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May 2, 2024

HETI Project No. 200-150

State of Washington Department of Ecology
1250 W Alder Street
Union Gap, WA 98903

Attention: Frosti Smith

Subject: February 2024 Quarterly Groundwater Monitoring Report, RH Smith Distributing Co. Inc., I-90, Exit 136, M.P. 137.5, Vantage, Washington
Cleanup Site Identification #15108

Dear Ms. Smith:

On behalf of RH Smith Distributing Co. Inc. (RH Smith), HETI presents this report documenting groundwater monitoring well sampling for the above-referenced property (Site). The wells were installed to evaluate potential impacts to groundwater by a release of gasoline fuel from a RH Smith tanker incident which occurred at the Site on October 9, 2019. HETI conducted these activities on behalf of RH Smith.

If you should have any questions regarding this report, please feel free to contact the undersigned at dsadoff@hetiservices.com or (510) 499-1753.

Sincerely,

HETI SERVICES, INC.

Dave Sadoff, P.G. (CA), C.P.G.
Senior Professional Geologist
Western Region

George Holt, P.G., L.H.G.

State of Washington Hydrogeologist 1978 Licensed Geologist GEORGE C. HOLT

Distribution: (1) Addressee (via email)
(1) Ms. Sue Smith, RH Smith

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EXECUTIVE SUMMARY

RH Smith authorized HETI to assess potential impact to groundwater related to a release of gasoline resulting from an RH Smith gasoline tanker spill, which occurred on October 9, 2019. Investigation of the potential impact is conducted under the regulatory oversight of the State of Washington Department of Ecology (DOE) under DOE's independent remedial action program. Four groundwater monitoring wells, designated MW-1, MW-2, MW-3, and MW-4 were previously installed, and groundwater samples were collected and analyzed in May 2020. Field activities and findings are documented in HETI's *Groundwater Monitoring Well Installation and Sampling Report, RH Smith Distributing Co. Inc., I-90, Exit 136, M.P. 137.5, Vantage, Washington* dated July 21, 2020. Due to the presence of contaminants of concern (gasoline, benzene, toluene, and xylenes) detected in elevated concentrations to the west/northwest, HETI recommended the installation of additional step-out wells in that direction, and an additional groundwater monitoring well in proximity to MW-4, all screened within the first water-bearing encounter.

Step-out wells MW-5 through MW-8 were installed, and groundwater samples collected in September 2020. Elevated levels of contaminants of concern exceeding the State of Washington Model Toxics Cleanup Act (MTCA) were detected in groundwater samples collected from MW-8 (screened in the first water-bearing zone in the source area), and in MW-5, located distal and northwest of previously installed well MW-2. Groundwater exceeding one or more MTCA contaminant level was also found in wells MW-1, MW-2, and MW-4.

MW-7 was screened in the deeper water-bearing zone (similar to previously installed MW-4). Contaminants of concern were not detected in groundwater above the MTCA reporting limits in this well. MW-6 was found to be dry and was not sampled.

The presence of several contaminants of concern (gasoline, benzene, ethylbenzene, and xylenes) exceeding MTCA levels were detected in groundwater collected from MW-5. Since the edge of the groundwater plume had not been defined to the west/northwest and to the south, HETI recommended additional step-out groundwater monitoring wells in those directions. Additional step-out wells MW-9 through MW-13 were installed in March 2021.

This report documents the quarterly groundwater sampling of Site wells MW-4, MW-5 and MW-8 in February 2024. Groundwater samples from the remainder of the Site wells were not collected due to the absence of gasoline or associated compounds for at least the previous four quarterly sampling events. Laboratory analysis of groundwater samples collected from wells MW-4, MW-5 and MW-8 did not detect gasoline exceeding MTCA Method A Cleanup Standards. The groundwater sample collected from MW-4 was found to contain benzene at 6.5 ug/L, slightly above the MTCA Method A Cleanup Standard of 5.0 ug/L. None of the other samples were found to contain gasoline-range organics or petroleum-related volatile organic compounds exceeding MTCA Method A Cleanup Standards. The current extent of the gasoline groundwater plume has been defined to the non-detectable level in the four compass directions distal from the spill area.

A groundwater remediation program was initiated in March 2021. RegenOx, a proprietary chemical oxidant, is mixed onsite and injected into a constructed injection gallery in the source area, and into select wells with elevated groundwater contamination. Multiple applications of injectate have occurred, and the remediation program is ongoing. As of July 26, 2023, 23,410 gallons of injectate (the full producer-engineered recommended volume) have been applied to the injection gallery and select wells. Concentrations of contaminants of concern in the source area groundwater have declined by one to two orders of magnitude or more since the groundwater remediation program was initiated in March 2021, indicating that the remedial injection program has been effective.

HETI recommends the continuation of quarterly groundwater sampling of monitoring wells MW-4, MW-5, and MW-8 until four consecutive monitoring events with acceptable regulatory results are achieved. The next quarterly groundwater sampling event should occur in May 2024. After the August 2024 groundwater sampling event, the necessity of additional groundwater monitoring should be evaluated.

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I. INTRODUCTION AND BACKGROUND

On October 9, 2019, a driver for RH Smith experienced a piping leak on the undercarriage of a fuel tanker on I-90 near exit 136, M.P. 137.5 near Vantage, Washington (Figure 1). The driver pulled over to the north shoulder of the westbound lane of I-90 immediately east of the exit for Vantage, Washington. Approximately 2,900 gallons of unleaded gasoline fuel spilled on and adjacent to the highway. Spilled gasoline covered approximately 210 linear feet and a maximum width of approximately 30 feet of the shoulder of I-90 at the spill location.

The Washington State Patrol and the local fire department were the first responders. RH Smith contracted Able Clean-up Technologies, Inc. (ACT) to conduct remedial activities. ACT responded on October 9, 2019 to contain and recover free liquid which remained on the surface of the roadway and shoulder. A small amount of gasoline was recovered utilizing absorbent material.

ACT returned to the Site to excavate contaminated soils on October 17 and 18, 2019. Soil was excavated to a depth of four to five feet below ground surface (bgs), where a hard, fractured, vesicular basalt was encountered and prohibited deeper excavation. A photo-ionization detector (PID) was utilized to guide field activities. The gasoline fuel was noted to have migrated approximately four feet south beneath the freeway shoulder, where a porous road base was observed. The excavation was extended to the south to remove the contaminated material beneath the asphalt-paved shoulder. The final extent of the excavation is depicted on Figure 2. Approximately 260 cubic yards of contaminated soils were excavated and stockpiled at a nearby Washington Department of Transportation (WDOT) yard pending profiling and subsequent disposal. Confirmatory excavation sidewall and bottom soil samples were collected. After receiving Washington Department of Ecology (DOE) approval, the excavation was backfilled with clean imported materials. Excavated materials were disposed at the Waste Management facility in Wenatchee, Washington as non-hazardous waste.

Details of the excavating, soil sampling, and backfilling activities may be found in ACT's *Spill Response Report,* dated October 24, 2019.

To evaluate potential impact to Site groundwater, HETI oversaw the installation of groundwater monitoring wells MW-1 through MW-4 in May 2020. Based upon the results of groundwater sampling, HETI recommended step-out well installations. Groundwater monitoring wells MW-5 through MW-8 were installed and sampled in September 2020. Based upon the results of groundwater sampling of the Site wells in September 2020, additional step-out well installation was recommended by HETI to define the extent of groundwater impact by the contaminants of concern. Groundwater monitoring wells MW-9 through MW-13 were installed in March 2021. Based upon groundwater sampling and analyses in March 2021, the distal impacts of groundwater impact by contaminants of concern have been established in the four compass directions from the spill source area. Well construction details are presented in Table 1.

II.

III. .000SAMPLING ACTIVITIES

A. GROUNDWATER SAMPLING

The quarterly groundwater sampling event occurred on February 21, 2024. The depth to groundwater was measured in groundwater monitoring wells MW-4, MW-5 and MW-8 using an interface probe. Separate phase petroleum liquid or free product was not detected in any of the wells during this monitoring event. Groundwater elevations are summarized in Table 2 and Figure 3.

All groundwater sampling was conducted in accordance with low-flow techniques as detailed by the United States Environmental Protection Agency (EPA) Low Stress (Low Flow) Purging and Sampling Procedure (2010). Pump intake was set at the midway depth between the bottom of the well and static groundwater elevation as measured prior to pumping commencement. Wells were purged at low-flow rates while continuously monitoring for changes in water pH, temperature, electrical conductivity, oxygen reduction potential, salinity, and dissolved oxygen using YSI ProDSS and PID meters. In general, purging at a low rate does not result in groundwater drawdown. Once groundwater parameters stabilized, groundwater samples were obtained from the low-flow pump outlet. Copies of the well sampling field forms are included in Appendix A; a summary of the groundwater quality parameters obtained during purging is presented in Table 3.

Groundwater samples were collected in pre-cleaned containers provided by the laboratory in accordance with EPA protocols. All sampling containers were uniquely labeled and placed in an ice-filled cooler, pending delivery to the testing laboratory under chain of custody documentation. A field duplicate was collected from MW-8 and was designated as MW-8 DUP. All samples were sent to the Eurofins TestAmerica facility in Spokane, Washington. Analytical results of the groundwater sampling program are discussed in Section 5 below.

B. INVESTIGATION DERIVED WASTE HANDLING

Purged groundwater and decontamination water were placed in DOT-approved and labelled 55-gallon drums and transported by Able Cleanup Technologies (ACT) to their yard pending final transportation and disposal. The drums were subsequently transported by ACT to the Waste Management Graham Road Landfill in Medical Lake, Washington for treatment/disposal as non-hazardous waste. The Straight Bill of Lading is included in Appendix B.

IV. SUBSURFACE CONDITIONS

A. SOIL AND GEOLOGY

In general, the Site and surrounding area is underlain by a thin layer of poorly sorted dry silt and sand with vegetative matter to approximately 5 feet bgs. Vesicular, fractured basalt was encountered at that depth, and extended to the deepest drilled depth, except in the boring advanced for MW-13. This boring encountered poorly sorted dry silt and sand with vegetative matter to approximately 5 feet bgs, at which depth sand and gravel was encountered to approximately 36 feet bgs, where vesicular fractured basalt was encountered. It is inferred that this boring was installed within the Ryegrass Coulee, therefore resulting in the differing lithology encountered in all of the other drilled borings.

The basalt encountered at the Site is part of the Wanapum Unit of the Columbia River Basalt flows, which occurred between approximately 15.5 and 14.5 million years ago (mya)[1]. The Wanapum Unit is underlain by the Vantage Interbed, which is comprised of up to 30 feet of fluvial deposits that represent a weathering zone (unconformity) between the Wanapum Unit and the underlying Grande Ronde Basalts[2]. The Wanapum Interbed is reported to be a regionally important groundwater source. In the Site vicinity, the Vantage Interbed is anticipated to be located approximately 200 to 241 feet bgs based on nearby water well records.

The nearest mapped fault is located approximately 4,500 feet west of the Site. The Site area is geologically mapped as Pleistocene outburst-flood deposits (Qf).

B. GROUNDWATER

Static depth to groundwater ranged between 23.50 and 44.50 feet below top of casing as measured on February 21, 2024. Groundwater elevations ranged between 584.91 and 601.54 feet above mean sea level. Groundwater measurements and elevations are tabulated in Table 2.

Localized first-encountered groundwater flow appears to be controlled by preferential movement through fractures, moving to the west/northwest. First-encountered groundwater appears to be unconfined, with the deeper water-bearing zone appears to be a non-flowing artesian zone. Groundwater elevations vary significantly throughout the well network, an indication of fracture-controlled hydraulic heads. It is not anticipated that significant groundwater flow will occur within the vesicles, due to the limited interconnection relationship between these lithological features.

[1] Carlson, Robert J., Tolan, Terry L., and Reidel, Stephen P., 1987, Geology of the Vantage area, southcentral Washington: an introduction to Miocene flood basalts, Yakima Fold Belt, and the Channeled Scabland, Geological Society of America Centennial Field Guide Cordilleran Section.
[2] Vaccaro, J.J., Kahle, S.C., Ely, D.M., Burns, E.R., Snyder, D.T., Haynes, J.V., Olsen, T.D., Welch, W.B., and Morgan, D.S., 2015, Groundwater availability of the Columbia Plateau Regional Aquifer System, Washington, Oregon, and Idaho: U.S. Geological Survey Professional Paper 1817, 87 p., http://dx.doi.org/10.3133/pp1817.

V. CHEMICAL TESTING PROGRAM

A total of 4 groundwater samples were submitted to Eurofins TestAmerica, a Washington State-certified laboratory, and analyzed for the following analytical suite:

- Gasoline range organics using Method NWTPH-Gx
- Petroleum-related volatile organic compounds using EPA Method 8260D

Laboratory test results are presented in Appendix C. Results of the laboratory testing program for this investigation are shown in Table 4.

VI. RESULTS OF GROUNDWATER SAMPLING

Three groundwater samples (designated MW-4, MW-5 MW-8 and MW-8), and one field duplicate (designated MW-8 DUP) were submitted for laboratory chemical testing. Groundwater samples from the remainder of the Site wells were not collected due to the absence of gasoline or associated compounds for at least the previous four quarterly sampling events.

Laboratory analysis data reports of groundwater samples MW-1, MW-5 and MW-8 show benzene at concentrations ranging from non-detect to 6.5 µg/L and total xylenes ranging from non-detect to 4.5 µg/L. None of the groundwater samples were found to contain detectable concentrations of toluene, ethylbenzene or methyl-tert butyl ether (MTBE). Groundwater sampling analytical data is tabulated in Table 4 and graphically on Figures 4A, 4B and 5. Benzene trends in groundwater samples is graphically presented in Table 5.

Analytical results were compared to the State of Washington DOE Model Toxics Cleanup Act (MTCA) Method A Cleanup Standards. Only groundwater sample MW-4 was found to contain an analyte above the MTCA Standard (benzene at 6.5 µg/L, slightly exceeding the standard of 5.0 µg/L). None of the other submitted groundwater samples were found to exceed the respective MTCA Standards for the chosen analytical suite.

A series of cross sections (Figures 6 through 9) show well locations, geological features, shallow and deep groundwater features, and laboratory analytical data for the most recent sampling event. The following key findings were identified from HETI's review of contaminant distribution depicted on the Site cross sections:

1. Contaminant migration is generally confined to the release area.
2. Lateral groundwater contaminant migration is not indicated in the downgradient direction and down-topographic direction to the east and south based on the historical absence of contaminants of concern shown at downgradient monitoring well MW-3 in Sections B-B' and C-C'.

3. The bulk of remaining contaminant mass appears to be present in a perched, upper unconfined water bearing zone and has not significantly migrated to the deeper water bearing zone, as represented by samples collected from MW-2, MW-5, and MW-8 on Section A-A', and MW-5 and MW-8 on Section C-C' during the course of the groundwater sampling program.

VII. NEARBY PRODUCTION WELLS

HETI has identified two deep, bedrock water supply wells, designated SO1 and SO2, which supply certain end-users in Vantage, a census-designated place with a population of 74 as of the 2010 census. These wells are graphically depicted in relation to the spill location and groundwater monitoring wells MW-1 through MW-13 on Figure 10.

Production Well SO1 is located approximately 1,040 feet northwest of the spill location. This well was installed in 1960 to a total depth of 275 feet bgs. The well log, as provided by the driller, describes an interflow zone from 230 feet to 270 feet bgs.

Production Well SO2 is located approximately 900 feet northeast of the spill location. This well was installed in 1968 to a total depth of 440 feet bgs. The well log, as produced by the driller, states that water was encountered at 200 feet bgs.

It appears that both SO1 and SO2 encountered the Vantage interflow zone at depths of approximately 230 feet and 200 feet bgs, respectively. HETI is also aware of another production well located approximately 1,300 feet south of the spill location, which reportedly encountered the Vantage interflow zone at approximately 241 feet bgs.

Groundwater samples were not collected during this groundwater monitoring event due to the fact that production well groundwater samples were not found to contain the site contaminants of concern above the laboratory reporting limits since the commencement of the production well groundwater sampling program. Laboratory test results are presented in Appendix G.

VIII. REMEDIATION PROGRAM

HETI initiated a remedial program by installing four trenches in the source (spill) area to facilitate application of an injectate. On March 1st, 2021, the four trenches were excavated. Three of the trenches were excavated to approximately dimensions of 75 feet long, 4 feet wide, and 3 feet deep. The fourth trench was excavated to an approximate dimension of 50 feet long, 4 feet wide and 3 feet deep. Figure 2 depicts the site infiltration trench locations.

Subsequent to trench construction, a proprietary remedial product, RegenOx (a chemical oxidation material), was mixed onsite and introduced to the open trenches. Injections were conducted in accordance with an approved Washington Department of Ecology Underground Injection Control (UIC) Program registration. On March 1st, 2021, approximately 3,000 gallons of the liquid were injected. The

material did not noticeably percolate into the subsurface. On March 2nd, 2021, the Site was revisited, and significant drawdown of the liquid was not observed. On March 3rd, very little drawdown was observed; however, another 1,000 gallons of injectate was added to the topographically highest trench. On March 4th, another 500 gallons of injectate was added to the topographically highest trench.

On March 22nd, 2021, perforated piping (6' diameter) was placed within each trench with an approximately 5-feet-high riser to enable placement of the injectate into the bottom of the trench. The lower portion of the trenches were backfilled with imported clean pea gravel; the upper portion of the trenches were backfilled with clean trench excavated materials. On March 23rd, approximately 1,250 gallons of injectate was introduced into the injection gallery.

On April 27th, 2021, 1,250 gallons of injectate were placed into the injection gallery piping, as well as at MW-5. Approximately 920 gallons of injectate were introduced to the injection gallery, and approximately 80 gallons were placed into MW-5 under low pressure.

On May 24th, 2021, approximately 390 gallons of injectate were placed into the injection gallery piping. An additional 300, 60, and 250 gallons of injectate were placed into wells MW-2, MW-5, and MW-8, respectively under low pressure.

On July 13th, 2021, approximately 435 gallons of injectate were placed into the injection gallery and an additional 50, 15, and 1,000 gallons of injectate were placed into wells MW-2, MW-5, and MW-8, respectively.

On August 18th, 2021, approximately 230 gallons of injectate were placed into the injection gallery and an additional 110, 105, 15, and 1,020 gallons of injectate were placed into wells MW-1, MW-2, MW-5, and MW-8, respectively.

On October 5th, 2021, approximately 205 gallons of injectate were placed into the injection gallery and an additional 165, 90, 40, and 1,000 gallons were placed into wells MW-1, MW-2, MW-5, and MW-8, respectively.

On November 11th, 2021, approximately 155 gallons of injectate were placed into the injection gallery and an additional 10, 140, 25, and 1,170 gallons were placed into wells MW-1, MW-2, MW-5, and MW-8, respectively.

On January 4th, 2022, approximately 150 gallons of injectate were placed into the injection gallery, and an additional 10, 100, 50, and 790 gallons were placed into well MW-1, MW-2, MW-5, and MW-8, respectively.

On April 13th, 2022, approximately 140 gallons were placed into the injection gallery, and an additional 5, 90, 15 and 750 gallons was placed into wells MW-1, MW-2, MW-5, and MW-8, respectively.

On May 17th, 2022, approximately 380 gallons of injectate were placed into the injection gallery. An additional 10, 75, 10, 250 gallons were placed into wells MW-1, MW-2, MW-5, and MW-4, respectively.

On June 30th, 2022, approximately 150 gallons of injectate were placed into the injection gallery. An additional 10, 125, 15, and 200 gallons were placed into wells MW-1, MW-2, MW-5, and MW-4, respectively.

On September 9, 2022, approximately 85 gallons of injectate were placed into the injection gallery. An additional 10, 90, 20 and 45 gallons of injectate were placed into wells MW-1, MW-2, MW-5. MW-4, respectively.

On December 29, 2022, approximately 25 gallons of injectate were placed into the injection gallery. An additional15,110, 30, and 50 gallons of injectate were placed into wells MW-1, MW-2, MW-4 and MW-5, respectively.

On March 22, 2023, approximately 85 gallons of injectate were placed into the injection gallery. An additional 10, 100, 35, and 20 gallons of injectate were placed into wells MW-1, MW-2, MW-4 and MW-5, respectively.

On April 26, 2023, approximately 105 gallons of injectate were placed into the injection gallery. An additional 10, 90, 25 and 20 gallons of injectate were placed into wells MW-1, MW-2, MW-4 and MW-5, respectively.

On June 26 and 27, 2023, approximately 345 gallons of injectate were placed into the injection gallery. An additional 15, 90, 30, and 20 gallons of injectate were placed into wells MW-1, MW-2, MW-4, and MW-5, respectively.

On July 25 and 26, 2023, approximately 290 gallons of injectate were placed into the injection gallery. An additional 5, 130, 50, and 25 gallons of injectate were placed into wells MW-1, MW-2, MW-4, and MW-5, respectively.

On August 30 and 31, 2023, approximately 220 gallons of injectate were placed into the injection gallery. An additional 10, 200, 50 and 20 gallons of injectate were placed into wells MW-1, MW-2, MW-4 and MW-5, respectively.

On September 28, 2023, approximately 195 gallons of injectate were placed into the injection gallery. An additional 10, 90, 50, 5 and 150 gallons of injectate were placed into wells MW-1, MW-2, MW-4, MW-5, and MW-8, respectively.

On November 7 and 8, 2023, approximately 265 gallons of injectate were placed into the injection gallery. An additional 10, 65, 35, 15, and 110 gallons of injectate were placed into wells MW-1, MW-2, MW-4, MW-5, and MW-8, respectively.

Approximately 24,910 gallons of remediation injectate have been applied to date. Results of the remediation program to date show significant reductions in contaminants at the spill location, ranging up to greater than 99% at Site sampling locations. A trend chart displaying benzene concentration versus time is included as Table 5.

As of the November 2023 injection event, all of the producer (Regenesis) recommended injectate, as engineered for the subject spill area, have been applied to the spill area. No further injection events are currently scheduled. Results of the remedial program will continue to be monitored and reported in subsequent groundwater monitoring event reports.

IX. CONCLUSIONS

Three groundwater monitoring well samples and one field duplicate were submitted for chemical testing. One of the of the three submitted groundwater samples was found to contain a compound above a regulatory threshold (MW-4, benzene at 6.5 ag/L). Significant (greater than 99%) reduction in contaminants in source area wells have been observed since commencement of the remedial injection program.

Available groundwater elevation and contaminant distribution data suggest that the gasoline release impacts are generally limited to shallow groundwater in the vicinity of the release area. Laboratory analysis of water samples collected during the multi-year groundwater monitoring program have shown a steady decrease in contamination. In fact, only one groundwater sample collected during the most recent sampling event showed an analyte slightly above the MTCA Level A Standard.

X. RECOMMENDATIONS

The lack of reportable concentrations of contaminants of concern in groundwater samples collected over the course of at least four consecutive quarterly sampling events has been observed in wells MW-1, MW-2, MW-3, MW-6, MW-7, and MW-9 through MW-13. Therefore, HETI recommends the proper decommissioning of those wells.

HETI recommends continuation of the groundwater monitoring program to continue monitoring impact trends at the locations of groundwater wells MW-4, MW-5 and MW-8 until acceptable regulatory thresholds are met. The next quarterly sampling event would be scheduled for May 2024.

The remedial program injections have been successfully implemented. HETI recommends the decommissioning of the injection gallery structure.

TABLES

Table 1
Well Construction Details

Well ID Number	Installation Date	Latitude	Longitude	TOC Elevation (Feet AMSL)	Nominal BH Diameter (Inches)	BH TD (Feet BGS)	Casing Diameter (Inches)	Screen Interval (Feet BGS)	Initial GW Encounter (Feet BGS)
MW-1	5/18/2020	N46˚56'25.4382"	W119˚59"20.4335"	628.19	6	47	2	36 to 46	33
MW-2	5/18/2020	N46˚56'25.6316"	W119˚59'19.2161"	624.60	6	38	2	28 to 38	29
MW-3	5/19/2020	N46˚56'25.1062"	W119˚59'15.9737"	614.40	6	35	2	15 to 35	28
MW-4	5/19/2020	N46˚56'25.2846"	W119˚59'19.1755"	624.99	6	75	2	65 to 75	72
MW-5	9/8/2020	N46˚56'26.2165"	W119˚59'19.9003"	630.11	6	55	2	40 to 55	49
MW-6	9/8/2020	N46˚56'26.6960"	W119˚59'19.6590"	631.83	6	37	2	27 to 37	N/A
MW-7	9/9/2020	N46˚56'26.3932"	W119˚59'16.6813"	627.54	6	75	2	65 to 75	73
MW-8	9/9/2020	N46˚56'25.4167"	W119˚59'19.2043"	625.04	6	50	2	20 to 50	N/A
MW-9	3/22/2021	N46˚56'29.3712"	W119˚59'24.1904"	651.61	6	52	2	32 to 52	47
MW-10	3/22/2021	N46˚56'28.1033"	W119˚59'24.6604"	647.69	6	52	2	32 to 52	47
MW-11	3/22/2021	N46˚56'25.9501"	W119˚59'24.0949"	641.27	6	53	2	33 to 53	47
MW-12	3/23/2021	N46˚56'26.8384"	W119˚59'22.9156"	642.39	6	69	2	59 to 69	58
MW-13	3/23-24/2021	N46˚56'23.0113"	W119˚59'19.5787"	614.10	6	45	2	25 to 45	37

Notes:

TOC: Top of casing

AMSL: Above mean sea level (NAVD 88)

BH: Borehole

TOC: Top of casing

TD: Total depth

BGS: Below ground surface

BTOC: Below top of casing

GW: Groundwater

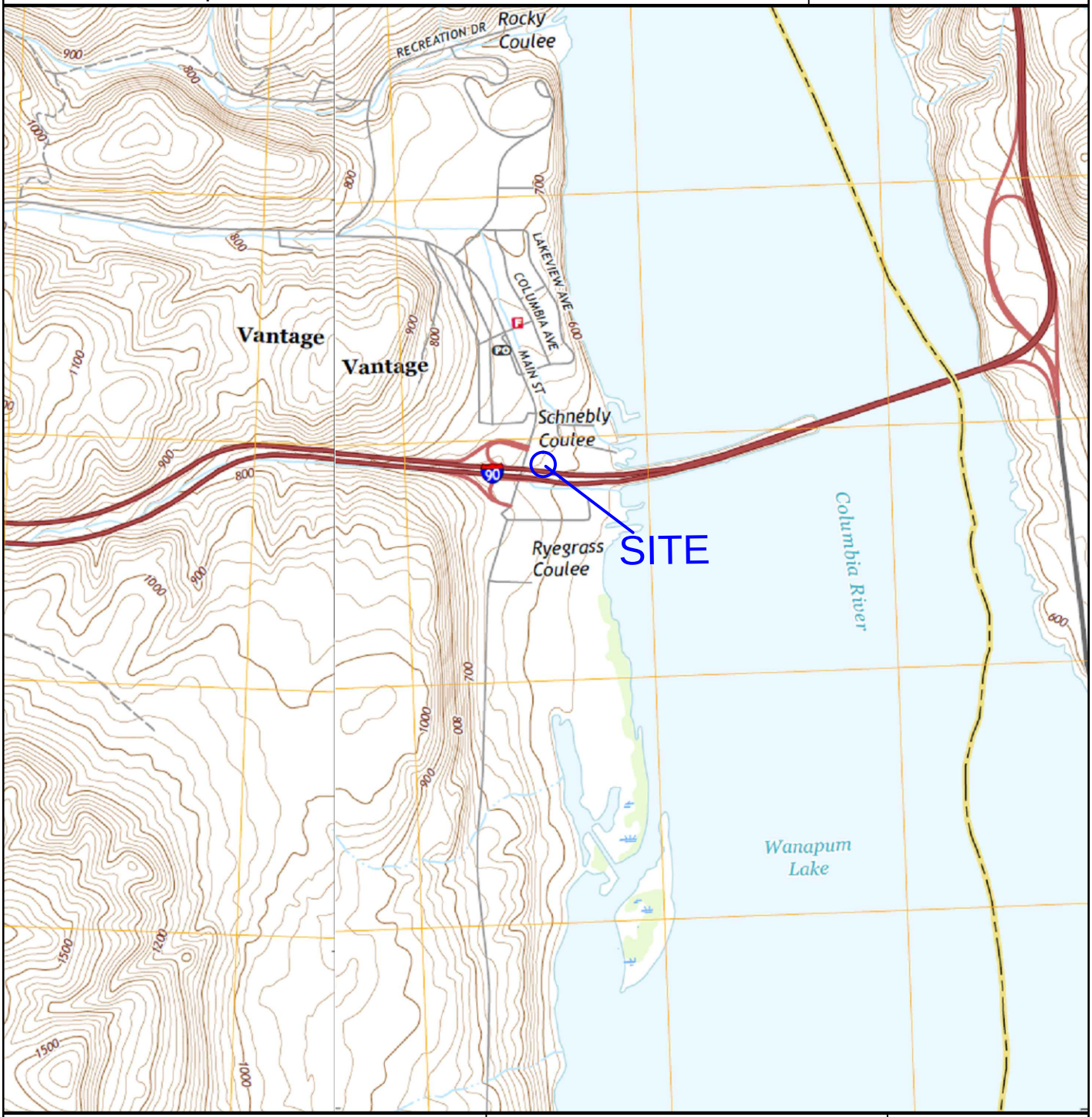
N/A: Not applicable

FIGURES

Vantage, WA

Figure 1

Site Location Map



Approximate Scale As Shown:

0 2,000 4,000 Feet

0 0.25 0.5 1.0 Miles

N

Map Source:

USGS Quadrangles
7.5x7.5-Minute Series

Ginkgo, WA (2017)

Vantage, WA (2017)

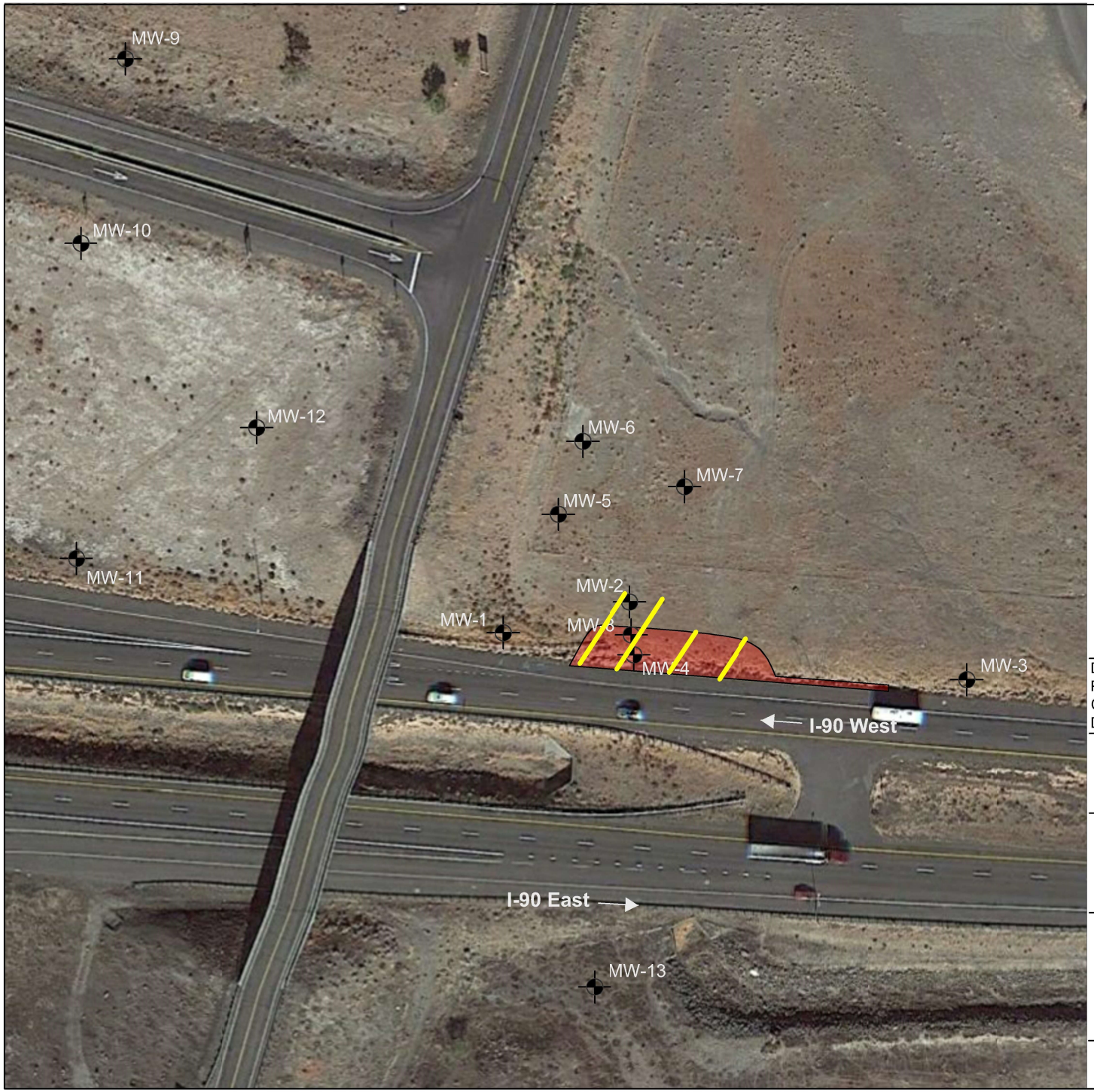
Digital Image from: http://store.usgs.gov

Date: 1/7/2020

Project: 200-150

Compiled By: MO

Drafted By: MO



Excavation Area

Groundwater Monitoring Well Location

Injection Gallery Trench Location (approximate)

Notes:
1) Feature locations are approximate.
2) Basemap from Google Earth.

Date: 9/7/2021
Project: 200-150
Comp: DS
Drawn: MO, HA

heti

0 Feet 100

Approximate Scale

N

RH Smith Spill Site
Vantage, WA

Figure 2
Monitoring Well Locations

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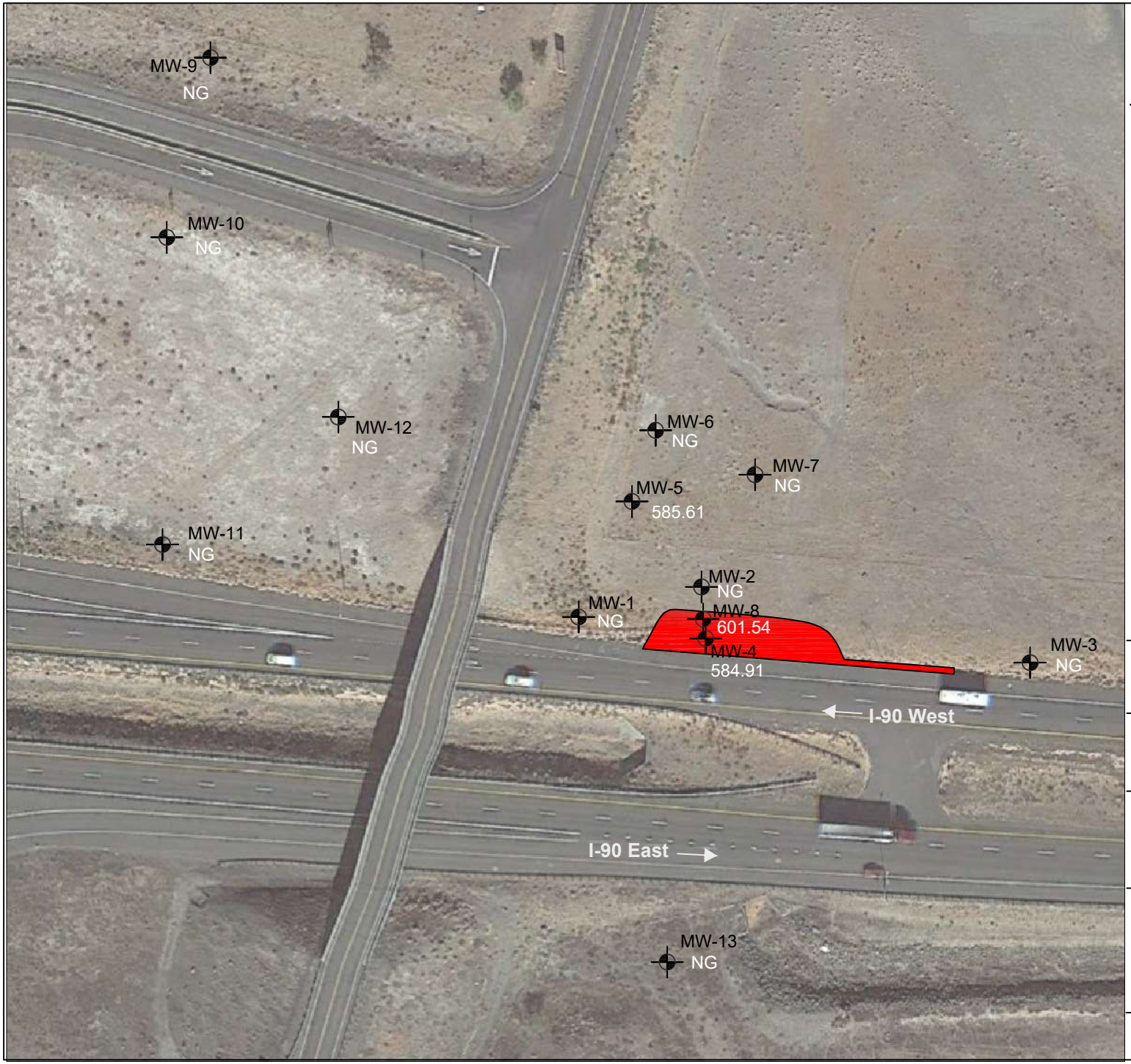

Excavation Area

MW-1
591.26
Groundwater Monitoring Well Identification & Groundwater Elevation (feet AMSL)

Notes:
1) Feature locations are approximate.
2) Basemap from Google Earth.
3) * = Omitted from contouring; screened in deeper water bearing zone.
4) NG = Not Gauged

Date: 3/7/2024
Project: 200-150
Comp: DS
Drawn: MO, HA, LL

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0 Feet 100
Approximate Scale

N

RH Smith Spill Site
Vantage, WA

Figure 3
Groundwater Elevations
Measured February 21, 2024

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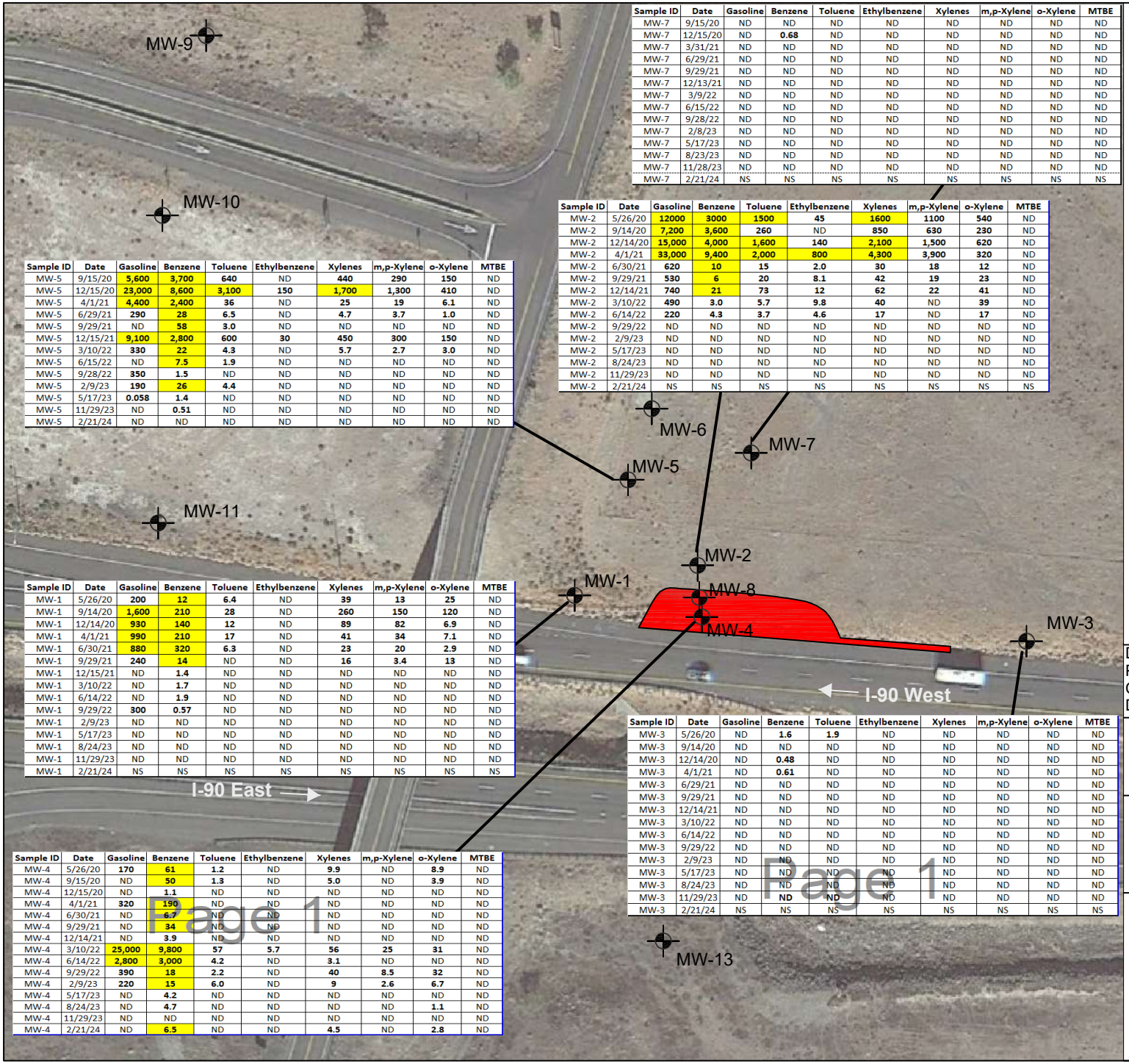

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-7	9/15/20	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	12/15/20	ND	0.68	ND	ND	ND	ND	ND	ND
MW-7	3/31/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	6/29/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	9/29/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	12/13/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	3/9/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	6/15/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	9/28/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	2/8/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	5/17/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	8/23/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	11/28/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-2	5/26/20	12000	3000	1500	45	1600	1100	540	ND
MW-2	9/14/20	7,200	3,600	260	ND	850	630	230	ND
MW-2	12/14/20	15,000	4,000	1,600	140	2,100	1,500	620	ND
MW-2	4/1/21	33,000	9,400	2,000	800	4,300	3,900	320	ND
MW-2	6/30/21	620	10	15	2.0	30	18	12	ND
MW-2	9/29/21	530	6	20	8.1	42	19	23	ND
MW-2	12/14/21	740	21	73	12	62	22	41	ND
MW-2	3/10/22	490	3.0	5.7	9.8	40	ND	39	ND
MW-2	6/14/22	220	4.3	3.7	4.6	17	ND	17	ND
MW-2	9/29/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	2/9/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	5/17/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	8/24/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	11/29/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-5	9/15/20	5,600	3,700	640	ND	440	290	150	ND
MW-5	12/15/20	23,000	8,600	3,100	150	1,700	1,300	410	ND
MW-5	4/1/21	4,400	2,400	36	ND	25	19	6.1	ND
MW-5	6/29/21	290	28	6.5	ND	4.7	3.7	1.0	ND
MW-5	9/29/21	ND	58	3.0	ND	ND	ND	ND	ND
MW-5	12/15/21	9,100	2,800	600	30	450	300	150	ND
MW-5	3/10/22	330	22	4.3	ND	5.7	2.7	3.0	ND
MW-5	6/15/22	ND	7.5	1.9	ND	ND	ND	ND	ND
MW-5	9/28/22	350	1.5	ND	ND	ND	ND	ND	ND
MW-5	2/9/23	190	26	4.4	ND	ND	ND	ND	ND
MW-5	5/17/23	0.058	1.4	ND	ND	ND	ND	ND	ND
MW-5	11/29/23	ND	0.51	ND	ND	ND	ND	ND	ND
MW-5	2/21/24	ND	ND	ND	ND	ND	ND	ND	ND

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-1	5/26/20	200	12	6.4	ND	39	13	25	ND
MW-1	9/14/20	1,600	210	28	ND	260	150	120	ND
MW-1	12/14/20	930	140	12	ND	89	82	6.9	ND
MW-1	4/1/21	990	210	17	ND	41	34	7.1	ND
MW-1	6/30/21	880	320	6.3	ND	23	20	2.9	ND
MW-1	9/29/21	240	14	ND	ND	16	3.4	13	ND
MW-1	12/15/21	ND	1.4	ND	ND	ND	ND	ND	ND
MW-1	3/10/22	ND	1.7	ND	ND	ND	ND	ND	ND
MW-1	6/14/22	ND	1.9	ND	ND	ND	ND	ND	ND
MW-1	9/29/22	300	0.57	ND	ND	ND	ND	ND	ND
MW-1	2/9/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-1	5/17/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-1	8/24/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-1	11/29/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-1	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-4	5/26/20	170	61	1.2	ND	9.9	ND	8.9	ND
MW-4	9/15/20	ND	50	1.3	ND	5.0	ND	3.9	ND
MW-4	12/15/20	ND	1.1	ND	ND	ND	ND	ND	ND
MW-4	4/1/21	320	190	ND	ND	ND	ND	ND	ND
MW-4	6/30/21	ND	6.7	ND	ND	ND	ND	ND	ND
MW-4	9/29/21	ND	34	ND	ND	ND	ND	ND	ND
MW-4	12/14/21	ND	3.9	ND	ND	ND	ND	ND	ND
MW-4	3/10/22	25,000	9,800	57	5.7	56	25	31	ND
MW-4	6/14/22	2,800	3,000	4.2	ND	3.1	ND	ND	ND
MW-4	9/29/22	390	18	2.2	ND	40	8.5	32	ND
MW-4	2/9/23	220	15	6.0	ND	9	2.6	6.7	ND
MW-4	5/17/23	ND	4.2	ND	ND	ND	ND	ND	ND
MW-4	8/24/23	ND	4.7	ND	ND	ND	ND	1.1	ND
MW-4	11/29/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	2/21/24	ND	6.5	ND	ND	4.5	ND	2.8	ND

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-3	5/26/20	ND	1.6	1.9	ND	ND	ND	ND	ND
MW-3	9/14/20	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	12/14/20	ND	0.48	ND	ND	ND	ND	ND	ND
MW-3	4/1/21	ND	0.61	ND	ND	ND	ND	ND	ND
MW-3	6/29/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	9/29/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	12/14/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	3/10/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	6/14/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	9/29/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	2/9/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	5/17/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	8/24/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	11/29/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Excavation Area

MW-1 Groundwater Monitoring Well

MTCA Method A Cleanup Standards	
Gasoline	800
Benzene	5
Toluene	1,000
Ethylbenzene	700
Xylenes	1,000
m,p-Xylene	N/A
o-Xylene	N/A
MTBE	20

Notes:
Feature locations are approximate.
Basemap from Google Earth.
Results and standards in micrograms per liter (µg/L)
MTBE = Methyl tert butyl ether
FD = Field Duplicate
Exceeds MTCA Method A Cleanup Standards

Date: 3/7/2024
Project: 200-150
Comp: DS
Drawn: MO, HA, LL

heti

0 Feet 100
Approximate Scale

N

RH Smith Spill Site
Vantage, WA

Figure 4A
Groundwater Analytical Results

File: [S:\PROJECTS\200-000 Jobs\200-150 Vantage WA\Figures]

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Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-9	3/31/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	6/29/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	9/28/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	12/14/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	3/9/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	6/14/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	9/28/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	2/8/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	5/17/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	8/22/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	11/29/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-9	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-10	3/31/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	6/29/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	9/28/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	12/14/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	3/9/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	6/13/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	9/28/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	2/9/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	5/16/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	8/23/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	11/28/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-12	3/31/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	6/28/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	9/28/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	12/13/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	3/9/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	6/13/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	9/28/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	2/8/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	5/16/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	8/22/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	11/28/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-11	3/31/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	6/28/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	9/28/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	12/13/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	3/9/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	6/13/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	9/28/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	2/8/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	5/16/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	8/22/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	11/28/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-8	9/15/20	**5,600**	**61**	**14**	ND	**1,800**	**310**	**1500**	ND
MW-8	12/14/20	**17,000**	**2,100**	**1,200**	**110**	**3,800**	**2,100**	**1,800**	ND
MW-8	4/1/21	**26,000**	**4,500**	**2,900**	**370**	**5,400**	**3,900**	**1,500**	ND
MW-8	6/30/21	**1,300**	**21**	**18**	**1.4**	**46**	**10**	**36**	ND
MW-8	9/29/21	**3,500**	**21**	**21**	**2.1**	**740**	**200**	**540**	ND
MW-8	12/14/21	**2,500**	**7.9**	**15**	**3.2**	ND	ND	**220**	ND
MW-8	3/9/22	**670**	**3.0**	**3.2**	**1.1**	**50**	ND	**49**	ND
MW-8	6/14/22	**780**	**1.1**	**1.4**	ND	**41**	ND	**43**	ND
MW-8	9/29/22	**320**	ND	ND	ND	**11**	ND	**11**	ND
MW-8	2/9/23	**360**	ND	ND	**1.3**	ND	ND	ND	ND
MW-8	5/17/23	**0.15**	ND	ND	ND	ND	ND	ND	ND
MW-8	8/24/23	**940**	**3.0**	**1.2**	**1.5**	**91**	**8.4**	**82**	ND
MW-8	11/29/23	**180**	ND	ND	ND	**3.7**	ND	**2.7**	ND
MW-8	2/21/24	**250**	ND	ND	ND	ND	ND	ND	ND

Sample ID	Date	Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	m,p-Xylene	o-Xylene	MTBE
MW-13	3/31/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	6/28/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	9/28/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	12/13/21	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	3/9/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	6/13/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	9/28/22	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	2/8/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	5/16/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	8/22/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	11/28/23	ND	ND	ND	ND	ND	ND	ND	ND
MW-13	2/21/24	NS	NS	NS	NS	NS	NS	NS	NS

Excavation Area

MW-1 Groundwater Monitoring Well

MTCA Method A Cleanup Standards	
Gasoline	800
Benzene	5
Toluene	1,000
Ethylbenzene	700
Xylenes	1,000
m,p-Xylene	N/A
o-Xylene	N/A
MTBE	20

Notes:
Feature locations are approximate.
Basemap from Google Earth.
Results and standards in micrograms per liter (µg/L)
MTBE = Methyl tert butyl ether
FD = Field Duplicate
Exceeds MTCA Method A Cleanup Standards

Date: 3/7/2024
Project: 200-150
Comp: DS
Drawn: MO, HA, LL

heti

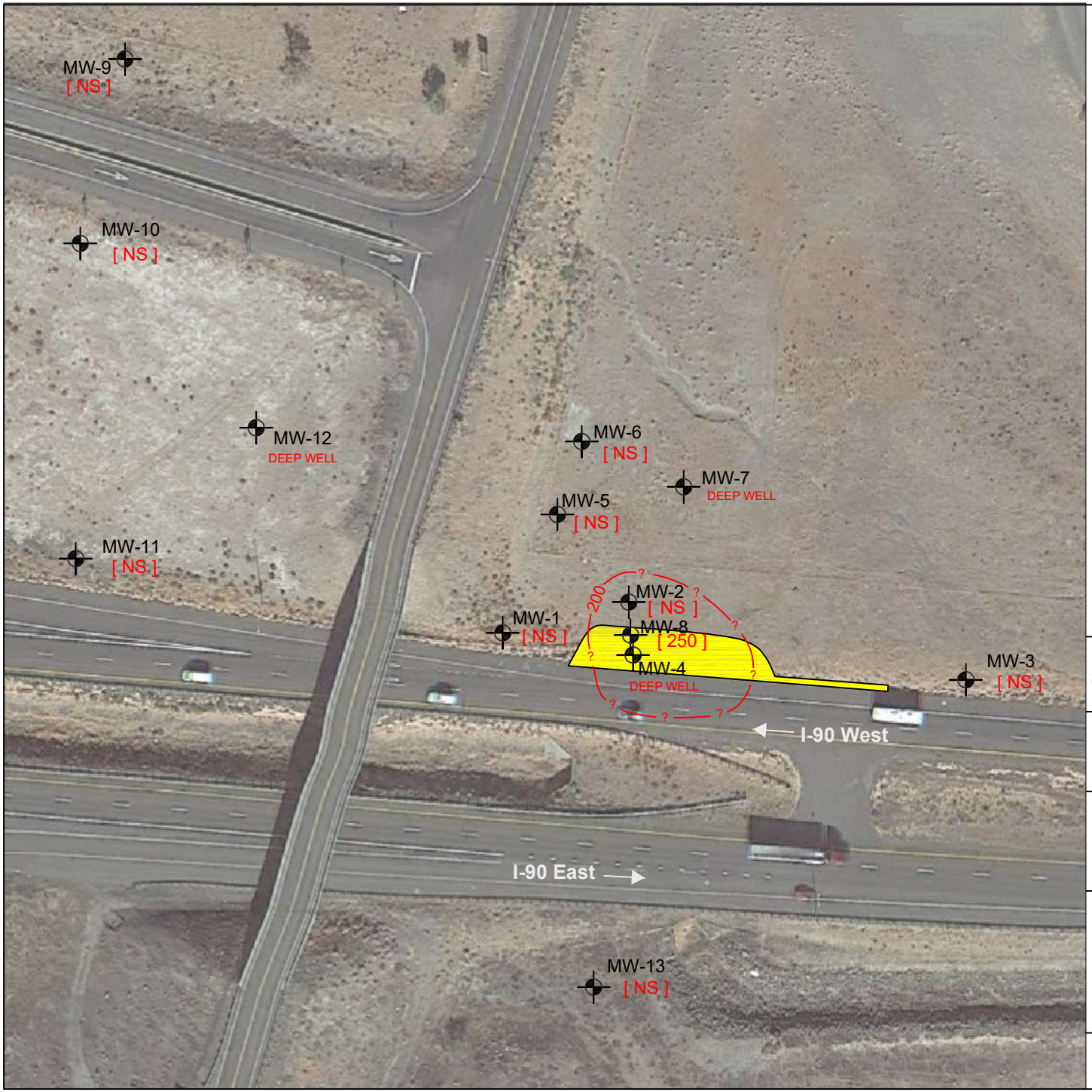
0 Feet 100
Approximate Scale

N

RH Smith Spill Site
Vantage, WA

Figure 4B
Groundwater Analytical Results

File: [S:\PROJECTS\200-000 Jobs\200-150 Vantage WA\Figures]



Excavation Area

Groundwater Monitoring Well Location

Injection Gallery Trench Location (approximate)

[3,000] TPHg Concentration (µg/L)

300 TPHg Concentration Isopleth (µg/L; inferred where queried)

Basemap: Google Earth

TPHg - Total Petroleum Hydrocarbons, Gasoline Range

µg/L - Micrograms per Liter (parts per billion, ppb)

ND - Not Detected

NS - Not Sampled, ND in previous round

DEEP WELL - Well screened in second deeper apparent water-bearing zone below the shallow water-bearing zone that is in contact with the vadose zone.

Date: 3/7/2024
Project: 200-150
Comp: DS
Drawn: MO, HA, LL

heti

0 Feet 100

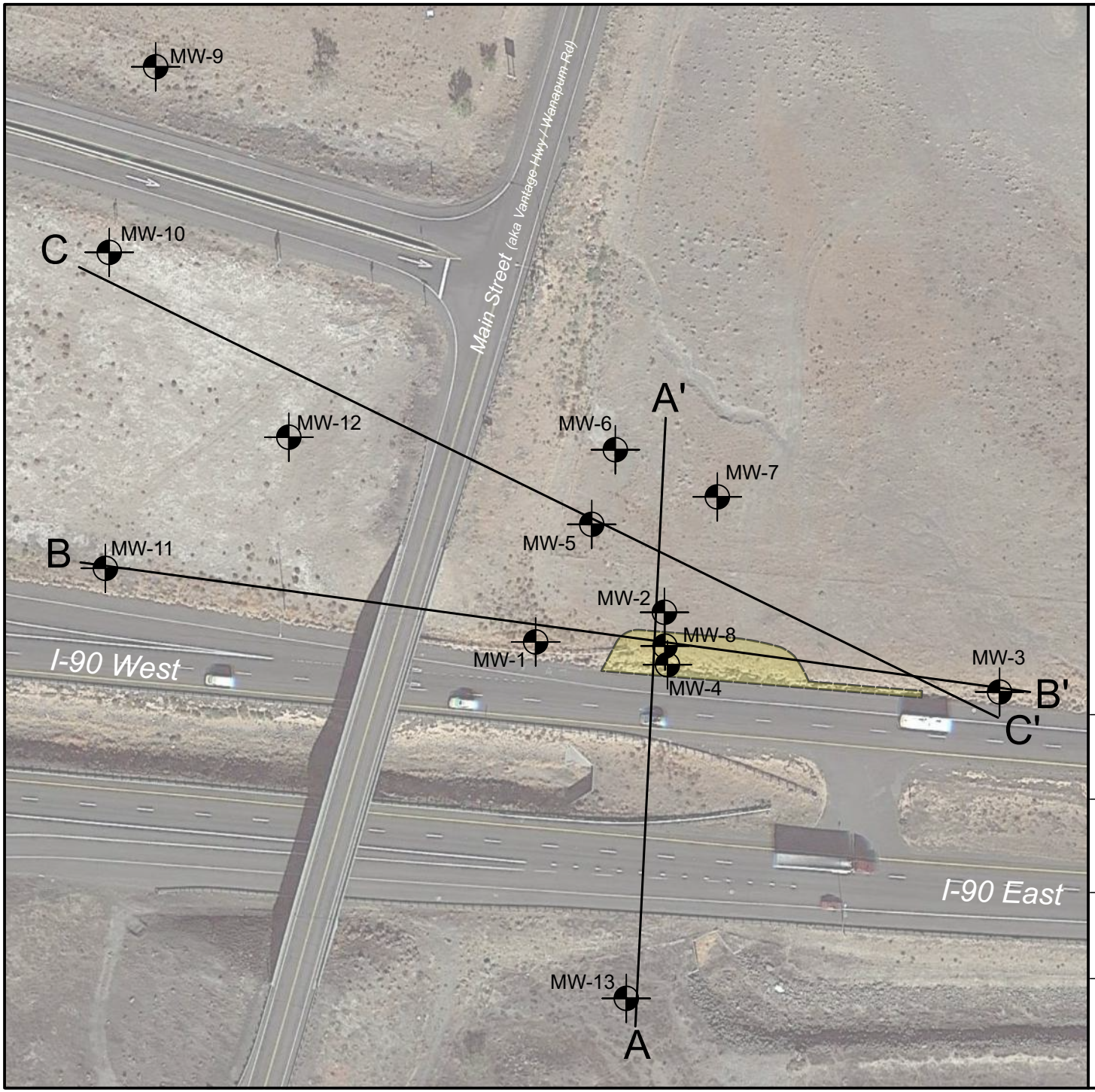
Approximate Scale

N

I-90 WB @ M.M. 137.5 Vantage, Washington

Figure 5
Isoconcentration Contours, TPHg in Shallow Groundwater 2/21/2024

File: [S:\PROJECTS\200-000 Jobs\200-150 Vantage WA\Figures]



Monitoring Well

Soil Remedial Excavation

A' / A — Cross-section Alignment

Basemap: Google Earth

0 100

Feet (approx)

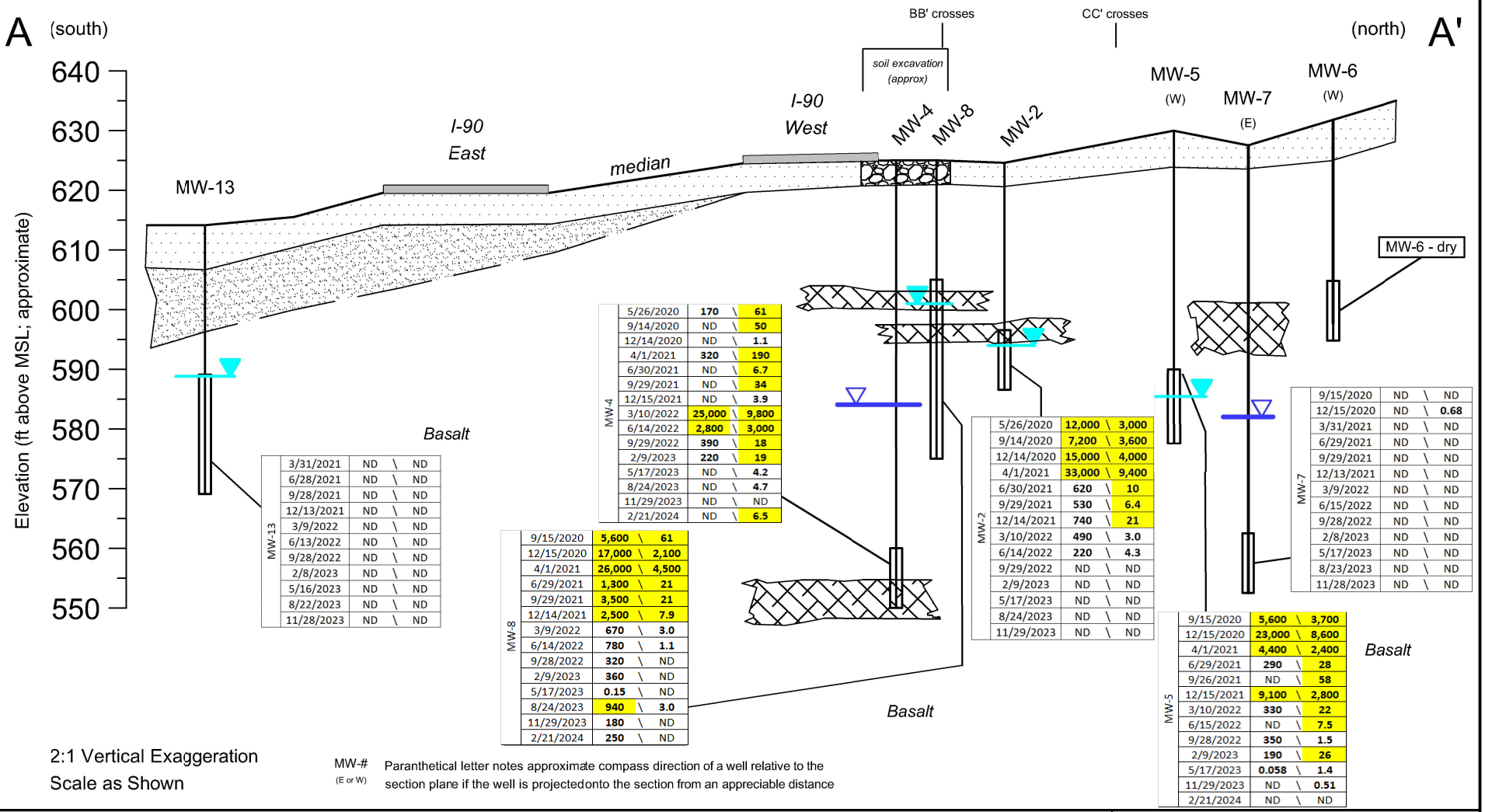
N

heti

I-90 WB @ M.M. 137.5
Vantage, Washington

Figure 6
Cross-Section Map

Date: 10/2021 | Project: 200-150 | Drawn: GM



Monitoring Well

MW-1 Well ID

Casing

Screen

Geologic Strata

- Unconsolidated overburden deposits
- Gravel & sand (backfill)
- Gravel / sand / silt
- Inferred bedrock fracture zone

Basalt bedrock as indicated

Groundwater Levels (2/21/24)

- Shallow (first)
- Deep (second)

Analytical Results

Sample Date	GRO / Benzene

Values in micrograms per liter (µg/L; parts per billion, ppb)

GRO - Gasoline-Range Organics
ND - Not Detected

61 Result exceeds WA MTCA Method A Cleanup Levels

TPHg = 800 µg/L; Benzene = 5 µg/L

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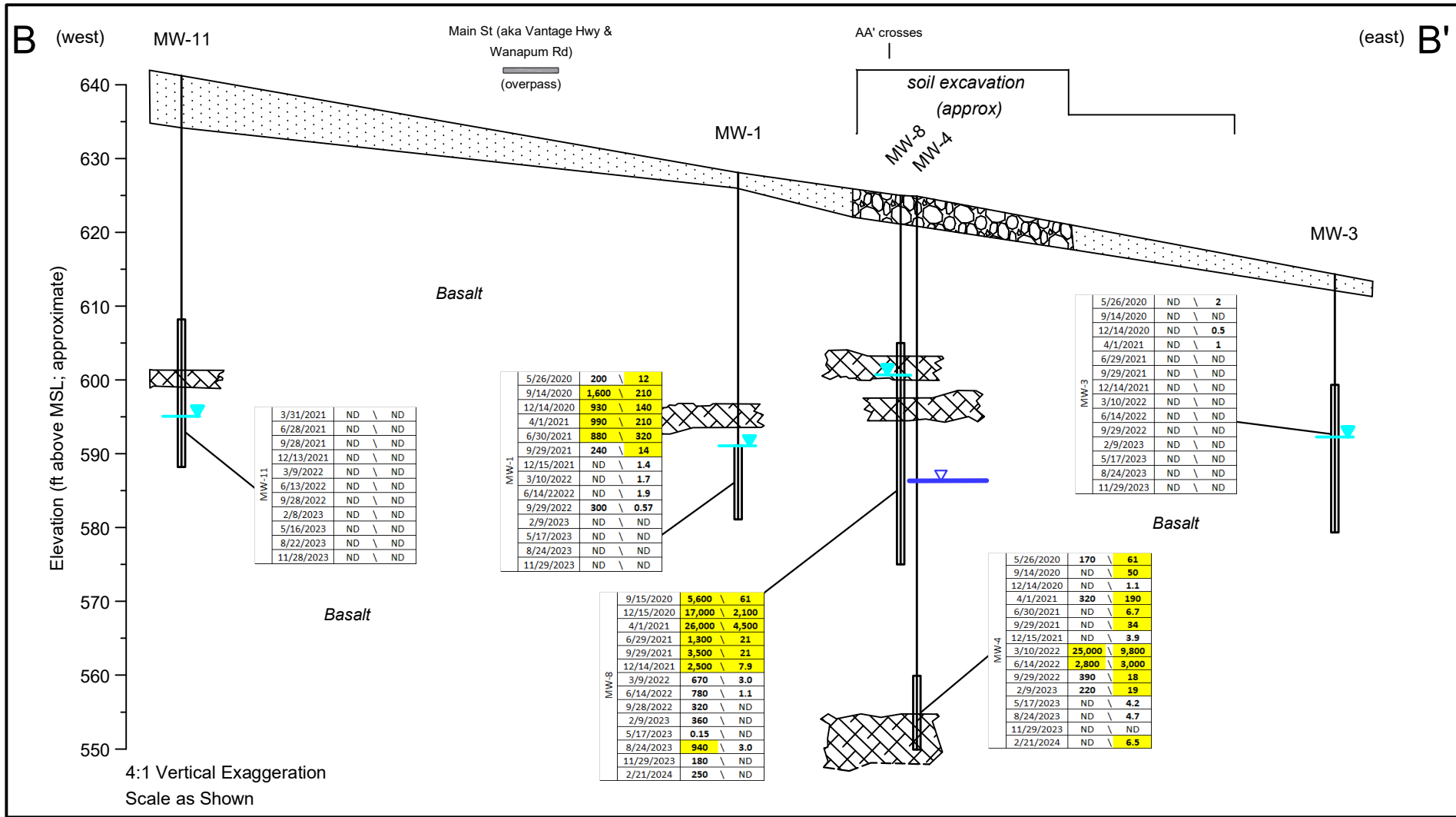
I-90 WB @ M.M. 137.5 Vantage, Washington

Figure 7 Cross-section A - A'

Date: 12/2023 | Project: 200-150 | Drawn: GM, LL



Monitoring Well

MW-1 Well ID

Casing

Screen

Geologic Strata

Unconsolidated overburden deposits

Gravel & sand (backfill)

Inferred bedrock fracture zone

Basalt bedrock as indicated

Groundwater Levels (2/21/24)

Shallow (first)

Deep (second)

Analytical Results

Sample Date	GRO / Benzene

Values in micrograms per liter (µg/L; parts per billion, ppb)

GRO - Gasoline-Range Organics
ND - Not Detected

61 Result exceeds WA MTCA Method A Cleanup Levels
TPHg = 800 µg/L; Benzene = 5 µg/L

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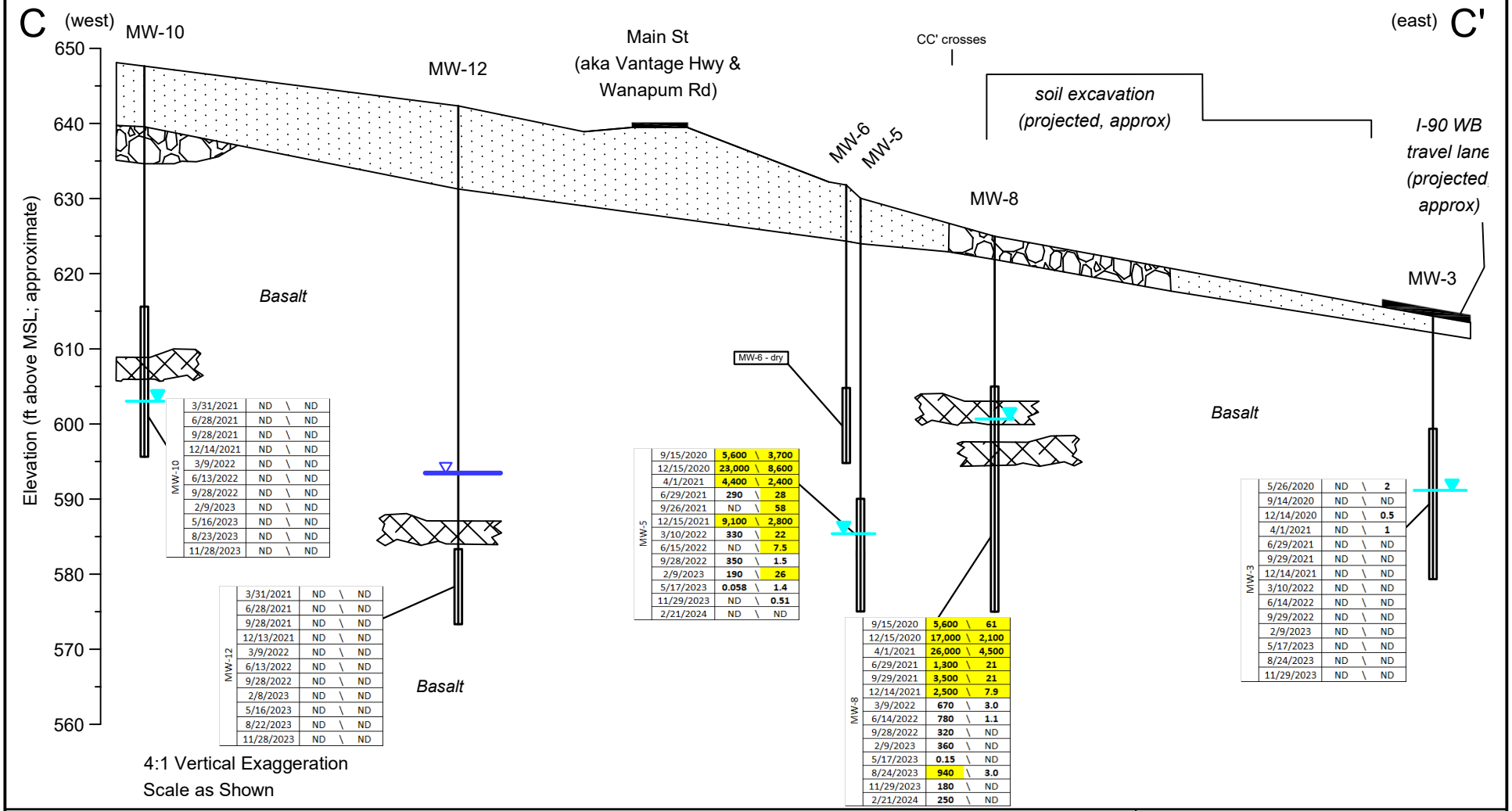
I-90 WB @ M.M. 137.5 Vantage, Washington

Figure 8 Cross-section B - B'

Date: 10/2022 | Project: 200-150 | Drawn: GM, LL



Monitoring Well

MW-1 Well ID

Casing

Screen

Geologic Strata

Unconsolidated overburden deposits

Gravel & sand (backfill)

Inferred bedrock fracture zone

Basalt bedrock as indicated

Groundwater Levels (2/21/24)

Shallow (first)

Deep (second)

Analytical Results

Sample Date	GRO / Benzene

Values in micrograms per liter (µg/L; parts per billion, ppb)

GRO - Gasoline-Range Organics
ND - Not Detected

61 Result exceeds WA MTCA Method A Cleanup Levels
TPHg = 800 µg/L; Benzene = 5 µg/L

heti

I-90 WB @ M.M. 137.5 Vantage, Washington

Figure 9 Cross-section C - C'

Date: 10/2022 | Project: 200-150 | Drawn: GM,LL

MW-1 Monitoring Well

SO1 Production Well

Soil Remedial Excavation

Basemap: Google Earth

0 200

Feet (approx)

N

heti

I-90 WB @ M.M. 137.5
Vantage, Washington

Figure 10
Monitoring Well and
Production Well Locations

Date:06/2021 | Project: 200-150 | Drawn: GM

APPENDIX A
WELL SAMPLING FIELD FORMS

Able Clean-up Technologies, Inc.
5308 N. Myrtle St., Spokane, WA 99217 / P.O. Box 6185 Spokane, WA 99217
Telephone: 509-466-5255 Fax: 509-487-9810
Environmental Services

Job # 24045 Date 2/21/24

Ground Water Sampling Measurements Form

Project Name: RH Smith Dist.
Site Address: MP 137.5 I-90 WB
Field Personnel: Stefanie Marikis
Equipment Used: YSI ProDSS, PID, Interface Probe

Head Space (ppm): 0.0
Sample Collection Time (24 hr): 953

Well ID: MW-4 Well Depth (ft): 75 Well Diameter (in): 2"
Surface Water Level (ft): 39.18 Purge Rate (L/min): 0.2 Total Volume Removed (L): 6.5

Min.	Time (24hr)	SWL (ft)	Volume Removed (L)	pH +/- 0.1	Temperature (C) +/- 3%	Conductivity (µS/cm) +/-3%	Salinity (ppt)	Dissolved Oxygen (mg/L) +/-10% or <5x3	ORP (mV) +/-10	Turbidity (NTU) +/- 10% or <5x3
0	9:23	39.30	0.5	10.41	15.8	7681	4.27	37.12	-2.9	17.47
3	9:26	39.35	1.1	10.50	15.8	7689	4.28	37.78	-3.6	18.72
6	9:29	39.40	1.7	10.83	15.9	7676	4.27	37.60	-3.1	21.67
9	9:32	39.43	2.3	10.95	15.8	7658	4.25	38.75	-4.5	13.14
12	9:35	39.35	2.9	10.82	15.9	7573	4.20	39.82	-1.7	11.12
15	9:38	39.35	3.5	10.75	15.9	7442	4.13	39.79	-2.6	13.47
18	9:41	39.38	4.2	10.77	15.8	7377	4.09	40.55	-2.5	28.20
21	9:44	39.38	4.7	10.79	15.9	7230	4.00	41.36	0.8	18.45
24	9:47	39.38	5.3	10.84	15.8	7066	3.91	42.13	4.0	25.46
27	9:50	39.38	5.9	10.81	15.8	6930	3.82	42.63	6.0	6.10
30	9:53	39.28	6.5	10.79	15.8	6827	3.76	43.00	5.9	2.74

Comments:

FP Signatures:

Able Clean-up Technologies, Inc.
5308 N. Myrtle St., Spokane, WA 99217 / P.O. Box 6185 Spokane, WA 99217
Telephone: 509-466-5255 Fax: 509-487-9810
Environmental Services

Job # 24045 Date 2/21/24

Ground Water Sampling Measurements Form

Project Name: RH Smith Dist. Co.
Site Address: MP 137.5 I-90 WB
Field Personnel: Stefanie Marikis
Equipment Used: YSI ProDSS, PID, Interface Probe

Head Space (ppm): 5.0
Sample Collection Time (24 hr): 15:38

Well ID: MW-5 Well Depth (ft): 55ft Well Diameter (in): 2"
Surface Water Level (ft): 44.5 Purge Rate (L/min): 0.2 Total Volume Removed (L): 50

Min.	Time (24hr)	SWL (ft)	Volume Removed (L)	pH +/- 0.1	Temperature (C) +/- 3%	Conductivity (µS/cm) +/-3%	Salinity (ppt)	Dissolved Oxygen (mg/L) +/-10% or <.5x3	ORP (mV) +/-10	Turbidity (NTU) +/- 10% or <5x3
0	1514	44.5	0.5	10.38	15.7	27369	16.88	11.25	-66.9	27.05
3	15:17	44.75	1.1	10.41	16.0	27422	16.89	11.72	-68.0	22.37
6	15:20	44 88	1.7	10.33	16.0	27465	16.93	12.33	-63.7	29.01
9	15.23	45.12	2.3	10.66	16.1	27661	17.86	13.89	-57.0	24.20
12	15.26	45.22	2.9	10.56	16.1	28111	17.40	16.15	-48.5	23.85
15	15.29	45 34	3.2	10.68	16.1	29239	18.12	16.03	-38.7	12.07
18	15:32	45 45	3.8	10.83	16.1	30007	18.65	23.97	-30.7	7.60
21	15:35	45 57	4.4	10.80	16.1	30836	19.22	26.32	-26.3	6.54
24	15:38	45 69	5.0	10.78	16.1	31550	19.72	27.67	-24.4	4.65
27										
30										

Comments: Pump was dropped in well, then recovered. water in well was left to rest ~ 30 min while re-setting up, but water was disturbed prior to sampling.

FP Signatures:

Able Clean-up Technologies, Inc.
Environmental Services
5308 N. Myrtle St., Spokane, WA 99217 / P.O. Box 6185 Spokane, WA 99217
Telephone: 509-466-5255 Fax: 509-487-9810

Duplicate

Job # 24045 Date 2/21/24

Ground Water Sampling Measurements Form

Project Name: RH Smith Dist. Co.
Site Address: MP 137.5 I-90 WB
Field Personnel: Stefanie Marikis
Equipment Used: YSI ProDSS, PID, Interface Probe

Head Space (ppm): 0.0

Sample Collection Time (24 hr): 1133

Well ID: MW-8 Well Depth (ft): 50 Well Diameter (in): 2

Surface Water Level (ft): 23.50 Purge Rate (L/min): 0.2 Total Volume Removed (L): 5.6

Min.	Time (24hr)	SWL (ft)	Volume Removed (L)	pH +/- 0.1	Temperature (C) +/- 3%	Conductivity (µS/cm) +/-3%	Salinity (ppt)	Dissolved Oxygen (mg/L) +/-10% or <5x3	ORP (mV) +/-10	Turbidity (NTU) +/- 10% or <5x3
0	11:06	23.48	0.5	11.77	15.8	39897	25.48	33.65	-15.0	18.63
3	11:09	23.51	1.1	11.72	15.8	39201	24.99	34.38	-15.5	14.87
6	11:12	23.52	1.7	11.75	15.9	38673	24.63	34.44	-15.5	16.52
9	11:15	23.52	2.3	11.85	15.9	37940	24.14	34.07	-15.9	8.56
12	11:18	23.52	2.9	11.73	16.0	37666	23.93	33.41	-16.1	12.54
15	11:21	23.52	3.2	11.71	16.1	37408	23.75	33.02	-15.9	8.95
18	11:24	23.52	3.8	11.64	16.2	36871	23.39	32.59	-15.7	6.43
21	11:27	23.52	4.4	11.64	16.0	36345	23.00	32.41	-15.1	4.32
24	11:30	23.52	5.0	11.64	16.0	35220	22.96	32.01	-15.8	3.56
27	11:33	23.52	5.6	11.62	16.1	34674	22.01	31.61	-16.0	2.95
30										

Comments:

FP Signatures:

APPENDIX B
INVESTIGATION DERIVED WASTE STRAIGHT VILL OF LADING AND DISPOSAL FACILITY TICKETS

STRAIGHT BILL OF LADING – ORIGINAL – NOT NEGOTIABLE

Shipper's No. _____

Carrier NWestCO SCAC _____ Carrier's No. 24045

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request, and all applicable state and federal regulations.

at I-90 MM 136.5 Vantage, WA date 2/21/24 from RH Smith

the Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to
ACT Shop / Graham Rd Landfill

Destination Spokane **State** WA **County** Spokane **Zip** 99217 **Delivery Address** 5308 N Myrtle

Route
I-90 / Freya

Delivering Carrier NWestCO **Vehicle Number** LT162

Number of Packages	Description of Articles	Weight (sub. to correction)	Class or Rate
1	IDW Purge water 55-gal Steel	200	P

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

FREIGHT CHARGES:
Prepaid ☐
Collect ☐

COD AMT:
$

TOTAL CHARGES:
$

Collect On Delivery $ | **and remit to** | **COD FEE:** $ Prepaid ☐ Collect ☐

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ _____ per _____

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

Shipper: NWestCO on behalf RH Smith Carrier: NWestCO

Per: _____ Date: 2/21/24 Per: _____ Date: 2/21/24

201-BLC-Q 3 12462

1

JM

Graham Road Facility
1820 S. Graham Road
Medical Lake, WA 99022 Ph: (509)244-0151

Original
Ticket# 717969

Customer Name NWESTCO NWESTCO LLC
Ticket Date 03/22/2024
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
Manifest 116999wa
Profile 116999WA (IDW)
Generator 133-NWESTCO 5308 NWESTCO 5308 N MYRTLE ST SPOKANE WA 99217
PO# 24045

Carrier ABLECLEANUP ABLE CLEANUP TECHNOLOGIE
Vehicle# favio
Container
Driver
Check#
Billing# 0002032
Grid

Category:
Job # 24045 - RH Smith -
Approved: DM
Check#_____ Paid [_]

	Time	Scale	Operator	Inbound		
In	03/22/2024 09:12:32	Scale1	ZRICHARD		Gross	12340 lb
Out	03/22/2024 09:21:40	Scale1	ZRICHARD		Tare	12120 lb
					Net	220 lb
					Tons	0.11

Comments

	Product	LD%	Qty	UOM	Rate	Tax/Fee	Amount	Origin
1	Cont Soil Pet-RGC-Tons-	100	0.11	Tons				SPOKANE
2	ENERGY-Energy Surcharge	100		%				SPOKANE
3	WWM-P-Waste Water Manag	100		%				SPOKANE
4	SRHD1-Spokane Regional	100	0.11	Tons				SPOKANE

Total Tax/Fees
Total Ticket

Driver`s Signature

The total amount includes fees and taxes that may not all be listed on this ticket due to technic limitation.

APPENDIX C
LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12

ANALYTICAL REPORT

PREPARED FOR

Attn: Kipp E Silver
Able Clean-Up Technologies, Inc
5308 N Myrtle St.
PO BOX 6185
Spokane, Washington 99217

Generated 2/29/2024 11:28:55 AM

JOB DESCRIPTION

RH Smith

JOB NUMBER

590-23369-1

Eurofins Spokane
11922 East 1st Ave
Spokane WA 99206

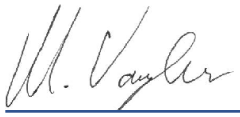
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



Generated
2/29/2024 11:28:55 AM

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Randee Arrington, Business Unit Manager
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Table of Contents

Job ID: 590-23369-1 — Eurofins Spokane

Job Narrative
590-23369-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- 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 may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/22/2024 1:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.5°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 590-46017 recovered outside acceptance criteria, low biased, for Methyl tert-butyl ether. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Able Clean-Up Technologies, Inc
Project/Site: RH Smith

Job ID: 590-23369-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-23369-1	MW-4	Water	02/21/24 09:53	02/22/24 13:00
590-23369-2	MW-5	Water	02/21/24 11:33	02/22/24 13:00
590-23369-3	MW-8	Water	02/21/24 15:38	02/22/24 13:00
590-23369-4	MW-8-DUP	Water	02/21/24 15:38	02/22/24 13:00

Definitions/Glossary

Client: Able Clean-Up Technologies, Inc
Project/Site: RH Smith

Job ID: 590-23369-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample Results

Client: Able Clean-Up Technologies, Inc
Project/Site: RH Smith

Job ID: 590-23369-1

Client Sample ID: MW-4

Date Collected: 02/21/24 09:53
Date Received: 02/22/24 13:00

Lab Sample ID: 590-23369-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ug/L			02/27/24 16:31	1
Benzene	**6.5**		0.40		ug/L			02/27/24 16:31	1
Ethylbenzene	ND		1.0		ug/L			02/27/24 16:31	1
m-Xylene & p-Xylene	ND		2.0		ug/L			02/27/24 16:31	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/27/24 16:31	1
o-Xylene	**2.8**		1.0		ug/L			02/27/24 16:31	1
Toluene	ND		1.0		ug/L			02/27/24 16:31	1
Xylenes, Total	**4.5**		3.0		ug/L			02/27/24 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*02/27/24 16:31*	*1*
4-Bromofluorobenzene (Surr)	*105*		*76 - 120*		*02/27/24 16:31*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 123*		*02/27/24 16:31*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*		*02/27/24 16:31*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150		ug/L			02/27/24 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*68.7 - 141*		*02/27/24 16:31*	*1*

Method: SW846 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010		ug/L		02/27/24 09:41	02/27/24 23:48	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**160**		25		mg/L			02/23/24 12:33	50

Client Sample ID: MW-5

Date Collected: 02/21/24 11:33
Date Received: 02/22/24 13:00

Lab Sample ID: 590-23369-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ug/L			02/27/24 16:52	1
Benzene	ND		0.40		ug/L			02/27/24 16:52	1
Ethylbenzene	ND		1.0		ug/L			02/27/24 16:52	1
m-Xylene & p-Xylene	ND		2.0		ug/L			02/27/24 16:52	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/27/24 16:52	1
o-Xylene	ND		1.0		ug/L			02/27/24 16:52	1
Toluene	ND		1.0		ug/L			02/27/24 16:52	1
Xylenes, Total	ND		3.0		ug/L			02/27/24 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*02/27/24 16:52*	*1*
4-Bromofluorobenzene (Surr)	*100*		*76 - 120*		*02/27/24 16:52*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 123*		*02/27/24 16:52*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*02/27/24 16:52*	*1*

Client: Able Clean-Up Technologies, Inc
Project/Site: RH Smith

Job ID: 590-23369-1

Client Sample ID: MW-5

Lab Sample ID: 590-23369-2

Date Collected: 02/21/24 11:33

Matrix: Water

Date Received: 02/22/24 13:00

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150		ug/L			02/27/24 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*68.7 - 141*		*02/27/24 16:52*	*1*

Method: SW846 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010		ug/L		02/27/24 09:41	02/28/24 00:04	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**980**		25		mg/L			02/23/24 12:43	50

Client Sample ID: MW-8

Lab Sample ID: 590-23369-3

Date Collected: 02/21/24 15:38

Matrix: Water

Date Received: 02/22/24 13:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ug/L			02/27/24 17:13	1
Benzene	ND		0.40		ug/L			02/27/24 17:13	1
Ethylbenzene	ND		1.0		ug/L			02/27/24 17:13	1
m-Xylene & p-Xylene	ND		2.0		ug/L			02/27/24 17:13	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/27/24 17:13	1
o-Xylene	ND		1.0		ug/L			02/27/24 17:13	1
Toluene	ND		1.0		ug/L			02/27/24 17:13	1
Xylenes, Total	ND		3.0		ug/L			02/27/24 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 120*		*02/27/24 17:13*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 120*		*02/27/24 17:13*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 123*		*02/27/24 17:13*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*02/27/24 17:13*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**250**		150		ug/L			02/27/24 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*68.7 - 141*		*02/27/24 17:13*	*1*

Method: SW846 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010		ug/L		02/27/24 09:42	02/28/24 00:21	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**1100**		10		mg/L			02/23/24 12:53	20

Client Sample ID: MW-8-DUP

Date Collected: 02/21/24 15:38
Date Received: 02/22/24 13:00

Lab Sample ID: 590-23369-4

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ug/L			02/27/24 17:34	1
Benzene	ND		0.40		ug/L			02/27/24 17:34	1
Ethylbenzene	ND		1.0		ug/L			02/27/24 17:34	1
m-Xylene & p-Xylene	ND		2.0		ug/L			02/27/24 17:34	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/27/24 17:34	1
o-Xylene	ND		1.0		ug/L			02/27/24 17:34	1
Toluene	ND		1.0		ug/L			02/27/24 17:34	1
Xylenes, Total	ND		3.0		ug/L			02/27/24 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*80 - 120*		*02/27/24 17:34*	*1*
4-Bromofluorobenzene (Surr)	*96*		*76 - 120*		*02/27/24 17:34*	*1*
Dibromofluoromethane (Surr)	*111*		*80 - 123*		*02/27/24 17:34*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*02/27/24 17:34*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**300**		150		ug/L			02/27/24 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*68.7 - 141*		*02/27/24 17:34*	*1*

Method: SW846 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010		ug/L		02/27/24 09:42	02/28/24 00:37	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**1100**		10		mg/L			02/23/24 13:23	20

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 590-46017/10
Matrix: Water
Analysis Batch: 46017

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ug/L			02/27/24 15:27	1
Benzene	ND		0.40		ug/L			02/27/24 15:27	1
Ethylbenzene	ND		1.0		ug/L			02/27/24 15:27	1
m-Xylene & p-Xylene	ND		2.0		ug/L			02/27/24 15:27	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/27/24 15:27	1
o-Xylene	ND		1.0		ug/L			02/27/24 15:27	1
Toluene	ND		1.0		ug/L			02/27/24 15:27	1
Xylenes, Total	ND		3.0		ug/L			02/27/24 15:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*02/27/24 15:27*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 120*		*02/27/24 15:27*	*1*
Dibromofluoromethane (Surr)	*114*		*80 - 123*		*02/27/24 15:27*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*02/27/24 15:27*	*1*

Lab Sample ID: LCS 590-46017/1005
Matrix: Water
Analysis Batch: 46017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2-Dichloroethane			10.0	9.74		ug/L		97	80 - 120		
Benzene			10.0	10.1		ug/L		101	80 - 120		
Ethylbenzene			10.0	10.5		ug/L		105	80 - 122		
m-Xylene & p-Xylene			10.0	11.8		ug/L		118	80 - 125		
Methyl tert-butyl ether			10.0	6.87		ug/L		69	68 - 134		
o-Xylene			10.0	11.4		ug/L		114	80 - 130		
Toluene			10.0	10.2		ug/L		102	80 - 129		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*76 - 120*
Dibromofluoromethane (Surr)	*110*		*80 - 123*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 590-46017/6
Matrix: Water
Analysis Batch: 46017

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichloroethane			10.0	9.45		ug/L		95	80 - 120	3	14
Benzene			10.0	9.75		ug/L		97	80 - 120	4	15
Ethylbenzene			10.0	10.5		ug/L		105	80 - 122	1	35
m-Xylene & p-Xylene			10.0	11.6		ug/L		116	80 - 125	2	35
Methyl tert-butyl ether			10.0	6.75		ug/L		68	68 - 134	2	18
o-Xylene			10.0	11.2		ug/L		112	80 - 130	1	35
Toluene			10.0	9.91		ug/L		99	80 - 129	3	35

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 590-46017/6
Matrix: Water
Analysis Batch: 46017

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	102		76 - 120
Dibromofluoromethane (Surr)	108		80 - 123
Toluene-d8 (Surr)	97		80 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Lab Sample ID: MB 590-46018/10
Matrix: Water
Analysis Batch: 46018

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		150		ug/L			02/27/24 15:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		68.7 - 141		02/27/24 15:27	1

Lab Sample ID: LCS 590-46018/1009
Matrix: Water
Analysis Batch: 46018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline			1000	1040		ug/L		104	80 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		68.7 - 141

Lab Sample ID: LCSD 590-46018/1021
Matrix: Water
Analysis Batch: 46018

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline			1000	984		ug/L		98	80 - 120	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		68.7 - 141

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 590-46010/2-A
Matrix: Water
Analysis Batch: 46016

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46010

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010		ug/L		02/27/24 09:41	02/27/24 22:26	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC) (Continued)

Lab Sample ID: LCS 590-46010/3-A
Matrix: Water
Analysis Batch: 46016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylene Dibromide	0.125	0.0966		ug/L		77	60 - 140

Lab Sample ID: LCSD 590-46010/4-A
Matrix: Water
Analysis Batch: 46016

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylene Dibromide	0.125	0.0989		ug/L		79	60 - 140	2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-45968/1003
Matrix: Water
Analysis Batch: 45968

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.50		mg/L			02/23/24 10:25	1

Lab Sample ID: LCS 590-45968/1004
Matrix: Water
Analysis Batch: 45968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	12.5	13.0		mg/L		104	90 - 110

Lab Chronicle

Client: Able Clean-Up Technologies, Inc
Project/Site: RH Smith

Job ID: 590-23369-1

Client Sample ID: MW-4
Date Collected: 02/21/24 09:53
Date Received: 02/22/24 13:00

Lab Sample ID: 590-23369-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	46017	02/27/24 16:31	JSP	EET SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	46018	02/27/24 16:31	JSP	EET SPK
Total/NA	Prep	8011			80 mL	2 mL	46010	02/27/24 09:41	MRV	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	46016	02/27/24 23:48	NMI	EET SPK
Total/NA	Analysis	300.0		50	5 mL	5 mL	45968	02/23/24 12:33	NMI	EET SPK

Client Sample ID: MW-5
Date Collected: 02/21/24 11:33
Date Received: 02/22/24 13:00

Lab Sample ID: 590-23369-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	46017	02/27/24 16:52	JSP	EET SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	46018	02/27/24 16:52	JSP	EET SPK
Total/NA	Prep	8011			80 mL	2 mL	46010	02/27/24 09:41	MRV	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	46016	02/28/24 00:04	NMI	EET SPK
Total/NA	Analysis	300.0		50	5 mL	5 mL	45968	02/23/24 12:43	NMI	EET SPK

Client Sample ID: MW-8
Date Collected: 02/21/24 15:38
Date Received: 02/22/24 13:00

Lab Sample ID: 590-23369-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	46017	02/27/24 17:13	JSP	EET SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	46018	02/27/24 17:13	JSP	EET SPK
Total/NA	Prep	8011			80 mL	2 mL	46010	02/27/24 09:42	MRV	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	46016	02/28/24 00:21	NMI	EET SPK
Total/NA	Analysis	300.0		20	5 mL	5 mL	45968	02/23/24 12:53	NMI	EET SPK

Client Sample ID: MW-8-DUP
Date Collected: 02/21/24 15:38
Date Received: 02/22/24 13:00

Lab Sample ID: 590-23369-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	43 mL	43 mL	46017	02/27/24 17:34	JSP	EET SPK
Total/NA	Analysis	NWTPH-Gx		1	43 mL	43 mL	46018	02/27/24 17:34	JSP	EET SPK
Total/NA	Prep	8011			80 mL	2 mL	46010	02/27/24 09:42	MRV	EET SPK
Total/NA	Analysis	8011		1	1 mL	1 mL	46016	02/28/24 00:37	NMI	EET SPK
Total/NA	Analysis	300.0		20	5 mL	5 mL	45968	02/23/24 13:23	NMI	EET SPK

Laboratory References:
EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: Able Clean-Up Technologies, Inc
Job ID: 590-23369-1
Project/Site: RH Smith

Laboratory: Eurofins Spokane

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-07-25

Method Summary

Client: Able Clean-Up Technologies, Inc
Project/Site: RH Smith

Job ID: 590-23369-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SPK
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC/MS)	NWTPH	EET SPK
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	EET SPK
300.0	Anions, Ion Chromatography	EPA	EET SPK
5030C	Purge and Trap	SW846	EET SPK
8011	Microextraction	SW846	EET SPK

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

TestAmerica Spokane
11922 E 1st Avenue
Spokane WA 99206-5302
phone 509.924.9200 fax 509.924 9290

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Stefanie Marikis	Site Contact: Stefanie Marikis	5094665255	COC No:
Able Cleanup Technologies Inc.	Tel/Fax.509-991-9442	Lab Contact:	Carrier:ACT	1 of 1 COCs
5308 N Myrtle St	Analysis Turnaround Time			Sampler: Laramie Lewis
Spokane, WA 99217	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
509-466-5255	TAT if different from Below ____			Walk-in Client
509-487-9810	☑ 2 weeks			Lab Sampling:
Project Name RH Smith	☐ 1 week			
Site Vantage, WA	☐ 2 days			Job / SDG No.
P O # 24045	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	WTPH-Dx	WTPH-Gx	BTEX	WTPH-HCID	Pb, Cd, Cr totals	Naphthalene	NWTPH-Dx	Carcinagenic PAHs	MTBE	EDB	EDC	SULFATE	Sample Specific Notes.
MW-4	2/21/2024	953	G	water	5				X	X						X	X	X	X	
MW-5	2/22/2024	1133	G	water	5				X	X						X	X	X	X	
MW-8	2/23/2024	1538	G	water	5				X	X						X	X	X	X	
MW-8-DUP	2/24/2024	1538	G	water	5				X	X						X	X	X	X	

590-23369 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments

Custody Seals Intact ☐ Yes ☐ No	Custody Seal No		Cooler Temp. and Therm ID No.	3.8 c 3.9 c D2006		
Relinquished by:	Company: ACT	Date/Time: 2/22/24 1300	Received by:	Company: ETA	Date/Time: 2/22/24 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time

Form No. CA-C-WI-002, Rev 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Able Clean-Up Technologies, Inc

Job Number: 590-23369-1

Login Number: 23369
List Number: 1
Creator: Morris, Mackenzie 1

List Source: Eurofins Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	