPL) remediation system has operated at the site since 1992 (an interim system and the final system) to remove free-phase LNAPL and dissolved petroleum hydrocarbons from groundwater at Plant 1 (Figure 1), as further detailed below.

2.1 Waterfront System Operations

Installation, startup, and testing of the final waterfront remediation system was completed in 2002 and 2003. An interim recovery system was installed along the waterfront in 1992 and operated until the installation of the final system. Standard operation of the final system began once testing demonstrated that the system operated as designed. System construction and operation and maintenance (O&M) are detailed in the Construction Completion Report (CCR) (TechSolv 2003a) and in the Final O&M Manual (TechSolv 2003b), which were approved by Ecology (Ecology 2004b). The O&M Manual is updated as practices or procedures change or as systems are altered. Operation of various portions of the remediation systems have been on-going since startup and have been modified/revised as needed, as discussed in the following sections.

O&M activities are conducted on the recovery systems to ensure they operate as designed and in accordance with applicable operating limits. These activities include, but are not limited to:

- weekly checks of groundwater recovery system pumping rates;
- weekly inspections of system components and waste storage containers for integrity per the requirements of Washington Administrative Code (WAC) 173-303-320;
- weekly inspections/observations of waterfront surface water conditions including potential oil sheens possibly associated with the terminal or, as has been more often observed, associated with offsite sources;
- monthly sampling of recovered groundwater influent and effluent streams to ensure compliance with King County Department of Natural Resources and Parks (KCDNRP) Discharge Permit 7592-07 for discharge A43262;
- monthly monitoring and calculation of system LNAPL recovery rates; and
- monthly sampling of system flow rates and hydrocarbon concentrations.

Additional maintenance activities are conducted as needed to maintain system operational integrity and to ensure discharges are within permitted ranges.

Operation of waterfront air sparging and soil vapor extraction (SVE) systems were discontinued in May 2008, as the bulk of available hydrocarbons had been recovered (TechSolv 2009). The results of monitoring showed that operation of these portions of the recovery system have achieved their recovery objectives.

Combined LNAPL recovery (free-phase, residual, and dissolved-phase) from final SVE and groundwater/LNAPL recovery systems is approximately 14,559 gallons (October 2002 to September 2023) (Table 1). The interim systems, operated from 1992 through 2002, recovered an additional 15,223 gallons of LNAPL, for a total combined LNAPL recovery of 29,782 gallons. The majority of LNAPL recovered by final remediation systems was from enhanced biodegradation, calculated from carbon dioxide concentrations in SVE vapor.

Groundwater/LNAPL recovery system data presented in Table 1 show that influent concentrations of dissolved benzene, diesel, and gasoline in recovered groundwater (i.e., untreated water pumped from recovery wells screened in the shallow groundwater) have decreased over time. During 2024, influent concentrations of dissolved benzene, diesel, and gasoline were all below the surface water cleanup levels (CULs). The data included in Table 1 also show that measurable volumes of recovered free-phase LNAPL have not been generated since 2008, which was the last time sufficient LNAPL was recovered to warrant offsite shipment. These data correspond with the absence of recoverable free-phase LNAPL per the frequent monitoring of the system recovery wells other than minor amounts of sheen detected in two of the recovery wells (RW-2 and RW-4). The monitoring results indicate that the recovery system has captured the available free-phase LNAPL, and that operation of the recovery system should be discontinued and the efforts for continued protection of the waterfront should be focused on monitoring of the waterfront wells (TechSolve 2022d).

Effluent discharges from the groundwater/LNAPL recovery system to the sanitary sewer have been within KCDNRP's permitted ranges in 2024 (Table 1). Average monthly effluent flow rates ranged from 0.34 to 1.35 gallons per minute (GPM) in 2024. These rates are below KCDNRP's maximum permitted flow of 17.5 GPM and are consistent with past rates that have decreased over time.

Maintenance and repair of remediation systems and wells are conducted to maintain integrity, effective operation, capture, and hydraulic control along the waterfront. Notable activities conducted in the third quarter of 2024 included the following:

- cleanout, service, and maintenance of treatment system process equipment;
- recovery well maintenance and redevelopment, as needed, to assure optimal performance of the groundwater recovery wells;

- piping and system back flushing and preventative maintenance to maintain conveyance piping and pumping from the recovery wells; and
- yearly change out and calibration of the sanitary discharge flow meter.

The data collected indicate that the system continues to operate as designed and in accordance with permit requirements.

2.1.1 Recovery Well Monitoring

Monitoring of the recovery wells for free-phase LNAPL, sheen, and concentrations of dissolved-phase Indicator Hazardous Substances (IHSs) is voluntarily conducted semi-annually and was conducted in June 2024, as detailed in the Second Quarter 2024 Progress Report (TechSolve 2024b). This monitoring has shown that no recoverable LNAPL remains and that dissolved-phase IHSs in shallow groundwater are not likely to cause exceedances of IHS CULs at the deeper points of compliance (POCs) monitoring wells. These POCs are located along the waterfront and are screened at depths where the groundwater and surface water exchange is occurring (i.e., below the base of the subsurface waterfront barriers of sheet piling and seawalls, as detailed in the RI/FS). The next round of recovery well sampling is scheduled to be completed in the fourth quarter of 2024, and the results will be presented in the subsequent quarterly progress report to be submitted in January 2025.

The trends in the monitoring results from the waterfront recovery wells and compliance monitoring wells support the conclusion that the cleanup objectives for the Site have been achieved and have been detailed in the Annual Site Reports since 2019 (TechSolve 2020, 2021, 2022c, and 2023a). The data included in these reports document attainment of the Site cleanup objectives and show that moving to compliance monitoring exclusively is appropriate and consistent with the Consent Decree. Discussions with Ecology to further evaluate this transition are ongoing, and additional monitoring of waterfront temporary piezometers is currently being conducted to support this monitoring transition, per Ecology's request (Ecology 2023).

2.2 Inland System Operations

An inland SVE system operated from 2008 through 2014 to improve soil and groundwater conditions along the southern boundary of Plant 1. The SVE system was decommissioned in 2018 following completion of the cleanup goals and has been discussed in the Annual Site Reports cited in the previous section. The in-ground SVE piping and control manifold for this system remain onsite as a contingency in case operation of the system is warranted in the future.

Groundwater monitoring data collected along Plant 1's southern boundary indicate the system improved groundwater conditions in this area of the Site, as discussed in Section 3.

2.3 Containment Boom Monitoring

Oil sorbent booms have been maintained on the West Duwamish Waterway adjacent to Plant 1 to contain oil sheens that have historically appeared on surface water. One boom, the Northern Warehouse Boom, is currently maintained in the waterway adjacent to the warehouse (Figure 2). Boom locations have been selected to best contain occasional sheens historically observed on the West Duwamish Waterway directly adjacent to the Site. The boom and the waterway are monitored weekly, at a minimum, for boom integrity and for the presence of oil sheens and augmented by checks made by Terminal personnel. Booms are replaced as necessary based on their condition.

No sheens on surface water have been observed within the Northern Warehouse Boom during the third quarter 2024. Use of the Southern Warehouse Boom was discontinued in the second quarter of 2022, following notification to Ecology (TechSolve 2022b), as no sheen had been observed in that area since August 2019. The Southern Warehouse Boom will be reinstalled and maintained if sheens are detected at this location in the future. Sheen observations were also conducted in the Load Rack area, which includes the NW Waterfront Area (Figure 3). No sheens were noted during the third quarter of 2024. Waterway sheen monitoring results will continue to be evaluated throughout the remainder of 2024 per Ecology's request (Ecology 2023).

3 SUMMARY OF GROUNDWATER PERFORMANCE MONITORING PROGRAM

The Second Quarter 2024 Groundwater Monitoring event was conducted in accordance with requirements of the Consent Decree, CAP, and Groundwater Compliance Monitoring and Contingency Program (GWCMCP) (TechSolv 1999). The monitoring also includes revisions requested by Ecology that are included in the EDR and detailed below. The current groundwater monitoring schedule is summarized in Table 2. Plant 1 monitoring well locations are shown on Figure 2. The Second Quarter Groundwater Monitoring event was conducted on June 19, 2024.

Wells monitored on a semi-annual basis are sampled in the first and third quarter, which typically correspond with seasonal groundwater highs and lows, respectively. As such, Wells AR-03, GM-15S, GM-16S, GM-17S, MW-1-T9, MW-2-T9, and MW-3-T9 were not sampled in the second quarter of 2024. During this quarter, these wells were monitored for water levels only. These wells will next be sampled in the third quarter of 2024.

Well GM-14S was historically used to monitor for sheens on groundwater, as discussed below. As sheens are no longer detected in groundwater at GM-14, quarterly groundwater monitoring for dissolved-phase IHSs was initiated at this well in 2007.

Overall, second quarter 2024 groundwater elevations (Table 3) were lower than elevations measured in the first quarter of 2024. These data indicate that the seasonal groundwater high occurred in late 2023 to early 2024, corresponding with historic trends showing groundwater elevations rising to seasonal highs in the winter and spring and falling to seasonal lows in the summer and autumn. Elevations are reported relative to the North American Vertical Datum of 1988 (NAVD88).

Second Quarter 2024 Groundwater Monitoring event samples were submitted to OnSite Environmental Inc., Redmond, Washington (Ecology Accreditation #C591) for laboratory analysis of IHSs identified in the CAP. The IHSs include total petroleum hydrocarbons (TPH) as gasoline (TPH-G), TPH as diesel (TPH-D), TPH as oil (TPH-O), and benzene.

Petroleum hydrocarbon monitoring results for the Second Quarter 2024 Groundwater Monitoring event are included in Table 4 and Figure 2. GM-14S had detections of IHSs above CULs for TPH-G and benzene. Concentrations from all other samples analyzed were below associated CULs. The benzene and TPH-G concentrations detected in Well GM-14S are similar to concentrations previously detected and fluctuate over time. Further evaluations of data trends will be presented in the 2024 Annual Site Report, in accordance with Consent Decree requirements.

Three wells (GM-11S, GM-12S, and GM-13S) have been examined monthly for the presence of free-phase LNAPL and sheens (Table 5). Historically, gauging for LNAPL at Plant 1 was conducted at four wells; however, gauging of Well GM-14S was discontinued in 2004, with concurrence from

Ecology (Ecology 2004c), and converted to a monitoring well in 2007, as it has been free of LNAPL since 1999.

No sheen or measurable LNAPL were detected in wells GM-12S or GM-13S during the third quarter 2024. GM-11S had a slight sheen in January 2024 and again in June 2024. Historic sheen monitoring data and trend analysis were presented in the 2023 Annual Site Report (TechSolve 2024a). Overall, LNAPL and sheen monitoring indicate that these wells meet the GWCMCP LNAPL performance standard of no measurable LNAPL. These three wells will continue to be gauged for sheen and LNAPL for the remainder of 2024, until Ecology concurs that the GWCMCP product performance standard has been met.

4 SUMMARY OF DATA VALIDATION

Laboratory analytical results were reported with associated laboratory quality assurance/quality control (QA/QC) data. Analytical reports were reviewed, and the data were validated. During this quarter, limited data were qualified with a J qualifier (the associated result is an estimated value).

A summary of data qualified during validation, qualifiers assigned, and reasons for data qualification, are provided in Table 6. All laboratory reports are retained by TechSolve.

5 ADDITIONAL ACTIVITIES

Notable additional activities that occurred in 2024 included:

- Waterfront Piezometer Sampling: sampling of the eleven waterfront piezometers for IHSs and monitored natural attenuation (MNA) parameters.
- NW Waterfront Area Sampling: sampling of monitoring wells surrounding the former impacted soil area for IHSs. These soils were excavated and treated per the standards of the Consent Decree for the Site. The soil staining appears to be associated with groundwater/surface water conditions resulting from unusually high waterfront conditions associated with an extreme "king tide" event at the Site. The initial discovery, investigation, and concurrent remediation activities were detailed in previous reports as discussed below. The additional monitoring requested by Ecology to confirm that the remedial and investigation actions for this small area are complete are discussed in the Section 5.2.

5.1 Waterfront Piezometers

Eleven temporary piezometers that were installed and sampled as part of the Hydraulic Evaluation (TechSolve 2022a) were resampled in July 2024 to monitor the shallow groundwater along the waterfront, as requested by Ecology (Ecology 2023). The monitoring was requested to support continuing evaluation and discussions with Ecology for discontinuing the waterfront active remediation and moving forward towards Site closure with groundwater monitoring (Techsolve 2022d). The piezometers were sampled for dissolved-phase IHSs (benzene, TPH-G, TPH-D, and TPH-O), as well as MNA parameters (methane, total sulfate, total nitrate, total chloride, alkalinity, manganese, hardness, and ferrous iron). These results will be presented to Ecology in a forthcoming separate report summarizing the four quarters of completed sampling.

5.2 NW Waterfront Area

Sampling was again conducted in three of the existing monitoring wells (B-007, HMW-01S, and GM-10S; Figure 3) located in the vicinity of soil staining observed near the waterfront in the northwest corner of the Site. To date, four quarters of sampling have been completed. The summary of groundwater analytical results for these wells is presented in Table 7 and Figure 3. The soil staining and remedial actions that were conducted in this area in the spring of 2023 were detailed in the 2022 Annual Site Report (TechSolve 2023a), the 2023 Annual Site Report (TechSolve 2024a), as well as the Second Quarter 2023 Progress Report (TechSolve 2023b).

Upon discovery of the soil staining, investigations/evaluations were initiated to determine if the soil staining could be due to "a new source". These initial investigations showed that the newly discovered soil staining was not associated with any failed terminal activities (e.g. any new pipeline releases). The results of the initial investigations confirmed that the staining was most

likely associated with historic sources (i.e., similar to old releases that have characterized the cleanup actions required by the Consent Decree). The results of these investigations are detailed in the reports referenced above. Ecology reviewed the results of these activities and requested additional monitoring of the existing wells near this area to complete a full year of monitoring (Ecology 2023). The nearby or surrounding wells were sampled quarterly for a year for oil-sheens, benzene, TPH-G, TPH-D, and TPH-O.

During the four quarters of sampling, the results have mostly been non-detect, with any detections being just above the laboratory reporting limits and well below the cleanup levels (Table 7). No sheen attributable to the impacted soil has been observed in these wells or on the waterway during 2023 or in 2024 (monitored weekly). The small area of gravel that was originally observed to have minor staining no longer shows any signs of staining. As documented by the monitoring, this small area has not impacted and is not impacting the area groundwater following the excavation of the impacted soils as detailed in the 2022 and 2023 Annual Site Reports (TechSolve 2023a, 2024a) This area is also well-contained behind the new seawall and is not impacting the Duwamish Waterway. Any potential remaining risks, however unlikely, have been, and will continue to be, mitigated under the natural attenuation remedy of the Consent Decree, as other inaccessible soils along the waterfront are. Based on these conditions, we conclude that the initial remediation and investigation efforts have been completed and that no further action is needed for the soil staining in the NW Waterfront Area.

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TABLES

Table 1. Waterfront Groundwater System Petroleum Hydrocarbon Recovery Rates
Site: SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal)

GROUNDWATER SYSTEM EFFICIENCIES

SAMPLE DATE	UNITS	Influent Benzene	Effluent Benzene	% Reduction	Influent Diesel	Effluent Diesel	% Reduction	Influent Ethylbenzene	Effluent Ethylbenzene	% Reduction	Influent Gasoline	Effluent Gasoline	% Reduction	Influent Oil	Effluent Oil	% Reduction	Influent Toluene	Effluent Toluene	% Reduction	Influent Xylenes	Effluent Xylenes	% Reduction
2002 Averages	µg/L	**225.3**	14.3	91%	7,315	7,020	NA	55.2	6.2	75%	**1,770**	336	82%	831	804	NA	17.0	2.5	88%	88.8	9.9	87%
2003 Averages	µg/L	**137.7**	19.5	76%	4,945	4,648	NA	44.5	12.9	69%	**1,854**	678	62%	760	763	NA	42.7	5.4	61%	154.1	50.3	68%
2004 Averages	µg/L	**93.5**	3.2	82%	**10,285**	9,342	NA	76.8	4.7	79%	**4,383**	840	59%	762	1,026	NA	116.6	2.2	82%	356.6	23.0	75%
2005 Averages	µg/L	**76.7**	14.5	84%	4,162	5,987	NA	170.8	45.4	81%	**10,090**	3,229	70%	864	750	NA	566.9	121.0	84%	1,327.7	367.9	78%
2006 Averages	µg/L	38.9	1.2	89%	**11,263**	2,174	NA	42.1	0.9	90%	**4,944**	202	94%	665	666	NA	55.6	0.8	77%	485.1	5.2	96%
2007 Averages	µg/L	8.8	1.5	60%	1,223	906	NA	6.6	0.8	56%	407	115	63%	598	598	NA	1.0	0.5	21%	19.8	1.9	50%
2008 Averages	µg/L	10.0	1.1	70%	540	468	NA	5.5	0.7	39%	279	76	61%	505	504	NA	0.7	0.5	40%	10.6	1.6	65%
2009 Averages	µg/L	5.2	1.0	48%	369	561	NA	4.1	1.6	31%	407	182	46%	497	489	NA	0.8	0.7	44%	15.2	7.4	33%
2010 Averages	µg/L	3.9	0.7	76%		2,193	NA	6.8	1.7	78%	915	336	65%		410	NA	*0.9*	*0.9*	NA	26.3	6.7	69%
2011 Averages	µg/L	3.2	0.5	80%		1,714	NA	2.4	1.0	53%	439	89	69%		492	NA	1.0	1.0	NA	7.1	3.0	29%
2012 Averages	µg/L	3.6	1.3	48%		2,787	NA	1.9	1.2	37%	362	144	61%		636	NA	1.0	1.0	NA	5.7	3.4	48%
2013 Averages	µg/L	1.0	0.5	45%		1,333	NA	1.1	0.5	49%	356	124	57%		433	NA	0.5	0.5	NA	2.4	1.0	78%
2014 Averages	µg/L	1.7	0.3	61%		1,699	NA	0.6	0.3	46%	539	122	79%		236	NA	0.5	0.3	NA	1.5	0.5	61%
2015 Averages	µg/L	2.3	0.4	66%		5,175	NA	1.6	0.4	60%	**1,146**	406	64%		396	NA	0.5	0.4	NA	2.8	0.5	74%
2016 Averages	µg/L	2.2	0.6	76%		2,292	NA	2.3	0.5	81%	**1,282**	582	50%		248	NA	0.4	0.4	NA	2.9	1.0	62%
2017 Averages	µg/L	1.9	0.4	74%		4,325	NA	1.0	0.4	63%	**1,421**	641	56%		349	NA	0.5	0.4	NA	1.0	0.7	55%
2018 Averages	µg/L	1.1	0.7	60%		1,673	NA	0.7	0.7	7%	359	136	62%		346	NA	0.5	0.5	NA	1.3	0.9	30%
2019 Averages	µg/L	0.5	0.4	50%		1,539	NA	0.7	0.7	NA	231	68	60%		584	NA	0.7	0.7	NA	2.0	2.0	NA
2020 Averages	µg/L	0.7	0.5	NA		588	NA	1.0	1.0	NA	100	51	65%		750	NA	1.0	1.0	NA	3.0	3.0	NA
2021 Averages	µg/L	1.6	0.5	NA		756	NA	1.0	1.0	NA	110	50	NA		750	NA	1.0	1.0	NA	3.3	3.0	NA
2022 Averages	µg/L	1.0	0.5	NA		378	NA	1.0	1.0	NA	95	50	NA		750	NA	1.0	1.0	NA	3.0	3.0	NA
2023 Averages	µg/L	0.9	0.5	NA		482	NA	1.0	1.0	NA	86	50	NA		750	NA	1.0	1.0	NA	3.0	3.0	NA
1/31/2024	µg/L	0.8	*0.5*	35%		1,400	NA	*1.0*	*1.0*	NA	*50*	*50*	NA		*750*	NA	*1.0*	*1.0*	NA	*3.0*	*3.0*	NA
2/23/2024	µg/L	4.1	*0.5*	88%		1,800	NA	*1.0*	*1.0*	NA	160	*50*	69%		420	NA	*1.0*	*1.0*	NA	*1.0*	*1.0*	NA
3/21/2024	µg/L	4.4	*0.5*	89%		*200*	NA	*1.0*	*1.0*	NA	79	*50*	37%		*200*	NA	*1.0*	*1.0*	NA	*1.0*	*1.0*	NA
4/18/2024	µg/L	2.1	*0.5*	76%		630	NA	*1.0*	*1.0*	NA	*50*	*50*	NA		*750*	NA	*1.0*	*1.0*	NA	*1.0*	*1.0*	NA
5/23/2024	µg/L	*0.5*	*0.5*	7%		310	NA	*1.0*	*1.0*	NA	*50*	*50*	0%		*750*	NA	*1.0*	*1.0*	NA	*1.0*	*1.0*	NA
6/27/2024	µg/L	2.1	*0.5*	76%		*250*	NA	*1.0*	*1.0*	NA	53	*50*	6%		*750*	NA	*1.0*	*1.0*	NA	*1.0*	*1.0*	NA
7/31/2024	µg/L	*0.5*	*0.5*	0%		*250*	NA	*1.0*	*1.0*	NA	*50*	*50*	NA		*750*	NA	*1.0*	*1.0*	NA	*1.0*	*1.0*	NA
8/22/2024	µg/L	*0.5*	*0.5*	0%		*260*	NA	*1.0*	*1.0*	NA	*50*	*50*	0%		*750*	NA	*1.0*	*1.0*	NA	*1.0*	*1.0*	NA
9/30/2024	µg/L	*0.5*	*0.5*	0%		*250*	NA	*1.0*	*1.0*	NA	*50*	*50*	0%		*750*	NA	*1.0*	*1.0*	NA	*1.0*	*1.0*	NA
2024 Averages	µg/L	1.7	0.5	NA		594.4	NA	1	1	NA	66	50	NA		652	NA	1	1	NA	1	1	NA
SURFACE WATER CLEANUP LEVELS		71 µg/L			10,000 µg/L			NA			1,000 µg/L			10,000 µg/L			NA			NA		
KCDNR DISCHARGE LIMITS			70 µg/L			100,000 µg/L			1,700 µg/L			NA			100,000 µg/L			1,400 µg/L			2,200 µg/L	

METRO DISCHARGE DATA

Observation Date	Days since last monitoring reading	Average flow (GPM)	Total Flow Between Observation dates (gallons, GW)	Pounds of Benzene Removed	Pounds of Gasoline Removed	Pounds of Diesel Removed	Pounds of Oil Removed	Pounds of Toluene Removed	Pounds of Ethylbenzene Removed	Pounds of Xylenes Recovered	Total Gallons Gas, Diesel, and Oil (dissolved)
2002 Totals and Averages	65	4.18	322,785	0.62	4.99	19.42	2.30	0.05	0.13	0.22	**3.90**
2003 Totals and Averages	361	8.03	4,114,867	4.43	62.20	169.14	26.05	1.18	1.47	5.05	**37.76**
2004 Totals and Averages	338	9.58	4,570,461	3.54	175.70	419.25	28.95	5.35	3.16	14.66	**92.43**
2005 Totals and Averages	359	11.17	5,827,144	3.43	447.43	155.78	41.55	25.29	7.69	59.98	**100.52**
2006 Totals and Averages	365	6.40	3,220,733	0.80	192.72	663.65	19.09	2.85	1.89	20.04	**128.92**
2007 Totals and Averages	360	3.17	1,599,607	0.15	9.08	18.30	8.40	0.02	0.11	0.48	**5.20**
2008 Totals and Averages	363	3.19	1,645,810	0.14	3.95	7.21	6.95	0.01	0.08	0.15	**2.59**
2009 Totals and Averages	369	2.98	1,569,390	0.07	5.75	7.81	6.40	0.01	0.06	0.22	**2.89**
2010 Totals and Averages	372	2.17	1,185,127	0.037	8.62	18.84	4.26	0.01	0.05	0.19	**4.66**
2011 Totals and Averages	356	1.90	949,880	0.026	5.13	17.55	3.54	0.01	0.03	0.13	**3.81**
2012 Totals and Averages	371	1.89	948,600	0.034	3.97	25.92	3.47	0.01	0.02	0.04	**4.81**
2013 Totals and Averages	365	1.33	700,450	0.014	2.26	8.80	3.43	0.003	0.01	0.02	**2.08**
2014 Totals and Averages	332	1.62	761,480	0.010	3.43	10.95	1.55	0.003	0.00	0.01	**2.33**
2015 Totals and Averages	358	1.71	874,680	0.015	6.56	36.53	2.92	0.004	0.01	0.02	**6.68**
2016 Totals and Averages	370	1.90	999,770	0.021	13.12	20.02	1.94	0.004	0.03	0.03	**5.26**
2017 Totals and Averages	364	1.65	866,030	0.014	11.96	33.39	2.62	0.004	0.01	0.01	**7.52**
2018 Totals and Averages	371	1.20	641,740	0.006	2.16	9.61	1.79	0.002	0.004	0.007	**1.96**
2019 Totals and Averages	357	1.26	611,500	0.002	1.30	8.72	2.89	0.003	0.003	0.009	**1.84**
2020 Totals and Averages	378	1.06	572,320	0.003	0.46	2.70	3.58	0.005	0.005	0.014	**0.93**
2021 Totals and Averages	358	1.01	572,321	0.008	0.47	3.72	3.19	0.004	0.004	0.014	**1.03**
2022 Totals and Averages	375	0.90	486,520	0.004	0.37	1.64	3.04	0.004	0.004	0.012	**0.69**
2023 Totals and Averages	371	0.91	495,900	0.005	0.42	1.87	3.10	0.004	0.004	0.012	**0.74**
January-24	34	1.35	66,310	0.0003	0.09	0.37	0.41	0.0006	0.0006	0.0017	**0.12**
February-24	23	0.82	27,140	0.0002	0.04	0.26	0.17	0.0002	0.0002	0.0007	**0.06**
March-24	27	1.31	50,810	0.0010	0.04	0.68	0.25	0.0004	0.0004	0.0008	**0.14**
April-24	28	0.79	31,770	0.0001	0.04	0.18	0.20	0.0003	0.0003	0.0008	**0.06**
May-24	35	0.46	23,430	0.0003	0.03	0.15	0.15	0.0002	0.0002	0.0004	**0.05**
June-24	35	0.42	20,940	0.0002	0.01	0.08	0.13	0.0002	0.0002	0.0002	**0.03**
July-24	34	0.57	28,050	0.0003	0.01	0.06	0.18	0.0002	0.0002	0.0002	**0.03**
August-24	22	0.54	17,170	0.0001	0.01	0.04	0.11	0.0001	0.0001	0.0001	**0.02**
September-24	39	0.34	19,070	0.0001	0.01	0.04	0.12	0.0002	0.0002	0.0002	**0.02**
2024 Totals and Averages	277	0.73	284,690	0.003	0.277	1.852	1.712	0.002	0.002	0.005	**0.53**
		TOTALS:	**33,821,805 gal**	**13.4**	**962.3**	**1662.7**	**182.8**	**34.8**	**14.8**	**101.3**	
	Maximum permitted GPM:	**17.5**	**Gallons Gas, Diesel, & Oil Recovered:**	**156.5**	**238.2**	**24.0**			**Total Gallons Recovered:**		**419.07**

Oil Water Separator Data

Observation Date	Monthly free LNAPL Recovery (gal)
February-03	19.6
April-03	6.9
May-03	2.5
July-03	2
December-03	20
January-04	25
June-04	35
August-04	50
September-04	8
November-04	10
December-04	3.5
January-05	0
February-05	35
July-05	110
February-06	5
March-06	2
December-06	30
March-08	30
Total Gallons free LNAPL Recovered:	**395**

TOTAL PETROLEUM RECOVERY

Total lbs. Dissolved Gas, Diesel, and Oil Recovered in Groundwater (2002-Present)	2,808 lbs
Total Gallons Dissolved Gas, Diesel, and Oil Recovered in Groundwater (2002-Present)*	**419 gal**
Total Gallons LNAPL Recovered by Final Recovery System (2002-Present)	**395 gal**
Total Gallons LNAPL Recovered by Interim Recovery System (1992-2002)	**9,312 gal**
Total Gallons of TPH Vapor Recovered by Final SVE System (2003-2008)**	**2,334 gal**
Total Gallons of TPH Vapor Recovered by Interim SVE System (1996-2002)**	**1,248 gal**
Total Gallons TPH Recovered from Final SVE System due to Biodegradation (2003-2008)***	**11,411 gal**
Total Gallons TPH Recovered from Interim SVE System due to Biodegradation (1996-2002)***	**4,664 gal**
Total Gallons Recovered by Final Recovery Systems (2002-Present)	**14,559 gal**
Total Gallons Recovered by Interim Recovery Systems (1992-2002)	**15,223 gal**
Total Gallons of Petroleum Removed (1992-Present)	**29782.9**

Definitions:

gal - gallons
GPM - Gallons per minute
NA - Not available or could not be calculated due to non-detection
LNAPL - Light non-aqueous phase liquid (oil)
SVE - Soil vapor extraction
TPH - Total petroleum hydrocarbons
µg/L - micrograms per liter
GW - Groundwater

Notes:

LNAPL recovery is recorded periodically when sufficient product has been accumulated to be transported off-site for disposal.
Influent diesel and oil samples are no longer analyzed. Influent and effluent samples are collected before and after, respectively, a diffused air stripper, which does not remove diesel or oil.
Effluent sample data are representative of the outflow water to King County Metro sanitary sewer.
The average µg/L of the preceding month and the month of reference are used to calculate pounds of compound removed.
Data presented in *italicized text* represent non-detections. The listed *italicized value* is the laboratory reporting limit
If influent concentrations are below the laboratories reporting limit, the percent reduction is calculated using the reporting limit. The actual percent reduction is ≥ the reported value.

* Calculation of lbs. of Recovered Product:
To convert µg/L to lbs./gallon - (µg/L)x(3.785l/gal)=ug/gal, (ug/gal)x(ug/(2.2046x10-9lbs))=lbs./gal
lbs./gal of chemical constituent x total gallons recovered =lbs. of chemical recovered
Density of Gasoline utilized for conversions from pounds to gallons is 6.15 lbs./gal
Density of Diesel utilized for conversions from pounds to gallons 6.98 lbs./gal
Density of Oil utilized for conversions from pounds to gallons 7.63 lbs./gal
Benzene, toluene, ethylbenzene, and xylenes volumes are not included in the Total Gallons calculations, as they are assumed to be included in TPH as gasoline.

** / *** SVE Recovery Calculations for TPH and Biodegradation, which are maintained in separate tables.
C = Average Influent TPH concentration (ppmv)
Q = Influent Flow Rate (SCFM)
Mc = Molecular wt. of Carbon Dioxide = 44
Mg = Molecular wt. of Gasoline = 87
Density of Gasoline for conversions is 6.15 lbs./gal

** TPH recovered by SVE system was calculated in lbs./hr. = C x Q x Mg x 1.583 x 10^{-7}
1.583 x 10^{-7} is a constant and is derived as follows:
10^{-6} ppmv x 60min/1hr x 1 lb. Mole/379 cu.ft.
SVE TPH recovery calculations are based on TPH concentrations in the SVE stream, SVE hrs. of operation, and SVE measured flow rates.

Table 2. Groundwater Performance Monitoring Schedule
Site: SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal)

	Analyses Conducted by Quarter			
Well	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Plant 1				
MW-1-T9	Benzene, TPH-G, TPH-D, TPH-O	(1)	Benzene, TPH-G, TPH-D, TPH-O	(1)
MW-2-T9	Benzene, TPH-G, TPH-D, TPH-O	(1)	Benzene, TPH-G, TPH-D, TPH-O	(1)
MW-3-T9	Benzene, TPH-G, TPH-D, TPH-O	(1)	Benzene, TPH-G, TPH-D, TPH-O	(1)
GM-14S	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O
GM-15S	Benzene, TPH-G, TPH-D, TPH-O	(1)	Benzene, TPH-G, TPH-D, TPH-O	(1)
GM-16S	Benzene, TPH-G, TPH-D, TPH-O		Benzene, TPH-G, TPH-D, TPH-O	
GM-17S	Benzene, TPH-G, TPH-D, TPH-O		Benzene, TPH-G, TPH-D, TPH-O	
GM-24S	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O
AR-03	Benzene, TPH-G, TPH-D, TPH-O	(1)	Benzene, TPH-G, TPH-D, TPH-O	(1)
AMW-01	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O, cPAHs
AMW-02	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O, cPAHs
AMW-03	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O, cPAHs
AMW-04	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O, cPAHs
AMW-05	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O	Benzene, TPH-G, TPH-D, TPH-O, cPAHs
Plant 2				
All Plant 2 monitoring has been discontinued.				

Notes: Field Duplicate and QA/QC samples collected from wells highlighted in bold.
TPH-G - Gasoline Range organics utilizing NWTPH-Gx method
TPH-D - Diesel Range Organics utilizing NWTPH-Dx
TPH-O - Extended Range Organics (Motor Oil) utilizing NWTPH-Dx
Benzene is analyzed for utilizing EPA 8021 or 8260B.
cPAHs - Carcinogenic Polycyclic Aromatic Hydrocarbons utilizing EPA 8270SIM
Field Parameters (pH, Temperature, Conductivity, Turbidity, Water Level, & Product Level) are recorded from all wells sampled
(1) - If a groundwater cleanup level exceedance occurs in first or third quarter in any of these highlighted wells, all (1) wells will be sampled the following quarter. Wells exceeding cleanup levels will continue quarterly monitoring until four consecutive quarters below cleanup level are achieved.

Table 3. Groundwater Performance Monitoring Groundwater Elevations
Second Quarter 2024
Site: SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal)

Well	Date	TOC Elevation (ft NAVD88)	Depth to Water (ft below TOC)	Groundwater Elevation (ft NAVD88)
Plant 1				
GM-14S	6/19/2024	11.77	4.69	7.08
GM-16S	6/21/2024	11.99	4.92	7.07
GM-17S	6/21/2024	12.56	4.87	7.69
GM-24S	6/19/2024	11.11	3.65	7.46
AMW-01	6/19/2024	12.17	12.02	0.15
AMW-02	6/19/2024	15.36	14.42	0.94
AMW-03	6/19/2024	15.29	13.28	2.01
AMW-04	6/19/2024	11.42	9.53	1.89
AMW-05	6/19/2024	11.05	8.86	2.19

Definitions:

ft	Feet
NAVD88	North American Vertical Datum of 1988
TOC	Top of casing

Table 4. Summary of Analytical Results for Groundwater - TPH-G, TPH-D, TPH-O, and Benzene
Second Quarter 2024
Site: SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal)

Well	Date	TPH-G NWTPH-Gx (µg/L)	TPH-D NWTPH-Dx (µg/L)	TPH-O NWTPH-Dx (µg/L)	Benzene EPA 8260 (µg/L)
Plant 1					
GM-14S	6/19/2024	**2,000**	1,100	ND	**1,100**
GM-24S	6/19/2024	880 J	490 J	ND	ND
AMW-01	6/19/2024	ND	ND	ND	ND
AMW-02	6/19/2024	ND	ND	ND	ND
AMW-03	6/19/2024	ND	ND	ND	ND
AMW-04	6/19/2024	ND	ND	ND	ND
AMW-05	6/19/2024	ND	ND	ND	ND
Cleanup Level		1,000	10,000	10,000	71
Method Reporting Limit		50	250	750	0.5

Notes:
Values in **bold** exceed the cleanup level.

Definitions:

EPA 8260	EPA method of analysis for volatile organic compounds in water.
µg/L	Micrograms per liter.
ND	Constituent not detected above listed method reporting limit.
TPH	Total petroleum hydrocarbons.
TPH-D	Total petroleum hydrocarbons as diesel.
TPH-G	Total petroleum hydrocarbons as gasoline.
TPH-O	Total petroleum hydrocarbons as oil.
NWTPH-Dx	Northwest TPH method for analysis of diesel in water - extended.
NWTPH-Gx	Northwest TPH method for analysis of gasoline in water - extended.
J	Estimated value.

Table 5. Summary of Free Product Measurement Results for Groundwater
2024 Monitoring Data
Site: SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal)

Well	Date	Free Product (feet)
Plant 1		
GM-11S	1/31/2024	Slight Sheen
GM-11S	2/23/2024	None
GM-11S	3/21/2024	None
GM-11S	4/18/2024	None
GM-11S	5/23/2024	None
GM-11S	6/27/2024	Slight Sheen
GM-11S	7/31/2024	None
GM-11S	8/22/2024	None
GM-11S	9/30/2024	None
GM-12S	1/31/2024	None
GM-12S	2/23/2024	None
GM-12S	3/21/2024	None
GM-12S	4/18/2024	None
GM-12S	5/23/2024	None
GM-12S	6/27/2024	None
GM-12S	7/31/2024	None
GM-12S	8/22/2024	None
GM-12S	9/30/2024	None
GM-13S	1/31/2024	None
GM-13S	2/23/2024	None
GM-13S	3/21/2024	None
GM-13S	4/18/2024	None
GM-13S	5/23/2024	None
GM-13S	6/27/2024	None
GM-13S	7/31/2024	None
GM-13S	8/22/2024	None
GM-13S	9/30/2024	None
Cleanup Level		No Sheen

Notes: Values in **bold** exceed the cleanup level.

Table 6. Summary of Data Validation Results
Groundwater Performance Monitoring
Second Quarter 2024
Site: SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal

Sample ID	Constituent	Qualifier	Reason
P1-GWGM-24S-224 P1-GWGM-224S-224	Gasoline	J	The relative percent difference (RPD) for this field duplicate pair exceeds the control limit. These results are, therefore, qualified as estimated values (J).
P1-GWGM-24S-224 P1-GWGM-224S-224	Diesel	J	The relative percent difference (RPD) for this field duplicate pair exceeds the control limit. These results are, therefore, qualified as estimated values (J).
P1-GWGM-24S-224	Diesel	J	The RPD for the laboratory duplicate prepared from this sample is within the laboratory's control limit but exceeds the control limit established for the project. This result is, therefore, qualified as an estimated value (J).

Definitions:

J The associated result is qualified as an estimated value.

Table 7. Northwest Waterfront Area Wells
Summary of Analytical Results for Groundwater - TPH-G, TPH-D, TPH-O, and Benzene
Site: SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal)

Well	Date	TPH-G NWTPH-Gx (µg/L)	TPH-D NWTPH-Dx (µg/L)	TPH-O NWTPH-Dx (µg/L)	Benzene EPA 8260 (µg/L)
Plant 1					
B-007	2/28/2023	ND	ND	ND	ND
B-007	11/29/2023	ND	280	ND	ND
B-007	4/30/2024	ND	ND	ND	ND
B-007	7/24/2024	ND	ND	ND	ND
GM-10S	2/28/2023	ND	ND	ND	ND
GM-10S	11/29/2023	64	260	ND	ND
GM-10S	4/30/2024	ND	ND	ND	ND
GM-10S	7/24/2024	70	ND	ND	ND
HMW-01S	2/28/2023	ND	ND	ND	ND
HMW-01S	11/29/2023	ND	340	ND	ND
HMW-01S	4/30/2024	ND	ND	ND	ND
HMW-01S	7/24/2024	ND	ND	ND	ND
Cleanup Level		1,000	10,000	10,000	71
Method Reporting Limit		50	250	750	0.5

Notes:
Values in **bold** exceed the cleanup level.

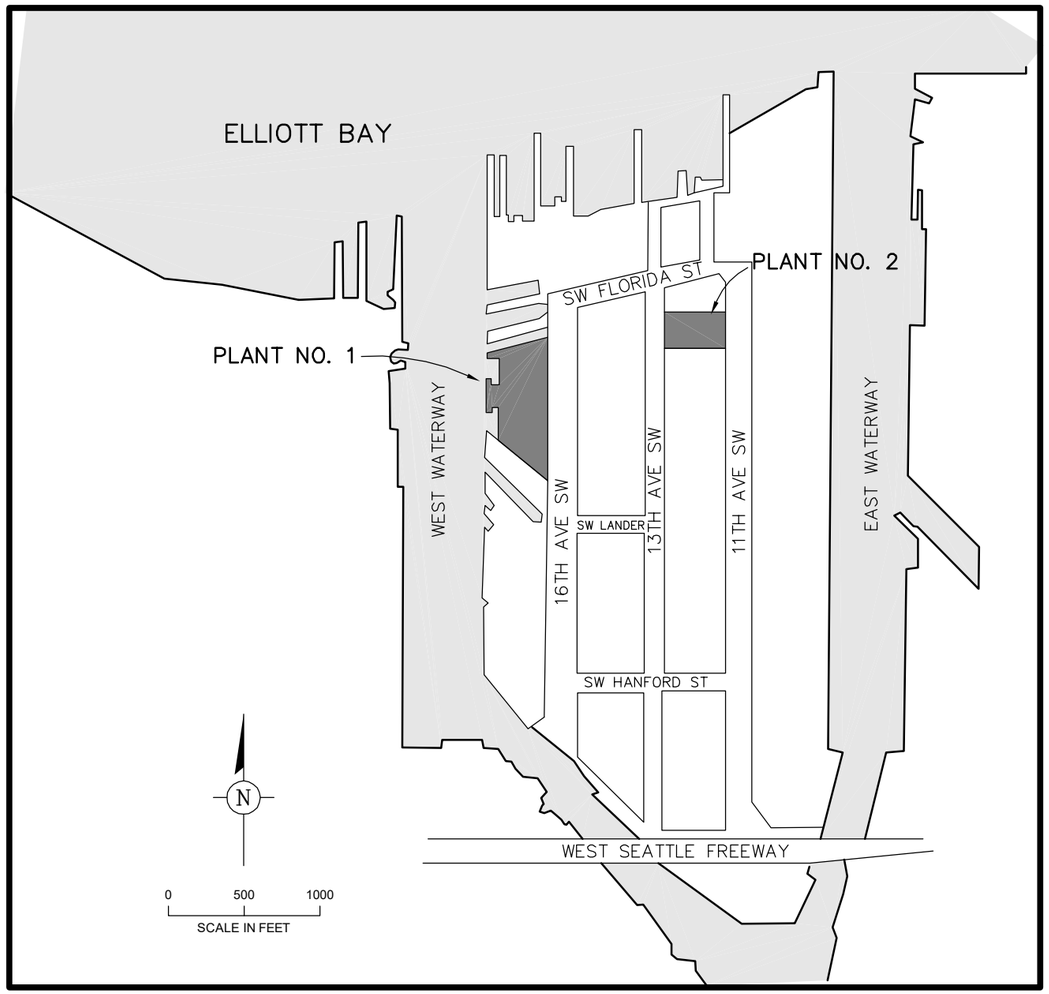
Definitions:

EPA 8260	EPA method of analysis for volatile organic compounds in water.
µg/L	Micrograms per liter.
ND	Constituent not detected above listed method reporting limit.
TPH	Total petroleum hydrocarbons.
TPH-D	Total petroleum hydrocarbons as diesel.
TPH-G	Total petroleum hydrocarbons as gasoline.
TPH-O	Total petroleum hydrocarbons as oil.
NWTPH-Dx	Northwest TPH method for analysis of diesel in water - extended.
NWTPH-Gx	Northwest TPH method for analysis of gasoline in water - extended.

FIGURES

1. Site Location Map
2. Plant 1 Second Quarter 2024 Groundwater Monitoring Analytical Results & Contours
3. NW Waterfront Area Wells – Analytical Results 2023-2024

AREA PLAN



SITE PLAN

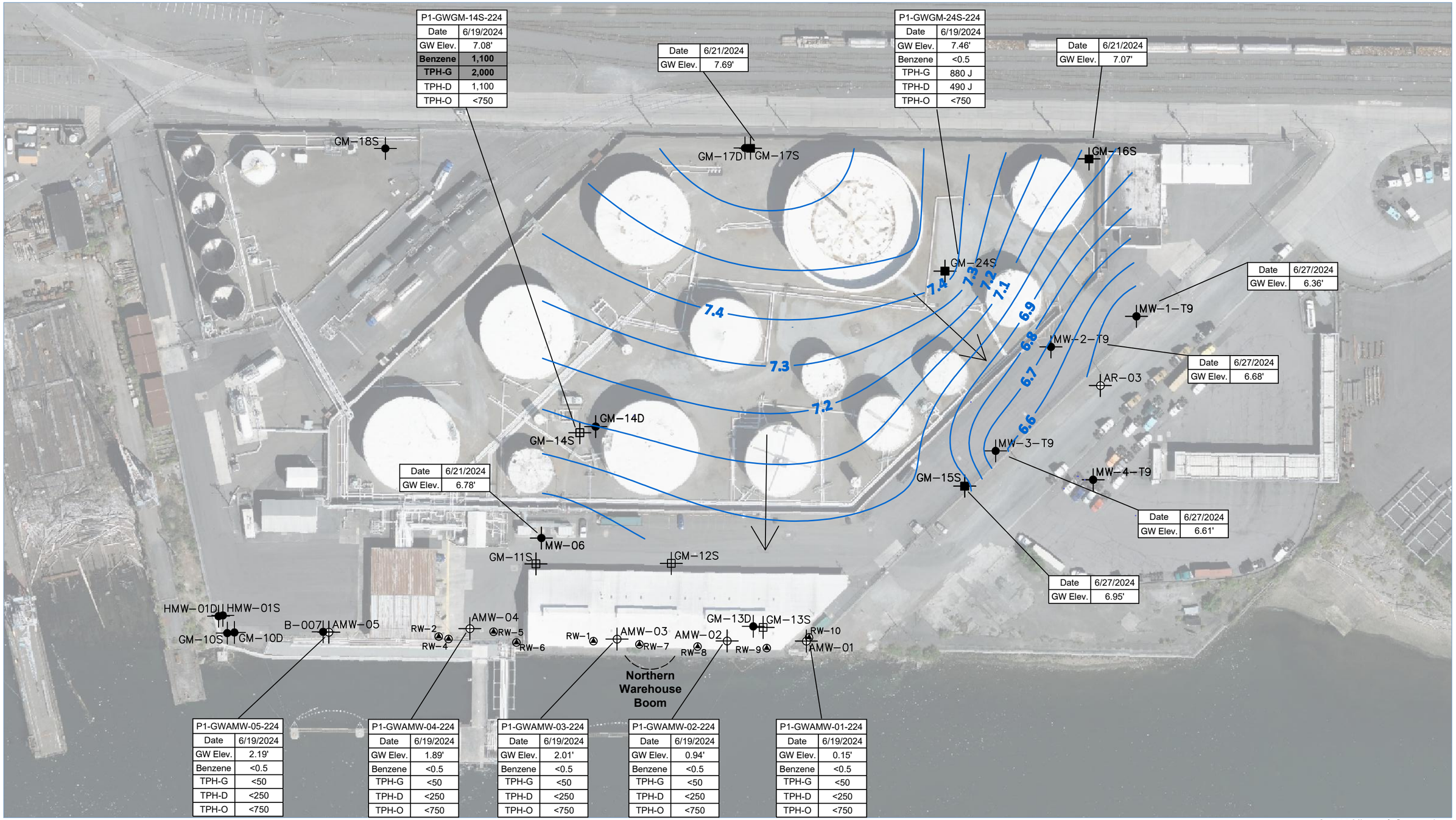
TechSolve Environmental
7518 NE 169th Street,
Kenmore WA 98028

Site Location Map

SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal)
1652 Southwest Lander Street
Seattle, WA 98134

FIGURE
1

C:\DCS_PROJECTS\TechSolve PROJECTS\BP21T\ARCO 21T\dwg\VMAP2.dwg JAN 13 2011 12:26:16



LEGEND

- GM-16S Monitoring Well
- RW-5 Recovery Well
- AMW-01 Performance/Confirmation Well
- GM-13D Performance Well
- GM-13S Product Performance Well
- Groundwater Flow Direction
- Groundwater Contour (Feet NAVD88)

Sample ID	CUL
Date	Date Sample Collected	–
GW Elev.	Groundwater Elevation in Feet NAVD88	–
Benzene	Benzene (EPA 8260) in µg/L	71
TPH-G	Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx) in µg/L	1,000
TPH-D	Total Petroleum Hydrocarbons as Diesel (NWTPH-Dx) in µg/L	10,000
TPH-O	Total Petroleum Hydrocarbons as Oil (NWTPH-Dx) in µg/L	10,000

Notes: **Bold** - Detected concentration exceeds site specific cleanup level
< = Not detected at listed laboratory reporting limit

N

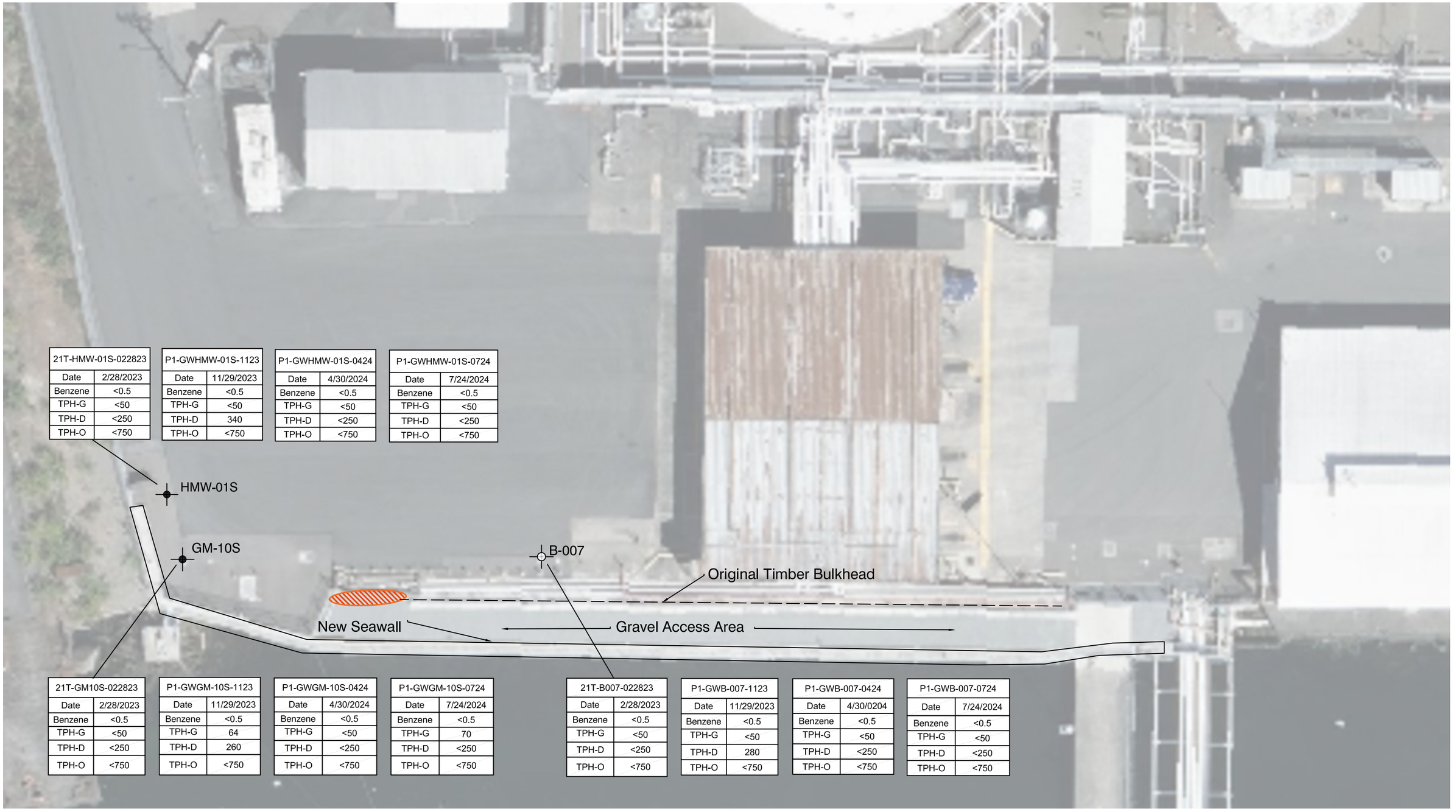
0 50 100
SCALE IN FEET

TechSolve Environmental
7518 NE 169th Street
Kenmore, WA 98028

Plant 1 Second Quarter 2024
GW Monitoring Analytical Results & Contours

SeaPort Seattle Terminal (Former ARCO/BP Harbor Island Terminal)
1652 Southwest Lander Street
Seattle, WA 98134

FIGURE
2



21T-HMW-01S-022823	
Date	2/28/2023
Benzene	<0.5
TPH-G	<50
TPH-D	<250
TPH-O	<750

P1-GWHMW-01S-1123	
Date	11/29/2023
Benzene	<0.5
TPH-G	<50
TPH-D	340
TPH-O	<750

P1-GWHMW-01S-0424	
Date	4/30/2024
Benzene	<0.5
TPH-G	<50
TPH-D	<250
TPH-O	<750

P1-GWHMW-01S-0724	
Date	7/24/2024
Benzene	<0.5
TPH-G	<50
TPH-D	<250
TPH-O	<750

21T-GM10S-022823	
Date	2/28/2023
Benzene	<0.5
TPH-G	<50
TPH-D	<250
TPH-O	<750

P1-GWGM-10S-1123	
Date	11/29/2023
Benzene	<0.5
TPH-G	64
TPH-D	260
TPH-O	<750

P1-GWGM-10S-0424	
Date	4/30/2024
Benzene	<0.5
TPH-G	<50
TPH-D	<250
TPH-O	<750

P1-GWGM-10S-0724	
Date	7/24/2024
Benzene	<0.5
TPH-G	70
TPH-D	<250
TPH-O	<750

21T-B007-022823	
Date	2/28/2023
Benzene	<0.5
TPH-G	<50
TPH-D	<250
TPH-O	<750

P1-GWB-007-1123	
Date	11/29/2023
Benzene	<0.5
TPH-G	<50
TPH-D	280
TPH-O	<750

P1-GWB-007-0424	
Date	4/30/0204
Benzene	<0.5
TPH-G	<50
TPH-D	<250
TPH-O	<750

P1-GWB-007-0724	
Date	7/24/2024
Benzene	<0.5
TPH-G	<50
TPH-D	<250
TPH-O	<750

LEGEND

GM–10S MONITORING WELL

B–007 PEIZOMETER

AREA of PREVIOUS STAINING

Sample ID	
Date	Date Sample Collected
Benzene	Benzene (EPA 8260)
TPH-G	Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx)
TPH-D	Total Petroleum Hydrocarbons as Diesel (NWTPH-Dx)
TPH-O	Total Petroleum Hydrocarbons as Oil (NWTPH-Dx)

Notes: **Bold** - Detected concentration exceeds site specific cleanup level
< = Not detected at listed laboratory detection limit
Concentrations are reported in µg/L for water and mg/kg for soil

N

0 25

SCALE IN FEET

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NW Waterfront Area Wells Analytical Results 2023-2024

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Seattle, WA 98134

FIGURE 3

C:\Users\Lynn\OneDrive - Techsolve\Documents\Aproject\ARCO 21T\Drawings and CAD Files\Autocad Files\Lynn CAD File