



July 17, 2025

Ms. Lyddie Austin
Washington Department of Ecology
300 Desmond Drive
Lacey, Washington 98503

**Subject: SWMU-55 Tank 504, Tank 505 Construction Summary Data Report, HF Sinclair
Puget Sound Refinery, Anacortes, Washington**

Dear Ms. Austin,

On behalf of HF Sinclair Puget Sound Refining LLC (HFSPSR) Refinery, and in accordance with Agreed Order No. DE 16081, attached is the Construction and Summary Data Report for the SWMU-55 Site. Construction of one tank (Tank 503) was completed on the eastern portion of the Site during 2020. In accordance with the Agreed Order, soil characterization data related to Tank 503 was reported to Ecology.

Construction of the other two tanks (Tank 504 and Tank 505) was delayed due to the extraordinary circumstances caused by the COVID-19 pandemic. A time extension request was submitted to and approved by Ecology in early 2021. Construction of Tank 504 and Tank 505 was completed on the western portion of the Site on May 21, 2025. This report provides the results of all soil characterization data associated with the construction of Tank 504 and Tank 505.

Please do not hesitate to contact me should you have any questions regarding this report.

Sincerely,

Jim Schneider, LG
Environmental Specialist

cc: Aaron Vahid, HFSPSR

SWMU – 55 TANK 504, TANK 505

CONSTRUCTION SUMMARY DATA

REPORT

HF SINCLAIR – ANACORTES, WASHINGTON

SUBMITTED BY:

SUBMITTED TO:



HF Sinclair

Puget Sound Refinery
8505 South Texas Road
Anacortes, Washington

Washington Department of Ecology

Industrial Section
PO Box 47600
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1. EXECUTIVE SUMMARY

In accordance with Agreed Order No. DE 16081 between the Washington State Department of Ecology (Ecology) and the HF Sinclair Puget Sound Refinery (PSR), soil sampling and analysis has been completed at the Non-Hazardous Land Treatment Facility also known as Solid Waste Management Unit (SWMU) 55 located at PSR. The Agreed Order established remedial actions required prior to construction of three petroleum storage tanks on the SWMU-55 Site (“the Site”). Sampling has been performed in accordance with the Sampling and Analysis Plan described in the SWMU-55 Interim Action Plan (IAP) (WES, 2018b) and approved by the Agreed Order. Construction of one tank (Tank 503) was completed on the eastern portion of the Site during 2020. In accordance with the Agreed Order, soil characterization data related to Tank 503 was reported to Ecology (WES, 2020). Construction of the other two tanks (Tank 504 and Tank 505) was delayed due to the extraordinary circumstances caused by the COVID-19 pandemic. A time extension request was submitted to and approved by Ecology in early 2021. Construction of Tank 504 and Tank 505 was completed on the western portion of the Site on May 21, 2025. This report provides the results of all soil characterization data associated with the construction of Tank 504 and Tank 505.

Per the IAP, all soil that was re-used onsite during construction activities was characterized and compared to the Model Toxics Control Act (MTCA) Method C industrial cleanup levels for direct contact to ensure no soil exceeding the selected cleanup level was re-used. Soil remaining in place beneath the newly constructed tank was also characterized to a depth of 15 feet. A total of sixty-seven soil characterization samples were collected from the Site. In accordance with the IAP, waste residual soil located outside of the tank footprints that was not disturbed during the tank construction project was capped in place and was not characterized.

HF Sinclair PSR has reduced potential human and terrestrial exposure to waste residual soil by capping the SWMU-55 Site in accordance with the IAP with clean soil, tanks, asphalt coated berms, and roadways. HF Sinclair PSR continues monitoring groundwater in accordance with the IAP. Groundwater and soil-pore water sample results are reported to Ecology annually and are not included in this report.

2. INTRODUCTION

The SWMU-55 Non-Hazardous Land Treatment Facility (the Site) is located in the northern portion of the HF Sinclair Puget Sound Refinery at 8505 S Texas Road in Anacortes, Washington. The Site has been used to land treat petroleum contaminated soil and refinery wastes since its construction in 1973. The Site was identified as a potentially contaminated site in the Texaco (now HF Sinclair) Refinery Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) prepared in 1988 (EPA, 1988). PSR ceased applying non-hazardous waste at the Site on August 11, 2017. Additional information including Site history can be found in Section 2 of the IAP. The Site location is shown on Figure 1. The pre-construction Site vicinity is shown on Figure 2. The Site development schematic is shown on Figure 3.

3. SOIL SAMPLING METHODS

Soil sampling was conducted prior to commencement of excavation activities at the Site. Sample collection followed the procedures outlined in the approved sampling and analysis plan found in the IAP. Standard industry protocols regarding sample collection and handling were followed. Samples collected from the uppermost 2 feet of soil were typically collected using hand tools. Samples collected deeper than 2 feet were collected using an excavator or a track mounted direct-push GeoProbe® drilling rig. Daily field activities were recorded on appropriate field forms and in the project field notebook. Soil boring logs are provided in Appendix A. Soil sample descriptions are provided in Table 1.

3.1 SOIL FOR RE-USE ONSITE

Composite samples were collected to characterize soil that was excavated and re-used on the Site during redevelopment. One composite sample was collected for every 500-cubic-yards of soil excavated. Each 500-cubic-yard cell was generally 6,750 square feet with a two-foot thickness. Where excavation depth exceeded two feet, one composite sample was collected from each two-foot-thick layer. In areas where only minimal excavation was needed, the cell areas were enlarged, and the layer thickness was reduced. Each composite sample consisted of three subsamples collected from within the 500-cubic-yard cell. Composite soil sample locations are shown on Figure 4.

In order to grade the Site for tank construction, waste residual soil had to be excavated (“cut”) from some areas to be re-used as fill material in other areas of the Site. Composite samples were collected from cut areas and labeled as “Cell” followed by the sampling cell number and collection depth (e.g., “Cell-10 2-4 ft”).

3.2 SOIL SAMPLING INSIDE OF THE TANK FOOTPRINT

A direct-push GeoProbe® drill rig was used to collect discrete grab samples below the footprints of Tank 504 and Tank 505 to verify that waste residual soil remaining beneath the tanks met the IAP cleanup levels to a depth of 15 feet. Each tank footprint was divided into 3 grid sections for sampling purposes. One grab sample was collected from each 3-foot thick grid section beneath the tank to a depth of 15 feet or until

undisturbed native soil was encountered. Each 3-foot thick section represented one 500 cubic yard cell. Tank footprint samples were labeled as the tank number followed by the boring number and sample collection depth (e.g., “503-B-1 3 ft”). Tank Footprint sample locations are shown on Figure 5.

3.3 *ADDITIONAL SAMPLING DUE TO EXCEEDANCES*

Per the IAP, in the case of a composite sample which exceeded the IAP standards, HF Sinclair could further evaluate the soil by dividing the cell into 5 subcells (100 cubic yards each) and collecting one discrete sample from each subcell to determine if soil in each subcell met the selected IAP cleanup levels for re-use onsite. One composite sample, Cell-16 2-4 ft was determined to exceed the IAP cleanup levels. Subsample locations for the Cell-16 2-4 ft sample are shown on Figure 6.

4. LABORATORY ANALYTICAL METHODS

Chemical testing was completed by ALS Environmental Laboratory, located in Everett, Washington. The laboratory maintains applicable Ecology accreditation and adheres to EPA and Ecology protocols and requirements.

Soil samples were analyzed for the following:

- Method NWVPH: Volatile Petroleum Hydrocarbons (VPH) and Hexane
- Method NWEPH: Extractable Petroleum Hydrocarbons (EPH)
- EPA Method 8021: Benzene, Toluene, Ethylbenzene, and Xylene (BTEX)
- EPA Method 8270 SIM: Naphthalene, 1- and 2-Methylnaphthalene, and Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
- EPA Method 7471: Mercury

5. CLEANUP STANDARDS

The selected cleanup levels presented in the following sections were established in the IAP and approved by Ecology in the Agreed Order.

5.1 SOIL CLEANUP STANDARDS

The MTCA Method C industrial cleanup levels for the direct contact pathway were selected for the Site. The cleanup levels were set using the procedures specified in WAC 173-340-745(5)(b) such that direct contact exposure to the soil will result in no acute or chronic non-carcinogenic toxic effects to human health using a hazard quotient of 1.0 and the concentration with the upper bound on the estimated excess cancer risk is less than or equal to one in one-hundred thousand (1.0E-05).

Each soil sample was evaluated and compared to the MTCA Method C Site Hazard Quotient (HQ) and Excess Cancer Risk (Risk Total) as described in the IAP. To assist with the calculation of the Site hazard quotient and excess cancer risk, a Microsoft Excel spreadsheet model was developed. The spreadsheet model calculated the direct contact human health hazard index (hazard quotient) and the excess cancer risk (risk total) using the EPH, VPH, BTEX, and cPAH Site-specific analytical data. Equations 745-1, 745-2, 745-3, 745-4, and 754-5 in MTCA (WAC 173-340-745) and the associated default assumptions were used to conduct this calculation. Per Ecology consent, a cancer slope factor of 1.0 for benzo(a)pyrene was used in the calculations. This is consistent with an EPA January 2017 Toxicological Review of Benzo(a)pyrene (EPA, 2017c).

Values used in the Microsoft Excel spreadsheet Method C calculations, including default assumptions, carcinogenic potency factors, reference dose values, dermal absorption fractions, and gastrointestinal absorption conversion factors are provided in Appendix B.

5.2 GROUNDWATER CLEANUP STANDARDS

An empirical demonstration has been completed to confirm the Site has not impacted groundwater. See IAP Section 3.4.3 for details.

5.3 SOIL VAPOR

No occupied building exists on the Site. Therefore, there is no potential risk from long-term exposure to vapors from soil at the Site. See IAP Section 3.4.4 for details.

5.4 POINTS OF COMPLIANCE

Points of compliance include the excavation extent of waste residual soil disturbed during the tank construction project as well as soil remaining beneath the tank footprints to a depth of 15 feet.

In accordance with the IAP, waste residual soil located outside of the tank footprints, that was not disturbed during the tank construction project, was capped in place and was not characterized.

6. DEVIATIONS

Per Ecology consent, a cancer slope factor of 1.0 for benzo(a)pyrene was used in the Method C calculations. This is consistent with an EPA January 2017 Toxicological Review of Benzo(a)pyrene (EPA Publication 635/R-17/003Fa).

7. QUALITY ASSURANCE REVIEW

A quality assurance review has been performed on the data generated during this investigation. Data review included an evaluation of:

- Field collection and handling
- Completeness
- Data presentation
- Reporting limits
- Acceptability of test results for:
 - Method blanks
 - Analytical replicates
 - Laboratory control samples (blank spikes)
 - Surrogate Recoveries
 - Matrix spikes and Matrix spike duplicates.

The quality assurance review has established confidence that project data are of known and appropriate quality and sufficient to support their intended use. The completeness for the data set is 100 percent. Based on the data quality verification and validation, data were determined to be acceptable. No data were rejected. A summary of the quality assurance review is provided in Appendix C.

8. SOIL SAMPLING RESULTS

Soil sampling at the Site was completed in accordance with the IAP. Soil characterization samples were divided into three categories which included 1) soil re-used onsite, 2) soil remaining in-place beneath the tanks after construction, and 3) confirmation samples further delineating exceedances in the first two categories. Soil results are discussed below. Original laboratory analytical data reports are presented in Appendix D.

8.1 SOILS FOR RE-USE ONSITE

Forty-one composite soil samples were collected to characterize soil for re-use at the Site. Composite soil sample results are presented in Table 2. Laboratory results indicated forty composite soil samples met the selected cleanup standards, and one composite soil sample exceeded the cleanup standards specified in the IAP. The sample which exceeded the IAP standard was "Cell-16 2-4 ft". Per the IAP, five discrete grab samples were collected from the area of sample "Cell-16 2-4 ft". Each grab sample represents one 100-cubic-yard sub cell. Laboratory results indicated that all confirmation discrete soil samples met the selected cleanup standards. In accordance with the IAP sampling plan, discrete confirmation sampling determined that no soil was required to be removed for offsite disposal. Confirmation soil sample results are presented in Table 3. Confirmation sample locations are shown on Figure 6.

Calculated risk and hazard quotient values for each parameter used in Method C determinations are presented in Appendix E. Composite soil sample locations are shown on Figure 4 (locations shown represent the center of the composited area).

8.2 SOIL REMINING IN TANK FOOTPRINT

Prior to construction, nineteen discrete grab samples were collected to characterize waste residual soil that would remain in place beneath Tank 504 and Tank 505. One additional duplicate soil sample was collected during this effort. The layer of waste residual soil encountered beneath Tank 504 ranged from 3 to 9 feet deep underlain by undisturbed native soil. The layer of waste residual soil encountered beneath Tank 505 ranged from 3 to 12 feet deep underlain by undisturbed native soil. Laboratory results indicated

all tank footprint soil samples met the selected cleanup standards. Tank footprint soil sample results are presented in Table 4. Tank footprint soil sample locations are shown on Figure 5.

8.3 *SAMPLE LOCATION COORDINATES*

Sample collection locations were established using GIS-based computer mapping software. Prior to collecting soil samples, sample locations and/or reference locations were marked in the field. Sample location coordinates are provided in Table 5.

9. SOIL DISPOSAL

The appropriate number of soil samples were collected from the Site in accordance with the IAP. Analysis of the samples determined that disturbed soil may be re-used on the Site, and no soil was required to be removed for offsite disposal.

10. ADDITIONAL REPORTING

Water data collected from the groundwater monitoring wells and soil pore-water lysimeters at the Site will be submitted to Ecology per the schedule provided in the Agreed Order.

11. CONCLUSIONS

In compliance with Agreed Order No. DE 16081 this report summarizes the soil sampling and analysis completed for the Tank 504 and Tank 505 construction phase of the SWMU-55 Interim Action Plan. Soil re-used onsite during construction activities was characterized to ensure soil exceeding the MTCA Method C industrial cleanup levels for the direct contact pathway was not re-used on the Site. Soil remaining in place beneath the newly constructed Tank 504 and Tank 505 was characterized to a depth of 15 feet below ground surface (bgs) to ensure soil remaining beneath the tanks met the selected MTCA Method C industrial cleanup levels. Construction at the Site is now complete.

12. REFERENCES

- EPA, 1988. RCRA Facility Assessment, Texaco Anacortes Refinery, Anacortes, Washington, EPA ID WAD009276197. July 1988.
- EPA. 2017a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-540-R-2017-001. U.S. Environmental Protection Agency Office of Superfund Remediation and Technology Innovation. Washington, D.C. January 2017.
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- Washington State Department of Ecology (Ecology). 1995. Guidance for Remediation of Petroleum Contaminated Soil. Publication No. 91-30.
- Washington State Department of Ecology (Ecology). 2013. Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC. Publication No. 94-06.
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- Washington State Department of Ecology (Ecology). 2016. Guidance for Remediation of Petroleum Contaminated Sites. Publication No. 10-09-057.
- Whatcom Environmental Services, Inc (WES). 2018a. SWMU-55 Soil Investigation Data Report. January 26, 2018.
- Whatcom Environmental Services, Inc (WES). 2018b. SWMU-55 Interim Action Plan. October 11, 2018.
- Whatcom Environmental Services, Inc (WES). 2020. SWMU-55 Tank 503 Construction Soil Sampling Data Report, Shell Oil Products US, Puget Sound Refinery, 8505 South Texas Road, Anacortes, Washington. September 28, 2020

FIGURES

122°36'0"W

122°34'0"W

122°32'0"W

48°30'0"N

48°30'0"N

48°28'0"N

48°28'0"N

122°36'0"W

122°34'0"W

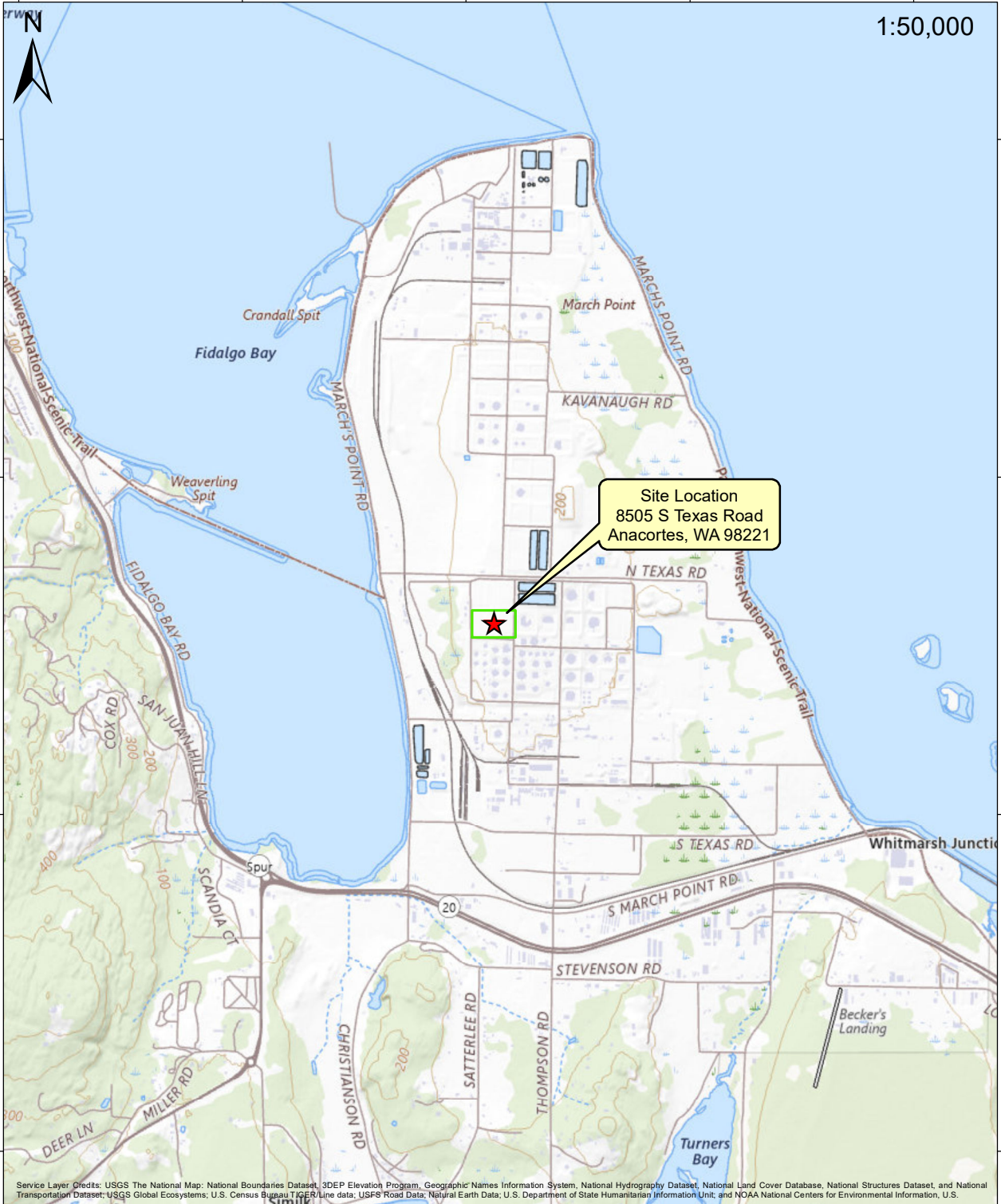
122°32'0"W

2,000 1,000 0 Meters

5,000 2,500 0 Feet

2 1 0 Miles

Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S.



Prepared for:



Prepared by:



Site Location Map

SWMU-55

4/22/2025

Figure 1



--- SWMU-55 Site Boundary

All data are approximate and should be used for relative location reference only.
2015 aerial photograph (GoogleEarth).

Prepared for:



Prepared by:



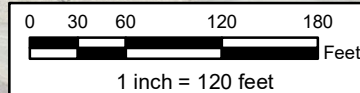
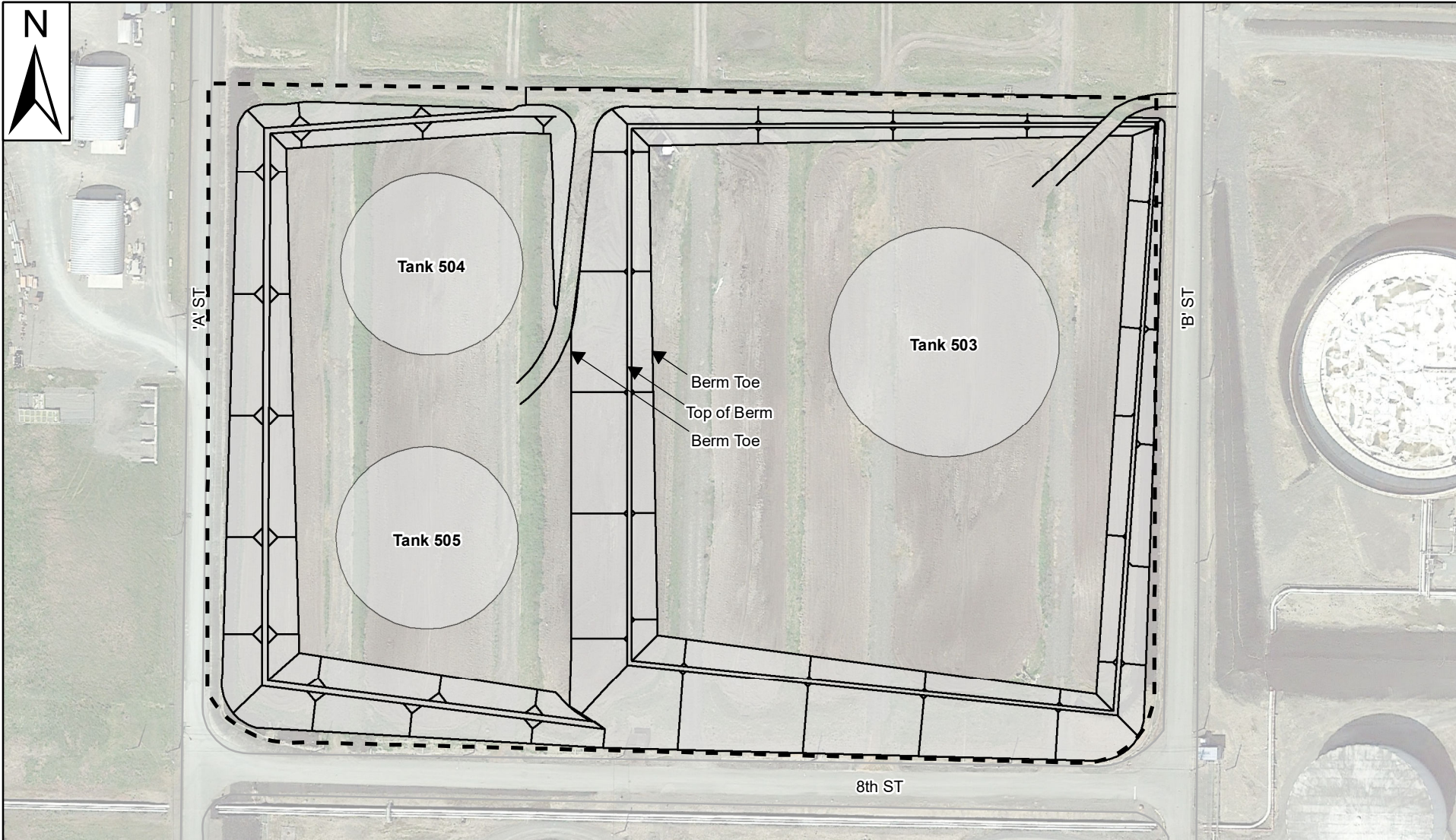
SWMU-55 Pre-Construction Site Vicinity

HF Sinclair Puget Sound Refinery
Anacortes, WA, 98221

SWMU-55

6/17/2025

Figure 2



SWMU-55 Site Development Schematic

--- SWMU-55 Site
Boundary

■ New Tanks and
Containment Berms

All data are approximate and should
be used for relative location
reference only.
2015 aerial photograph (GoogleEarth).

Prepared for:



Prepared by:



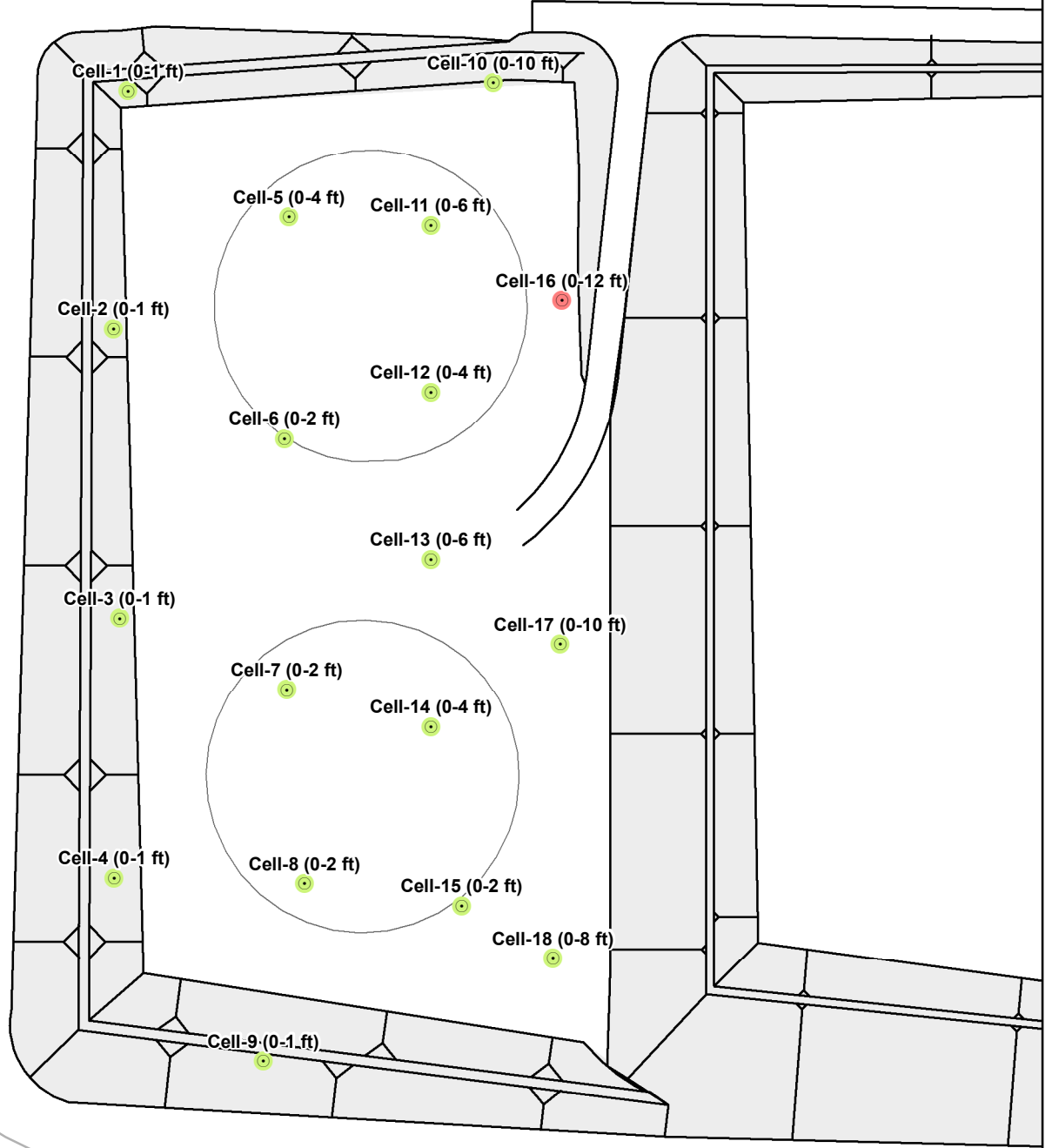
HF Sinclair Puget Sound Refinery
Anacortes, WA, 98221

SWMU-55
6/17/2025

Figure 3



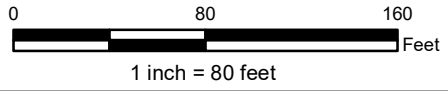
'A' ST



8th ST

- Soil Sample
- Below MTCA C
- Above MTCA C
- New Containment Berms

Locations shown represent center of composited area. Three sub-samples were combined into each composite. Samples were collected from 2 ft intervals to the total depth shown.



500-Yard Composite Soil Samples

Prepared for:



Prepared by:



HF Sinclair Puget Sound Refinery
Anacortes, WA, 98221

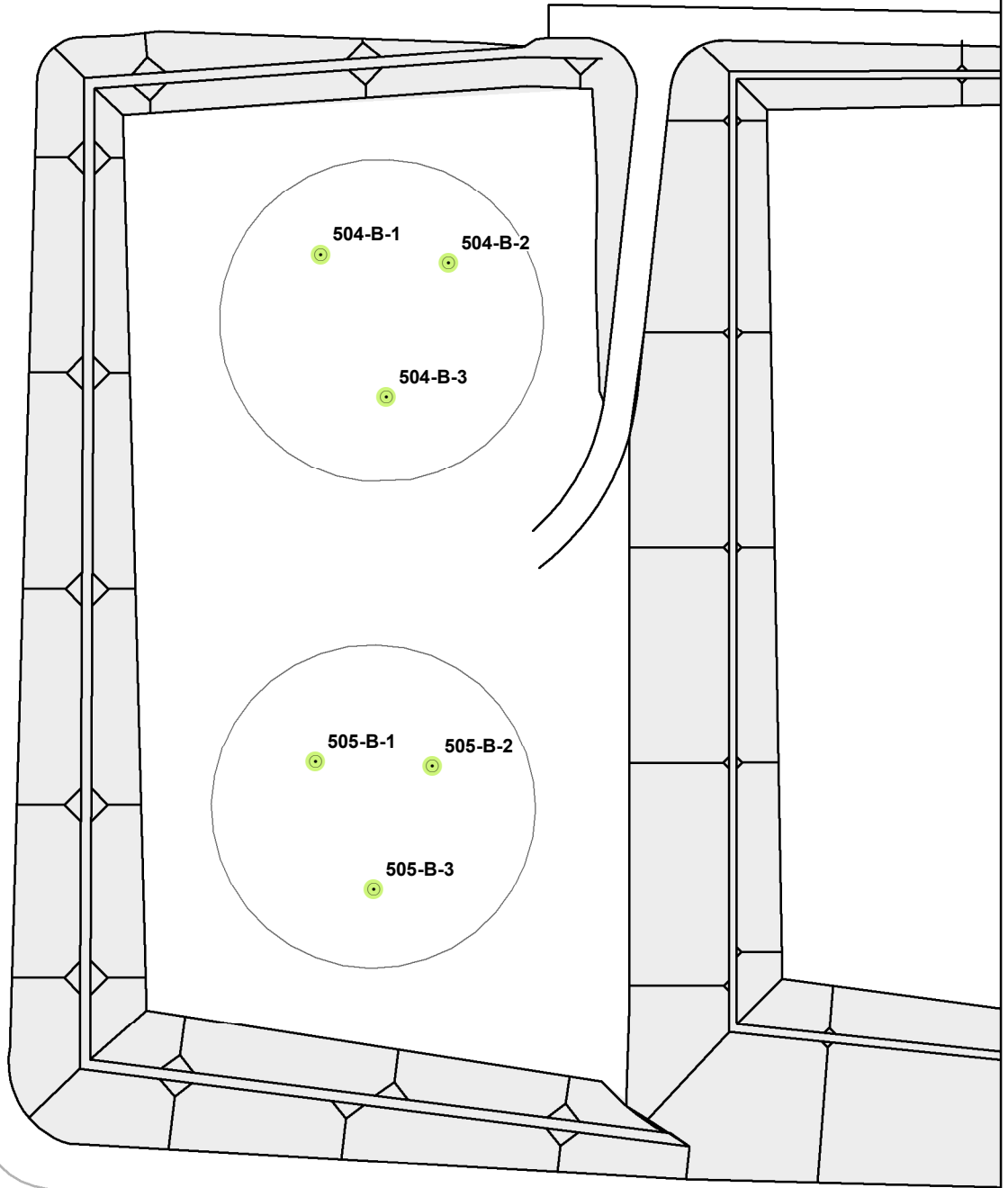
SWMU-55

6/17/2025

Figure 4



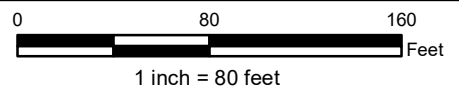
'A' ST



8th ST

-  Tank Footprint Soil Sample
-  Below MTCA C
-  New Containment Berms

All data are approximate and should be used for relative location reference only.



Tank Footprint 500-Yard Soil Samples

Prepared for:



Prepared by:



HF Sinclair Puget Sound Refinery
Anacortes, WA, 98221

SWMU-55
6/17/2025

Figure 5



'A' ST

Subcell 16-1 3 ft

Subcell 16-2 3ft

Subcell 16-3 3ft

Subcell 16-4 3ft

Subcell 16-5 3ft

8th ST



Soil Sample

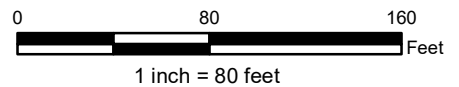


Below MTCA C



New Containment Berms

All data are approximate and should be used for relative location reference only.



100-Yard Soil Subsamples

Prepared for:



Prepared by:



HF Sinclair Puget Sound Refinery
Anacortes, WA, 98221

SWMU-55

6/17/2025

Figure 6

TABLES

Table 1. Soil Sample Descriptions - SWMU-55

Sample ID	Date	Location and Description	PID (ppm)	Sheen Test ^a
Soils for Onsite Re-Use (500-Yard Composite Soil Samples)				
Cell-1 0-1 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 1 ft bgs relative to final grade.	0.6	SS
Cell-2 0-1 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 1 ft bgs relative to final grade.	0.2	SS
Cell-3 0-1 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 1 ft bgs relative to final grade.	0.2	SS
Cell-4 0-1 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 1 ft bgs relative to final grade.	0.3	SS
Cell-5 0-2 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	1.1	NS
Cell-5 2-4 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	1.3	NS
Cell-6 0-2 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	3.4	NS
Cell-7 0-2 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	0.6	NS
Cell-8 0-2 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	3.2	NS
Cell-9 0-1 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 1 ft bgs relative to final grade.	0.5	NS
Cell-10 0-2 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	0.0	SS
Cell-10 2-4 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	1.1	SS
Cell-10 4-6 ft	1/28/2020	Sandy silt with clay, light brown with orange mottling, firm, dry. Appears to be native material. Collected as a composite sample from 4 - 6 ft bgs relative to final grade.	0.0	NS
Cell-10 6-8 ft	1/28/2020	Sandy silt with clay, light brown, firm, dry. Collected as a composite sample from 6-8 ft bgs relative to final grade.	0.0	NS
Cell-10 8-10 ft	1/28/2020	Fine sandy clay, light brown, hard, dry. Appears to be native material. Collected as a composite sample from 8-10 ft bgs relative to final grade.	0.0	NS

Table 1. Soil Sample Descriptions - SWMU-55

Sample ID	Date	Location and Description	PID (ppm)	Sheen Test ^a
Cell-11 0-2 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	2.8	NS
Cell-11 2-4 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	9.0	SS
Cell-11 4-6 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist) with silty clay, tarnish, brown, hard, dry that appears to be native material. Collected as a composite sample from 4 - 6 ft bgs relative to final grade.	3.0	VSS
Cell-12 0-2 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	196.0	VSS (Broken)
Cell-12 2-4 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	6.8	NS
Cell-13 0-2 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	14.5	NS
Cell-13 2-4 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	4.2	SS
Cell-13 4-6 ft	1/28/2020	Silty sand with clay, light brown with orange and gray mottling, firm, dry. Collected as a composite sample from 4 - 6 ft bgs relative to final grade.	0.6	NS
Cell-14 0-2 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	6.1	NS
Cell-14 2-4 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	3.6	VSS (Broken)
Cell-15 0-2 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	0.9	NS
Cell-16 0-2 ft	1/29/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	3.2	NS
Cell-16 2-4 ft	1/29/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	8.8	NS
Cell-16 4-6 ft	1/29/2020	Silty fine sand, brown with orange mottling, firm, dry. Collected as a composite sample from 4 - 6 ft bgs relative to final grade.	1.4	NS
Cell-16 6-8 ft	1/29/2020	Fine sand with silt, brown with orange mottling, firm, dry. Collected as a composite sample from 6 - 8 ft bgs relative to final grade.	1.5	NS

Table 1. Soil Sample Descriptions - SWMU-55

Sample ID	Date	Location and Description	PID (ppm)	Sheen Test ^a
Cell-16 8-10 ft	1/29/2020	Find sand with silt and clay, brown with orange mottling, firm, dry. Collected as a composite sample from 8 - 10 ft bgs relative to final grade.	2.2	NS
Cell-16 10-12 ft	1/29/2020	Fine sand with silt and trace amounts of clay, brown, firm, dry. Collected as a composite sample from 10 - 12 ft bgs relative to final grade.	2.8	NS
Cell-17 0-2 ft	1/29/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	3.5	NS
Cell-17 2-4 ft	1/29/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	2.8	HS
Cell-17 4-6 ft	1/29/2020	Sand with silt and clay, brown to gray, firm, moist. Collected as a composite sample from 4 - 6 ft bgs relative to final grade.	1.4	SS (Broken)
Cell-17 6-8 ft	1/29/2020	Silty fine sand with clay and gravel, brown, hard, dry. Collected as a composite sample from 6 - 8 ft bgs relative to final grade.	7.5	NS
Cell-17 8-10 ft	1/29/2020	Silty fine sand with clay and gravel, brown, hard, dry. Collected as a composite sample from 8 - 10 ft bgs relative to final grade.	1.6	NS
Cell-18 0-2 ft	1/29/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 0 - 2 ft bgs relative to final grade.	2.0	NS
Cell-18 2-4 ft	1/29/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as a composite sample from 2 - 4 ft bgs relative to final grade.	3.0	NS
Cell-18 4-6 ft	1/29/2020	Silty sand with trace amounts of clay, brown, firm, dry. Collected as a composite sample from 4 - 6 ft bgs relative to final grade.	0.8	NS
Cell-18 6-8 ft	1/29/2020	Silty sand with trace amounts of clay, brown, firm, dry. Collected as a composite sample from 6 - 8 ft bgs relative to final grade.	0.0	NS
Soils for Re-Use Onsite (100-Yard Subsamples)				
Subcell-16-1 3ft	7/6/2021	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as discrete grab sample 3 feet bgs relative to final grade.		
Subcell-16-2 3ft	7/6/2021	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as discrete grab sample 3 feet bgs relative to final grade.		
Subcell-16-3 3ft	7/6/2021	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as discrete grab sample 3 feet bgs relative to final grade.		
Subcell-16-4 3ft	7/6/2021	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as discrete grab sample 3 feet bgs relative to final grade.		

Table 1. Soil Sample Descriptions - SWMU-55

Sample ID	Date	Location and Description	PID (ppm)	Sheen Test ^a
Subcell-16-5 3ft	7/6/2021	Waste residual soil (sandy silt, brown, loose to firm, moist). Collected as discrete grab sample 3 feet bgs relative to final grade.		
Tank Footprint Boring 500-Yard Samples				
504-B-1 0 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). grab sample collected beneath Tank 504 at specified depth relative to final grade.	1.2	NS
504-B-1 3 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). grab sample collected beneath Tank 504 at specified depth relative to final grade.	1.6	NS
504-B-1 6 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose to firm, moist).grab sample collected beneath Tank 504 at specified depth relative to final grade.	1.6	VSS
504-B-1 9 ft	1/27/2020	Clay with silt, tan to brown, firm, dry. grab sample collected beneath Tank 504 at specified depth relative to final grade.	1.0	NS
504-B-2 0 ft	1/27/2020	Silty clay with sand, brown, firm, dry. grab sample collected beneath Tank 504 at specified depth relative to final grade.	0.0	NS
504-B-2 3 ft	1/27/2020	Clay with silt, light brown, hard, dry. grab sample collected beneath Tank 504 at specified depth relative to final grade.	0.0	NS
504-B-3 0 ft	1/27/2020	Waste residual soil (sandy silt, brown, loose, firm, moist). Grab sample collected beneath Tank 504 at specified depth relative to final grade.	1.0	NS
504-B-3 3 ft	1/27/2020	Sandy clay, brown with orange and gray mottling, firm, dry. grab sample collected beneath Tank 504 at specified depth relative to final grade.	0.5	NS
505-B-1 0 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). grab sample collected beneath Tank 505 at specified depth relative to final grade.	0.5	NS
505-B-1 3 ft	1/28/2020	Sandy silt, gray, soft, moist. grab sample collected beneath Tank 505 at specified depth relative to final grade.	2.3	SS
505-B-1 6 ft	1/28/2020	Fine sandy clay with gravel, light brown, hard, dry. Appears to be native material. grab sample collected beneath Tank 505 at specified depth relative to final grade.	0.0	NS
505-B-2 0 ft	1/27/2020	Silty fine sand with clay and gravel, light brown with orange mottling, hard, dry. grab sample collected beneath Tank 505 at specified depth relative to final grade.	1.1	VSS (Broken)

Table 1. Soil Sample Descriptions - SWMU-55

Sample ID	Date	Location and Description	PID (ppm)	Sheen Test^a
505-B-2 3 ft	1/27/2020	Clay with silt and gravel, light brown with orange mottling, hard, dry. grab sample collected beneath Tank 505 at specified depth relative to final grade.	0.2	NS
505-B-3 0 ft	1/28/2020	Waste residual soil (sandy silt, brown, loose to firm, moist). grab sample collected beneath Tank 505 at specified depth relative to final grade.	0.7	SS
505-B-3 3 ft	1/28/2020	Fine sandy silt with clay, brown, hard, moist. Appears to be in a mixing zone. grab sample collected beneath Tank 505 at specified depth relative to final grade.	2.3	HS
505-B-3 6 ft	1/28/2020	Silty fine sand with clay, light brown, hard, dry. Appears to be native material. grab sample collected beneath Tank 505 at specified depth relative to final grade.	0.9	MS
505-B-3 9 ft	1/28/2020	Silty clay, light brown, hard, dry. Grab sample collected beneath Tank 505 at specified depth relative to final grade.	9.3	NS
505-B-3 12 ft	1/28/2020	Silty clay, light brown, hard, dry. Grab sample collected beneath Tank 505 at specified depth relative to final grade.	21.6	SS
505-B-3 15 ft	1/28/2020	Silty clay, light brown, hard, moist. grab sample collected beneath Tank 505 at specified depth relative to final grade.	1.3	NS
<u>QA/QC Samples</u>				
WES-DUP-1b	1/27/2020	Duplicate of sample "504-B-3 3 ft".	0.5	NS
WES-DUP-2b	1/28/2020	Duplicate of sample "Cell-6 0-2 ft".	0.5	NS

^a - NS = No Sheen; VSS = Very Slight Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

bgs - below ground surface

Table 2. Soil Sample Results - 500-Yard Composite Samples

	Cell-1 0-1 ft Soil Conc. (mg/kg)	Cell-2 0-1 ft Soil Conc. (mg/kg)	Cell-3 0-1 ft Soil Conc. (mg/kg)	Cell-4 0-1 ft Soil Conc. (mg/kg)	Cell-5 0-2 ft Soil Conc. (mg/kg)	Cell-5 2-4 ft Soil Conc. (mg/kg)	Cell-6 0-2 ft Soil Conc. (mg/kg)	WES-DUP-2b Soil Conc. (mg/kg)
	01/28/2020	01/28/2020	01/28/2020	01/28/2020	01/27/2020	01/27/2020	01/28/2020	1/28/2020
Benzene	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
Toluene	0.025	0.025	0.025	0.025	0.57	0.15	0.88	2.2
Ethylbenzene	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Total Xylenes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Mercury	1.3	0.47	0.35	0.66	0.9	1.3	1.2	1.2
Naphthalene	0.096	0.078	0.041	0.058	0.12	0.12	0.14	0.11
2-Methylnaphthalene	0.21	0.18	0.08	0.14	0.31	0.35	0.38	0.27
1-Methylnaphthalene	0.0195	0.13	0.039	0.069	0.2	0.25	0.22	0.18
Benz[a]anthracene	0.02	0.0185	0.016	0.0175	0.0165	0.018	0.016	0.010
Chrysene	0.0275	0.025	0.022	0.024	0.022	0.024	0.0215	0.9
Benzo(b)fluoranthene	0.22	0.1	0.05	0.078	0.35	0.56	0.39	0.31
Benzo(k)fluoranthene	0.022	0.02	0.0175	0.0195	0.018	0.0195	0.0175	0.0105
Benzo(a)pyrene	0.33	0.18	0.098	0.13	0.67	1.1	0.66	0.57
Indeno(1,2,3-cd)pyrene	0.47	0.29	0.18	0.21	0.61	0.96	0.61	0.41
Dibenzo(a,h)anthracene	0.35	0.19	0.13	0.14	0.48	0.83	0.5	0.35
C5-C6 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	2.5	2.5	2.5	2.5	2.5	7.6	2.5	8.9
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	52	36	11	23	170	250	170	210
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	450	390	180	220	920	1300	960	880
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	1400	1100	670	690	2400	2900	2500	2200
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	2.5	2.5	2.5	2.5	3.75	4.05	3.6	5.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	6.1	2.5	2.5	5.1	7.8	12	3.6	5.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	350	240	110	120	710	1100	750	620
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	2300	1600	860	830	3500	4900	3600	3100
Calculated Totals (unitless):								
Risk total*	2.476E-07	1.364E-07	8.398E-08	9.992E-08	4.140E-07	6.864E-07	4.203E-07	3.415E-07
HQ total**	0.115	0.078	0.041	0.043	0.185	0.265	0.192	0.168

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 2. Soil Sample Results - 500-Yard Composite Samples

	Cell-7 0-2 ft Soil Conc. (mg/kg)	Cell-8 0-2 ft Soil Conc. (mg/kg)	Cell-9 0-1 ft Soil Conc. (mg/kg)	Cell-10 0-2 ft Soil Conc. (mg/kg)	Cell-10 2-4 ft Soil Conc. (mg/kg)	Cell-10 4-6 ft Soil Conc. (mg/kg)	Cell-10 6-8 ft Soil Conc. (mg/kg)	Cell-10 8-10 ft Soil Conc. (mg/kg)
	01/28/2020	01/28/2020	01/28/2020	01/28/2020	01/28/2020	01/28/2020	01/28/2020	01/28/2020
Benzene	0.015	0.015	0.015	0.015	0.033	0.015	0.015	0.015
Toluene	0.025	0.085	0.025	0.025	0.025	0.025	0.025	0.025
Ethylbenzene	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Total Xylenes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Mercury	0.84	0.5	0.24	0.4	1.3	0.045	0.047	0.047
Naphthalene	0.09	0.12	0.04	0.042	0.16	0.01	0.01	0.01
2-Methylnaphthalene	0.22	0.27	0.084	0.063	0.56	0.01	0.01	0.01
1-Methylnaphthalene	0.12	0.16	0.016	0.033	0.41	0.01	0.01	0.01
Benz[a]anthracene	0.0145	2.00	0.72	0.25	0.0165	0.01	0.01	0.01
Chrysene	0.02	0.0225	0.0225	0.022	1.9	0.01	0.01	0.01
Benzo(b)fluoranthene	0.24	0.49	0.18	0.091	0.63	0.01	0.01	0.01
Benzo(k)fluoranthene	0.016	0.0185	0.018	0.018	0.0185	0.01	0.01	0.01
Benzo(a)pyrene	0.5	0.79	0.3	0.13	1.4	0.01	0.01	0.01
Indeno(1,2,3-cd)pyrene	0.44	0.45	0.2	0.094	0.8	0.01	0.01	0.01
Dibenzo(a,h)anthracene	0.36	0.43	0.19	0.079	0.8	0.01	0.01	0.01
C5-C6 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	5.9	2.5	2.5	63	37	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	150	290	110	370	460	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	520	1100	390	130	1100	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	1300	2400	820	300	2500	2.5	2.5	5.3
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	2.5	3.8	2.5	6.7	3.85	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	17	12	2.5	46	41	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	440	800	250	110	660	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	2100	3100	900	470	3200	2.5	2.5	2.5
Calculated Totals (unitless):								
Risk total*	3.063E-07	4.987E-07	1.979E-07	8.394E-08	7.783E-07	8.240E-09	8.240E-09	8.240E-09
HQ total**	0.116	0.179	0.055	0.047	0.192	0.001	0.001	0.001

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 2. Soil Sample Results - 500-Yard Composite Samples

	Cell-11 0-2 ft Soil Conc. (mg/kg)	Cell-11 2-4 ft Soil Conc. (mg/kg)	Cell-11 4-6 ft Soil Conc. (mg/kg)	Cell-12 0-2 ft Soil Conc. (mg/kg)	Cell-12 2-4 ft Soil Conc. (mg/kg)	Cell-13 0-2 ft Soil Conc. (mg/kg)	Cell-13 2-4 ft Soil Conc. (mg/kg)	Cell-13 4-6 ft Soil Conc. (mg/kg)
	01/28/2020	01/27/2020	01/27/2020	01/27/2020	01/27/2020	01/28/2020	01/28/2020	01/28/2020
Benzene	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
Toluene	1.5	0.32	0.099	0.96	0.06	3.6	0.025	0.025
Ethylbenzene	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Total Xylenes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Mercury	0.38	0.32	0.86	1.1	0.65	0.81	0.74	0.078
Naphthalene	0.053	0.11	0.052	5.5	0.13	0.12	0.15	0.016
2-Methylnaphthalene	0.11	0.23	0.12	24	0.33	0.3	1.7	0.0195
1-Methylnaphthalene	0.12	0.3	0.12	27	0.24	0.18	2.7	0.016
Benz[a]anthracene	1	1	1	3.3	0.91	0.0155	5.8	0.57
Chrysene	0.025	0.0255	0.0265	0.026	0.027	1.2	8.9	1
Benzo(b)fluoranthene	0.47	0.32	0.51	1	0.23	0.38	4.1	0.3
Benzo(k)fluoranthene	0.13	0.0205	0.12	0.021	0.0215	0.017	0.74	0.085
Benzo(a)pyrene	0.71	0.51	0.65	1.7	0.43	0.59	5	0.37
Indeno(1,2,3-cd)pyrene	0.38	0.31	0.36	0.67	0.25	0.53	1.1	0.05
Dibenzo(a,h)anthracene	0.31	0.29	0.31	0.79	0.26	0.43	1.9	0.1
C5-C6 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	6.8	67	2.5	2100	48	10	64	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	130	300	73	5400	610	290	2300	26
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	390	440	280	740	660	810	3300	51
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	860	730	580	1300	1100	1900	3500	170
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	2.5	2.5	2.5	440	2.5	3.5	13	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	9.9	26	13	1700	31	15	590	12
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	220	270	200	810	410	570	3700	110
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	1300	1300	1000	2200	1500	2600	6700	390
Calculated Totals (unitless):								
Risk total*	4.082E-07	3.198E-07	3.815E-07	1.103E-06	2.743E-07	3.892E-07	2.690E-06	1.908E-07
HQ total**	0.072	0.084	0.059	0.524	0.115	0.149	0.600	0.024

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 2. Soil Sample Results - 500-Yard Composite Samples

	Cell-14 0-2 ft Soil Conc. (mg/kg)	Cell-14 2-4 ft Soil Conc. (mg/kg)	Cell-15 0-2 ft Soil Conc. (mg/kg)	Cell-16 0-2 ft Soil Conc. (mg/kg)	Cell-16 2-4 ft Soil Conc. (mg/kg)	Cell-16 4-6 ft Soil Conc. (mg/kg)	Cell-16 6-8 ft Soil Conc. (mg/kg)	Cell-16 8-10 ft Soil Conc. (mg/kg)
	01/27/2020	01/27/2020	01/28/2020	01/29/2020	01/29/2020	01/29/2020	01/29/2020	01/29/2020
Benzene	0.015	0.015	0.015	0.015	0.085	0.015	0.015	0.015
Toluene	0.86	0.025	0.056	0.25	0.18	0.025	0.025	0.025
Ethylbenzene	0.025	0.025	0.025	0.025	0.054	0.025	0.025	0.025
Total Xylenes	0.1	0.1	0.1	0.1	0.25	0.1	0.1	0.1
Mercury	0.69	1.1	0.55	0.65	1.2	0.064	0.07	0.17
Naphthalene	0.11	0.17	0.086	0.053	0.42	0.022	0.01	0.01
2-Methylnaphthalene	0.24	0.39	0.18	0.15	1.1	0.073	0.01	0.044
1-Methylnaphthalene	0.16	0.68	0.14	0.094	1.3	0.07	0.01	0.065
Benz[a]anthracene	0.019	1.5	0.017	0.01	9.7	0.01	0.01	0.04
Chrysene	2.3	2.6	1.2	0.65	47	0.15	0.01	0.18
Benzo(b)fluoranthene	0.62	1.6	0.28	0.17	11	0.035	0.01	0.043
Benzo(k)fluoranthene	0.1	0.3	0.0185	0.011	0.011	0.01	0.01	0.01
Benzo(a)pyrene	0.86	1.9	0.47	0.36	20	0.059	0.01	0.073
Indeno(1,2,3-cd)pyrene	0.42	0.67	0.31	0.27	2.4	0.024	0.01	0.01
Dibenzo(a,h)anthracene	0.42	0.76	0.3	0.25	4.3	0.025	0.01	0.025
C5-C6 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	6.4	260	2.5	2.5	31	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	400	2800	120	150	790	46	2.5	24
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	950	3600	510	590	2200	100	2.5	54
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	2000	2500	1200	1400	4900	180	2.5	98
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	2.5	35	2.5	2.3	6	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	2.5	560	6.1	2.3	92	5.3	2.5	2.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	690	2800	430	190	3200	70	2.5	42
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	2300	3900	1800	1200	19000	210	2.5	140
Calculated Totals (unitless):								
Risk total*	4.709E-07	1.018E-06	2.781E-07	2.193E-07	8.892E-06	3.124E-08	8.240E-09	3.669E-08
HQ total**	0.150	0.467	0.101	0.068	1.008	0.015	0.001	0.010

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 2. Soil Sample Results - 500-Yard Composite Samples

	Cell-16 10-12 ft Soil Conc. (mg/kg)	Cell-17 0-2 ft Soil Conc. (mg/kg)	Cell-17 2-4 ft Soil Conc. (mg/kg)	Cell-17 4-6 ft Soil Conc. (mg/kg)	Cell-17 6-8 ft Soil Conc. (mg/kg)	Cell-17 8-10 ft Soil Conc. (mg/kg)	Cell-18 0-2 ft Soil Conc. (mg/kg)	Cell-18 2-4 ft Soil Conc. (mg/kg)
	01/29/2020	01/29/2020	01/29/2020	01/29/2020	01/29/2020	01/29/2020	01/29/2020	01/29/2020
Benzene	0.015	0.015	0.042	0.015	0.015	0.015	0.015	0.038
Toluene	0.025	0.11	0.025	0.025	0.025	0.025	0.068	0.25
Ethylbenzene	0.025	0.025	0.13	0.025	0.025	0.025	0.025	0.025
Total Xylenes	0.1	0.1	0.38	0.1	0.1	0.1	0.1	0.1
Mercury	0.036	1.2	0.97	0.042	0.058	0.05	1.1	2
Naphthalene	0.01	0.13	0.94	0.01	0.01	0.01	0.12	0.15
2-Methylnaphthalene	0.01	0.33	4.4	0.01	0.01	0.01	0.29	0.45
1-Methylnaphthalene	0.01	0.23	3.3	0.01	0.01	0.01	0.2	0.3
Benz[a]anthracene	0.01	0.01	5.8	1	0.01	0.01	0.01	0.0105
Chrysene	0.038	1.1	28	1.7	0.01	0.01	0.89	1.7
Benzo[b]fluoranthene	0.01	0.36	4.1	0.54	0.01	0.01	0.28	0.59
Benzo[k]fluoranthene	0.01	0.011	0.011	0.01	0.01	0.01	0.01	0.0115
Benzo[a]pyrene	0.01	0.75	6.5	0.76	0.01	0.01	0.57	1.3
Indeno(1,2,3-cd)pyrene	0.01	0.46	1	0.091	0.01	0.01	0.39	0.71
Dibenzo(a,h)anthracene	0.01	0.42	2	0.21	0.01	0.01	0.34	0.68
C5-C6 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	2.5	9.2	51	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	2.5	320	780	63	2.5	2.5	150	280
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	2.5	1300	1600	170	2.5	2.5	770	1600
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	2.5	3200	4000	460	2.5	2.5	2100	3600
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	2.5	5.5	18	2.5	2.5	2.5	2.05	6
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	2.5	5.5	170	6.7	2.5	2.5	6.1	22
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	2.5	860	1600	170	2.5	2.5	600	850
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	2.5	3900	7900	760	2.5	2.5	2900	4200
Calculated Totals (unitless):								
Risk total*	8.332E-09	4.168E-07	3.254E-06	3.780E-07	8.240E-09	8.240E-09	3.255E-07	7.015E-07
HQ total**	0.001	0.217	0.458	0.044	0.001	0.001	0.156	0.232

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 2. Soil Sample Results - 500-Yard Composite Samples

	Cell-18 4-6 ft Soil Conc. (mg/kg)	Cell-18 6-8 ft Soil Conc. (mg/kg)
	01/29/2020	01/29/2020
Benzene	0.015	0.015
Toluene	0.025	0.025
Ethylbenzene	0.025	0.025
Total Xylenes	0.1	0.1
Mercury	0.18	0.061
Naphthalene	0.021	0.01
2-Methylnaphthalene	0.041	0.01
1-Methylnaphthalene	0.034	0.01
Benz[a]anthracene	0.01	0.01
Chrysene	0.3	0.01
Benzo(b)fluoranthene	0.066	0.01
Benzo(k)fluoranthene	0.046	0.01
Benzo(a)pyrene	0.13	0.01
Indeno(1,2,3-cd)pyrene	0.092	0.01
Dibenzo(a,h)anthracene	0.079	0.01
C5-C6 Aliphatics	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	0.95	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	71	2.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	320	2.5
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	470	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	5	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	5	2.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	160	2.5
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	530	2.5
Calculated Totals (unitless):		
Risk total*	7.701E-08	8.240E-09
HQ total**	0.034	0.001

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 3. Soil Sample Results - 100-Yard Subsamples - SWMU 55 Product Tank Construction

	Subcell 16-1 3ft Soil Conc. (mg/kg)	Subcell 16-2 3ft Soil Conc. (mg/kg)	Subcell 16-3 3ft Soil Conc. (mg/kg)	Subcell 16-4 3ft Soil Conc. (mg/kg)	Subcell 16-5 3ft Soil Conc. (mg/kg)
	7/6/2021	7/6/2021	7/6/2021	7/6/2021	7/6/2021
Benzene	0.015	0.015	0.015	0.049	0.046
Toluene	0.025	0.083	0.34	0.066	0.1
Ethylbenzene	0.025	0.025	0.025	0.025	0.025
Total Xylenes	0.1	0.1	0.1	0.1	0.1
Mercury	1.7	1.4	1.9	2.1	2
Naphthalene	0.26	0.1	0.1	0.23	0.1
2-Methylnaphthalene	0.64	0.43	0.48	0.65	0.57
1-Methylnaphthalene	0.78	0.28	0.31	0.47	0.39
Benz[a]anthracene	7.6	0.1	0.1	0.1	0.1
Chrysene	18	0.1	0.1	0.1	0.1
Benzo(b)fluoranthene	7.1	0.69	0.36	0.76	0.53
Benzo(k)fluoranthene	1.4	0.1	0.1	0.1	0.2
Benzo(a)pyrene	12	2.4	1.3	3.2	2.1
Indeno(1,2,3-cd)pyrene	1.9	0.93	0.8	1.2	1
Dibenzo(a,h)anthracene	2.9	0.99	0.65	1.3	1
C5-C6 Aliphatics	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	14	2.5	2.5	5	5
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	240	100	140	210	190
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	630	370	650	940	930
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	1800	810	1500	2000	1900
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	5	1.9	1.9	5	5
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	18	1.9	1.9	17	12
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	610	230	480	740	590
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	3300	1000	1900	3200	2500
Calculated Totals (unitless):					
Risk total*	5.542E-06	1.174E-06	6.880E-07	1.550E-06	1.080E-06
HQ total**	0.225	0.071	0.117	0.192	0.152

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 4. Soil Sample Results - Tank Footprint 500 Yard Samples

	504-B-1 0 ft Soil Conc. (mg/kg)	504-B-1 3 ft Soil Conc. (mg/kg)	504-B-1 6 ft Soil Conc. (mg/kg)	504-B-1 9 ft Soil Conc. (mg/kg)	504-B-2 0 ft Soil Conc. (mg/kg)	504-B-2 3 ft Soil Conc. (mg/kg)	504-B-3 0 ft Soil Conc. (mg/kg)	504-B-3 3 ft Soil Conc. (mg/kg)
	01/27/2020	01/27/2020	01/27/2020	01/27/2020	01/27/2020	01/27/2020	01/27/2020	01/27/2020
Benzene	0.015	0.015	0.015	0.015	0.015	0.015	0.042	0.015
Toluene	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Ethylbenzene	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Total Xylenes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Mercury	0.028	0.32	0.17	0.054	0.053	0.067	1.9	0.045
Naphthalene	0.01	0.039	0.01	0.01	0.01	0.01	0.26	0.01
2-Methylnaphthalene	0.01	0.12	0.01	0.01	0.01	0.01	0.63	0.01
1-Methylnaphthalene	0.01	0.14	0.01	0.01	0.01	0.01	0.61	0.01
Benz[a]anthracene	0.01	0.018	0.01	0.01	0.01	0.01	1.2	0.01
Chrysene	0.01	2	0.01	0.01	0.01	0.01	5	0.01
Benzo(b)fluoranthene	0.01	0.76	0.01	0.01	0.01	0.01	1.8	0.01
Benzo(k)fluoranthene	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.01
Benzo(a)pyrene	0.022	1.1	0.083	0.01	0.01	0.01	4.4	0.01
Indeno(1,2,3-cd)pyrene	0.01	0.41	0.084	0.01	0.01	0.01	1.5	0.01
Dibenzo(a,h)anthracene	0.01	0.49	0.075	0.01	0.01	0.01	1.9	0.01
C5-C6 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	2.5	2.5	2.5	2.5	2.5	2.5	6.2	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	2.5	77	28	2.5	2.5	2.5	400	2.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	44	400	430	2.5	2.5	2.5	1700	2.5
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	51	740	300	2.5	2.5	2.5	3300	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	2.5	2.5	2.5	2.5	2.5	2.5	4.15	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	2.5	2.5	2.5	2.5	2.5	2.5	19	2.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	26	280	160	2.5	2.5	2.5	1300	2.5
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	64	1700	240	2.5	2.5	2.5	6200	2.5
Calculated Totals (unitless):								
Risk total*	1.218E-08	5.688E-07	5.594E-08	8.240E-09	8.240E-09	8.240E-09	2.235E-06	8.240E-09
HQ total**	0.004	0.089	0.020	0.001	0.001	0.001	0.348	0.001

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level
Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 4. Soil Sample Results - Tank Footprint 500 Yard Samples

	WES-DUP-1b Soil Conc. (mg/kg)	505-B-1 0 ft Soil Conc. (mg/kg)	505-B-1 3 ft Soil Conc. (mg/kg)	505-B-1 6 ft Soil Conc. (mg/kg)	505-B-2 0 ft Soil Conc. (mg/kg)	505-B-2 3 ft Soil Conc. (mg/kg)	505-B-3 0 ft Soil Conc. (mg/kg)	505-B-3 3 ft Soil Conc. (mg/kg)
	01/27/2020	01/28/2020	01/28/2020	01/28/2020	01/27/2020	01/27/2020	01/28/2020	01/28/2020
Benzene	0.015	0.049	0.015	0.015	0.015	0.015	0.015	0.015
Toluene	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.076
Ethylbenzene	0.025	0.025	0.025	0.025	0.061	0.025	0.025	0.2
Total Xylenes	0.1	0.1	0.1	0.1	0.25	0.1	0.1	0.53
Mercury	0.045	2.4	0.04	0.045	0.22	0.035	2	0.028
Naphthalene	0.01	0.16	0.021	0.01	0.11	0.01	0.12	3.4
2-Methylnaphthalene	0.01	0.37	1.8	0.01	1.5	0.26	0.35	28
1-Methylnaphthalene	0.01	0.33	1.7	0.01	1.1	0.23	0.26	20
Benz[a]anthracene	0.01	0.022	0.15	0.01	0.38	0.025	0.02	1.4
Chrysene	0.01	0.0295	0.21	0.01	0.64	0.049	0.0275	2.2
Benzo(b)fluoranthene	0.01	0.47	0.045	0.01	0.25	0.01	0.77	0.36
Benzo(k)fluoranthene	0.01	0.024	0.01	0.01	0.02	0.01	0.0225	0.051
Benzo(a)pyrene	0.01	0.9	0.068	0.01	0.28	0.01	1.9	0.63
Indeno(1,2,3-cd)pyrene	0.01	1.3	0.01	0.01	0.0235	0.01	1.5	0.076
Dibenzo(a,h)anthracene	0.01	0.82	0.01	0.01	0.067	0.01	1.4	0.14
C5-C6 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5	2.5	2.5	2.5	6.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	2.5	12	7.2	2.5	2.5	2.5	2.5	170
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	2.5	180	190	2.5	180	41	190	2200
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	2.5	1000	190	2.5	180	36	1200	1800
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	2.5	2600	120	2.5	180	28	2800	1200
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	2.5	5	2.5	2.5	2.5	2.5	2.5	58
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	2.5	5	71	2.5	64	14	13	820
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	2.5	750	200	2.5	220	34	870	1900
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	2.5	4600	150	2.5	370	35	4500	1300
Calculated Totals (unitless):								
Risk total*	8.240E-09	6.260E-07	4.102E-08	8.240E-09	1.432E-07	9.817E-09	1.160E-06	4.097E-07
HQ total**	0.001	0.236	0.029	0.001	0.039	0.006	0.241	0.294

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 4. Soil Sample Results - Tank Footprint 500 Yard Samples

	505-B-3 6 ft Soil Conc. (mg/kg)	505-B-3 9 ft Soil Conc. (mg/kg)	505-B-3 12 ft Soil Conc. (mg/kg)	505-B-3 15 ft Soil Conc. (mg/kg)
	01/28/2020	01/28/2020	01/28/2020	01/28/2020
Benzene	0.015	0.015	0.015	0.015
Toluene	0.025	0.025	0.025	0.025
Ethylbenzene	0.025	0.025	0.025	0.025
Total Xylenes	0.1	0.1	0.1	0.1
Mercury	0.043	0.062	0.053	0.052
Naphthalene	0.01	0.01	9.9	0.01
2-Methylnaphthalene	0.043	0.069	0.059	0.1
1-Methylnaphthalene	0.076	0.072	0.054	0.093
Benz[a]anthracene	0.028	0.01	0.01	0.01
Chrysene	0.069	0.01	0.01	0.01
Benzo(b)fluoranthene	0.01	0.01	0.01	0.01
Benzo(k)fluoranthene	0.01	0.01	0.01	0.01
Benzo(a)pyrene	0.01	0.01	0.01	0.01
Indeno(1,2,3-cd)pyrene	0.01	0.01	0.01	0.01
Dibenzo(a,h)anthracene	0.01	0.01	0.01	0.01
C5-C6 Aliphatics	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C6-C8 Aliphatics	2.5	2.5	2.5	2.5
Volatile Petroleum Hydrocarbons, >C8-C10 Aliphatic	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aliph	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aliph	36	2.5	2.5	12
Extractable Petroleum Hydrocarbons, >C16-C21 Aliph	36	5.6	2.5	12
Extractable Petroleum Hydrocarbons, >C21-C34 Aliph	33	2.5	2.5	13
Volatile Petroleum Hydrocarbons, >C8-C10 Aromatics	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C10-C12 Aroma	2.5	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C12-C16 Aroma	12	2.5	2.5	2.5
Extractable Petroleum Hydrocarbons, >C16-C21 Aroma	43	2.5	2.5	12
Extractable Petroleum Hydrocarbons, >C21-C34 Aroma	45	2.5	2.5	15
Calculated Totals (unitless):				
Risk total*	9.311E-09	8.509E-09	8.431E-09	8.601E-09
HQ total**	0.006	0.001	0.002	0.002

* Method C target cleanup level for Risk total = 1.0E-05

** Method C target cleanup level for Hazard Quotient (HQ total) = 1.0

BOLD & shaded cell - indicates that the result exceeded the MTCA Method C target cleanup level

Method C Calculation reference values are provided in Appendix B.

Risk and HQ calculation results for individual parameters are provided in Appendix E.

Table 5. Soil Sample Collection Coordinates

Sample Location	Latitude	Longitude
<u>Soils for Re-Use Onsite</u>		
Cell-1	48.476766	-122.566068
Cell-2	48.476454	-122.566099
Cell-3	48.476074	-122.566091
Cell-4	48.475733	-122.566104
Cell-5	48.476599	-122.565751
Cell-6	48.476309	-122.565762
Cell-7	48.475979	-122.565761
Cell-8	48.475724	-122.565729
Cell-9	48.475492	-122.565811
Cell-10	48.476775	-122.565347
Cell-11	48.476588	-122.565472
Cell-12	48.476369	-122.565473
Cell-13	48.476149	-122.565475
Cell-14	48.475930	-122.565477
Cell-15	48.475694	-122.565418
Cell-16	48.476488	-122.565214
Cell-17	48.476037	-122.565220
Cell-18	48.475624	-122.565238
<u>Subcell Samples</u>		
Subcell 16-1	48.476652	-122.565223
Subcell 16-2	48.476564	-122.565224
Subcell 16-3	48.476476	-122.565224
Subcell 16-4	48.476388	-122.565225
Subcell 16-5	48.476301	-122.565226
<u>Tank Footprint Samples</u>		
504-B-1	48.476566	-122.565707
504-B-2	48.476554	-122.565463
504-B-3	48.476385	-122.565583
505-B-1	48.475922	-122.565723
505-B-2	48.475916	-122.565499
505-B-3	48.475760	-122.565613

Projection: NAD83

**APPENDIX A -
SOIL BORING LOGS**

GeoProbe Boring Log

Project: Shell PSR SWMU-55

Client: Shell PSR

Boring Number: Cell-1 through Cell-4

Location: Product Tanks Pre-Construction

Date Completed: N/A

Sheet: 1 of 1

Drilled by: N/A

Logged by: N/A

First Encountered Water: N/A

Total Depth: N/A

[illegible]

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[illegible]

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[illegible]

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GeoProbe Boring Log

Project: Shell PSR SWMU-55
 Client: Shell PSR
 Boring Number: 5C/504-B-1
 Location: Product Tanks Pre-Construction
 Date Completed: 1/27/20

Sheet: 1 of 1
 Drilled by: Tim Watson- Cascade Drilling
 Logged by: Jake Reijm
 First Encountered Water: N/A
 Total Depth: 18.5 ft

Depth	Description	Screening Depth	PID (ppm)	Sheen	Sample
<i>*2.5 ft of overburden</i>					
0 ft to 4 ft <i>(2.5 ft to 6.5 ft bgs)</i>	Waste Residual Soil (Sandy silt with gravel and organics, gray to brown to black, loose to hard, moist to dry)	1	**	-	0 ft to 2 ft
4 ft to 13 ft <i>(6.5 ft to 15.5 ft bgs)</i>	Sand with gravel, gray, firm, dry.	3	**	-	2 ft to 4 ft
13 ft to 16 ft <i>(15.5 ft to 18.5 ft bgs)</i>	Native soil encountered at 12 ft. Clay with silt tarnish brown, firm, dry.	6.5	**	-	504-B1 0 ft
		9.5	**	-	504-B1 3 ft
		12.5	**	-	504-B1 6 ft
		15.5	**	-	504-B1 9 ft
		18.5	**	-	504-B1 12 ft
Soil Sample Collection Depth					
*	Depth shown in italics represents total depth below ground surface (bgs) including overburden which was not sampled. Overburden was composed of soil from other portions of the site that was previously characterized and confirmed to be below Method C levels.				
**	Due to equipment failure no measurements were taken.				

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GeoProbe Boring Log

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 6A	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/28/20	Total Depth: 5 ft

Project: Shell PSR SWMU-55 Client: Shell PSR Boring Number: 6A Location: Product Tanks Pre-Construction Date Completed: 1/28/20	Sheet: 1 of 1 Drilled by: Tim Watson- Cascade Drilling Logged by: Jake Reijm First Encountered Water: N/A Total Depth: 5 ft
---	---

[illegible]

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[illegible]

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[illegible]

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GeoProbe Boring Log					
Project: Shell PSR SWMU-55 Client: Shell PSR Boring Number: 8B/505-B-3 Location: Product Tanks Pre-Construction Date Completed: 1/28/20			Sheet: 1 of 1 Drilled by: Tim Watson- Cascade Drilling Logged by: Jake Reijm First Encountered Water: N/A Total Depth: 20.7 ft		
Depth	Description	Screening Depth	PID (ppm)	Sheen	Sample
<i>*0.7 ft of overburden</i>					
0 ft to 6 ft	Waste Residual Soil (Sandy silt with gravel and organics, gray	1	1.7	NS	0 ft to 2 ft
(0.7 ft to 6.7 ft bgs)	to brown to black, loose to hard, moist to dry)				
		3	0.7	SS	505-B3 0 ft
6 ft to 8 ft	Native soil encountered at 8 ft. Mixing zone-Silty fine sand				
(6.7 ft to 8.7 ft bgs)	with clay, brown, hard, moist.	6	2.3	HS	505-B3 3 ft
8 ft to 11 ft	Silty fine sand with clay, light brown, hard, dry.	7	0.8	MS	505-B3 6 ft
(8.7 ft to 11.7 ft bgs)					
		9	0.9	MS	505-B3 9 ft
11 ft to 15 ft	Silty clay, light brown, hard, dry.				
(11.7 ft to 15.7 ft bgs)	Free oil observed weeping in soil pockets	10	10.9	HS	505-B3 12 ft
15 ft to 17 ft	Silty clay, light brown, hard, moist.	12	4.8	MS-HS	505-B3 15 ft
(15.7 ft to 17.7 ft bgs)					
		15	21.6	SS	
18 ft	Silty clay, light brown, hard, moist.				
(18.7 bgs)		16	36.5	MS	
				(Broken)	
19 ft	Silty fine sand, light brown, firm, moist.	17	31.2	MS	
(19.7 bgs)					
		18	1.3	NS	
20 ft	Sand, light brown, firm, moist.				
(20.7 ft bgs)		19	1.4	NS	
		20	1.4	NS	
	Soil Sample Collection Depth				
*	Depth shown in italics represents total depth below ground surface (bgs) including overburden which was not sampled. Overburden was composed of soil from other portions of the site that was previously characterized and confirmed to be below Method C levels.				
**	Due to equipment failure no measurements were taken.				
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[illegible]

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GeoProbe Boring Log

Project: Shell PSR SWMU-55
Client: Shell PSR
Boring Number: 10B
Location: Product Tanks Pre-Construction
Date Completed: 1/28/20

Sheet: 1 of 1
 Drilled by: Tim Watson- Cascade Drilling
 Logged by: Jake Reijm
 First Encountered Water: N/A
 Total Depth: 6.8 ft

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GeoProbe Boring Log

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 10C	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/28/20	Total Depth: 8.5 ft

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 10C	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/28/20	Total Depth: 8.5 ft

[illegible]

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GeoProbe Boring Log

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 11A	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/27/20	Total Depth: 68.1 ft

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 11A	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/27/20	Total Depth: 68.1 ft

[illegible]

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GeoProbe Boring Log					
Project: Shell PSR SWMU-55 Client: Shell PSR Boring Number: 11C/504-B-2 Location: Product Tanks Pre-Construction Date Completed: 1/27/20			Sheet: 1 of 1 Drilled by: Tim Watson- Cascade Drilling Logged by: Jake Reijm First Encountered Water: N/A Total Depth: 10.7 ft		
Depth	Description	Screening Depth	PID (ppm)	Sheen	Sample
	<i>*0.7 ft of overburden</i>				
0 ft to 2 ft <i>(0.7 ft to 2.7 ft bgs)</i>	Sand with gravel, dark brown, loose.				
2 ft to 5 ft <i>(2.7 ft to 5.7 ft bgs)</i>	Sand with silt and gravel, brown, firm, moist.				
5 ft to 7 ft <i>(5.7 ft to 7.7 ft bgs)</i>	Sand with gravel, dark brown, loose, moist.				
7 ft to 9 ft <i>(7.7 ft to 9.7 ft bgs)</i>	Native encountered at 7 ft. Silty clay with sand, firm, brown dry.				
10 ft <i>(10.7 ft bgs)</i>	Clay with silt, light brown, hard, dry. Native soil.				
	Soil Sample Collection Depth				
*	Depth shown in italics represents total depth below ground surface (bgs) including overburden which was not sampled. Overburden was composed of soil from other portions of the site that was previously characterized and confirmed to be below Method C levels.				
**	Due to equipment failure no measurements were taken.				
WHATCOM ENVIRONMENTAL SERVICES INC. www.whatcomenvironmental.com					

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[illegible]

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GeoProbe Boring Log

Project: Shell PSR SWMU-55
Client: Shell PSR
Boring Number: 12B
Location: Product Tanks Pre-Construction
Date Completed: 1/27/20

Sheet: 1 of 1
 Drilled by: Tim Watson- Cascade Drilling
 Logged by: Jake Reijm
 First Encountered Water: N/A
 Total Depth: 4.5 ft

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GeoProbe Boring Log

Project: Shell PSR SWMU-55
Client: Shell PSR
Boring Number: 12C
Location: Product Tanks Pre-Construction
Date Completed: 1/27/20

Sheet: 1 of 1
 Drilled by: Tim Watson- Cascade Drilling
 Logged by: Jake Reijm
 First Encountered Water: N/A
 Total Depth: 4.3 ft

Depth	Description	Screening Depth	PID (ppm)	Sheen	Sample
<i>*0.3 ft of overburden</i>		1	49.2	MS	
0 ft to 4 ft <i>(0.3 ft to 4.3 ft bgs)</i>	Waste Residual Soil (Sandy silt with gravel and organics, gray to brown to black, loose to hard, moist to dry)				
		3	25.9	MS	2 ft to 4 ft
</					

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GeoProbe Boring Log

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 13A	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/28/20	Total Depth: 7.2 ft

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 13A	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/28/20	Total Depth: 7.2 ft

Depth	Description	Screening Depth	PID (ppm)	Sheen	Sample
<i>*2.2 ft of overburden</i>		3	0.0	NS	
0 ft to 4 ft	Waste Residual Soil (Sandy silt with gravel and organics, gray				
<i>(2.2 ft to 6.2 ft bgs)</i>	to brown to black, loose to hard, moist to dry)				
		5	0.0	MS	
5 ft	Native soil encountered at 5 ft. Silty clay with gravel, gray,	7	0.0	NS	4 ft to 6 ft
<i>(7.2 ft bgs)</i>	hard, dry.				

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[illegible]

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GeoProbe Boring Log

Project: Shell PSR SWMU-55 Sheet: 1 of 1

Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 13C	Logged by: Jake Reijm

Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/28/20	Total Depth: 8.1 ft

[illegible]

Total Depth: 8.1 ft

[illegible]

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[illegible]

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[illegible]

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[illegible]

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GeoProbe Boring Log

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 16C	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/29/20	Total Depth: 13.7 ft

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 16C	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/29/20	Total Depth: 13.7 ft

[illegible]

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GeoProbe Boring Log

Project: Shell PSR SWMU-55
Client: Shell PSR
Boring Number: 17A
Location: Product Tanks Pre-Construction
Date Completed: 1/29/20

Sheet: 1 of 1
 Drilled by: Tim Watson- Cascade Drilling
 Logged by: Jake Reijm
 First Encountered Water: N/A
 Total Depth: 10 ft

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GeoProbe Boring Log

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 17B	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/29/20	Total Depth: 10.2 ft

Project: Shell PSR SWMU-55	Sheet: 1 of 1
Client: Shell PSR	Drilled by: Tim Watson- Cascade Drilling
Boring Number: 17B	Logged by: Jake Reijm
Location: Product Tanks Pre-Construction	First Encountered Water: N/A
Date Completed: 1/29/20	Total Depth: 10.2 ft

[illegible]

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[illegible]

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GeoProbe Boring Log

Project: Shell PSR SWMU-55
Client: Shell PSR
Boring Number: 18A
Location: Product Tanks Pre-Construction
Date Completed: 1/29/20

Sheet: 1 of 1
Drilled by: Tim Watson- Cascade Drilling
Logged by: Jake Reijm
First Encountered Water: N/A
Total Depth: 10.6 ft

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GeoProbe Boring Log

Project: Shell PSR SWMU-55
Client: Shell PSR
Boring Number: 18C
Location: Product Tanks Pre-Construction
Date Completed: 1/29/20

Sheet: 1 of 1
 Drilled by: Tim Watson- Cascade Drilling
 Logged by: Jake Reijm
 First Encountered Water: N/A
 Total Depth: 11.6 ft

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**APPENDIX B -
METHOD C CALCULATION REFERENCE VALUES**

Method C Direct Contact Calculation Assumptions Used (Dermal Contact + Ingestion)

Default Assumptions (based on Tables 745-4 and 745-5)

ABW	70	kg
AT (for Risk)	75	years
EF	0.7	
ED	20	years
SIR	50	mg/d
AB1	1	
SA	2500	cm2
AF	0.2	mg/cm2-d
AT (for HQ)	20	Years

Contaminant of Concern	CPFo (kg-d/mg)	Source	RfDo (mg/kg-d)	Source	ABS	Source	GI	Source
NWTPH-Gx Volatile Range	N/A		N/A					
NWTPH-Dx Diesel Range	N/A		N/A					
NWTPH-Dx Oil-Range	N/A		N/A					
EPA-8021 Benzene	0.055	RSL	0.004	MTCATPH	0.0005	745-5	0.95	MTCATPH
EPA-8021 Toluene	0.03	CLARC	0.08	MTCATPH	0.03	MTCATPH	1	MTCATPH
EPA-8021 Ethylbenzene	0.011	RSL	0.1	MTCATPH	0.03	MTCATPH	0.92	MTCATPH
EPA-8021 Xylenes	N/A		0.2	MTCATPH	0.03	MTCATPH	0.9	MTCATPH
Antimony	N/A		0.0004	RSL	0.01	745-5	0.15	RSL
Arsenic	1.5	RSL	0.0003	RSL	0.03	RSL	1	RSL
Barium	N/A		0.2	RSL	0.01	745-5	0.07	RSL
Chromium	N/A		1.5	RSL	0.01	745-5	0.013	RSL
Copper	N/A		0.04	RSL	0.01	745-5	1	RSL
Lead	N/A		N/A					
Mercury	N/A		0.0003	RSL	0.01	745-5	0.07	RSL
Nickel	N/A		0.011	RSL	0.01	745-5	0.04	RSL
Selenium	N/A		0.005	RSL	0.01	745-5	1	RSL
Zinc	N/A		0.3	RSL	0.01	745-5	1	RSL
Acetone	N/A		0.9	RSL	0.03	745-5	0.8	745-5
2-Butanone	N/A		N/A					
1,2,4-Trimethylbenzene	N/A		0.01	RSL	0.03	745-5	1	RSL
Naphthalene	N/A		0.02	MTCATPH	0.13	MTCATPH	0.89	MTCATPH
2-Methylnaphthalene	N/A		0.004	MTCATPH	0.01	MTCATPH	0.8	MTCATPH
1-Methylnaphthalene	0.029	RSL	0.05	MTCATPH	0.01	EPA	0.8	MTCATPH
Acenaphthalene	N/A		N/A					
Fluorene	N/A		0.04	CLARC	0.1	745-5	0.5	745-5
Phenanthrene	N/A		N/A		0.13	EPA	0.89	EPA
Anthracene	N/A		0.3	RSL	0.13	EPA	0.89	EPA
Fluoranthene	N/A		0.04	CLARC	0.1	745-5	0.5	745-5
Pyrene	N/A		0.03	RSL	0.13	EPA	0.89	EPA
Benzo[A]Anthracene	0.1	Table 708 & RSL	N/A		0.13	EPA	0.89	EPA
Chrysene	0.01	Table 708	N/A		0.13	EPA	0.89	EPA
Benzo(b)fluoranthene	0.1	Table 708 & RSL	N/A		0.13	EPA	0.89	EPA
Benzo[k]Fluoranthene	0.1	Table 708	N/A		0.13	EPA	0.89	EPA
Benzo[a]Pyrene	1	EPA IRIS & RSL	0.0003	RSL	0.13	EPA	0.89	EPA
Indeno[1,2,3-Cd]Pyrene	0.1	Table 708 & RSL	N/A		0.13	EPA	0.89	EPA
Dibenz[A,H]Anthracene	1	RSL	N/A		0.13	EPA	0.89	EPA
Benzo[G,H,I]perylene	N/A		N/A					
Aliphatic EC 5-6	N/A		1.7		0.03	MTCATPH	0.8	MTCATPH
Aliphatic EC 6-8	N/A		1.7		0.03	MTCATPH	0.8	MTCATPH
Aliphatic EC 8-10	N/A		0.03		0.03	MTCATPH	0.8	MTCATPH
Aliphatic EC 10-12	N/A		0.03		0.03	MTCATPH	0.8	MTCATPH
Aliphatic EC 12-16	N/A		0.03		0.1	MTCATPH	0.5	MTCATPH
Aliphatic EC 16-21	N/A		2		0.1	MTCATPH	0.5	MTCATPH
Aliphatic EC 21-34	N/A		2		0.1	MTCATPH	0.5	MTCATPH
Aromatic EC 8-10	N/A		0.1		0.03	MTCATPH	0.8	MTCATPH
Aromatic EC 10-12	N/A		0.02		0.03	MTCATPH	0.8	MTCATPH
Aromatic EC 12-16	N/A		0.05		0.1	MTCATPH	0.5	MTCATPH
Aromatic EC 16-21	N/A		0.03		0.1	MTCATPH	0.5	MTCATPH
Aromatic EC 21-34	N/A		0.04		0.1	MTCATPH	0.5	MTCATPH

N/A indicate value is not available

CLARC indicates Washington Department of Ecology Cleanup Levels and Risk Calculation <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>

RSL indicates US EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites <https://www.epa.gov/risk/regional-screening-levels-rsls>

IRIS indicates US EPA Integrated Risk Information System <https://www.epa.gov/iris>

MTCATPH indicates Workbook Tools for Calculating Soil and Groundwater Cleanup Levels <https://fortress.wa.gov/ecy/publications/documents/0109073.pdf>

745-5 indicates Table 745-5 in WAC 173-340 Model Toxics Control Act

EPA indicates US EPA Risk Assessment Guidance for Superfund Volume 1, Part E (Publication EPA/540/R/99/005)

**APPENDIX C -
QA/QC REVIEW**

Memo

To: Shell Puget Sound Refinery
Date: January 27, 2022
From: Whatcom Environmental Services

RE: Soil Sampling Laboratory Data Verification and Validation – SWMU-55 Product Tanks Construction

This evaluation provides the results of verification and validation checks of analytical data for 67 soil samples collected during sampling events occurring on January 27, 28, and 29, 2020 and July 6, 2021, at the Shell Puget Sound Refinery site located in Anacortes, Washington. The samples were collected and analyzed as part of the site's Solid Waste Management Unit (SWMU) 55 redevelopment project, in accordance with the October 2018 Agreed Order between Washington State Department of Ecology (Ecology) and Shell Oil Products U.S. (Shell). All sample analyses were conducted at ALS Laboratory Group, located in Everett, Washington. This data quality evaluation covers ALS data packages EV20010152, EV20010159, and EV21070019.

The verification and validation check for each laboratory data package included the following:

- Verification that the laboratory data package contained all necessary documentation (including chain-of-custody records; identification of samples received by the laboratory; date and time of receipt of the samples at the laboratory; sample conditions upon receipt at the laboratory; date and time of sample analysis; explanation of any significant corrective actions taken by the laboratory during the analytical process; and, if applicable, date of extraction, definition of laboratory data qualifiers, all sample-related quality control data, and quality control acceptance criteria).
- Verification that all requested analyses, special cleanups, and special handling methods were performed.
- Evaluation of sample holding times.
- Evaluation of quality control data compared to acceptance criteria, including method blanks, surrogate recoveries, matrix spike results, laboratory duplicate and/or replicate results, and laboratory control sample results.
- Evaluation of overall data quality and completeness of analytical data.

Data validation qualifiers are added to the sample results, as appropriate, based on the verification and validation check. The absence of a data qualifier indicates that the reported result is acceptable without qualification. The data quality evaluation is summarized below.

Laboratory Data Package Completeness

Each laboratory data package contained a signed chain-of-custody, sample analytical results, and quality control results (method blanks, surrogate recoveries, laboratory control sample results, and matrix spike results). A case narrative identifying any complications was also provided with each laboratory data package. Definitions of laboratory qualifiers and quality control acceptance criteria were provided, as appropriate.

Sample Conditions and Analysis

The laboratories received the samples in good condition and all analyses were performed as requested. Preservation of samples, as specified by the analytical method, was verified by the laboratory and adjusted as appropriate.

Holding Times

For all analyses and all samples, the time between sample collection, extraction (if applicable), and analysis was determined to be within analytical method and project-specified holding times.

Laboratory Method Blanks Results

At least one method blank was analyzed with each batch of samples. No contamination was detected in any of the method blanks.

Surrogate Recoveries

Appropriate compounds were used as surrogate spikes. Recovery values for the surrogate spikes were within the laboratory-specified control limits for all samples with the following exceptions:

- For 505 B-3 0 ft, Cell-16 2-4 ft, Cell 18 2-4 ft the TFT, TFT- Aliphatic, TFT- Aromatic, and TFT- Hexane surrogate recoveries were outside control limits due to matrix interference.
- For Subcell 16-1 3 ft the TFT- Aliphatic, TFT- Aromatic, and TFT- Hexane surrogate recoveries were outside control limits due to matrix interference.
- For Cell-18 4-6 ft the TFT and the TFT- Aromatic surrogate recoveries were outside control limits due to matrix interference.
- For Cell 16 0-2 ft, Cell-18 0-2 ft, and Subcell 16-5 3 ft the TFT- Aromatic surrogate recovery was outside control limits due to matrix interference.
- For Subcell 16-2 3 ft the C25 and p-Terphenyl surrogate recoveries were outside control limits due to matrix interference.
- For Subcell 16-3 3 ft the TFT- Aromatic, C25, and p-Terphenyl surrogate recoveries were outside control limits due to matrix interference.
- For Subcell 16-4 3 ft the TFT, TFT- Aliphatic, and TFT- Hexane surrogate recoveries were outside control limits due to matrix interference.

No data qualification was deemed necessary.

Laboratory Control Sample Results

At least one laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) was analyzed with each batch of samples. Recoveries for each LCS and/or LCSD were within the current laboratory-specified control limits.

Sample Duplicate and Laboratory Matrix Spike Results

A sample duplicate and a laboratory matrix spike was analyzed per each 20 samples. The recovery values for all duplicates and for each required spiking compound were within the laboratory-specified control limits for all project samples.

- For ALS Test Batch ID: 150498, the >C10-C12 Aromatics spike duplicate was outside of RPD (relative percent difference) control limits.
- For ALS Test Batch ID: 150499 the >C16-C21 Aromatics spike duplicate was outside of RPD control limits.

No data qualification was deemed necessary.

Overall Assessment of the Data

The completeness for this data set is 100 percent. Data precision was evaluated through sample duplicates, laboratory surrogate duplicates and matrix spike duplicates. Data accuracy was evaluated through laboratory method blanks, surrogate spikes, and matrix spikes. Based on this data quality verification and validation, all of the data were determined to be acceptable. No data were rejected.

**APPENDIX D -
ORIGINAL LABORATORY ANALYTIC DATA REPORTS**



February 12, 2020

Mr. Dan Heimbigner
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Heimbigner,

On January 29th, 47 samples were received by our laboratory and assigned our laboratory project number EV20010152. The project was identified as your Shell PSR - Product Tanks Soil Sampling. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-01
CLIENT SAMPLE ID	Cell-1 0-1 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 1:45:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	52	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	450	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	1400	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	6.1	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	350	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	2300	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	96	39	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	210	47	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	39	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	40	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	55	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	220	53	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	44	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	330	43	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	470	52	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	350	61	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	1.3	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	74.9	01/30/2020	KLS
TFT - Aliphatic	NWVPH	75.6	01/30/2020	KLS
TFT - Aromatic	NWVPH	70.2	01/30/2020	KLS
TFT - Hexane	NWVPH	75.1	01/30/2020	KLS
C25	NWEPH	90.1	01/30/2020	EBS
p-Terphenyl	NWEPH	109	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	117	01/31/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-01
CLIENT SAMPLE ID	Cell-1 0-1 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 1:45:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-02
CLIENT SAMPLE ID	Cell-2 0-1 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 1:50:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	36	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	390	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	1100	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	240	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	1600	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	78	36	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	180	43	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	130	36	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	37	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	50	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	100	49	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	40	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	180	40	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	290	47	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	190	56	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.47	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	70.4	01/30/2020	KLS
TFT - Aliphatic	NWVPH	72.6	01/30/2020	KLS
TFT - Aromatic	NWVPH	64.6	01/30/2020	KLS
TFT - Hexane	NWVPH	72.4	01/30/2020	KLS
C25	NWEPH	92.1	01/30/2020	EBS
p-Terphenyl	NWEPH	113	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	122	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-03
CLIENT SAMPLE ID	Cell-3 0-1 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 1:55:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	11	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	180	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	670	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	110	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	860	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	41	31	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	80	38	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	39	31	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	32	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	44	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	50	43	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	35	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	98	35	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	180	41	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	130	49	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.35	0.020	1	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	80.1	01/30/2020	KLS
TFT - Aliphatic	NWVPH	80.8	01/30/2020	KLS
TFT - Aromatic	NWVPH	88.0	01/30/2020	KLS
TFT - Hexane	NWVPH	80.4	01/30/2020	KLS
C25	NWEPH	92.6	01/30/2020	EBS
p-Terphenyl	NWEPH	111	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	127	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-04
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 2:00:00 PM
CLIENT SAMPLE ID	Cell-4 0-1 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	23	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	220	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	690	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	5.1	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	120	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	830	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	58	34	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	140	42	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	69	34	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	35	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	48	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	78	47	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	39	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	130	38	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	210	45	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	140	54	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.66	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	65.1	01/30/2020	KLS
TFT - Aliphatic	NWVPH	67.0	01/30/2020	KLS
TFT - Aromatic	NWVPH	69.4	01/30/2020	KLS
TFT - Hexane	NWVPH	66.7	01/30/2020	KLS
C25	NWEPH	90.9	01/30/2020	EBS
p-Terphenyl	NWEPH	112	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	126	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-05
CLIENT SAMPLE ID	Cell-5 0-2 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 11:40:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	0.57	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	170	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	920	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	2400	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	7.5	2	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	7.8	7.5	2	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	710	10	2	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	3500	10	2	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	120	32	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	310	39	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	200	32	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	33	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	44	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	350	43	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	36	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	670	35	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	610	42	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	480	50	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.90	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	60.8	01/30/2020	KLS
TFT - Aliphatic	NWVPH	62.4	01/30/2020	KLS
TFT - Aromatic	NWVPH	62.4	01/30/2020	KLS
TFT - Hexane	NWVPH	62.1	01/30/2020	KLS
C25	NWEPH	92.4	01/30/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	111	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	112	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-06
CLIENT SAMPLE ID	Cell-5 2-4 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 11:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	0.15	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	7.6	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	250	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	1300	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	2900	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	8.1	2	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	12	10	2	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	1100	10	2	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	4900	10	2	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	120	34	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	350	42	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	250	34	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	36	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	48	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	560	47	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	39	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	1100	38	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	960	46	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	830	54	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	1.3	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	77.3	01/30/2020	KLS
TFT - Aliphatic	NWVPH	77.9	01/30/2020	KLS
TFT - Aromatic	NWVPH	71.9	01/30/2020	KLS
TFT - Hexane	NWVPH	78.2	01/30/2020	KLS
C25	NWEPH	94.0	01/30/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	112	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	125	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-07
CLIENT SAMPLE ID	Cell-6 0-2 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 1:30:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	0.88	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	170	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	960	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	2500	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	7.2	2	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	U	7.2	2	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	750	10	2	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	3600	10	2	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	140	31	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	380	37	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	220	31	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	32	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	43	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	390	42	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	35	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	660	34	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	610	41	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	500	48	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	1.2	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	71.0	01/30/2020	KLS
TFT - Aliphatic	NWVPH	71.8	01/30/2020	KLS
TFT - Aromatic	NWVPH	73.7	01/30/2020	KLS
TFT - Hexane	NWVPH	71.8	01/30/2020	KLS
C25	NWEPH	95.1	01/30/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	111	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	116	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-08
CLIENT SAMPLE ID	Cell-7 0-2 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 9:30:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	5.9	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	150	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	520	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	1300	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	17	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	440	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	2100	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	90	28	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	220	34	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	120	28	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	29	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	40	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	240	39	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	32	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	500	31	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	440	37	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	360	44	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.84	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	61.0	01/30/2020	KLS
TFT - Aliphatic	NWVPH	61.6	01/30/2020	KLS
TFT - Aromatic	NWVPH	60.8	01/30/2020	KLS
TFT - Hexane	NWVPH	61.6	01/30/2020	KLS
C25	NWEPH	84.8	01/30/2020	EBS
p-Terphenyl	NWEPH	109	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	112	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-09
CLIENT SAMPLE ID	Cell-8 0-2 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 9:45:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	0.085	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	290	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	1100	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	2400	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	7.6	2	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	12	10	2	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	800	10	2	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	3100	10	2	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	120	32	1	UG/KG	02/03/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	270	39	1	UG/KG	02/03/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	160	32	1	UG/KG	02/03/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	2000	33	1	UG/KG	02/03/2020	JMK
Chrysene	EPA-8270 SIM	U	45	1	UG/KG	02/03/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	490	44	1	UG/KG	02/03/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	37	1	UG/KG	02/03/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	790	36	1	UG/KG	02/03/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	450	43	1	UG/KG	02/03/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	430	50	1	UG/KG	02/03/2020	JMK
Mercury	EPA-7471	0.50	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	73.8	01/30/2020	KLS
TFT - Aliphatic	NWVPH	76.6	01/30/2020	KLS
TFT - Aromatic	NWVPH	71.8	01/30/2020	KLS
TFT - Hexane	NWVPH	76.6	01/30/2020	KLS
C25	NWEPH	99.8	01/30/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	115	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	124	02/03/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-10
CLIENT SAMPLE ID	Cell-9 0-1 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 2:05:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	110	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	390	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	820	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	250	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	900	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	40	32	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	84	39	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	32	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	720	33	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	45	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	180	44	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	36	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	300	36	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	200	42	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	190	50	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.24	0.020	1	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	71.6	01/30/2020	KLS
TFT - Aliphatic	NWVPH	72.3	01/30/2020	KLS
TFT - Aromatic	NWVPH	66.7	01/30/2020	KLS
TFT - Hexane	NWVPH	71.7	01/30/2020	KLS
C25	NWEPH	95.2	01/30/2020	EBS
p-Terphenyl	NWEPH	114	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	126	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-11
CLIENT SAMPLE ID	Cell-10 0-2 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 3:50:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	63	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	370	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	130	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	300	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	6.7	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	46	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	110	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	470	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	42	31	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	63	38	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	33	31	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	250	32	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	44	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	91	43	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	36	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	130	35	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	94	42	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	79	49	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.40	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	75.7	01/30/2020	KLS
TFT - Aliphatic	NWVPH	77.7	01/30/2020	KLS
TFT - Aromatic	NWVPH	72.8	01/30/2020	KLS
TFT - Hexane	NWVPH	78.1	01/30/2020	KLS
C25	NWEPH	82.9	01/30/2020	EBS
p-Terphenyl	NWEPH	92.4	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	107	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-12
CLIENT SAMPLE ID	Cell-10 2-4 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 3:55:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	0.033	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	37	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	460	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	1100	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	2500	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	7.7	2	MG/KG	02/04/2020	EBS
>C12-C16 Aromatics	NWEPH	41	10	2	MG/KG	02/04/2020	EBS
>C16-C21 Aromatics	NWEPH	660	10	2	MG/KG	02/04/2020	EBS
>C21-C34 Aromatics	NWEPH	3200	10	2	MG/KG	02/04/2020	EBS
Naphthalene	EPA-8270 SIM	160	33	1	UG/KG	02/04/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	560	40	1	UG/KG	02/04/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	410	32	1	UG/KG	02/04/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	33	1	UG/KG	02/04/2020	JMK
Chrysene	EPA-8270 SIM	1900	46	1	UG/KG	02/04/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	630	44	1	UG/KG	02/04/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	37	1	UG/KG	02/04/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	1400	36	1	UG/KG	02/04/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	800	43	1	UG/KG	02/04/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	800	51	1	UG/KG	02/04/2020	JMK
Mercury	EPA-7471	1.3	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	69.4	01/30/2020	KLS
TFT - Aliphatic	NWVPH	71.3	01/30/2020	KLS
TFT - Aromatic	NWVPH	74.4	01/30/2020	KLS
TFT - Hexane	NWVPH	71.8	01/30/2020	KLS
C25	NWEPH	102	01/30/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	99.4	02/04/2020	EBS
Terphenyl-d14	EPA-8270 SIM	117	02/04/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-13
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 4:00:00 PM
CLIENT SAMPLE ID	Cell-10 4-6 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.045	0.020	1	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	89.3	01/30/2020	KLS
TFT - Aliphatic	NWVPH	87.7	01/30/2020	KLS
TFT - Aromatic	NWVPH	83.4	01/30/2020	KLS
TFT - Hexane	NWVPH	86.8	01/30/2020	KLS
C25	NWEPH	77.2	01/30/2020	EBS
p-Terphenyl	NWEPH	104	01/30/2020	EBS
Terphenyl-d14	EPA-8270 SIM	119	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-14
CLIENT SAMPLE ID	Cell-10 6-8 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 4:05:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Mercury	EPA-7471	0.047	0.020	1	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	91.8	01/30/2020	KLS
TFT - Aliphatic	NWVPH	92.1	01/30/2020	KLS
TFT - Aromatic	NWVPH	87.5	01/30/2020	KLS
TFT - Hexane	NWVPH	91.1	01/30/2020	KLS
C25	NWEPH	68.1	01/30/2020	EBS
p-Terphenyl	NWEPH	95.4	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	116	02/03/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-15
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 4:10:00 PM
CLIENT SAMPLE ID	Cell-10 8-10 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/30/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/30/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/30/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/30/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/30/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	5.3	5.0	1	MG/KG	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/03/2020	JMK
Mercury	EPA-7471	0.047	0.020	1	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	82.0	01/30/2020	KLS
TFT - Aliphatic	NWVPH	82.5	01/30/2020	KLS
TFT - Aromatic	NWVPH	76.7	01/30/2020	KLS
TFT - Hexane	NWVPH	81.5	01/30/2020	KLS
C25	NWEPH	91.9	01/30/2020	EBS
p-Terphenyl	NWEPH	97.2	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	129	02/03/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-16
CLIENT SAMPLE ID	Cell-11 0-2 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 12:15:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	1.5	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	6.8	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aliphatics	NWEPH	130	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aliphatics	NWEPH	390	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aliphatics	NWEPH	860	5.0	1	MG/KG	01/31/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	9.9	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	220	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	1300	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	53	35	1	UG/KG	02/03/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	110	43	1	UG/KG	02/03/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	120	35	1	UG/KG	02/03/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	1000	36	1	UG/KG	02/03/2020	JMK
Chrysene	EPA-8270 SIM	U	50	1	UG/KG	02/03/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	470	48	1	UG/KG	02/03/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	130	40	1	UG/KG	02/03/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	710	39	1	UG/KG	02/03/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	380	47	1	UG/KG	02/03/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	310	55	1	UG/KG	02/03/2020	JMK
Mercury	EPA-7471	0.38	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	97.0	01/31/2020	KLS
TFT - Aliphatic	NWVPH	97.4	01/31/2020	KLS
TFT - Aromatic	NWVPH	94.5	01/31/2020	KLS
TFT - Hexane	NWVPH	96.8	01/31/2020	KLS
C25	NWEPH	101	01/31/2020	EBS
p-Terphenyl	NWEPH	111	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	124	02/03/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-17
CLIENT SAMPLE ID	Cell-11 2-4 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 12:20:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	0.32	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	67	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	300	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	440	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	730	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aromatics	NWEPH	26	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aromatics	NWEPH	270	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aromatics	NWEPH	1300	5.0	1	MG/KG	01/31/2020	EBS
Naphthalene	EPA-8270 SIM	110	36	1	UG/KG	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	230	44	1	UG/KG	01/31/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	300	36	1	UG/KG	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	1000	37	1	UG/KG	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	51	1	UG/KG	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	320	50	1	UG/KG	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	41	1	UG/KG	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	510	40	1	UG/KG	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	310	48	1	UG/KG	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	290	57	1	UG/KG	01/31/2020	JMK
Mercury	EPA-7471	0.32	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	87.5	01/31/2020	KLS
TFT - Aliphatic	NWVPH	88.3	01/31/2020	KLS
TFT - Aromatic	NWVPH	97.7	01/31/2020	KLS
TFT - Hexane	NWVPH	88.0	01/31/2020	KLS
C25	NWEPH	86.2	02/04/2020	EBS
p-Terphenyl	NWEPH	114	01/31/2020	EBS
Terphenyl-d14	EPA-8270 SIM	124	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-18
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/27/2020 12:25:00 PM
CLIENT SAMPLE ID	Cell-11 4-6 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	0.099	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aliphatics	NWEPH	73	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aliphatics	NWEPH	280	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aliphatics	NWEPH	580	5.0	1	MG/KG	01/31/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aromatics	NWEPH	13	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aromatics	NWEPH	200	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aromatics	NWEPH	1000	5.0	1	MG/KG	02/05/2020	EBS
Naphthalene	EPA-8270 SIM	52	38	1	UG/KG	02/04/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	120	46	1	UG/KG	02/04/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	120	38	1	UG/KG	02/04/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	1000	39	1	UG/KG	02/04/2020	JMK
Chrysene	EPA-8270 SIM	U	53	1	UG/KG	02/04/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	510	51	1	UG/KG	02/04/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	120	43	1	UG/KG	02/04/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	650	42	1	UG/KG	02/04/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	360	50	1	UG/KG	02/04/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	310	59	1	UG/KG	02/04/2020	JMK
Mercury	EPA-7471	0.86	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	108	01/31/2020	KLS
TFT - Aliphatic	NWVPH	108	01/31/2020	KLS
TFT - Aromatic	NWVPH	95.2	01/31/2020	KLS
TFT - Hexane	NWVPH	107	01/31/2020	KLS
C25	NWEPH	99.1	01/31/2020	EBS
p-Terphenyl	NWEPH	114	02/05/2020	EBS
Terphenyl-d14	EPA-8270 SIM	125	02/04/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-19
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/27/2020 3:18:00 PM
CLIENT SAMPLE ID	Cell-12 0-2 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	0.96	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	2100	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aliphatics	NWEPH	5400	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aliphatics	NWEPH	740	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aliphatics	NWEPH	1300	5.0	1	MG/KG	01/31/2020	EBS
>C10-C12 Aromatics	NWEPH	440	10	2	MG/KG	02/05/2020	EBS
>C12-C16 Aromatics	NWEPH	1700	10	2	MG/KG	02/05/2020	EBS
>C16-C21 Aromatics	NWEPH	810	10	2	MG/KG	02/05/2020	EBS
>C21-C34 Aromatics	NWEPH	2200	10	2	MG/KG	02/05/2020	EBS
Naphthalene	EPA-8270 SIM	5500	37	1	UG/KG	02/03/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	24000	45	1	UG/KG	02/03/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	27000	37	1	UG/KG	02/03/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	3300	38	1	UG/KG	02/03/2020	JMK
Chrysene	EPA-8270 SIM	U	52	1	UG/KG	02/03/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	1000	50	1	UG/KG	02/03/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	42	1	UG/KG	02/03/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	1700	41	1	UG/KG	02/03/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	670	49	1	UG/KG	02/03/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	790	58	1	UG/KG	02/03/2020	JMK
Mercury	EPA-7471	1.1	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	66.8	01/31/2020	KLS
TFT - Aliphatic	NWVPH	67.0	01/31/2020	KLS
TFT - Aromatic	NWVPH	68.3	01/31/2020	KLS
TFT - Hexane	NWVPH	67.2	01/31/2020	KLS
C25	NWEPH	96.5	01/31/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	116	02/05/2020	EBS
Terphenyl-d14	EPA-8270 SIM	120	02/03/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-20
CLIENT SAMPLE ID	Cell-12 2-4 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 3:25:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	0.060	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	48	5.0	1	MG/KG	01/31/2020	EBS
>C12-C16 Aliphatics	NWEPH	610	5.0	1	MG/KG	01/31/2020	EBS
>C16-C21 Aliphatics	NWEPH	660	5.0	1	MG/KG	01/31/2020	EBS
>C21-C34 Aliphatics	NWEPH	1100	5.0	1	MG/KG	01/31/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aromatics	NWEPH	31	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aromatics	NWEPH	410	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aromatics	NWEPH	1500	5.0	1	MG/KG	02/05/2020	EBS
Naphthalene	EPA-8270 SIM	130	38	1	UG/KG	02/03/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	330	47	1	UG/KG	02/03/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	240	38	1	UG/KG	02/03/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	910	40	1	UG/KG	02/03/2020	JMK
Chrysene	EPA-8270 SIM	U	54	1	UG/KG	02/03/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	230	52	1	UG/KG	02/03/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	43	1	UG/KG	02/03/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	430	43	1	UG/KG	02/03/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	250	51	1	UG/KG	02/03/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	260	60	1	UG/KG	02/03/2020	JMK
Mercury	EPA-7471	0.65	0.10	5	MG/KG	01/30/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	69.3	01/31/2020	KLS
TFT - Aliphatic	NWVPH	66.8	01/31/2020	KLS
TFT - Aromatic	NWVPH	66.5	01/31/2020	KLS
TFT - Hexane	NWVPH	66.8	01/31/2020	KLS
C25	NWEPH	89.4	01/31/2020	EBS
p-Terphenyl	NWEPH	110	02/05/2020	EBS
Terphenyl-d14	EPA-8270 SIM	115	02/03/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-21
CLIENT SAMPLE ID	Cell-13 0-2 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 2:40:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	3.6	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	10	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	290	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	810	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	1900	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	7.0	2	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	15	10	2	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	570	10	2	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	2600	10	2	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	120	30	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	300	36	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	180	30	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	31	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	1200	42	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	380	41	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	34	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	590	33	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	530	39	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	430	46	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.81	0.10	5	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	74.6	01/31/2020	KLS
TFT - Aliphatic	NWVPH	68.9	01/31/2020	KLS
TFT - Aromatic	NWVPH	80.0	01/31/2020	KLS
TFT - Hexane	NWVPH	69.3	01/31/2020	KLS
C25	NWEPH	84.1	02/04/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	101	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	123	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-22
CLIENT SAMPLE ID	Cell-13 2-4 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 2:45:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	64	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	2300	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	3300	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	3500	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	13	10	2	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	590	10	2	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	3700	10	2	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	6700	10	2	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	150	33	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	1700	40	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	2700	33	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	5800	34	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	8900	46	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	4100	45	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	740	38	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	5000	37	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	1100	44	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	1900	52	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.74	0.10	5	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	67.5	01/31/2020	KLS
TFT - Aliphatic	NWVPH	67.9	01/31/2020	KLS
TFT - Aromatic	NWVPH	65.1	01/31/2020	KLS
TFT - Hexane	NWVPH	68.5	01/31/2020	KLS
C25	NWEPH	106	02/04/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	113	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	113	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-23
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 2:50:00 PM
CLIENT SAMPLE ID	Cell-13 4-6 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	26	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	51	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	170	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	12	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	110	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	390	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	U	32	1	UG/KG	02/06/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	39	1	UG/KG	02/06/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	32	1	UG/KG	02/06/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	570	33	1	UG/KG	02/06/2020	JMK
Chrysene	EPA-8270 SIM	1000	45	1	UG/KG	02/06/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	300	44	1	UG/KG	02/06/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	85	37	1	UG/KG	02/06/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	370	36	1	UG/KG	02/06/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	50	43	1	UG/KG	02/06/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	100	51	1	UG/KG	02/06/2020	JMK
Mercury	EPA-7471	0.078	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	80.5	01/31/2020	KLS
TFT - Aliphatic	NWVPH	83.5	01/31/2020	KLS
TFT - Aromatic	NWVPH	89.2	01/31/2020	KLS
TFT - Hexane	NWVPH	82.8	01/31/2020	KLS
C25	NWEPH	87.3	02/04/2020	EBS
p-Terphenyl	NWEPH	112	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	129	02/06/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-24
CLIENT SAMPLE ID	Cell-14 0-2 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 4:00:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	0.86	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	6.4	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	400	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	950	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	2000	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	690	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	2300	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	110	37	1	UG/KG	02/06/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	240	44	1	UG/KG	02/06/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	160	37	1	UG/KG	02/06/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	38	1	UG/KG	02/06/2020	JMK
Chrysene	EPA-8270 SIM	2300	51	1	UG/KG	02/06/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	620	50	1	UG/KG	02/06/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	100	41	1	UG/KG	02/06/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	860	41	1	UG/KG	02/06/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	420	48	1	UG/KG	02/06/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	420	57	1	UG/KG	02/06/2020	JMK
Mercury	EPA-7471	0.69	0.10	5	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	84.1	01/31/2020	KLS
TFT - Aliphatic	NWVPH	79.6	01/31/2020	KLS
TFT - Aromatic	NWVPH	81.0	01/31/2020	KLS
TFT - Hexane	NWVPH	79.4	01/31/2020	KLS
C25	NWEPH	92.2	02/04/2020	EBS
p-Terphenyl	NWEPH	114	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	127	02/06/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-25
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/27/2020 4:05:00 PM
CLIENT SAMPLE ID	Cell-14 2-4 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	260	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	2800	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	3600	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	2500	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	35	10	2	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	560	10	2	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	2800	10	2	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	3900	10	2	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	170	37	1	UG/KG	02/06/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	390	45	1	UG/KG	02/06/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	680	37	1	UG/KG	02/06/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	1500	38	1	UG/KG	02/06/2020	JMK
Chrysene	EPA-8270 SIM	2600	52	1	UG/KG	02/06/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	1600	51	1	UG/KG	02/06/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	300	42	1	UG/KG	02/06/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	1900	41	1	UG/KG	02/06/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	670	49	1	UG/KG	02/06/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	760	58	1	UG/KG	02/06/2020	JMK
Mercury	EPA-7471	1.1	0.10	5	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	61.2	01/31/2020	KLS
TFT - Aliphatic	NWVPH	62.0	01/31/2020	KLS
TFT - Aromatic	NWVPH	64.0	01/31/2020	KLS
TFT - Hexane	NWVPH	61.8	01/31/2020	KLS
C25	NWEPH	93.8	02/04/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	113	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	112	02/06/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-26
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 3:24:00 PM
CLIENT SAMPLE ID	Cell-15 0-2 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	0.056	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	120	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	510	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	1200	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	6.1	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	430	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	1800	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	86	33	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	180	40	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	140	33	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	34	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	1200	46	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	280	45	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	37	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	470	37	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	310	44	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	300	51	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.55	0.10	5	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	63.7	01/31/2020	KLS
TFT - Aliphatic	NWVPH	63.5	01/31/2020	KLS
TFT - Aromatic	NWVPH	72.5	01/31/2020	KLS
TFT - Hexane	NWVPH	63.6	01/31/2020	KLS
C25	NWEPH	89.9	02/04/2020	EBS
p-Terphenyl	NWEPH	128	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	127	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-27
CLIENT SAMPLE ID	504-B-1 0 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 11:20:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	44	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	51	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	26	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	64	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	22	20	1	UG/KG	02/06/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/06/2020	JMK
Mercury	EPA-7471	0.028	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	83.8	01/31/2020	KLS
TFT - Aliphatic	NWVPH	85.8	01/31/2020	KLS
TFT - Aromatic	NWVPH	68.3	01/31/2020	KLS
TFT - Hexane	NWVPH	85.4	01/31/2020	KLS
C25	NWEPH	78.4	02/04/2020	EBS
p-Terphenyl	NWEPH	108	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	119	02/06/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-28
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/27/2020 11:21:00 AM
CLIENT SAMPLE ID	504-B-1 3 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	77	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	400	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	740	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	280	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	1700	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	39	35	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	120	43	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	140	35	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	36	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	2000	49	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	760	48	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	40	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	1100	39	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	410	46	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	490	55	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.32	0.10	5	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	63.8	01/31/2020	KLS
TFT - Aliphatic	NWVPH	64.8	01/31/2020	KLS
TFT - Aromatic	NWVPH	65.0	01/31/2020	KLS
TFT - Hexane	NWVPH	64.4	01/31/2020	KLS
C25	NWEPH	88.8	02/04/2020	EBS
p-Terphenyl	NWEPH	126	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	122	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-29
CLIENT SAMPLE ID	504-B-1 6 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 11:22:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/11/2020	EBS
>C12-C16 Aliphatics	NWEPH	28	5.0	1	MG/KG	02/11/2020	EBS
>C16-C21 Aliphatics	NWEPH	430	5.0	1	MG/KG	02/11/2020	EBS
>C21-C34 Aliphatics	NWEPH	300	5.0	1	MG/KG	02/11/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C16-C21 Aromatics	NWEPH	160	5.0	1	MG/KG	02/12/2020	EBS
>C21-C34 Aromatics	NWEPH	240	5.0	1	MG/KG	02/12/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	83	20	1	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	84	20	1	UG/KG	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	75	20	1	UG/KG	02/11/2020	JMK
Mercury	EPA-7471	0.17	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	79.8	01/31/2020	KLS
TFT - Aliphatic	NWVPH	79.6	01/31/2020	KLS
TFT - Aromatic	NWVPH	78.7	01/31/2020	KLS
TFT - Hexane	NWVPH	79.6	01/31/2020	KLS
C25	NWEPH	71.4	02/11/2020	EBS
p-Terphenyl	NWEPH	90.0	02/12/2020	EBS
Terphenyl-d14	EPA-8270 SIM	113	02/11/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-30
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/27/2020 11:23:00 AM
CLIENT SAMPLE ID	504-B-1 9 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.054	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	79.8	01/31/2020	KLS
TFT - Aliphatic	NWVPH	82.2	01/31/2020	KLS
TFT - Aromatic	NWVPH	71.8	01/31/2020	KLS
TFT - Hexane	NWVPH	81.7	01/31/2020	KLS
C25	NWEPH	82.3	02/05/2020	EBS
p-Terphenyl	NWEPH	96.0	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	117	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-31
CLIENT SAMPLE ID	504-B-2 0 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 12:00:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.053	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	82.4	01/31/2020	KLS
TFT - Aliphatic	NWVPH	82.2	01/31/2020	KLS
TFT - Aromatic	NWVPH	73.2	01/31/2020	KLS
TFT - Hexane	NWVPH	82.0	01/31/2020	KLS
C25	NWEPH	88.8	02/05/2020	EBS
p-Terphenyl	NWEPH	117	02/06/2020	EBS
Terphenyl-d14	EPA-8270 SIM	132	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-32
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/27/2020 12:01:00 PM
CLIENT SAMPLE ID	504-B-2 3 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.067	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	102	01/31/2020	KLS
TFT - Aliphatic	NWVPH	103	01/31/2020	KLS
TFT - Aromatic	NWVPH	110	01/31/2020	KLS
TFT - Hexane	NWVPH	102	01/31/2020	KLS
C25	NWEPH	89.2	02/05/2020	EBS
p-Terphenyl	NWEPH	109	02/06/2020	EBS
Terphenyl-d14	EPA-8270 SIM	135	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-33
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/27/2020 2:45:00 PM
CLIENT SAMPLE ID	504-B-3 0 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	0.042	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	6.2	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aliphatics	NWEPH	400	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aliphatics	NWEPH	1700	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aliphatics	NWEPH	3300	5.0	1	MG/KG	02/05/2020	EBS
>C10-C12 Aromatics	NWEPH	U	8.3	2	MG/KG	02/06/2020	EBS
>C12-C16 Aromatics	NWEPH	19	10	2	MG/KG	02/06/2020	EBS
>C16-C21 Aromatics	NWEPH	1300	10	2	MG/KG	02/06/2020	EBS
>C21-C34 Aromatics	NWEPH	6200	10	2	MG/KG	02/06/2020	EBS
Naphthalene	EPA-8270 SIM	260	35	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	630	43	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	610	35	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	1200	36	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	5000	50	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	1800	48	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	40	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	4400	39	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	1500	47	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	1900	55	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	1.9	0.10	5	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	62.2	01/31/2020	KLS
TFT - Aliphatic	NWVPH	62.0	01/31/2020	KLS
TFT - Aromatic	NWVPH	79.6	01/31/2020	KLS
TFT - Hexane	NWVPH	61.8	01/31/2020	KLS
C25	NWEPH	91.6	02/05/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	101	02/06/2020	EBS
Terphenyl-d14	EPA-8270 SIM	108	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-34
CLIENT SAMPLE ID	504-B-3 3 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 2:46:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	01/31/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	01/31/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	01/31/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	01/31/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	01/31/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.045	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	69.4	01/31/2020	KLS
TFT - Aliphatic	NWVPH	69.3	01/31/2020	KLS
TFT - Aromatic	NWVPH	62.8	01/31/2020	KLS
TFT - Hexane	NWVPH	69.2	01/31/2020	KLS
C25	NWEPH	80.2	02/04/2020	EBS
p-Terphenyl	NWEPH	94.9	02/06/2020	EBS
Terphenyl-d14	EPA-8270 SIM	112	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-35
CLIENT SAMPLE ID	505-B-1 0 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 9:00:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	0.049	0.030	1	MG/KG	02/01/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/01/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/01/2020	KLS
>C10-C12 Aliphatics	NWEPH	12	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aliphatics	NWEPH	180	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aliphatics	NWEPH	1000	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aliphatics	NWEPH	2600	5.0	1	MG/KG	02/05/2020	EBS
>C10-C12 Aromatics	NWEPH	U	10	2	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	U	10	2	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	750	10	2	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	4600	10	2	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	160	42	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	370	51	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	330	42	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	44	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	U	59	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	470	58	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	48	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	900	47	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	1300	56	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	820	66	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	2.4	0.20	10	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	62.2	02/01/2020	KLS
TFT - Aliphatic	NWVPH	65.5	02/01/2020	KLS
TFT - Aromatic	NWVPH	61.6	02/01/2020	KLS
TFT - Hexane	NWVPH	65.6	02/01/2020	KLS
C25	NWEPH	66.0	02/05/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	85.7	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	70.6	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-36
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 9:01:00 AM
CLIENT SAMPLE ID	505-B-1 3 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/01/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/01/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/01/2020	KLS
>C10-C12 Aliphatics	NWEPH	7.2	5.0	1	MG/KG	02/11/2020	EBS
>C12-C16 Aliphatics	NWEPH	190	5.0	1	MG/KG	02/11/2020	EBS
>C16-C21 Aliphatics	NWEPH	190	5.0	1	MG/KG	02/11/2020	EBS
>C21-C34 Aliphatics	NWEPH	120	5.0	1	MG/KG	02/11/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C12-C16 Aromatics	NWEPH	71	5.0	1	MG/KG	02/12/2020	EBS
>C16-C21 Aromatics	NWEPH	200	5.0	1	MG/KG	02/12/2020	EBS
>C21-C34 Aromatics	NWEPH	150	5.0	1	MG/KG	02/12/2020	EBS
Naphthalene	EPA-8270 SIM	21	20	1	UG/KG	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	1800	20	1	UG/KG	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	1700	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	150	20	1	UG/KG	02/11/2020	JMK
Chrysene	EPA-8270 SIM	210	20	1	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	45	20	1	UG/KG	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	68	20	1	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Mercury	EPA-7471	0.040	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	75.7	02/01/2020	KLS
TFT - Aliphatic	NWVPH	76.4	02/01/2020	KLS
TFT - Aromatic	NWVPH	67.8	02/01/2020	KLS
TFT - Hexane	NWVPH	76.2	02/01/2020	KLS
C25	NWEPH	80.1	02/11/2020	EBS
p-Terphenyl	NWEPH	95.5	02/12/2020	EBS
Terphenyl-d14	EPA-8270 SIM	104	02/11/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-37
CLIENT SAMPLE ID	505-B-1 6 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 9:02:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/01/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/01/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/01/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.045	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	85.0	02/01/2020	KLS
TFT - Aliphatic	NWVPH	85.1	02/01/2020	KLS
TFT - Aromatic	NWVPH	86.0	02/01/2020	KLS
TFT - Hexane	NWVPH	85.1	02/01/2020	KLS
C25	NWEPH	80.3	02/05/2020	EBS
p-Terphenyl	NWEPH	98.2	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	116	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-38
CLIENT SAMPLE ID	505-B-2 0 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 3:40:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/01/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Ethylbenzene	EPA-8021	0.061	0.050	1	MG/KG	02/01/2020	KLS
Xylenes	EPA-8021	0.25	0.20	1	MG/KG	02/01/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/01/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aliphatics	NWEPH	180	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aliphatics	NWEPH	180	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aliphatics	NWEPH	180	5.0	1	MG/KG	02/05/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	64	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	220	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	370	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	110	35	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	1500	43	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	1100	35	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	380	36	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	640	50	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	250	48	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	40	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	280	39	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	47	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	67	55	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.22	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	66.5	02/01/2020	KLS
TFT - Aliphatic	NWVPH	68.6	02/01/2020	KLS
TFT - Aromatic	NWVPH	70.0	02/01/2020	KLS
TFT - Hexane	NWVPH	69.3	02/01/2020	KLS
C25	NWEPH	91.7	02/05/2020	EBS
p-Terphenyl	NWEPH	110	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	119	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-39
CLIENT SAMPLE ID	505-B-2 3 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/27/2020 3:41:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/01/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/01/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/01/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/05/2020	EBS
>C12-C16 Aliphatics	NWEPH	41	5.0	1	MG/KG	02/05/2020	EBS
>C16-C21 Aliphatics	NWEPH	36	5.0	1	MG/KG	02/05/2020	EBS
>C21-C34 Aliphatics	NWEPH	28	5.0	1	MG/KG	02/05/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	14	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	34	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	35	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	260	20	1	UG/KG	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	230	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	25	20	1	UG/KG	02/05/2020	JMK
Chrysene	EPA-8270 SIM	49	20	1	UG/KG	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/05/2020	JMK
Mercury	EPA-7471	0.035	0.020	1	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	70.6	02/01/2020	KLS
TFT - Aliphatic	NWVPH	71.7	02/01/2020	KLS
TFT - Aromatic	NWVPH	66.9	02/01/2020	KLS
TFT - Hexane	NWVPH	71.2	02/01/2020	KLS
C25	NWEPH	91.9	02/05/2020	EBS
p-Terphenyl	NWEPH	111	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	116	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-40
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 10:10:00 AM
CLIENT SAMPLE ID	505-B-3 0 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/01/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/01/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/01/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/01/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/01/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C12-C16 Aliphatics	NWEPH	190	5.0	1	MG/KG	02/06/2020	EBS
>C16-C21 Aliphatics	NWEPH	1200	5.0	1	MG/KG	02/06/2020	EBS
>C21-C34 Aliphatics	NWEPH	2800	5.0	1	MG/KG	02/06/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	13	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	870	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	4500	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	120	39	1	UG/KG	02/06/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	350	48	1	UG/KG	02/06/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	260	39	1	UG/KG	02/06/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	40	1	UG/KG	02/06/2020	JMK
Chrysene	EPA-8270 SIM	U	55	1	UG/KG	02/06/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	770	54	1	UG/KG	02/06/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	45	1	UG/KG	02/06/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	1900	44	1	UG/KG	02/06/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	1500	52	1	UG/KG	02/06/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	1400	61	1	UG/KG	02/06/2020	JMK
Mercury	EPA-7471	2.0	0.10	5	MG/KG	01/31/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	52.7 SUR12	02/01/2020	KLS
TFT - Aliphatic	NWVPH	54.4 SUR12	02/01/2020	KLS
TFT - Aromatic	NWVPH	51.5 SUR12	02/01/2020	KLS
TFT - Hexane	NWVPH	54.5 SUR12	02/01/2020	KLS
C25	NWEPH	92.2	02/06/2020	EBS
p-Terphenyl	NWEPH	106	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	113	02/06/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-40
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 10:10:00 AM
CLIENT SAMPLE ID	505-B-3 0 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

U - Analyte analyzed for but not detected at level above reporting limit.
SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010152
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010152-41
CLIENT SAMPLE ID	505-B-3 3 ft	DATE RECEIVED:	01/29/2020
		COLLECTION DATE:	1/28/2020 10:11:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/05/2020	KLS
Toluene	EPA-8021	0.076	0.050	1	MG/KG	02/05/2020	KLS
Ethylbenzene	EPA-8021	0.20	0.050	1	MG/KG	02/05/2020	KLS
Xylenes	EPA-8021	0.53	0.20	1	MG/KG	02/05/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
>C8-C10 Aliphatics	NWVPH	6.5	5.0	1	MG/KG	02/05/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/05/2020	KLS
>C10-C12 Aliphatics	NWEPH	170	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	2200	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	1800	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	1200	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	58	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	820	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	1900	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	1300	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	3400	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	28000	22	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	20000	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	1400	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	2200	25	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	360	24	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	51	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	630	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	76	24	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	140	28	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.028	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	86.2	02/05/2020	KLS
TFT - Aliphatic	NWVPH	87.5	02/05/2020	KLS
TFT - Aromatic	NWVPH	81.9	02/05/2020	KLS
TFT - Hexane	NWVPH	88.4	02/05/2020	KLS
C25	NWEPH	104	02/07/2020	EBS
p-Terphenyl	NWEPH	108	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	113	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-42
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 10:12:00 AM
CLIENT SAMPLE ID	505-B-3 6 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/05/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/05/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/05/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/05/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/05/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	36	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	36	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	33	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	12	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	43	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	45	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	43	20	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	76	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	28	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	69	20	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.043	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	91.8	02/05/2020	KLS
TFT - Aliphatic	NWVPH	93.5	02/05/2020	KLS
TFT - Aromatic	NWVPH	94.1	02/05/2020	KLS
TFT - Hexane	NWVPH	93.0	02/05/2020	KLS
C25	NWEPH	89.5	02/07/2020	EBS
p-Terphenyl	NWEPH	104	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	117	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-43
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 10:13:00 AM
CLIENT SAMPLE ID	505-B-3 9 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/06/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/06/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/06/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/06/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/06/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C16-C21 Aliphatics	NWEPH	5.6	5.0	1	MG/KG	02/12/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	69	20	1	UG/KG	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	72	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Mercury	EPA-7471	0.062	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	93.6	02/06/2020	KLS
TFT - Aliphatic	NWVPH	92.3	02/06/2020	KLS
TFT - Aromatic	NWVPH	82.0	02/06/2020	KLS
TFT - Hexane	NWVPH	91.8	02/06/2020	KLS
C25	NWEPH	81.4	02/12/2020	EBS
p-Terphenyl	NWEPH	99.2	02/12/2020	EBS
Terphenyl-d14	EPA-8270 SIM	133	02/11/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-44
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 10:14:00 AM
CLIENT SAMPLE ID	505-B-3 12 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/05/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/05/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/05/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/05/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/05/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/05/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/06/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	9900	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	59	20	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	54	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.053	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	94.6	02/05/2020	KLS
TFT - Aliphatic	NWVPH	93.2	02/05/2020	KLS
TFT - Aromatic	NWVPH	91.8	02/05/2020	KLS
TFT - Hexane	NWVPH	92.7	02/05/2020	KLS
C25	NWEPH	84.4	02/06/2020	EBS
p-Terphenyl	NWEPH	60.1	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	94.0	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-45
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 11:10:00 AM
CLIENT SAMPLE ID	505-B-3 15 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/06/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/06/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/06/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/06/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/06/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	12	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	12	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	13	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	12	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	15	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	100	20	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	93	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.052	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	91.8	02/06/2020	KLS
TFT - Aliphatic	NWVPH	92.3	02/06/2020	KLS
TFT - Aromatic	NWVPH	88.2	02/06/2020	KLS
TFT - Hexane	NWVPH	91.8	02/06/2020	KLS
C25	NWEPH	87.0	02/07/2020	EBS
p-Terphenyl	NWEPH	98.5	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	121	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-46
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/27/2020 2:50:00 PM
CLIENT SAMPLE ID	WES-DUP-1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/06/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/06/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/06/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/06/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/06/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.045	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	80.1	02/06/2020	KLS
TFT - Aliphatic	NWVPH	80.7	02/06/2020	KLS
TFT - Aromatic	NWVPH	74.0	02/06/2020	KLS
TFT - Hexane	NWVPH	81.0	02/06/2020	KLS
C25	NWEPH	84.3	02/07/2020	EBS
p-Terphenyl	NWEPH	84.4	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	97.2	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS JOB#:	EV20010152
		ALS SAMPLE#:	EV20010152-47
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/29/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/28/2020 1:35:00 PM
CLIENT SAMPLE ID	WES-DUP-2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/06/2020	KLS
Toluene	EPA-8021	2.2	0.050	1	MG/KG	02/06/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/06/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/06/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/06/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/06/2020	KLS
>C10-C12 Aliphatics	NWEPH	8.9	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	210	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	880	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	2200	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	11	5	MG/KG	02/07/2020	EBS
>C12-C16 Aromatics	NWEPH	U	11	5	MG/KG	02/07/2020	EBS
>C16-C21 Aromatics	NWEPH	620	25	5	MG/KG	02/07/2020	EBS
>C21-C34 Aromatics	NWEPH	3100	25	5	MG/KG	02/07/2020	EBS
Naphthalene	EPA-8270 SIM	110	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	270	23	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	180	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	900	26	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	310	26	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	21	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	570	21	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	410	25	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	350	29	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	1.2	0.10	5	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	76.3	02/06/2020	KLS
TFT - Aliphatic	NWVPH	75.7	02/06/2020	KLS
TFT - Aromatic	NWVPH	75.1	02/06/2020	KLS
TFT - Hexane	NWVPH	75.5	02/06/2020	KLS
C25	NWEPH	95.2	02/07/2020	EBS
p-Terphenyl 5X Dilution	NWEPH	87.3	02/07/2020	EBS
Terphenyl-d14	EPA-8270 SIM	110	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 2/12/2020
ALS SDG#: EV20010152
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY BLANK RESULTS

MB-013020S - Batch 150214 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	MG/KG	0.030	01/30/2020	KLS
Toluene	EPA-8021	U	MG/KG	0.050	01/30/2020	KLS
Ethylbenzene	EPA-8021	U	MG/KG	0.050	01/30/2020	KLS
Xylenes	EPA-8021	U	MG/KG	0.20	01/30/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-013120S - Batch 150215 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	MG/KG	0.030	01/31/2020	KLS
Toluene	EPA-8021	U	MG/KG	0.050	01/31/2020	KLS
Ethylbenzene	EPA-8021	U	MG/KG	0.050	01/31/2020	KLS
Xylenes	EPA-8021	U	MG/KG	0.20	01/31/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020520S - Batch 150361 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	MG/KG	0.030	02/05/2020	KLS
Toluene	EPA-8021	U	MG/KG	0.050	02/05/2020	KLS
Ethylbenzene	EPA-8021	U	MG/KG	0.050	02/05/2020	KLS
Xylenes	EPA-8021	U	MG/KG	0.20	02/05/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-013020S - Batch R355986 - Soil by NWVPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	MG/KG	5.0	01/30/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	MG/KG	5.0	01/30/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	MG/KG	5.0	01/30/2020	KLS
>C8-C10 Aromatics	NWVPH	U	MG/KG	5.0	01/30/2020	KLS
Hexane	NWVPH	U	MG/KG	0.20	01/30/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-013120S - Batch R355990 - Soil by NWVPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	MG/KG	5.0	01/31/2020	KLS



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 2/12/2020
228 E. Champion St., Suite 101 ALS SDG#: EV20010152
Bellingham, WA 98225 WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner

CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY BLANK RESULTS

MB-013120S - Batch R355990 - Soil by NWVPH

>C6-C8 Aliphatics	NWVPH	U	MG/KG	5.0	01/31/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	MG/KG	5.0	01/31/2020	KLS
>C8-C10 Aromatics	NWVPH	U	MG/KG	5.0	01/31/2020	KLS
Hexane	NWVPH	U	MG/KG	0.20	01/31/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020520S - Batch R355995 - Soil by NWVPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	MG/KG	5.0	02/05/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	MG/KG	5.0	02/05/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	MG/KG	5.0	02/05/2020	KLS
>C8-C10 Aromatics	NWVPH	U	MG/KG	5.0	02/05/2020	KLS
Hexane	NWVPH	U	MG/KG	0.20	02/05/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-013020S - Batch 150497 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C10-C12 Aliphatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C8-C10 Aromatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C10-C12 Aromatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C12-C16 Aromatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C16-C21 Aromatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS
>C21-C34 Aromatics	NWEPH	U	MG/KG	5.0	01/30/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-013020S#2 - Batch 150498 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	MG/KG	5.0	02/06/2020	EBS
>C10-C12 Aliphatics	NWEPH	U	MG/KG	5.0	02/06/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	MG/KG	5.0	02/06/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	MG/KG	5.0	02/06/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	MG/KG	5.0	02/06/2020	EBS
>C10-C12 Aromatics	NWEPH	U	MG/KG	5.0	02/08/2020	EBS

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS SDG#:	EV20010152
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling		

LABORATORY BLANK RESULTS

MB-013020S#2 - Batch 150498 - Soil by NWEPH

>C12-C16 Aromatics	NWEPH	U	MG/KG	5.0	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	U	MG/KG	5.0	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	U	MG/KG	5.0	02/08/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020420 - Batch 150499 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C10-C12 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C8-C10 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C12-C16 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C16-C21 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C21-C34 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-021020S - Batch 150584 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C10-C12 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C8-C10 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C10-C12 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C12-C16 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C16-C21 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C21-C34 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-013020S - Batch 150217 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS SDG#:	EV20010152
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling		

LABORATORY BLANK RESULTS

MB-013020S - Batch 150217 - Soil by EPA-8270 SIM

1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	01/31/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020420S - Batch 150388 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	02/05/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020520S - Batch 150410 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 2/12/2020
228 E. Champion St., Suite 101 ALS SDG#: EV20010152
Bellingham, WA 98225 WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner

CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY BLANK RESULTS

MB-020520S - Batch 150410 - Soil by EPA-8270 SIM

U - Analyte analyzed for but not detected at level above reporting limit.

MB-021020S - Batch 150562 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-355994 - Batch R355994 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	01/30/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-355996 - Batch R355996 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	01/31/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-355999 - Batch R355999 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	02/05/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 2/12/2020
228 E. Champion St., Suite 101 ALS SDG#: EV20010152
Bellingham, WA 98225 WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner

CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 150214 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	104			67.7	124	01/30/2020	KLS
Benzene - BSD	EPA-8021	106	1		67.7	124	01/30/2020	KLS
Toluene - BS	EPA-8021	94.5			71	123	01/30/2020	KLS
Toluene - BSD	EPA-8021	95.6	1		71	123	01/30/2020	KLS
Ethylbenzene - BS	EPA-8021	97.0			69.8	117	01/30/2020	KLS
Ethylbenzene - BSD	EPA-8021	97.5	1		69.8	117	01/30/2020	KLS
Xylenes - BS	EPA-8021	96.3			70	119	01/30/2020	KLS
Xylenes - BSD	EPA-8021	97.0	1		70	119	01/30/2020	KLS

ALS Test Batch ID: 150215 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	103			67.7	124	01/31/2020	KLS
Benzene - BSD	EPA-8021	102	1		67.7	124	01/31/2020	KLS
Toluene - BS	EPA-8021	92.5			71	123	01/31/2020	KLS
Toluene - BSD	EPA-8021	92.3	0		71	123	01/31/2020	KLS
Ethylbenzene - BS	EPA-8021	95.0			69.8	117	01/31/2020	KLS
Ethylbenzene - BSD	EPA-8021	94.1	1		69.8	117	01/31/2020	KLS
Xylenes - BS	EPA-8021	93.8			70	119	01/31/2020	KLS
Xylenes - BSD	EPA-8021	94.2	1		70	119	01/31/2020	KLS

ALS Test Batch ID: 150361 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	99.9			67.7	124	02/05/2020	KLS
Benzene - BSD	EPA-8021	99.9	0		67.7	124	02/05/2020	KLS
Toluene - BS	EPA-8021	92.2			71	123	02/05/2020	KLS
Toluene - BSD	EPA-8021	91.5	1		71	123	02/05/2020	KLS
Ethylbenzene - BS	EPA-8021	95.1			69.8	117	02/05/2020	KLS
Ethylbenzene - BSD	EPA-8021	94.7	0		69.8	117	02/05/2020	KLS
Xylenes - BS	EPA-8021	94.8			70	119	02/05/2020	KLS
Xylenes - BSD	EPA-8021	94.6	0		70	119	02/05/2020	KLS

ALS Test Batch ID: R355986 - Soil by NWVPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
C5-C6 Aliphatics - BS	NWVPH	84.3			70	130	01/30/2020	KLS
C5-C6 Aliphatics - BSD	NWVPH	81.7	3		70	130	01/30/2020	KLS
>C6-C8 Aliphatics - BS	NWVPH	95.6			70	130	01/30/2020	KLS



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 2/12/2020
228 E. Champion St., Suite 101 ALS SDG#: EV20010152
Bellingham, WA 98225 WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner

CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C6-C8 Aliphatics - BSD	NWVPH	94.4	1		70	130	01/30/2020	KLS
>C8-C10 Aliphatics - BS	NWVPH	97.1			70	130	01/30/2020	KLS
>C8-C10 Aliphatics - BSD	NWVPH	96.7	0		70	130	01/30/2020	KLS
>C8-C10 Aromatics - BS	NWVPH	93.2			70	130	01/30/2020	KLS
>C8-C10 Aromatics - BSD	NWVPH	94.3	1		70	130	01/30/2020	KLS
Hexane - BS	NWVPH	86.9			70	130	01/30/2020	KLS
Hexane - BSD	NWVPH	86.5	0		70	130	01/30/2020	KLS

ALS Test Batch ID: R355990 - Soil by NWVPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
C5-C6 Aliphatics - BS	NWVPH	79.7			70	130	01/31/2020	KLS
C5-C6 Aliphatics - BSD	NWVPH	84.4	6		70	130	01/31/2020	KLS
>C6-C8 Aliphatics - BS	NWVPH	86.0			70	130	01/31/2020	KLS
>C6-C8 Aliphatics - BSD	NWVPH	91.3	6		70	130	01/31/2020	KLS
>C8-C10 Aliphatics - BS	NWVPH	79.2			70	130	01/31/2020	KLS
>C8-C10 Aliphatics - BSD	NWVPH	83.7	6		70	130	01/31/2020	KLS
>C8-C10 Aromatics - BS	NWVPH	92.1			70	130	01/31/2020	KLS
>C8-C10 Aromatics - BSD	NWVPH	94.6	3		70	130	01/31/2020	KLS
Hexane - BS	NWVPH	84.0			70	130	01/31/2020	KLS
Hexane - BSD	NWVPH	89.2	6		70	130	01/31/2020	KLS

ALS Test Batch ID: R355995 - Soil by NWVPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
C5-C6 Aliphatics - BS	NWVPH	81.0			70	130	02/05/2020	KLS
C5-C6 Aliphatics - BSD	NWVPH	84.1	4		70	130	02/05/2020	KLS
>C6-C8 Aliphatics - BS	NWVPH	94.2			70	130	02/05/2020	KLS
>C6-C8 Aliphatics - BSD	NWVPH	94.1	0		70	130	02/05/2020	KLS
>C8-C10 Aliphatics - BS	NWVPH	96.6			70	130	02/05/2020	KLS
>C8-C10 Aliphatics - BSD	NWVPH	95.8	1		70	130	02/05/2020	KLS
>C8-C10 Aromatics - BS	NWVPH	92.2			70	130	02/05/2020	KLS
>C8-C10 Aromatics - BSD	NWVPH	92.5	0		70	130	02/05/2020	KLS
Hexane - BS	NWVPH	85.4			70	130	02/05/2020	KLS
Hexane - BSD	NWVPH	86.2	1		70	130	02/05/2020	KLS

ALS Test Batch ID: 150497 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BS	NWEPH	76.4			70	130	01/30/2020	EBS



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS SDG#:	EV20010152
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BSD	NWEPH	79.4	4		70	130	01/30/2020	EBS
>C10-C12 Aliphatics - BS	NWEPH	82.9			70	130	01/30/2020	EBS
>C10-C12 Aliphatics - BSD	NWEPH	85.7	3		70	130	01/30/2020	EBS
>C12-C16 Aliphatics - BS	NWEPH	90.7			70	130	01/30/2020	EBS
>C12-C16 Aliphatics - BSD	NWEPH	91.4	1		70	130	01/30/2020	EBS
>C16-C21 Aliphatics - BS	NWEPH	95.3			70	130	01/30/2020	EBS
>C16-C21 Aliphatics - BSD	NWEPH	95.4	0		70	130	01/30/2020	EBS
>C21-C34 Aliphatics - BS	NWEPH	96.5			70	130	01/30/2020	EBS
>C21-C34 Aliphatics - BSD	NWEPH	96.6	0		70	130	01/30/2020	EBS
>C8-C10 Aromatics - BS	NWEPH	97.2			70	130	01/30/2020	EBS
>C8-C10 Aromatics - BSD	NWEPH	109	12		70	130	01/30/2020	EBS
>C10-C12 Aromatics - BS	NWEPH	100			70	130	01/30/2020	EBS
>C10-C12 Aromatics - BSD	NWEPH	110	9		70	130	01/30/2020	EBS
>C12-C16 Aromatics - BS	NWEPH	102			70	130	01/30/2020	EBS
>C12-C16 Aromatics - BSD	NWEPH	112	10		70	130	01/30/2020	EBS
>C16-C21 Aromatics - BS	NWEPH	109			70	130	01/30/2020	EBS
>C16-C21 Aromatics - BSD	NWEPH	116	7		70	130	01/30/2020	EBS
>C21-C34 Aromatics - BS	NWEPH	107			70	130	01/30/2020	EBS
>C21-C34 Aromatics - BSD	NWEPH	108	1		70	130	01/30/2020	EBS

ALS Test Batch ID: 150498 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BS	NWEPH	85.8			70	130	02/06/2020	EBS
>C8-C10 Aliphatics - BSD	NWEPH	76.0	12		70	130	02/06/2020	EBS
>C10-C12 Aliphatics - BS	NWEPH	92.3			70	130	02/06/2020	EBS
>C10-C12 Aliphatics - BSD	NWEPH	85.6	7		70	130	02/06/2020	EBS
>C12-C16 Aliphatics - BS	NWEPH	94.6			70	130	02/06/2020	EBS
>C12-C16 Aliphatics - BSD	NWEPH	91.0	4		70	130	02/06/2020	EBS
>C16-C21 Aliphatics - BS	NWEPH	92.6			70	130	02/06/2020	EBS
>C16-C21 Aliphatics - BSD	NWEPH	90.7	2		70	130	02/06/2020	EBS
>C21-C34 Aliphatics - BS	NWEPH	92.9			70	130	02/06/2020	EBS
>C21-C34 Aliphatics - BSD	NWEPH	91.1	2		70	130	02/06/2020	EBS
>C10-C12 Aromatics - BS	NWEPH	105			70	130	02/08/2020	EBS
>C10-C12 Aromatics - BSD	NWEPH	83.5	23	SR1	70	130	02/08/2020	EBS
>C12-C16 Aromatics - BS	NWEPH	102			70	130	02/08/2020	EBS
>C12-C16 Aromatics - BSD	NWEPH	87.4	15		70	130	02/08/2020	EBS
>C16-C21 Aromatics - BS	NWEPH	105			70	130	02/08/2020	EBS
>C16-C21 Aromatics - BSD	NWEPH	94.8	10		70	130	02/08/2020	EBS
>C21-C34 Aromatics - BS	NWEPH	112			70	130	02/08/2020	EBS



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS SDG#:	EV20010152
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C21-C34 Aromatics - BSD	NWEPH	98.2	14		70	130	02/08/2020	EBS

SR1 - RPD outside of control limits.

ALS Test Batch ID: 150499 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BS	NWEPH	76.0			70	130	02/04/2020	EBS
>C8-C10 Aliphatics - BSD	NWEPH	73.4	3		70	130	02/04/2020	EBS
>C10-C12 Aliphatics - BS	NWEPH	82.8			70	130	02/04/2020	EBS
>C10-C12 Aliphatics - BSD	NWEPH	78.0	6		70	130	02/04/2020	EBS
>C12-C16 Aliphatics - BS	NWEPH	88.5			70	130	02/04/2020	EBS
>C12-C16 Aliphatics - BSD	NWEPH	85.9	3		70	130	02/04/2020	EBS
>C16-C21 Aliphatics - BS	NWEPH	91.2			70	130	02/04/2020	EBS
>C16-C21 Aliphatics - BSD	NWEPH	92.1	1		70	130	02/04/2020	EBS
>C21-C34 Aliphatics - BS	NWEPH	91.1			70	130	02/04/2020	EBS
>C21-C34 Aliphatics - BSD	NWEPH	90.7	0		70	130	02/04/2020	EBS
>C8-C10 Aromatics - BS	NWEPH	95.5			70	130	02/04/2020	EBS
>C8-C10 Aromatics - BSD	NWEPH	101	5		70	130	02/04/2020	EBS
>C10-C12 Aromatics - BS	NWEPH	94.4			70	130	02/04/2020	EBS
>C10-C12 Aromatics - BSD	NWEPH	105	10		70	130	02/04/2020	EBS
>C12-C16 Aromatics - BS	NWEPH	92.2			70	130	02/04/2020	EBS
>C12-C16 Aromatics - BSD	NWEPH	109	17		70	130	02/04/2020	EBS
>C16-C21 Aromatics - BS	NWEPH	94.5			70	130	02/04/2020	EBS
>C16-C21 Aromatics - BSD	NWEPH	116	20	SR1	70	130	02/04/2020	EBS
>C21-C34 Aromatics - BS	NWEPH	99.9			70	130	02/04/2020	EBS
>C21-C34 Aromatics - BSD	NWEPH	110	10		70	130	02/04/2020	EBS

SR1 - RPD outside of control limits.

ALS Test Batch ID: 150584 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BS	NWEPH	73.8			70	130	02/12/2020	EBS
>C8-C10 Aliphatics - BSD	NWEPH	76.1	3		70	130	02/12/2020	EBS
>C10-C12 Aliphatics - BS	NWEPH	80.9			70	130	02/12/2020	EBS
>C10-C12 Aliphatics - BSD	NWEPH	83.0	3		70	130	02/12/2020	EBS
>C12-C16 Aliphatics - BS	NWEPH	87.1			70	130	02/12/2020	EBS
>C12-C16 Aliphatics - BSD	NWEPH	87.9	1		70	130	02/12/2020	EBS
>C16-C21 Aliphatics - BS	NWEPH	92.5			70	130	02/12/2020	EBS
>C16-C21 Aliphatics - BSD	NWEPH	93.4	1		70	130	02/12/2020	EBS
>C21-C34 Aliphatics - BS	NWEPH	84.2			70	130	02/12/2020	EBS



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS SDG#:	EV20010152
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C21-C34 Aliphatics - BSD	NWEPH	83.7	1		70	130	02/12/2020	EBS
>C8-C10 Aromatics - BS	NWEPH	76.6			70	130	02/12/2020	EBS
>C8-C10 Aromatics - BSD	NWEPH	75.8	1		70	130	02/12/2020	EBS
>C10-C12 Aromatics - BS	NWEPH	75.2			70	130	02/12/2020	EBS
>C10-C12 Aromatics - BSD	NWEPH	74.4	1		70	130	02/12/2020	EBS
>C12-C16 Aromatics - BS	NWEPH	88.3			70	130	02/12/2020	EBS
>C12-C16 Aromatics - BSD	NWEPH	87.0	1		70	130	02/12/2020	EBS
>C16-C21 Aromatics - BS	NWEPH	96.9			70	130	02/12/2020	EBS
>C16-C21 Aromatics - BSD	NWEPH	95.7	1		70	130	02/12/2020	EBS
>C21-C34 Aromatics - BS	NWEPH	83.3			70	130	02/12/2020	EBS
>C21-C34 Aromatics - BSD	NWEPH	77.8	7		70	130	02/12/2020	EBS

ALS Test Batch ID: 150217 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	87.1			20	150	01/31/2020	JMK
Naphthalene - BSD	EPA-8270 SIM	86.7	0		20	150	01/31/2020	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	94.9			20	150	01/31/2020	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	98.9	4		20	150	01/31/2020	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	86.3			20	150	01/31/2020	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	87.9	2		20	150	01/31/2020	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	88.2			20	150	01/31/2020	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	100	13		20	150	01/31/2020	JMK
Chrysene - BS	EPA-8270 SIM	116			20	150	01/31/2020	JMK
Chrysene - BSD	EPA-8270 SIM	129	11		20	150	01/31/2020	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	95.0			20	150	01/31/2020	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	106	11		20	150	01/31/2020	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	99.2			20	150	01/31/2020	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	112	12		20	150	01/31/2020	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	83.0			20	150	01/31/2020	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	92.5	11		20	150	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	99.3			20	150	01/31/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	108	8		20	150	01/31/2020	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	99.2			20	150	01/31/2020	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	107	8		20	150	01/31/2020	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	94.7			20	150	01/31/2020	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	104	9		20	150	01/31/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 2/12/2020
228 E. Champion St., Suite 101 ALS SDG#: EV20010152
Bellingham, WA 98225 WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner

CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 150388 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	39.6			20	150	02/05/2020	JMK
Naphthalene - BSD	EPA-8270 SIM	43.5	9		20	150	02/05/2020	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	44.0			20	150	02/05/2020	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	48.7	10		20	150	02/05/2020	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	40.3			20	150	02/05/2020	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	45.7	13		20	150	02/05/2020	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	40.2			20	150	02/05/2020	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	43.7	8		20	150	02/05/2020	JMK
Chrysene - BS	EPA-8270 SIM	52.2			20	150	02/05/2020	JMK
Chrysene - BSD	EPA-8270 SIM	56.3	8		20	150	02/05/2020	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	45.1			20	150	02/05/2020	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	50.0	10		20	150	02/05/2020	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	44.8			20	150	02/05/2020	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	49.4	10		20	150	02/05/2020	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	37.8			20	150	02/05/2020	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	40.9	8		20	150	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	41.5			20	150	02/05/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	45.5	9		20	150	02/05/2020	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	41.8			20	150	02/05/2020	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	45.8	9		20	150	02/05/2020	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	39.0			20	150	02/05/2020	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	43.0	10		20	150	02/05/2020	JMK

ALS Test Batch ID: 150410 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	95.9			20	150	02/11/2020	JMK
Naphthalene - BSD	EPA-8270 SIM	102	6		20	150	02/10/2020	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	107			20	150	02/11/2020	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	107	0		20	150	02/10/2020	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	101			20	150	02/11/2020	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	105	3		20	150	02/10/2020	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	109			20	150	02/11/2020	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	94.2	14		20	150	02/10/2020	JMK
Chrysene - BS	EPA-8270 SIM	106			20	150	02/11/2020	JMK
Chrysene - BSD	EPA-8270 SIM	116	9		20	150	02/10/2020	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	103			20	150	02/11/2020	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	104	1		20	150	02/10/2020	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	99.5			20	150	02/11/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/12/2020
		ALS SDG#:	EV20010152
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	111	11		20	150	02/10/2020	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	94.1			20	150	02/11/2020	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	94.3	0		20	150	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	95.9			20	150	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	103	7		20	150	02/10/2020	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	100			20	150	02/11/2020	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	97.3	3		20	150	02/10/2020	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	89.8			20	150	02/11/2020	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	108	19		20	150	02/10/2020	JMK

ALS Test Batch ID: 150562 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	88.7			20	150	02/11/2020	JMK
Naphthalene - BSD	EPA-8270 SIM	35.8	1		20	150	02/11/2020	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	101			20	150	02/11/2020	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	41.1	2		20	150	02/11/2020	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	95.3			20	150	02/11/2020	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	97.1	2		20	150	02/11/2020	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	106			20	150	02/11/2020	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	105	1		20	150	02/11/2020	JMK
Chrysene - BS	EPA-8270 SIM	106			20	150	02/11/2020	JMK
Chrysene - BSD	EPA-8270 SIM	108	2		20	150	02/11/2020	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	101			20	150	02/11/2020	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	103	1		20	150	02/11/2020	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	98.7			20	150	02/11/2020	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	100	2		20	150	02/11/2020	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	92.9			20	150	02/11/2020	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	94.1	1		20	150	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	97.8			20	150	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	96.6	1		20	150	02/11/2020	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	101			20	150	02/11/2020	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	100	1		20	150	02/11/2020	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	93.3			20	150	02/11/2020	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	37.0	1		20	150	02/11/2020	JMK

ALS Test Batch ID: R355994 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	100			81.8	117	01/30/2020	RAL



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 2/12/2020
228 E. Champion St., Suite 101 ALS SDG#: EV20010152
Bellingham, WA 98225 WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner

CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BSD	EPA-7471	107	7		81.8	117	01/30/2020	RAL

ALS Test Batch ID: R355996 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	107			81.8	117	01/31/2020	RAL
Mercury - BSD	EPA-7471	105	2		81.8	117	01/31/2020	RAL

ALS Test Batch ID: R355999 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	103			81.8	117	02/05/2020	RAL
Mercury - BSD	EPA-7471	105	2		81.8	117	02/05/2020	RAL

APPROVED BY

Laboratory Director



Laboratory

8620 Holly Drive, Everett, WA 98208 USA | +1 425 356 2600

(If viewing electronically, this is a drop down list - click on the address above - a drop down arrow will appear to the right of the address)

Chain of Custody

EV20010152

Work Order No.:

Project Manager: Dan Heimbigner		Bill to:																		
Client Name: Whatcom Environmental Services		Company: Whatcom Environmental Services																		
Address: 228 E Champion St #101		Address: 228 E Champion St #101																		
City, State ZIP: Bellingham, WA 98225		City, State ZIP: Bellingham, WA 98225																		
Email: dheimbigner@whatcom-es.com	Phone: 360-752-9571	Email: mporter@whatcom-es.com	PO#:																	
Project Site: Shell PSR	State: WA																			
Project Name: Product Tanks Soil Sampling		REQUESTED ANALYSIS										TAT								
Project Number:												☐ Routine 10 Day								
P.O. Number:												☐ 24 hours * 100%								
Sampler's Name: Dan H.												☐ 48 hours* 80%								
												☐ 3 Day* 60%								
												☐ 5 day* 50%								
SAMPLE RECEIPT												* Please call for availability								
Temperature (°C): 83°C												Due Date:								
Received Intact: Yes No N/A Wet Ice / Blue Ice												Comments								
Cooler Custody Seals: Yes No N/A Total Containers: 1																				
Sample Identification		Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers	BTEX by EPA 8021	NWTPH - VPH, Hexane	NWTPH - EPH	Mercury	cPAHs 8270 SIM	Naphthalenes 8270 SIM								
Cell-10 2-4 ft	soil	1/28/2020	3:55	12		X	X	X	X	X	X	X								
Cell-10 4-6 ft	soil	1/28/2020	4:00	13		X	X	X	X	X	X	X								
Cell-10 6-8 ft	soil	1/28/2020	4:05	14		X	X	X	X	X	X	X								
Cell-10 8-10 ft	soil	1/28/2020	4:10	15		X	X	X	X	X	X	X								
Cell-11 0-2 ft	soil	1/28/2020	12:15	16		X	X	X	X	X	X	X								
Cell-11 2-4 ft	soil	1/27/2020	12:20	17		X	X	X	X	X	X	X								
Cell-11 4-6 ft	soil	1/27/2020	12:25	18		X	X	X	X	X	X	X								
Cell-12 0-2 ft	soil	1/27/2020	3:18	19		X	X	X	X	X	X	X								
Cell-12 2-4 ft	soil	1/27/2020	3:25	20		X	X	X	X	X	X	X								
Cell-13 0-2 ft	soil	1/28/2020	2:40	21		X	X	X	X	X	X	X								
Cell-13 2-4 ft	soil	1/28/2020	2:45	22		X	X	X	X	X	X	X								
Dissolved		Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn,										Additional Methods Available								
Total		Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn,										Upon Request								
RELINQUISHED BY														RECEIVED BY						
Print Name		Signature		Date/Time		Print Name		Signature		Date/Time										
Dan Heimbigner				1-29-20 / 10:10																
Roger Barthel				1-29-20 / 10:10																



Laboratory

8620 Holly Drive, Everett, WA 98208 USA | +1 425 356 2600

(If viewing electronically, this is a drop down list - click on the address above - a drop down arrow will appear to the right of the address)

Chain of Custody

EV20010152

Work Order No.:

Project Manager: Dan Heimbigner		Bill to:																				
Client Name: Whatcom Environmental Services		Company: Whatcom Environmental Services																				
Address: 228 E Champion St #101		Address: 228 E Champion St #101																				
City, State ZIP: Bellingham, WA 98225		City, State ZIP: Bellingham, WA 98225																				
Email: dheimbigner@whatcom-es.com	Phone: 360-752-9571	Email: mporter@whatcom-es.com	PO#																			
Project Site: Shell PSR	State: WA																					
Project Name: Product Tanks Soil Sampling		REQUESTED ANALYSIS										TAT										
Project Number:												☐ Routine 10 Day										
P.O. Number:												☐ 24 hours * 100%										
Sampler's Name: Dan H.												☐ 48 hours* 80%										
												☐ 3 Day* 60%										
												☐ 5 day* 50%										
												* Please call for availability										
												Due Date:										
												Comments										
SAMPLE RECEIPT																						
Temperature (°C): 8.32																						
Received Intact: Yes No N/A Wet Ice/ Blue Ice																						
Cooler Custody Seals: Yes No N/A Total Containers:																						
Sample Identification		Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers	BTEX by EPA 8021	NWTPH - VPH, Hexane	NWTPH - EPH	Mercury	cPAHs 8270 SIM	Naphthalenes 8270 SIM										
Cell-13 4-6 ft	soil	1/28/2020	2:50	23		X	X	X	X	X	X	X										
Cell-14 0-2 ft	soil	1/27/2020	4:00	24		X	X	X	X	X	X	X										
Cell-14 2-4 ft	soil	1/27/2020	4:05	25		X	X	X	X	X	X	X										
Cell-15 0-2 ft	soil	1/28/2020	3:24	26		X	X	X	X	X	X	X										
504-B-1 0 ft	soil	1/27/2020	11:20	27		X	X	X	X	X	X	X										
504-B-1 3 ft	soil	1/27/2020	11:21	28		X	X	X	X	X	X	X										
504-B-1 6 ft	soil	1/27/2020	11:22	29		X	X	X	X	X	X	X										
504-B-1 9 ft	soil	1/27/2020	11:23	30		X	X	X	X	X	X	X										
504-B-2 0 ft	soil	1/27/2020	12:00	31		X	X	X	X	X	X	X										
504-B-2 3 ft	soil	1/27/2020	12:01	32		X	X	X	X	X	X	X										
504-B-3 0 ft	soil	1/27/2020	2:45	33		X	X	X	X	X	X	X										
Dissolved		Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn,										Additional Methods Available Upon Request										
Total		Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn,																				
RELINQUISHED BY						RECEIVED BY																
Print Name		Signature		Date/Time		Print Name		Signature		Date/Time												
Dan Heimbigner				1-29-20 / 10:10																		
Roger Borhert				1-29-20 / 10:10																		

Laboratory



February 13, 2020

Mr. Dan Heimbigner
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Heimbigner,

On January 30th, 15 samples were received by our laboratory and assigned our laboratory project number EV20010159. The project was identified as your Shell PSR - Product Tanks Soil Sampling. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Glen Perry
Technical Manager



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-01
CLIENT SAMPLE ID	Cell-16 0-2 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 11:45:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/07/2020	KLS
Toluene	EPA-8021	0.25	0.050	1	MG/KG	02/07/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/07/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/07/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	150	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	590	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	1400	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	4.6	2	MG/KG	02/09/2020	EBS
>C12-C16 Aromatics	NWEPH	U	4.6	2	MG/KG	02/09/2020	EBS
>C16-C21 Aromatics	NWEPH	190	10	2	MG/KG	02/09/2020	EBS
>C21-C34 Aromatics	NWEPH	1200	10	2	MG/KG	02/09/2020	EBS
Naphthalene	EPA-8270 SIM	53	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	150	24	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	94	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	650	27	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	170	26	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	22	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	360	22	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	270	26	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	250	30	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.65	0.10	5	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	62.7	02/07/2020	KLS
TFT - Aliphatic	NWVPH	63.0	02/07/2020	KLS
TFT - Aromatic	NWVPH	58.2 SUR12	02/07/2020	KLS
TFT - Hexane	NWVPH	63.4	02/07/2020	KLS
C25	NWEPH	94.0	02/07/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	103	02/09/2020	EBS
Terphenyl-d14	EPA-8270 SIM	111	02/10/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
		ALS JOB#:	EV20010159
		ALS SAMPLE#:	EV20010159-01
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/30/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/29/2020 11:45:00 AM
CLIENT SAMPLE ID	Cell-16 0-2 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

U - Analyte analyzed for but not detected at level above reporting limit.
SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-02
CLIENT SAMPLE ID	Cell-16 2-4 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 11:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	0.085	0.030	1	MG/KG	02/07/2020	KLS
Toluene	EPA-8021	0.18	0.050	1	MG/KG	02/07/2020	KLS
Ethylbenzene	EPA-8021	0.054	0.050	1	MG/KG	02/07/2020	KLS
Xylenes	EPA-8021	0.25	0.20	1	MG/KG	02/07/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/07/2020	KLS
>C10-C12 Aliphatics	NWEPH	31	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	790	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	2200	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	4900	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	12	5	MG/KG	02/09/2020	EBS
>C12-C16 Aromatics	NWEPH	92	25	5	MG/KG	02/09/2020	EBS
>C16-C21 Aromatics	NWEPH	3200	25	5	MG/KG	02/09/2020	EBS
>C21-C34 Aromatics	NWEPH	19000	25	5	MG/KG	02/09/2020	EBS
Naphthalene	EPA-8270 SIM	420	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	1100	24	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	1300	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	9700	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	47000	280	10	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	11000	27	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	22	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	20000	220	10	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	2400	26	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	4300	31	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	1.2	0.10	5	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	49.9 SUR12	02/07/2020	KLS
TFT - Aliphatic	NWVPH	53.3 SUR12	02/07/2020	KLS
TFT - Aromatic	NWVPH	47.8 SUR12	02/07/2020	KLS
TFT - Hexane	NWVPH	53.4 SUR12	02/07/2020	KLS
C25	NWEPH	92.7	02/07/2020	EBS
p-Terphenyl 5X Dilution	NWEPH	119	02/09/2020	EBS
Terphenyl-d14	EPA-8270 SIM	115	02/10/2020	JMK
Terphenyl-d14 10X Dilution	EPA-8270 SIM	135	02/11/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-02
CLIENT SAMPLE ID	Cell-16 2-4 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 11:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.
U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-03
CLIENT SAMPLE ID	Cell-16 4-6 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 11:55:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/07/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/07/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/07/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	46	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	100	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	180	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	5.3	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	70	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	210	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	22	20	1	UG/KG	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	73	20	1	UG/KG	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	70	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Chrysene	EPA-8270 SIM	150	22	1	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	35	22	1	UG/KG	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	59	20	1	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	24	21	1	UG/KG	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	25	25	1	UG/KG	02/11/2020	JMK
Mercury	EPA-7471	0.064	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	74.4	02/07/2020	KLS
TFT - Aliphatic	NWVPH	76.1	02/07/2020	KLS
TFT - Aromatic	NWVPH	87.0	02/07/2020	KLS
TFT - Hexane	NWVPH	76.1	02/07/2020	KLS
C25	NWEPH	104	02/07/2020	EBS
p-Terphenyl	NWEPH	135	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	127	02/11/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-04
CLIENT SAMPLE ID	Cell-16 6-8 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 12:00:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/07/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/07/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/07/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.070	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	73.4	02/07/2020	KLS
TFT - Aliphatic	NWVPH	76.2	02/07/2020	KLS
TFT - Aromatic	NWVPH	71.5	02/07/2020	KLS
TFT - Hexane	NWVPH	76.4	02/07/2020	KLS
C25	NWEPH	116	02/07/2020	EBS
p-Terphenyl	NWEPH	94.1	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	105	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-05
CLIENT SAMPLE ID	Cell-16 8-10 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 12:05:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/07/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/07/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/07/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	24	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	54	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	98	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	42	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	140	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	44	20	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	65	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	40	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	180	20	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	43	20	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	73	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	25	20	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.17	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	73.1	02/07/2020	KLS
TFT - Aliphatic	NWVPH	73.8	02/07/2020	KLS
TFT - Aromatic	NWVPH	77.0	02/07/2020	KLS
TFT - Hexane	NWVPH	74.2	02/07/2020	KLS
C25	NWEPH	95.2	02/07/2020	EBS
p-Terphenyl	NWEPH	111	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	127	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-06
CLIENT SAMPLE ID	Cell-16 10-12 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 12:10:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/07/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	38	20	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.036	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	76.1	02/08/2020	KLS
TFT - Aliphatic	NWVPH	77.0	02/08/2020	KLS
TFT - Aromatic	NWVPH	80.0	02/08/2020	KLS
TFT - Hexane	NWVPH	76.6	02/08/2020	KLS
C25	NWEPH	84.6	02/07/2020	EBS
p-Terphenyl	NWEPH	112	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	128	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-07
CLIENT SAMPLE ID	Cell-17 0-2 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 10:40:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	0.11	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	9.2	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aliphatics	NWEPH	320	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aliphatics	NWEPH	1300	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aliphatics	NWEPH	3200	5.0	1	MG/KG	02/08/2020	EBS
>C10-C12 Aromatics	NWEPH	U	11	5	MG/KG	02/09/2020	EBS
>C12-C16 Aromatics	NWEPH	U	11	5	MG/KG	02/09/2020	EBS
>C16-C21 Aromatics	NWEPH	860	25	5	MG/KG	02/09/2020	EBS
>C21-C34 Aromatics	NWEPH	3900	25	5	MG/KG	02/09/2020	EBS
Naphthalene	EPA-8270 SIM	130	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	330	23	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	230	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	1100	27	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	360	26	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	22	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	750	21	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	460	25	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	420	30	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	1.2	0.10	5	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	63.5	02/08/2020	KLS
TFT - Aliphatic	NWVPH	66.2	02/08/2020	KLS
TFT - Aromatic	NWVPH	72.3	02/08/2020	KLS
TFT - Hexane	NWVPH	66.6	02/08/2020	KLS
C25	NWEPH	109	02/08/2020	EBS
p-Terphenyl 5X Dilution	NWEPH	97.4	02/09/2020	EBS
Terphenyl-d14	EPA-8270 SIM	110	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
		ALS JOB#:	EV20010159
		ALS SAMPLE#:	EV20010159-08
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/30/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/29/2020 10:45:00 AM
CLIENT SAMPLE ID	Cell-17 2-4 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	0.042	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	0.13	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	0.38	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	51	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aliphatics	NWEPH	780	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aliphatics	NWEPH	1600	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aliphatics	NWEPH	4000	5.0	1	MG/KG	02/08/2020	EBS
>C10-C12 Aromatics	NWEPH	18	10	2	MG/KG	02/12/2020	EBS
>C12-C16 Aromatics	NWEPH	170	10	2	MG/KG	02/12/2020	EBS
>C16-C21 Aromatics	NWEPH	1600	10	2	MG/KG	02/12/2020	EBS
>C21-C34 Aromatics	NWEPH	7900	10	2	MG/KG	02/12/2020	EBS
Naphthalene	EPA-8270 SIM	940	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	4400	24	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	3300	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	5800	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	28000	270	10	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	4100	27	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	22	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	6500	22	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	1000	26	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	2000	31	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.97	0.10	5	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	63.8	02/08/2020	KLS
TFT - Aliphatic	NWVPH	63.7	02/08/2020	KLS
TFT - Aromatic	NWVPH	61.4	02/08/2020	KLS
TFT - Hexane	NWVPH	64.9	02/08/2020	KLS
C25	NWEPH	134	02/08/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	97.3	02/12/2020	EBS
Terphenyl-d14	EPA-8270 SIM	98.9	02/10/2020	JMK
Terphenyl-d14 10X Dilution	EPA-8270 SIM	113	02/11/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
		ALS JOB#:	EV20010159
		ALS SAMPLE#:	EV20010159-08
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/30/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/29/2020 10:45:00 AM
CLIENT SAMPLE ID	Cell-17 2-4 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-09
CLIENT SAMPLE ID	Cell-17 4-6 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 10:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aliphatics	NWEPH	63	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aliphatics	NWEPH	170	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aliphatics	NWEPH	460	5.0	1	MG/KG	02/08/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	6.7	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	170	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	760	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	1000	20	1	UG/KG	02/11/2020	JMK
Chrysene	EPA-8270 SIM	1700	20	1	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	540	20	1	UG/KG	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	760	20	1	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	91	20	1	UG/KG	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	210	20	1	UG/KG	02/11/2020	JMK
Mercury	EPA-7471	0.042	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	73.8	02/08/2020	KLS
TFT - Aliphatic	NWVPH	76.7	02/08/2020	KLS
TFT - Aromatic	NWVPH	72.6	02/08/2020	KLS
TFT - Hexane	NWVPH	76.8	02/08/2020	KLS
C25	NWEPH	130	02/08/2020	EBS
p-Terphenyl	NWEPH	105	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	113	02/11/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-10
CLIENT SAMPLE ID	Cell-17 6-8 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 10:55:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/07/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/07/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/07/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/07/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/07/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/10/2020	JMK
Mercury	EPA-7471	0.058	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	75.2	02/07/2020	KLS
TFT - Aliphatic	NWVPH	76.0	02/07/2020	KLS
TFT - Aromatic	NWVPH	73.2	02/07/2020	KLS
TFT - Hexane	NWVPH	76.1	02/07/2020	KLS
C25	NWEPH	99.9	02/08/2020	EBS
p-Terphenyl	NWEPH	76.1	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	91.1	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-11
CLIENT SAMPLE ID	Cell-17 8-10 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 11:00:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Mercury	EPA-7471	0.050	0.020	1	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	79.8	02/08/2020	KLS
TFT - Aliphatic	NWVPH	81.6	02/08/2020	KLS
TFT - Aromatic	NWVPH	77.8	02/08/2020	KLS
TFT - Hexane	NWVPH	81.5	02/08/2020	KLS
C25	NWEPH	86.4	02/08/2020	EBS
p-Terphenyl	NWEPH	94.9	02/08/2020	EBS
Terphenyl-d14	EPA-8270 SIM	136	02/11/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-12
CLIENT SAMPLE ID	Cell-18 0-2 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 10:00:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	0.068	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aliphatics	NWEPH	150	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aliphatics	NWEPH	770	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aliphatics	NWEPH	2100	5.0	1	MG/KG	02/08/2020	EBS
>C10-C12 Aromatics	NWEPH	U	4.1	2	MG/KG	02/09/2020	EBS
>C12-C16 Aromatics	NWEPH	6.1	4.1	2	MG/KG	02/09/2020	EBS
>C16-C21 Aromatics	NWEPH	600	10	2	MG/KG	02/09/2020	EBS
>C21-C34 Aromatics	NWEPH	2900	10	2	MG/KG	02/09/2020	EBS
Naphthalene	EPA-8270 SIM	120	20	1	UG/KG	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	290	21	1	UG/KG	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	200	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Chrysene	EPA-8270 SIM	890	24	1	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	280	24	1	UG/KG	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	570	20	1	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	390	23	1	UG/KG	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	340	27	1	UG/KG	02/11/2020	JMK
Mercury	EPA-7471	1.1	0.10	5	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	62.5	02/08/2020	KLS
TFT - Aliphatic	NWVPH	60.6	02/08/2020	KLS
TFT - Aromatic	NWVPH	55.0 SUR12	02/08/2020	KLS
TFT - Hexane	NWVPH	60.7	02/08/2020	KLS
C25	NWEPH	81.3	02/08/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	99.3	02/09/2020	EBS
Terphenyl-d14	EPA-8270 SIM	116	02/11/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-12
CLIENT SAMPLE ID	Cell-18 0-2 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 10:00:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.
U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-13
CLIENT SAMPLE ID	Cell-18 2-4 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 10:05:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	0.038	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	0.25	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/08/2020	EBS
>C12-C16 Aliphatics	NWEPH	280	5.0	1	MG/KG	02/08/2020	EBS
>C16-C21 Aliphatics	NWEPH	1600	5.0	1	MG/KG	02/08/2020	EBS
>C21-C34 Aliphatics	NWEPH	3600	5.0	1	MG/KG	02/08/2020	EBS
>C10-C12 Aromatics	NWEPH	U	12	5	MG/KG	02/09/2020	EBS
>C12-C16 Aromatics	NWEPH	22	12	5	MG/KG	02/09/2020	EBS
>C16-C21 Aromatics	NWEPH	850	25	5	MG/KG	02/09/2020	EBS
>C21-C34 Aromatics	NWEPH	4200	25	5	MG/KG	02/09/2020	EBS
Naphthalene	EPA-8270 SIM	150	20	1	UG/KG	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	450	24	1	UG/KG	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	300	20	1	UG/KG	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	21	1	UG/KG	02/11/2020	JMK
Chrysene	EPA-8270 SIM	1700	28	1	UG/KG	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	590	27	1	UG/KG	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	23	1	UG/KG	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	1300	22	1	UG/KG	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	710	26	1	UG/KG	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	680	31	1	UG/KG	02/11/2020	JMK
Mercury	EPA-7471	2.0	0.10	5	MG/KG	02/05/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	53.9 SUR12	02/08/2020	KLS
TFT - Aliphatic	NWVPH	57.9 SUR12	02/08/2020	KLS
TFT - Aromatic	NWVPH	50.0 SUR12	02/08/2020	KLS
TFT - Hexane	NWVPH	58.0 SUR12	02/08/2020	KLS
C25	NWEPH	108	02/08/2020	EBS
p-Terphenyl 5X Dilution	NWEPH	71.4	02/09/2020	EBS
Terphenyl-d14	EPA-8270 SIM	94.5	02/11/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
		ALS JOB#:	EV20010159
		ALS SAMPLE#:	EV20010159-13
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/30/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/29/2020 10:05:00 AM
CLIENT SAMPLE ID	Cell-18 2-4 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.
U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	ALS SAMPLE#:	EV20010159-14
CLIENT SAMPLE ID	Cell-18 4-6 ft	DATE RECEIVED:	01/30/2020
		COLLECTION DATE:	1/29/2020 10:10:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	1.9	2	MG/KG	02/12/2020	EBS
>C12-C16 Aliphatics	NWEPH	71	10	2	MG/KG	02/12/2020	EBS
>C16-C21 Aliphatics	NWEPH	320	10	2	MG/KG	02/12/2020	EBS
>C21-C34 Aliphatics	NWEPH	470	10	2	MG/KG	02/12/2020	EBS
>C10-C12 Aromatics	NWEPH	U	10	2	MG/KG	02/12/2020	EBS
>C12-C16 Aromatics	NWEPH	U	10	2	MG/KG	02/12/2020	EBS
>C16-C21 Aromatics	NWEPH	160	10	2	MG/KG	02/12/2020	EBS
>C21-C34 Aromatics	NWEPH	530	10	2	MG/KG	02/12/2020	EBS
Naphthalene	EPA-8270 SIM	21	20	1	UG/KG	02/13/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	41	20	1	UG/KG	02/13/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	34	20	1	UG/KG	02/13/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Chrysene	EPA-8270 SIM	300	20	1	UG/KG	02/13/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	66	20	1	UG/KG	02/13/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	46	20	1	UG/KG	02/13/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	130	20	1	UG/KG	02/13/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	92	20	1	UG/KG	02/13/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	79	20	1	UG/KG	02/13/2020	JMK
Mercury	EPA-7471	0.18	0.020	1	MG/KG	02/07/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	58.6 SUR12	02/08/2020	KLS
TFT - Aliphatic	NWVPH	61.7	02/08/2020	KLS
TFT - Aromatic	NWVPH	55.1 SUR12	02/08/2020	KLS
TFT - Hexane	NWVPH	61.5	02/08/2020	KLS
C25 2X Dilution	NWEPH	76.5	02/12/2020	EBS
p-Terphenyl 2X Dilution	NWEPH	96.0	02/12/2020	EBS
Terphenyl-d14	EPA-8270 SIM	123	02/13/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
		ALS JOB#:	EV20010159
		ALS SAMPLE#:	EV20010159-14
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/30/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/29/2020 10:10:00 AM
CLIENT SAMPLE ID	Cell-18 4-6 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.
U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
		ALS JOB#:	EV20010159
		ALS SAMPLE#:	EV20010159-15
CLIENT CONTACT:	Dan Heimbigner	DATE RECEIVED:	01/30/2020
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	COLLECTION DATE:	1/29/2020 10:15:00 AM
CLIENT SAMPLE ID	Cell-18 6-8 ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	02/08/2020	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	02/08/2020	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	02/08/2020	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	02/08/2020	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	02/08/2020	KLS
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C10-C12 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C12-C16 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C16-C21 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
>C21-C34 Aromatics	NWEPH	U	5.0	1	MG/KG	02/12/2020	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	02/13/2020	JMK
Mercury	EPA-7471	0.061	0.020	1	MG/KG	02/07/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	79.6	02/08/2020	KLS
TFT - Aliphatic	NWVPH	78.4	02/08/2020	KLS
TFT - Aromatic	NWVPH	71.7	02/08/2020	KLS
TFT - Hexane	NWVPH	78.6	02/08/2020	KLS
C25	NWEPH	78.6	02/12/2020	EBS
p-Terphenyl	NWEPH	84.4	02/12/2020	EBS
Terphenyl-d14	EPA-8270 SIM	117	02/13/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 2/13/2020
228 E. Champion St., Suite 101 ALS SDG#: EV20010159
Bellingham, WA 98225 WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner

CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY BLANK RESULTS

MB-020720S - Batch 150453 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	MG/KG	0.030	02/07/2020	KLS
Toluene	EPA-8021	U	MG/KG	0.050	02/07/2020	KLS
Ethylbenzene	EPA-8021	U	MG/KG	0.050	02/07/2020	KLS
Xylenes	EPA-8021	U	MG/KG	0.20	02/07/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020720S - Batch R356224 - Soil by NWVPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	MG/KG	5.0	02/07/2020	KLS
>C6-C8 Aliphatics	NWVPH	U	MG/KG	5.0	02/07/2020	KLS
>C8-C10 Aliphatics	NWVPH	U	MG/KG	5.0	02/07/2020	KLS
>C8-C10 Aromatics	NWVPH	U	MG/KG	5.0	02/07/2020	KLS
Hexane	NWVPH	U	MG/KG	0.20	02/07/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020420 - Batch 150499 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C10-C12 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C21-C34 Aliphatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C8-C10 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C10-C12 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C12-C16 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C16-C21 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS
>C21-C34 Aromatics	NWEPH	U	MG/KG	5.0	02/04/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-021020S - Batch 150584 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C10-C12 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C12-C16 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C16-C21 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 2/13/2020
ALS SDG#: EV20010159
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY BLANK RESULTS

MB-021020S - Batch 150584 - Soil by NWEPH

>C21-C34 Aliphatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C8-C10 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C10-C12 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C12-C16 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C16-C21 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS
>C21-C34 Aromatics	NWEPH	U	MG/KG	5.0	02/12/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-020520S - Batch 150410 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	02/10/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MB-021020S - Batch 150562 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	02/11/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
CLIENT CONTACT:	Dan Heimbigner	ALS SDG#:	EV20010159
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling	WDOE ACCREDITATION:	C601

LABORATORY BLANK RESULTS
MBLK-355964 - Batch R355964 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	02/07/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-356003 - Batch R356003 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	02/05/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
		ALS SDG#:	EV20010159
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 150453 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	101			67.7	124	02/07/2020	KLS
Benzene - BSD	EPA-8021	98.0	3		67.7	124	02/07/2020	KLS
Toluene - BS	EPA-8021	90.5			71	123	02/07/2020	KLS
Toluene - BSD	EPA-8021	87.0	4		71	123	02/07/2020	KLS
Ethylbenzene - BS	EPA-8021	93.1			69.8	117	02/07/2020	KLS
Ethylbenzene - BSD	EPA-8021	88.1	5		69.8	117	02/07/2020	KLS
Xylenes - BS	EPA-8021	92.5			70	119	02/07/2020	KLS
Xylenes - BSD	EPA-8021	86.6	7		70	119	02/07/2020	KLS

ALS Test Batch ID: R356224 - Soil by NWVPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
C5-C6 Aliphatics - BS	NWVPH	78.2			70	130	02/07/2020	KLS
C5-C6 Aliphatics - BSD	NWVPH	78.1	0		70	130	02/07/2020	KLS
>C6-C8 Aliphatics - BS	NWVPH	94.0			70	130	02/07/2020	KLS
>C6-C8 Aliphatics - BSD	NWVPH	95.1	1		70	130	02/07/2020	KLS
>C8-C10 Aliphatics - BS	NWVPH	94.2			70	130	02/07/2020	KLS
>C8-C10 Aliphatics - BSD	NWVPH	96.6	3		70	130	02/07/2020	KLS
>C8-C10 Aromatics - BS	NWVPH	93.0			70	130	02/07/2020	KLS
>C8-C10 Aromatics - BSD	NWVPH	92.1	1		70	130	02/07/2020	KLS
Hexane - BS	NWVPH	82.5			70	130	02/07/2020	KLS
Hexane - BSD	NWVPH	82.6	0		70	130	02/07/2020	KLS

ALS Test Batch ID: 150499 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BS	NWEPH	76.0			70	130	02/04/2020	EBS
>C8-C10 Aliphatics - BSD	NWEPH	73.4	3		70	130	02/04/2020	EBS
>C10-C12 Aliphatics - BS	NWEPH	82.8			70	130	02/04/2020	EBS
>C10-C12 Aliphatics - BSD	NWEPH	78.0	6		70	130	02/04/2020	EBS
>C12-C16 Aliphatics - BS	NWEPH	88.5			70	130	02/04/2020	EBS
>C12-C16 Aliphatics - BSD	NWEPH	85.9	3		70	130	02/04/2020	EBS
>C16-C21 Aliphatics - BS	NWEPH	91.2			70	130	02/04/2020	EBS
>C16-C21 Aliphatics - BSD	NWEPH	92.1	1		70	130	02/04/2020	EBS
>C21-C34 Aliphatics - BS	NWEPH	91.1			70	130	02/04/2020	EBS
>C21-C34 Aliphatics - BSD	NWEPH	90.7	0		70	130	02/04/2020	EBS
>C8-C10 Aromatics - BS	NWEPH	95.5			70	130	02/04/2020	EBS
>C8-C10 Aromatics - BSD	NWEPH	101	5		70	130	02/04/2020	EBS
>C10-C12 Aromatics - BS	NWEPH	94.4			70	130	02/04/2020	EBS



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc. DATE: 2/13/2020
228 E. Champion St., Suite 101 ALS SDG#: EV20010159
Bellingham, WA 98225 WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C10-C12 Aromatics - BSD	NWEPH	105	10		70	130	02/04/2020	EBS
>C12-C16 Aromatics - BS	NWEPH	92.2			70	130	02/04/2020	EBS
>C12-C16 Aromatics - BSD	NWEPH	109	17		70	130	02/04/2020	EBS
>C16-C21 Aromatics - BS	NWEPH	94.5			70	130	02/04/2020	EBS
>C16-C21 Aromatics - BSD	NWEPH	116	20	SR1	70	130	02/04/2020	EBS
>C21-C34 Aromatics - BS	NWEPH	99.9			70	130	02/04/2020	EBS
>C21-C34 Aromatics - BSD	NWEPH	110	10		70	130	02/04/2020	EBS

SR1 - RPD outside of control limits.

ALS Test Batch ID: 150584 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BS	NWEPH	73.8			70	130	02/12/2020	EBS
>C8-C10 Aliphatics - BSD	NWEPH	76.1	3		70	130	02/12/2020	EBS
>C10-C12 Aliphatics - BS	NWEPH	80.9			70	130	02/12/2020	EBS
>C10-C12 Aliphatics - BSD	NWEPH	83.0	3		70	130	02/12/2020	EBS
>C12-C16 Aliphatics - BS	NWEPH	87.1			70	130	02/12/2020	EBS
>C12-C16 Aliphatics - BSD	NWEPH	87.9	1		70	130	02/12/2020	EBS
>C16-C21 Aliphatics - BS	NWEPH	92.5			70	130	02/12/2020	EBS
>C16-C21 Aliphatics - BSD	NWEPH	93.4	1		70	130	02/12/2020	EBS
>C21-C34 Aliphatics - BS	NWEPH	84.2			70	130	02/12/2020	EBS
>C21-C34 Aliphatics - BSD	NWEPH	83.7	1		70	130	02/12/2020	EBS
>C8-C10 Aromatics - BS	NWEPH	76.6			70	130	02/12/2020	EBS
>C8-C10 Aromatics - BSD	NWEPH	75.8	1		70	130	02/12/2020	EBS
>C10-C12 Aromatics - BS	NWEPH	75.2			70	130	02/12/2020	EBS
>C10-C12 Aromatics - BSD	NWEPH	74.4	1		70	130	02/12/2020	EBS
>C12-C16 Aromatics - BS	NWEPH	88.3			70	130	02/12/2020	EBS
>C12-C16 Aromatics - BSD	NWEPH	87.0	1		70	130	02/12/2020	EBS
>C16-C21 Aromatics - BS	NWEPH	96.9			70	130	02/12/2020	EBS
>C16-C21 Aromatics - BSD	NWEPH	95.7	1		70	130	02/12/2020	EBS
>C21-C34 Aromatics - BS	NWEPH	83.3			70	130	02/12/2020	EBS
>C21-C34 Aromatics - BSD	NWEPH	77.8	7		70	130	02/12/2020	EBS

ALS Test Batch ID: 150410 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	95.9			20	150	02/11/2020	JMK
Naphthalene - BSD	EPA-8270 SIM	102	6		20	150	02/10/2020	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	107			20	150	02/11/2020	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	107	0		20	150	02/10/2020	JMK



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	2/13/2020
		ALS SDG#:	EV20010159
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR - Product Tanks Soil Sampling		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
1-Methylnaphthalene - BS	EPA-8270 SIM	101			20	150	02/11/2020	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	105	3		20	150	02/10/2020	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	109			20	150	02/11/2020	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	94.2	14		20	150	02/10/2020	JMK
Chrysene - BS	EPA-8270 SIM	106			20	150	02/11/2020	JMK
Chrysene - BSD	EPA-8270 SIM	116	9		20	150	02/10/2020	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	103			20	150	02/11/2020	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	104	1		20	150	02/10/2020	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	99.5			20	150	02/11/2020	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	111	11		20	150	02/10/2020	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	94.1			20	150	02/11/2020	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	94.3	0		20	150	02/10/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	95.9			20	150	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	103	7		20	150	02/10/2020	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	100			20	150	02/11/2020	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	97.3	3		20	150	02/10/2020	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	89.8			20	150	02/11/2020	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	108	19		20	150	02/10/2020	JMK

ALS Test Batch ID: 150562 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	88.7			20	150	02/11/2020	JMK
Naphthalene - BSD	EPA-8270 SIM	35.8	1		20	150	02/11/2020	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	101			20	150	02/11/2020	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	41.1	2		20	150	02/11/2020	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	95.3			20	150	02/11/2020	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	97.1	2		20	150	02/11/2020	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	106			20	150	02/11/2020	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	105	1		20	150	02/11/2020	JMK
Chrysene - BS	EPA-8270 SIM	106			20	150	02/11/2020	JMK
Chrysene - BSD	EPA-8270 SIM	108	2		20	150	02/11/2020	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	101			20	150	02/11/2020	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	103	1		20	150	02/11/2020	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	98.7			20	150	02/11/2020	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	100	2		20	150	02/11/2020	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	92.9			20	150	02/11/2020	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	94.1	1		20	150	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	97.8			20	150	02/11/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	96.6	1		20	150	02/11/2020	JMK

CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225

DATE: 2/13/2020
ALS SDG#: EV20010159
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Shell PSR - Product Tanks Soil Sampling

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	101			20	150	02/11/2020	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	100	1		20	150	02/11/2020	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	93.3			20	150	02/11/2020	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	37.0	1		20	150	02/11/2020	JMK

ALS Test Batch ID: R355964 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	105			81.8	117	02/07/2020	RAL
Mercury - BSD	EPA-7471	104	1		81.8	117	02/07/2020	RAL

ALS Test Batch ID: R356003 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	103			81.8	117	02/05/2020	RAL
Mercury - BSD	EPA-7471	105	2		81.8	117	02/05/2020	RAL

APPROVED BY



Technical Manager

Chain of Custody

EV200/0159

Laboratory

8620 Holly Drive, Everett, WA 98208 USA | +1 425 356 2600

(If viewing electronically, this is a drop down list - click on the address above - a drop down arrow will appear to the right of the address)

Work Order No.:

Project Manager:						Dan Heimbigner																													
Client Name:						Whatcom Environmental Services																													
Address:						228 E Champion St #101																													
City, State ZIP:						Bellingham, WA 98225																													
Email:						dheimbigner@whatcom-es.com			Phone:			360-752-9571																							
Project Site:						Shell PSR			State:			WA																							
Project Name:						Product Tanks Soil Sampling																													
Project Number:																																			
P.O. Number:																																			
Sampler's Name:						Jake R.																													
SAMPLE RECEIPT																																			
Temperature (°C):						3.4°C																													
Received Intact:						(es) No N/A (Wet Ice / Blue Ice)																													
Cooler Custody Seals:						Yes (No) N/A Total Containers:																													
						1																													
Sample Identification						Matrix						Date Sampled						Time Sampled						Lab ID											
Cell-18 0-2 ft						soil						1/29/2020						10:00						12											
Cell-18 2-4 ft						soil						1/29/2020						10:05						13											
Cell-18 4-6 ft						soil						1/29/2020						10:10						14											
Cell-18 6-8 ft						soil						1/29/2020						10:15						15											
						soil																													
						soil																													
						soil																													
						soil																													
						soil																													
						soil																													
						soil																													
						soil																													
Dissolved						Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn,																													
Total						Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn,																													
RELINQUISHED BY												RECEIVED BY																							
Print Name						Signature						Date/Time						Print Name						Signature						Date/Time					
Ashley Yamawort						[Signature]						1-30-20 / 10:00						Roger Barthel						[Signature]						1-30-20 / 1012					



July 21, 2021

Mr. Dan Heimbigner
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Heimbigner,

On July 7th, 5 samples were received by our laboratory and assigned our laboratory project number EV21070019. The project was identified as your Shell PSR (SWMU-55) Product Tanks Soil Sampling. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Glen Perry
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-01
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 9:25:00 AM
CLIENT SAMPLE ID	Subcell 16-1 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	07/13/2021	KLS
Toluene	EPA-8021	U	0.050	1	MG/KG	07/13/2021	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	07/13/2021	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	07/13/2021	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C10-C12 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C10-C12 Aliphatics	NWEPH	14	10	2	MG/KG	07/19/2021	JNF
>C12-C16 Aliphatics	NWEPH	240	10	2	MG/KG	07/19/2021	JNF
>C16-C21 Aliphatics	NWEPH	630	10	2	MG/KG	07/19/2021	JNF
>C21-C34 Aliphatics	NWEPH	1800	10	2	MG/KG	07/19/2021	JNF
>C8-C10 Aromatics	NWEPH	13	10	2	MG/KG	07/19/2021	JNF
>C10-C12 Aromatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C12-C16 Aromatics	NWEPH	18	10	2	MG/KG	07/19/2021	JNF
>C16-C21 Aromatics	NWEPH	610	10	2	MG/KG	07/19/2021	JNF
>C21-C34 Aromatics	NWEPH	3300	10	2	MG/KG	07/19/2021	JNF
Naphthalene	EPA-8270 SIM	260	200	10	UG/KG	07/08/2021	JMK
2-Methylnaphthalene	EPA-8270 SIM	640	200	10	UG/KG	07/08/2021	JMK
1-Methylnaphthalene	EPA-8270 SIM	780	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Anthracene	EPA-8270 SIM	7600	200	10	UG/KG	07/08/2021	JMK
Chrysene	EPA-8270 SIM	18000	200	10	UG/KG	07/08/2021	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	7100	200	10	UG/KG	07/08/2021	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	1400	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Pyrene	EPA-8270 SIM	12000	200	10	UG/KG	07/08/2021	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	1900	200	10	UG/KG	07/08/2021	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	2900	200	10	UG/KG	07/08/2021	JMK
Mercury	EPA-7471	1.7	0.20	10	MG/KG	07/09/2021	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	65.0	07/13/2021	KLS
TFT - Aliphatic	NWVPH	58.9 SUR12	07/13/2021	KLS
TFT - Aromatic	NWVPH	58.0 SUR12	07/13/2021	KLS
TFT - Hexane	NWVPH	57.0 SUR12	07/13/2021	KLS

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-01
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 9:25:00 AM
CLIENT SAMPLE ID	Subcell 16-1 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS	ANALYSIS
			DATE	BY
C25 2X Dilution	NWEPH	64.3	07/19/2021	JNF
p-Terphenyl 2X Dilution	NWEPH	69.5	07/19/2021	JNF
Terphenyl-d14 10X Dilution	EPA-8270 SIM	119	07/08/2021	JMK

U - Analyte analyzed for but not detected at level above reporting limit.
 SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-02
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 10:00:00 AM
CLIENT SAMPLE ID	Subcell 16-2 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	07/13/2021	KLS
Toluene	EPA-8021	0.083	0.050	1	MG/KG	07/13/2021	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	07/13/2021	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	07/13/2021	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C10-C12 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWEPH	U	5.0	1	MG/KG	07/19/2021	JNF
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	07/19/2021	JNF
>C12-C16 Aliphatics	NWEPH	100	5.0	1	MG/KG	07/19/2021	JNF
>C16-C21 Aliphatics	NWEPH	370	5.0	1	MG/KG	07/19/2021	JNF
>C21-C34 Aliphatics	NWEPH	810	5.0	1	MG/KG	07/19/2021	JNF
>C8-C10 Aromatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C10-C12 Aromatics	NWEPH	U	3.8	2	MG/KG	07/19/2021	JNF
>C12-C16 Aromatics	NWEPH	U	3.8	2	MG/KG	07/19/2021	JNF
>C16-C21 Aromatics	NWEPH	230	10	2	MG/KG	07/19/2021	JNF
>C21-C34 Aromatics	NWEPH	1000	10	2	MG/KG	07/19/2021	JNF
Naphthalene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
2-Methylnaphthalene	EPA-8270 SIM	430	200	10	UG/KG	07/08/2021	JMK
1-Methylnaphthalene	EPA-8270 SIM	280	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Chrysene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	690	200	10	UG/KG	07/08/2021	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Pyrene	EPA-8270 SIM	2400	200	10	UG/KG	07/08/2021	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	930	200	10	UG/KG	07/08/2021	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	990	200	10	UG/KG	07/08/2021	JMK
Mercury	EPA-7471	1.4	0.20	10	MG/KG	07/09/2021	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	80.3	07/13/2021	KLS
TFT - Aliphatic	NWVPH	77.1	07/13/2021	KLS
TFT - Aromatic	NWVPH	70.2	07/13/2021	KLS
TFT - Hexane	NWVPH	74.9	07/13/2021	KLS

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-02
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 10:00:00 AM
CLIENT SAMPLE ID	Subcell 16-2 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS	
			DATE	BY
C25	NWEPH	41.3 SUR12	07/19/2021	JNF
p-Terphenyl 2X Dilution	NWEPH	37.1 SUR12	07/19/2021	JNF
Terphenyl-d14 10X Dilution	EPA-8270 SIM	96.7	07/08/2021	JMK

U - Analyte analyzed for but not detected at level above reporting limit.
 SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-03
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 10:25:00 AM
CLIENT SAMPLE ID	Subcell 16-3 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	0.030	1	MG/KG	07/13/2021	KLS
Toluene	EPA-8021	0.34	0.050	1	MG/KG	07/13/2021	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	07/13/2021	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	07/13/2021	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C10-C12 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWEPH	U	5.0	1	MG/KG	07/19/2021	JNF
>C10-C12 Aliphatics	NWEPH	U	5.0	1	MG/KG	07/19/2021	JNF
>C12-C16 Aliphatics	NWEPH	140	5.0	1	MG/KG	07/19/2021	JNF
>C16-C21 Aliphatics	NWEPH	650	5.0	1	MG/KG	07/19/2021	JNF
>C21-C34 Aliphatics	NWEPH	1500	5.0	1	MG/KG	07/19/2021	JNF
>C8-C10 Aromatics	NWEPH	U	6.0	2	MG/KG	07/19/2021	JNF
>C10-C12 Aromatics	NWEPH	U	3.8	2	MG/KG	07/19/2021	JNF
>C12-C16 Aromatics	NWEPH	U	3.8	2	MG/KG	07/19/2021	JNF
>C16-C21 Aromatics	NWEPH	480	10	2	MG/KG	07/19/2021	JNF
>C21-C34 Aromatics	NWEPH	1900	10	2	MG/KG	07/19/2021	JNF
Naphthalene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
2-Methylnaphthalene	EPA-8270 SIM	480	200	10	UG/KG	07/08/2021	JMK
1-Methylnaphthalene	EPA-8270 SIM	310	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Chrysene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	360	200	10	UG/KG	07/08/2021	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Pyrene	EPA-8270 SIM	1300	200	10	UG/KG	07/08/2021	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	800	200	10	UG/KG	07/08/2021	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	650	200	10	UG/KG	07/08/2021	JMK
Mercury	EPA-7471	1.9	0.20	10	MG/KG	07/09/2021	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	66.6	07/13/2021	KLS
TFT - Aliphatic	NWVPH	69.1	07/13/2021	KLS
TFT - Aromatic	NWVPH	59.1 SUR12	07/13/2021	KLS
TFT - Hexane	NWVPH	67.0	07/13/2021	KLS



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-03
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 10:25:00 AM
CLIENT SAMPLE ID	Subcell 16-3 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS	
			DATE	BY
C25	NWEPH	59.8 SUR12	07/19/2021	JNF
p-Terphenyl 2X Dilution	NWEPH	49.8 SUR12	07/19/2021	JNF
Terphenyl-d14 10X Dilution	EPA-8270 SIM	106	07/08/2021	JMK

U - Analyte analyzed for but not detected at level above reporting limit.
SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-04
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 10:45:00 AM
CLIENT SAMPLE ID	Subcell 16-4 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	0.049	0.030	1	MG/KG	07/13/2021	KLS
Toluene	EPA-8021	0.066	0.050	1	MG/KG	07/13/2021	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	07/13/2021	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	07/13/2021	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C10-C12 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C10-C12 Aliphatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C12-C16 Aliphatics	NWEPH	210	10	2	MG/KG	07/19/2021	JNF
>C16-C21 Aliphatics	NWEPH	940	10	2	MG/KG	07/19/2021	JNF
>C21-C34 Aliphatics	NWEPH	2000	10	2	MG/KG	07/19/2021	JNF
>C8-C10 Aromatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C10-C12 Aromatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C12-C16 Aromatics	NWEPH	17	10	2	MG/KG	07/19/2021	JNF
>C16-C21 Aromatics	NWEPH	740	10	2	MG/KG	07/19/2021	JNF
>C21-C34 Aromatics	NWEPH	3200	10	2	MG/KG	07/19/2021	JNF
Naphthalene	EPA-8270 SIM	230	200	10	UG/KG	07/08/2021	JMK
2-Methylnaphthalene	EPA-8270 SIM	650	200	10	UG/KG	07/08/2021	JMK
1-Methylnaphthalene	EPA-8270 SIM	470	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Chrysene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	760	200	10	UG/KG	07/08/2021	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Pyrene	EPA-8270 SIM	3200	200	10	UG/KG	07/08/2021	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	1200	200	10	UG/KG	07/08/2021	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	1300	200	10	UG/KG	07/08/2021	JMK
Mercury	EPA-7471	2.1	0.20	10	MG/KG	07/09/2021	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	56.7 SUR12	07/13/2021	KLS
TFT - Aliphatic	NWVPH	58.9 SUR12	07/13/2021	KLS
TFT - Aromatic	NWVPH	63.1	07/13/2021	KLS
TFT - Hexane	NWVPH	57.6 SUR12	07/13/2021	KLS

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-04
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 10:45:00 AM
CLIENT SAMPLE ID	Subcell 16-4 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS	ANALYSIS
			DATE	BY
C25 2X Dilution	NWEPH	63.6	07/19/2021	JNF
p-Terphenyl 2X Dilution	NWEPH	62.8	07/19/2021	JNF
Terphenyl-d14 10X Dilution	EPA-8270 SIM	102	07/08/2021	JMK

U - Analyte analyzed for but not detected at level above reporting limit.
 SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-05
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 11:05:00 AM
CLIENT SAMPLE ID	Subcell 16-5 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	0.046	0.030	1	MG/KG	07/13/2021	KLS
Toluene	EPA-8021	0.10	0.050	1	MG/KG	07/13/2021	KLS
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	07/13/2021	KLS
Xylenes	EPA-8021	U	0.20	1	MG/KG	07/13/2021	KLS
C5-C6 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C6-C8 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C10-C12 Aliphatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
>C8-C10 Aromatics	NWVPH	U	5.0	1	MG/KG	07/13/2021	KLS
Hexane	NWVPH	U	0.20	1	MG/KG	07/13/2021	KLS
>C8-C10 Aliphatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C10-C12 Aliphatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C12-C16 Aliphatics	NWEPH	190	10	2	MG/KG	07/19/2021	JNF
>C16-C21 Aliphatics	NWEPH	930	10	2	MG/KG	07/19/2021	JNF
>C21-C34 Aliphatics	NWEPH	1900	10	2	MG/KG	07/19/2021	JNF
>C8-C10 Aromatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C10-C12 Aromatics	NWEPH	U	10	2	MG/KG	07/19/2021	JNF
>C12-C16 Aromatics	NWEPH	12	10	2	MG/KG	07/19/2021	JNF
>C16-C21 Aromatics	NWEPH	590	10	2	MG/KG	07/19/2021	JNF
>C21-C34 Aromatics	NWEPH	2500	10	2	MG/KG	07/19/2021	JNF
Naphthalene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
2-Methylnaphthalene	EPA-8270 SIM	570	200	10	UG/KG	07/08/2021	JMK
1-Methylnaphthalene	EPA-8270 SIM	390	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Chrysene	EPA-8270 SIM	U	200	10	UG/KG	07/08/2021	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	530	200	10	UG/KG	07/08/2021	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	200	200	10	UG/KG	07/08/2021	JMK
Benzo[A]Pyrene	EPA-8270 SIM	2100	200	10	UG/KG	07/08/2021	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	1000	200	10	UG/KG	07/08/2021	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	1000	200	10	UG/KG	07/08/2021	JMK
Mercury	EPA-7471	2.0	0.20	10	MG/KG	07/09/2021	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	EPA-8021	73.4	07/13/2021	KLS
TFT - Aliphatic	NWVPH	63.5	07/13/2021	KLS
TFT - Aromatic	NWVPH	57.5 SUR12	07/13/2021	KLS
TFT - Hexane	NWVPH	62.6	07/13/2021	KLS

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
CLIENT CONTACT:	Dan Heimbigner	ALS JOB#:	EV21070019
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	ALS SAMPLE#:	EV21070019-05
		DATE RECEIVED:	07/07/2021
		COLLECTION DATE:	7/6/2021 11:05:00 AM
CLIENT SAMPLE ID	Subcell 16-5 3ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS	ANALYSIS
			DATE	BY
C25 2X Dilution	NWEPH	79.3	07/19/2021	JNF
p-Terphenyl 2X Dilution	NWEPH	66.6	07/19/2021	JNF
Terphenyl-d14 10X Dilution	EPA-8270 SIM	117	07/08/2021	JMK

U - Analyte analyzed for but not detected at level above reporting limit.
 SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 7/21/2021
ALS SDG#: EV21070019
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Shell PSR (SWMU-55) Product Tanks
Soil Sampling

LABORATORY BLANK RESULTS

MB-071321S - Batch 167855 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	MG/KG	0.030	07/13/2021	KLS
Toluene	EPA-8021	U	MG/KG	0.050	07/13/2021	KLS
Ethylbenzene	EPA-8021	U	MG/KG	0.050	07/13/2021	KLS
Xylenes	EPA-8021	U	MG/KG	0.20	07/13/2021	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R387855 - Batch R387855 - Soil by NWVPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	MG/KG	5.0	07/13/2021	KLS
>C6-C8 Aliphatics	NWVPH	U	MG/KG	5.0	07/13/2021	KLS
>C8-C10 Aliphatics	NWVPH	U	MG/KG	5.0	07/13/2021	KLS
>C10-C12 Aliphatics	NWVPH	U	MG/KG	5.0	07/13/2021	KLS
>C8-C10 Aromatics	NWVPH	U	MG/KG	5.0	07/13/2021	KLS
Hexane	NWVPH	U	MG/KG	0.20	07/13/2021	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R387914 - Batch R387914 - Soil by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C10-C12 Aliphatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C12-C16 Aliphatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C16-C21 Aliphatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C21-C34 Aliphatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C8-C10 Aromatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C10-C12 Aromatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C12-C16 Aromatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C16-C21 Aromatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF
>C21-C34 Aromatics	NWEPH	U	MG/KG	5.0	07/19/2021	JNF

U - Analyte analyzed for but not detected at level above reporting limit.

MB-070821S - Batch 167797 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
		ALS SDG#:	EV21070019
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling		

LABORATORY BLANK RESULTS

MB-070821S - Batch 167797 - Soil by EPA-8270 SIM

1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	07/08/2021	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R387853 - Batch R387853 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	07/09/2021	RAL

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 7/21/2021
ALS SDG#: EV21070019
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Shell PSR (SWMU-55) Product Tanks
Soil Sampling

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 167855 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	96.0			67.7	124	07/13/2021	KLS
Benzene - BSD	EPA-8021	95.2	1		67.7	124	07/13/2021	KLS
Toluene - BS	EPA-8021	95.4			71	123	07/13/2021	KLS
Toluene - BSD	EPA-8021	95.9	1		71	123	07/13/2021	KLS
Ethylbenzene - BS	EPA-8021	92.2			69.8	117	07/13/2021	KLS
Ethylbenzene - BSD	EPA-8021	92.7	0		69.8	117	07/13/2021	KLS
Xylenes - BS	EPA-8021	93.7			70	119	07/13/2021	KLS
Xylenes - BSD	EPA-8021	94.6	1		70	119	07/13/2021	KLS

ALS Test Batch ID: R387855 - Soil by NWVPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
C5-C6 Aliphatics - BS	NWVPH	104			70	130	07/13/2021	KLS
C5-C6 Aliphatics - BSD	NWVPH	104	0		70	130	07/13/2021	KLS
>C6-C8 Aliphatics - BS	NWVPH	107			70	130	07/13/2021	KLS
>C6-C8 Aliphatics - BSD	NWVPH	108	0		70	130	07/13/2021	KLS
>C8-C10 Aliphatics - BS	NWVPH	104			70	130	07/13/2021	KLS
>C8-C10 Aliphatics - BSD	NWVPH	105	1		70	130	07/13/2021	KLS
>C10-C12 Aliphatics - BS	NWVPH	100			70	130	07/13/2021	KLS
>C10-C12 Aliphatics - BSD	NWVPH	111	10		70	130	07/13/2021	KLS
>C8-C10 Aromatics - BS	NWVPH	81.9			70	130	07/13/2021	KLS
>C8-C10 Aromatics - BSD	NWVPH	83.7	2		70	130	07/13/2021	KLS
Hexane - BS	NWVPH	105			70	130	07/13/2021	KLS
Hexane - BSD	NWVPH	104	0		70	130	07/13/2021	KLS

ALS Test Batch ID: R387914 - Soil by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BS	NWEPH	85.0			70	130	07/19/2021	JNF
>C8-C10 Aliphatics - BSD	NWEPH	80.0	6		70	130	07/19/2021	JNF
>C10-C12 Aliphatics - BS	NWEPH	91.0			70	130	07/19/2021	JNF
>C10-C12 Aliphatics - BSD	NWEPH	85.0	7		70	130	07/19/2021	JNF
>C12-C16 Aliphatics - BS	NWEPH	93.0			70	130	07/19/2021	JNF
>C12-C16 Aliphatics - BSD	NWEPH	88.0	6		70	130	07/19/2021	JNF
>C16-C21 Aliphatics - BS	NWEPH	88.0			70	130	07/19/2021	JNF
>C16-C21 Aliphatics - BSD	NWEPH	83.0	6		70	130	07/19/2021	JNF
>C21-C34 Aliphatics - BS	NWEPH	89.0			70	130	07/19/2021	JNF
>C21-C34 Aliphatics - BSD	NWEPH	85.0	5		70	130	07/19/2021	JNF



CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	7/21/2021
		ALS SDG#:	EV21070019
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dan Heimbigner		
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aromatics - BS	NWEPH	81.0			70	130	07/19/2021	JNF
>C8-C10 Aromatics - BSD	NWEPH	75.0	8		70	130	07/19/2021	JNF
>C10-C12 Aromatics - BS	NWEPH	85.0			70	130	07/19/2021	JNF
>C10-C12 Aromatics - BSD	NWEPH	80.0	6		70	130	07/19/2021	JNF
>C12-C16 Aromatics - BS	NWEPH	86.0			70	130	07/19/2021	JNF
>C12-C16 Aromatics - BSD	NWEPH	80.0	7		70	130	07/19/2021	JNF
>C16-C21 Aromatics - BS	NWEPH	89.0			70	130	07/19/2021	JNF
>C16-C21 Aromatics - BSD	NWEPH	84.0	6		70	130	07/19/2021	JNF
>C21-C34 Aromatics - BS	NWEPH	79.0			70	130	07/19/2021	JNF
>C21-C34 Aromatics - BSD	NWEPH	73.0	8		70	130	07/19/2021	JNF

ALS Test Batch ID: 167797 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	119			20	150	07/08/2021	JMK
Naphthalene - BSD	EPA-8270 SIM	126	6		20	150	07/08/2021	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	121			20	150	07/08/2021	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	128	6		20	150	07/08/2021	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	127			20	150	07/08/2021	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	135	6		20	150	07/08/2021	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	121			20	150	07/08/2021	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	127	4		20	150	07/08/2021	JMK
Chrysene - BS	EPA-8270 SIM	120			20	150	07/08/2021	JMK
Chrysene - BSD	EPA-8270 SIM	125	4		20	150	07/08/2021	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	108			20	150	07/08/2021	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	115	6		20	150	07/08/2021	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	113			20	150	07/08/2021	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	120	6		20	150	07/08/2021	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	125			20	150	07/08/2021	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	131	5		20	150	07/08/2021	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	113			20	150	07/08/2021	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	119	6		20	150	07/08/2021	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	108			20	150	07/08/2021	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	114	5		20	150	07/08/2021	JMK

ALS Test Batch ID: R387853 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	111			81.8	117	07/09/2021	RAL

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE: 7/21/2021 ALS SDG#: EV21070019 WDOE ACCREDITATION: C601
CLIENT CONTACT:	Dan Heimbigner	
CLIENT PROJECT:	Shell PSR (SWMU-55) Product Tanks Soil Sampling	

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BSD	EPA-7471	111	0		81.8	117	07/09/2021	RAL

APPROVED BY



Laboratory Director

EV21070019



8620 Holly Drive, Everett, WA 98208 USA | +1 425 356 2600

(If viewing electronically, this is a drop down list - click on the address above - a drop down arrow will appear to the right of the address)

Bill to:			
Company:	Whatcom Environmental Services		
Address:	228 E Champion St #101		
City, State ZIP:	Bellingham, WA 98225		
Email:	mporter@whatcom-es.com	PO#	

[illegible]

**APPENDIX E -
RISK AND HAZARD QUOTIENT CALCULATION RESULTS**

Table E1. Calculated Risk Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	504-B-1 0 ft	504-B-1 3 ft	504-B-1 6 ft	504-B-1 9 ft	504-B-2 0 ft	504-B-2 3 ft	504-B-3 0 ft	504-B-3 3 ft	WES-DUP-1b
	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk
EPA-8021 Benzene	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	3.10E-10	1.11E-10	1.11E-10
EPA-8021 Toluene	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10
EPA-8021 Ethylbenzene	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11
EPA-8021 Xylenes									
Mercury									
Naphthalene									
2-Methylnaphthalene									
1-Methylnaphthalene	4.35E-11	6.09E-10	4.35E-11	4.35E-11	4.35E-11	4.35E-11	2.65E-09	4.35E-11	4.35E-11
Benzo[A]Anthracene	3.28E-10	5.91E-10	3.28E-10	3.28E-10	3.28E-10	3.28E-10	3.94E-08	3.28E-10	3.28E-10
Chrysene	3.28E-11	6.56E-09	3.28E-11	3.28E-11	3.28E-11	3.28E-11	1.64E-08	3.28E-11	3.28E-11
Benzo(b)fluoranthene	3.28E-10	2.49E-08	3.28E-10	3.28E-10	3.28E-10	3.28E-10	5.91E-08	3.28E-10	3.28E-10
Benzo[K]Fluoranthene	3.28E-10	6.56E-10	3.28E-10	3.28E-10	3.28E-10	3.28E-10	6.56E-10	3.28E-10	3.28E-10
Benzo[A]Pyrene	7.22E-09	3.61E-07	2.72E-08	3.28E-09	3.28E-09	3.28E-09	1.44E-06	3.28E-09	3.28E-09
Indeno[1,2,3-Cd]Pyrene	3.28E-10	1.35E-08	2.76E-09	3.28E-10	3.28E-10	3.28E-10	4.92E-08	3.28E-10	3.28E-10
Dibenz[A,H]Anthracene	3.28E-09	1.61E-07	2.46E-08	3.28E-09	3.28E-09	3.28E-09	6.23E-07	3.28E-09	3.28E-09
Aliphatic EC 5-6									
Aliphatic EC 6-8									
Aliphatic EC 8-10									
Aliphatic EC 10-12									
Aliphatic EC 12-16									
Aliphatic EC 16-21									
Aliphatic EC 21-34									
Aromatic EC 8-10									
Aromatic EC 10-12									
Aromatic EC 12-16									
Aromatic EC 16-21									
Aromatic EC 21-34									
Sum	1.22E-08	5.69E-07	5.59E-08	8.24E-09	8.24E-09	8.24E-09	2.23E-06	8.24E-09	8.24E-09

Table E1. Calculated Risk Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	505-B-1 0 ft	505-B-1 3 ft	505-B-1 6 ft	505-B-2 0 ft	505-B-2 3 ft	505-B-3 0 ft	505-B-3 3 ft	505-B-3 6 ft	505-B-3 9 ft
	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk
EPA-8021 Benzene	3.61E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10
EPA-8021 Toluene	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	3.95E-10	1.30E-10	1.30E-10
EPA-8021 Ethylbenzene	4.86E-11	4.86E-11	4.86E-11	1.19E-10	4.86E-11	4.86E-11	3.89E-10	4.86E-11	4.86E-11
EPA-8021 Xylenes									
Mercury									
Naphthalene									
2-Methylnaphthalene									
1-Methylnaphthalene	1.44E-09	7.40E-09	4.35E-11	4.79E-09	1.00E-09	1.13E-09	8.70E-08	3.31E-10	3.13E-10
Benzo[A]Anthracene	7.22E-10	4.92E-09	3.28E-10	1.25E-08	8.20E-10	6.56E-10	4.59E-08	9.19E-10	3.28E-10
Chrysene	9.68E-11	6.89E-10	3.28E-11	2.10E-09	1.61E-10	9.02E-11	7.22E-09	2.26E-10	3.28E-11
Benzo(b)fluoranthene	1.54E-08	1.48E-09	3.28E-10	8.20E-09	3.28E-10	2.53E-08	1.18E-08	3.28E-10	3.28E-10
Benzo[K]Fluoranthene	7.87E-10	3.28E-10	3.28E-10	6.56E-10	3.28E-10	7.38E-10	1.67E-09	3.28E-10	3.28E-10
Benzo[A]Pyrene	2.95E-07	2.23E-08	3.28E-09	9.19E-08	3.28E-09	6.23E-07	2.07E-07	3.28E-09	3.28E-09
Indeno[1,2,3-Cd]Pyrene	4.27E-08	3.28E-10	3.28E-10	7.71E-10	3.28E-10	4.92E-08	2.49E-09	3.28E-10	3.28E-10
Dibenz[A,H]Anthracene	2.69E-07	3.28E-09	3.28E-09	2.20E-08	3.28E-09	4.59E-07	4.59E-08	3.28E-09	3.28E-09
Aliphatic EC 5-6									
Aliphatic EC 6-8									
Aliphatic EC 8-10									
Aliphatic EC 10-12									
Aliphatic EC 12-16									
Aliphatic EC 16-21									
Aliphatic EC 21-34									
Aromatic EC 8-10									
Aromatic EC 10-12									
Aromatic EC 12-16									
Aromatic EC 16-21									
Aromatic EC 21-34									
Sum	6.26E-07	4.10E-08	8.24E-09	1.43E-07	9.82E-09	1.16E-06	4.10E-07	9.31E-09	8.51E-09

Table E1. Calculated Risk Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	505-B-3 12 ft	505-B-3 15 ft	Cell-1 0-1 ft	Cell-2 0-1 ft	Cell-3 0-1 ft	Cell-4 0-1 ft	Cell-5 0-2 ft	Cell-5 2-4 ft	Cell-6 0-2 ft
	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk
EPA-8021 Benzene	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10
EPA-8021 Toluene	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	2.96E-09	7.80E-10	4.58E-09
EPA-8021 Ethylbenzene	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11
EPA-8021 Xylenes									
Mercury									
Naphthalene									
2-Methylnaphthalene									
1-Methylnaphthalene	2.35E-10	4.05E-10	8.48E-11	5.66E-10	1.70E-10	3.00E-10	8.70E-10	1.09E-09	9.57E-10
Benzo[A]Anthracene	3.28E-10	3.28E-10	6.56E-10	6.07E-10	5.25E-10	5.74E-10	5.41E-10	5.91E-10	5.25E-10
Chrysene	3.28E-11	3.28E-11	9.02E-11	8.20E-11	7.22E-11	7.87E-11	7.22E-11	7.87E-11	7.05E-11
Benzo(b)fluoranthene	3.28E-10	3.28E-10	7.22E-09	3.28E-09	1.64E-09	2.56E-09	1.15E-08	1.84E-08	1.28E-08
Benzo[K]Fluoranthene	3.28E-10	3.28E-10	7.22E-10	6.56E-10	5.74E-10	6.40E-10	5.91E-10	6.40E-10	5.74E-10
Benzo[A]Pyrene	3.28E-09	3.28E-09	1.08E-07	5.91E-08	3.22E-08	4.27E-08	2.20E-07	3.61E-07	2.17E-07
Indeno[1,2,3-Cd]Pyrene	3.28E-10	3.28E-10	1.54E-08	9.51E-09	5.91E-09	6.89E-09	2.00E-08	3.15E-08	2.00E-08
Dibenz[A,H]Anthracene	3.28E-09	3.28E-09	1.15E-07	6.23E-08	4.27E-08	4.59E-08	1.57E-07	2.72E-07	1.64E-07
Aliphatic EC 5-6									
Aliphatic EC 6-8									
Aliphatic EC 8-10									
Aliphatic EC 10-12									
Aliphatic EC 12-16									
Aliphatic EC 16-21									
Aliphatic EC 21-34									
Aromatic EC 8-10									
Aromatic EC 10-12									
Aromatic EC 12-16									
Aromatic EC 16-21									
Aromatic EC 21-34									
Sum	8.43E-09	8.60E-09	2.48E-07	1.36E-07	8.40E-08	9.99E-08	4.14E-07	6.86E-07	4.20E-07

Table E1. Calculated Risk Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	WES-DUP-2b	Cell-7 0-2 ft	Cell-8 0-2 ft	Cell-9 0-1 ft	Cell-10 0-2 ft	Cell-10 2-4 ft	Cell-10 4-6 ft	Cell-10 6-8 ft	Cell-10 8-10 ft
	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk
EPA-8021 Benzene	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	2.43E-10	1.11E-10	1.11E-10	1.11E-10
EPA-8021 Toluene	1.14E-08	1.30E-10	4.42E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10
EPA-8021 Ethylbenzene	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11
EPA-8021 Xylenes									
Mercury									
Naphthalene									
2-Methylnaphthalene									
1-Methylnaphthalene	7.83E-10	5.22E-10	6.96E-10	6.96E-11	1.44E-10	1.78E-09	4.35E-11	4.35E-11	4.35E-11
Benzo[A]Anthracene	3.28E-10	4.76E-10	6.56E-08	2.36E-08	8.20E-09	5.41E-10	3.28E-10	3.28E-10	3.28E-10
Chrysene	2.95E-09	6.56E-11	7.38E-11	7.38E-11	7.22E-11	6.23E-09	3.28E-11	3.28E-11	3.28E-11
Benzo(b)fluoranthene	1.02E-08	7.87E-09	1.61E-08	5.91E-09	2.99E-09	2.07E-08	3.28E-10	3.28E-10	3.28E-10
Benzo[K]Fluoranthene	3.44E-10	5.25E-10	6.07E-10	5.91E-10	5.91E-10	6.07E-10	3.28E-10	3.28E-10	3.28E-10
Benzo[A]Pyrene	1.87E-07	1.64E-07	2.59E-07	9.84E-08	4.27E-08	4.59E-07	3.28E-09	3.28E-09	3.28E-09
Indeno[1,2,3-Cd]Pyrene	1.35E-08	1.44E-08	1.48E-08	6.56E-09	3.08E-09	2.62E-08	3.28E-10	3.28E-10	3.28E-10
Dibenz[A,H]Anthracene	1.15E-07	1.18E-07	1.41E-07	6.23E-08	2.59E-08	2.62E-07	3.28E-09	3.28E-09	3.28E-09
Aliphatic EC 5-6									
Aliphatic EC 6-8									
Aliphatic EC 8-10									
Aliphatic EC 10-12									
Aliphatic EC 12-16									
Aliphatic EC 16-21									
Aliphatic EC 21-34									
Aromatic EC 8-10									
Aromatic EC 10-12									
Aromatic EC 12-16									
Aromatic EC 16-21									
Aromatic EC 21-34									
Sum	3.41E-07	3.06E-07	4.99E-07	1.98E-07	8.39E-08	7.78E-07	8.24E-09	8.24E-09	8.24E-09

Table E1. Calculated Risk Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Cell-11 0-2 ft	Cell-11 2-4 ft	Cell-11 4-6 ft	Cell-12 0-2 ft	Cell-12 2-4 ft	Cell-13 0-2 ft	Cell-13 2-4 ft	Cell-13 4-6 ft	Cell-14 0-2 ft
	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk
EPA-8021 Benzene	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10
EPA-8021 Toluene	7.80E-09	1.66E-09	5.15E-10	4.99E-09	3.12E-10	1.87E-08	1.30E-10	1.30E-10	4.47E-09
EPA-8021 Ethylbenzene	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11
EPA-8021 Xylenes									
Mercury									
Naphthalene									
2-Methylnaphthalene									
1-Methylnaphthalene	5.22E-10	1.31E-09	5.22E-10	1.17E-07	1.04E-09	7.83E-10	1.17E-08	6.96E-11	6.96E-10
Benzo[A]Anthracene	3.28E-08	3.28E-08	3.28E-08	1.08E-07	2.99E-08	5.09E-10	1.90E-07	1.87E-08	6.23E-10
Chrysene	8.20E-11	8.37E-11	8.69E-11	8.53E-11	8.86E-11	3.94E-09	2.92E-08	3.28E-09	7.55E-09
Benzo(b)fluoranthene	1.54E-08	1.05E-08	1.67E-08	3.28E-08	7.55E-09	1.25E-08	1.35E-07	9.84E-09	2.03E-08
Benzo[K]Fluoranthene	4.27E-09	6.73E-10	3.94E-09	6.89E-10	7.05E-10	5.58E-10	2.43E-08	2.79E-09	3.28E-09
Benzo[A]Pyrene	2.33E-07	1.67E-07	2.13E-07	5.58E-07	1.41E-07	1.94E-07	1.64E-06	1.21E-07	2.82E-07
Indeno[1,2,3-Cd]Pyrene	1.25E-08	1.02E-08	1.18E-08	2.20E-08	8.20E-09	1.74E-08	3.61E-08	1.64E-09	1.38E-08
Dibenz[A,H]Anthracene	1.02E-07	9.51E-08	1.02E-07	2.59E-07	8.53E-08	1.41E-07	6.23E-07	3.28E-08	1.38E-07
Aliphatic EC 5-6									
Aliphatic EC 6-8									
Aliphatic EC 8-10									
Aliphatic EC 10-12									
Aliphatic EC 12-16									
Aliphatic EC 16-21									
Aliphatic EC 21-34									
Aromatic EC 8-10									
Aromatic EC 10-12									
Aromatic EC 12-16									
Aromatic EC 16-21									
Aromatic EC 21-34									
Sum	4.08E-07	3.20E-07	3.82E-07	1.10E-06	2.74E-07	3.89E-07	2.69E-06	1.91E-07	4.71E-07

Table E1. Calculated Risk Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Cell-14 2-4 ft	Cell-15 0-2 ft	Cell-16 0-2 ft	Cell-16 2-4 ft	Cell-16 4-6 ft	Cell-16 6-8 ft	Cell-16 8-10 ft	Cell-16 10-12 ft	Cell-17 0-2 ft
	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk
EPA-8021 Benzene	1.11E-10	1.11E-10	1.11E-10	6.27E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10
EPA-8021 Toluene	1.30E-10	2.91E-10	1.30E-09	9.36E-10	1.30E-10	1.30E-10	1.30E-10	1.30E-10	5.72E-10
EPA-8021 Ethylbenzene	4.86E-11	4.86E-11	4.86E-11	1.05E-10	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11
EPA-8021 Xylenes									
Mercury									
Naphthalene									
2-Methylnaphthalene									
1-Methylnaphthalene	2.96E-09	6.09E-10	4.09E-10	5.66E-09	3.05E-10	4.35E-11	2.83E-10	4.35E-11	1.00E-09
Benzo[A]Anthracene	4.92E-08	5.58E-10	3.28E-10	3.18E-07	3.28E-10	3.28E-10	1.31E-09	3.28E-10	3.28E-10
Chrysene	8.53E-09	3.94E-09	2.13E-09	1.54E-07	4.92E-10	3.28E-11	5.91E-10	1.25E-10	3.61E-09
Benzo(b)fluoranthene	5.25E-08	9.19E-09	5.58E-09	3.61E-07	1.15E-09	3.28E-10	1.41E-09	3.28E-10	1.18E-08
Benzo[K]Fluoranthene	9.84E-09	6.07E-10	3.61E-10	3.61E-10	3.28E-10	3.28E-10	3.28E-10	3.28E-10	3.61E-10
Benzo[A]Pyrene	6.23E-07	1.54E-07	1.18E-07	6.56E-06	1.94E-08	3.28E-09	2.40E-08	3.28E-09	2.46E-07
Indeno[1,2,3-Cd]Pyrene	2.20E-08	1.02E-08	8.86E-09	7.87E-08	7.87E-10	3.28E-10	3.28E-10	3.28E-10	1.51E-08
Dibenz[A,H]Anthracene	2.49E-07	9.84E-08	8.20E-08	1.41E-06	8.20E-09	3.28E-09	8.20E-09	3.28E-09	1.38E-07
Aliphatic EC 5-6									
Aliphatic EC 6-8									
Aliphatic EC 8-10									
Aliphatic EC 10-12									
Aliphatic EC 12-16									
Aliphatic EC 16-21									
Aliphatic EC 21-34									
Aromatic EC 8-10									
Aromatic EC 10-12									
Aromatic EC 12-16									
Aromatic EC 16-21									
Aromatic EC 21-34									
Sum	1.02E-06	2.78E-07	2.19E-07	8.89E-06	3.12E-08	8.24E-09	3.67E-08	8.33E-09	4.17E-07

Table E1. Calculated Risk Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Cell-17 2-4 ft	Cell-17 4-6 ft	Cell-17 6-8 ft	Cell-17 8-10 ft	Cell-18 0-2 ft	Cell-18 2-4 ft	Cell-18 4-6 ft	Cell-18 6-8 ft	Subcell 16-1 3ft
	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk	Risk
EPA-8021 Benzene	3.10E-10	1.11E-10	1.11E-10	1.11E-10	1.11E-10	2.80E-10	1.11E-10	1.11E-10	1.11E-10
EPA-8021 Toluene	1.30E-10	1.30E-10	1.30E-10	1.30E-10	3.54E-10	1.30E-09	1.30E-10	1.30E-10	1.30E-10
EPA-8021 Ethylbenzene	2.53E-10	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11	4.86E-11
EPA-8021 Xylenes									
Mercury									
Naphthalene									
2-Methylnaphthalene									
1-Methylnaphthalene	1.44E-08	4.35E-11	4.35E-11	4.35E-11	8.70E-10	1.31E-09	1.48E-10	4.35E-11	3.39E-09
Benzo[A]Anthracene	1.90E-07	3.28E-08	3.28E-10	3.28E-10	3.28E-10	3.44E-10	3.28E-10	3.28E-10	2.49E-07
Chrysene	9.19E-08	5.58E-09	3.28E-11	3.28E-11	2.92E-09	5.58E-09	9.84E-10	3.28E-11	5.91E-08
Benzo(b)fluoranthene	1.35E-07	1.77E-08	3.28E-10	3.28E-10	9.19E-09	1.94E-08	2.17E-09	3.28E-10	2.33E-07
Benzo[K]Fluoranthene	3.61E-10	3.28E-10	3.28E-10	3.28E-10	3.28E-10	3.77E-10	1.51E-09	3.28E-10	4.59E-08
Benzo[A]Pyrene	2.13E-06	2.49E-07	3.28E-09	3.28E-09	1.87E-07	4.27E-07	4.27E-08	3.28E-09	3.94E-06
Indeno[1,2,3-Cd]Pyrene	3.28E-08	2.99E-09	3.28E-10	3.28E-10	1.28E-08	2.33E-08	3.02E-09	3.28E-10	6.23E-08
Dibenz[A,H]Anthracene	6.56E-07	6.89E-08	3.28E-09	3.28E-09	1.12E-07	2.23E-07	2.59E-08	3.28E-09	9.51E-07
Aliphatic EC 5-6									
Aliphatic EC 6-8									
Aliphatic EC 8-10									
Aliphatic EC 10-12									
Aliphatic EC 12-16									
Aliphatic EC 16-21									
Aliphatic EC 21-34									
Aromatic EC 8-10									
Aromatic EC 10-12									
Aromatic EC 12-16									
Aromatic EC 16-21									
Aromatic EC 21-34									
Sum	3.25E-06	3.78E-07	8.24E-09	8.24E-09	3.26E-07	7.02E-07	7.70E-08	8.24E-09	5.54E-06

Table E1. Calculated Risk Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Subcell 16-2 3ft	Subcell 16-3 3ft	Subcell 16-4 3ft
	Risk	Risk	Risk
EPA-8021 Benzene	1.11E-10	1.11E-10	3.61E-10
EPA-8021 Toluene	4.32E-10	1.77E-09	3.43E-10
EPA-8021 Ethylbenzene	4.86E-11	4.86E-11	4.86E-11
EPA-8021 Xylenes			
Mercury			
Naphthalene			
2-Methylnaphthalene			
1-Methylnaphthalene	1.22E-09	1.35E-09	2.04E-09
Benzo[A]Anthracene	3.28E-09	3.28E-09	3.28E-09
Chrysene	3.28E-10	3.28E-10	3.28E-10
Benzo(b)fluoranthene	2.26E-08	1.18E-08	2.49E-08
Benzo[K]Fluoranthene	3.28E-09	3.28E-09	3.28E-09
Benzo[A]Pyrene	7.87E-07	4.27E-07	1.05E-06
Indeno[1,2,3-Cd]Pyrene	3.05E-08	2.62E-08	3.94E-08
Dibenz[A,H]Anthracene	3.25E-07	2.13E-07	4.27E-07
Aliphatic EC 5-6			
Aliphatic EC 6-8			
Aliphatic EC 8-10			
Aliphatic EC 10-12			
Aliphatic EC 12-16			
Aliphatic EC 16-21			
Aliphatic EC 21-34			
Aromatic EC 8-10			
Aromatic EC 10-12			
Aromatic EC 12-16			
Aromatic EC 16-21			
Aromatic EC 21-34			
Sum	1.17E-06	6.88E-07	1.55E-06

Table E2. Calculated Hazard Quotient Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	504-B-1 0 ft	504-B-1 3 ft	504-B-1 6 ft	504-B-1 9 ft	504-B-2 0 ft	504-B-2 3 ft	504-B-3 0 ft	504-B-3 3 ft	505-B-1 0 ft
	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ
EPA-8021 Benzene	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	5.28E-06	1.88E-06	6.16E-06
EPA-8021 Toluene	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07
EPA-8021 Ethylbenzene	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07
EPA-8021 Xylenes	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07
Mercury	1.13E-04	1.30E-03	6.88E-04	2.19E-04	2.15E-04	2.71E-04	7.69E-03	1.82E-04	9.71E-03
Naphthalene	6.15E-07	2.40E-06	6.15E-07	6.15E-07	6.15E-07	6.15E-07	1.60E-05	6.15E-07	9.84E-06
2-Methylnaphthalene	1.41E-06	1.69E-05	1.41E-06	1.41E-06	1.41E-06	1.41E-06	8.86E-05	1.41E-06	5.20E-05
1-Methylnaphthalene	1.13E-07	1.58E-06	1.13E-07	1.13E-07	1.13E-07	1.13E-07	6.86E-06	1.13E-07	3.71E-06
Benzo[A]Anthracene									
Chrysene									
Benzo(b)fluoranthene									
Benzo[K]Fluoranthene									
Benzo[A]Pyrene	9.02E-05	4.51E-03	3.40E-04	4.10E-05	4.10E-05	4.10E-05	1.80E-02	4.10E-05	3.69E-03
Indeno[1,2,3-Cd]Pyrene									
Dibenz[A,H]Anthracene									
Aliphatic EC 5-6	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 6-8	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 8-10	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 10-12	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	1.42E-04	5.73E-05	2.75E-04
Aliphatic EC 12-16	1.25E-04	3.85E-03	1.40E-03	1.25E-04	1.25E-04	1.25E-04	2.00E-02	1.25E-04	9.00E-03
Aliphatic EC 16-21	3.30E-05	3.00E-04	3.23E-04	1.88E-06	1.88E-06	1.88E-06	1.28E-03	1.88E-06	7.50E-04
Aliphatic EC 21-34	3.83E-05	5.55E-04	2.25E-04	1.88E-06	1.88E-06	1.88E-06	2.48E-03	1.88E-06	1.95E-03
Aromatic EC 8-10	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Aromatic EC 10-12	8.59E-05	8.59E-05	8.59E-05	8.59E-05	8.59E-05	8.59E-05	1.43E-04	8.59E-05	1.72E-04
Aromatic EC 12-16	7.50E-05	7.50E-05	7.50E-05	7.50E-05	7.50E-05	7.50E-05	5.70E-04	7.50E-05	1.50E-04
Aromatic EC 16-21	1.30E-03	1.40E-02	8.00E-03	1.25E-04	1.25E-04	1.25E-04	6.50E-02	1.25E-04	3.75E-02
Aromatic EC 21-34	2.40E-03	6.38E-02	9.00E-03	9.38E-05	9.38E-05	9.38E-05	2.33E-01	9.38E-05	1.73E-01
Sum	4.40E-03	8.86E-02	2.03E-02	9.07E-04	9.02E-04	9.59E-04	3.48E-01	8.70E-04	2.36E-01

Table E2. Calculated Hazard Quotient Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	505-B-1 3 ft	505-B-1 6 ft	505-B-2 0 ft	505-B-2 3 ft	505-B-3 0 ft	505-B-3 3 ft	505-B-3 6 ft	505-B-3 9 ft	505-B-3 12 ft
	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ
EPA-8021 Benzene	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06
EPA-8021 Toluene	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	6.18E-07	2.03E-07	2.03E-07	2.03E-07
EPA-8021 Ethylbenzene	1.66E-07	1.66E-07	4.04E-07	1.66E-07	1.66E-07	1.33E-06	1.66E-07	1.66E-07	1.66E-07
EPA-8021 Xylenes	3.33E-07	3.33E-07	8.33E-07	3.33E-07	3.33E-07	1.77E-06	3.33E-07	3.33E-07	3.33E-07
Mercury	1.62E-04	1.82E-04	8.90E-04	1.42E-04	8.10E-03	1.13E-04	1.74E-04	2.51E-04	2.15E-04
Naphthalene	1.29E-06	6.15E-07	6.77E-06	6.15E-07	7.38E-06	2.09E-04	6.15E-07	6.15E-07	6.09E-04
2-Methylnaphthalene	2.53E-04	1.41E-06	2.11E-04	3.66E-05	4.92E-05	3.94E-03	6.05E-06	9.70E-06	8.30E-06
1-Methylnaphthalene	1.91E-05	1.13E-07	1.24E-05	2.59E-06	2.93E-06	2.25E-04	8.55E-07	8.10E-07	6.08E-07
Benzo[A]Anthracene									
Chrysene									
Benzo(b)fluoranthene									
Benzo[K]Fluoranthene									
Benzo[A]Pyrene	2.79E-04	4.10E-05	1.15E-03	4.10E-05	7.79E-03	2.58E-03	4.10E-05	4.10E-05	4.10E-05
Indeno[1,2,3-Cd]Pyrene									
Dibenz[A,H]Anthracene									
Aliphatic EC 5-6	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 6-8	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 8-10	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	1.49E-04	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 10-12	1.65E-04	5.73E-05	5.73E-05	5.73E-05	5.73E-05	3.90E-03	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 12-16	9.50E-03	1.25E-04	9.00E-03	2.05E-03	9.50E-03	1.10E-01	1.80E-03	1.25E-04	1.25E-04
Aliphatic EC 16-21	1.43E-04	1.88E-06	1.35E-04	2.70E-05	9.00E-04	1.35E-03	2.70E-05	4.20E-06	1.88E-06
Aliphatic EC 21-34	9.00E-05	1.88E-06	1.35E-04	2.10E-05	2.10E-03	9.00E-04	2.48E-05	1.88E-06	1.88E-06
Aromatic EC 8-10	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Aromatic EC 10-12	8.59E-05	8.59E-05	8.59E-05	8.59E-05	8.59E-05	1.99E-03	8.59E-05	8.59E-05	8.59E-05
Aromatic EC 12-16	2.13E-03	7.50E-05	1.92E-03	4.20E-04	3.90E-04	2.46E-02	3.60E-04	7.50E-05	7.50E-05
Aromatic EC 16-21	1.00E-02	1.25E-04	1.10E-02	1.70E-03	4.35E-02	9.50E-02	2.15E-03	1.25E-04	1.25E-04
Aromatic EC 21-34	5.63E-03	9.38E-05	1.39E-02	1.31E-03	1.69E-01	4.88E-02	1.69E-03	9.38E-05	9.38E-05
Sum	2.85E-02	8.70E-04	3.86E-02	5.98E-03	2.41E-01	2.94E-01	6.49E-03	9.50E-04	1.52E-03

Table E2. Calculated Hazard Quotient Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	505-B-3 15 ft	Cell-1 0-1 ft	Cell-2 0-1 ft	Cell-3 0-1 ft	Cell-4 0-1 ft	Cell-5 0-2 ft	Cell-5 2-4 ft	Cell-6 0-2 ft	WES-DUP-2b
	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ
EPA-8021 Benzene	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06
EPA-8021 Toluene	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	4.63E-06	1.22E-06	7.15E-06	1.79E-05
EPA-8021 Ethylbenzene	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07
EPA-8021 Xylenes	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07
Mercury	2.10E-04	5.26E-03	1.90E-03	1.42E-03	2.67E-03	3.64E-03	5.26E-03	4.86E-03	4.86E-03
Naphthalene	6.15E-07	5.91E-06	4.80E-06	2.52E-06	3.57E-06	7.38E-06	7.38E-06	8.61E-06	6.77E-06
2-Methylnaphthalene	1.41E-05	2.95E-05	2.53E-05	1.13E-05	1.97E-05	4.36E-05	4.92E-05	5.34E-05	3.80E-05
1-Methylnaphthalene	1.05E-06	2.19E-07	1.46E-06	4.39E-07	7.76E-07	2.25E-06	2.81E-06	2.48E-06	2.03E-06
Benzo[A]Anthracene									
Chrysene									
Benzo(b)fluoranthene									
Benzo[K]Fluoranthene									
Benzo[A]Pyrene	4.10E-05	1.35E-03	7.38E-04	4.02E-04	5.33E-04	2.75E-03	4.51E-03	2.71E-03	2.34E-03
Indeno[1,2,3-Cd]Pyrene									
Dibenz[A,H]Anthracene									
Aliphatic EC 5-6	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 6-8	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 8-10	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 10-12	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	1.74E-04	5.73E-05	2.04E-04
Aliphatic EC 12-16	6.00E-04	2.60E-03	1.80E-03	5.50E-04	1.15E-03	8.50E-03	1.25E-02	8.50E-03	1.05E-02
Aliphatic EC 16-21	9.00E-06	3.38E-04	2.93E-04	1.35E-04	1.65E-04	6.90E-04	9.75E-04	7.20E-04	6.60E-04
Aliphatic EC 21-34	9.75E-06	1.05E-03	8.25E-04	5.03E-04	5.18E-04	1.80E-03	2.18E-03	1.88E-03	1.65E-03
Aromatic EC 8-10	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Aromatic EC 10-12	8.59E-05	8.59E-05	8.59E-05	8.59E-05	8.59E-05	1.29E-04	1.39E-04	1.24E-04	1.89E-04
Aromatic EC 12-16	7.50E-05	1.83E-04	7.50E-05	7.50E-05	1.53E-04	2.34E-04	3.60E-04	1.08E-04	1.65E-04
Aromatic EC 16-21	6.00E-04	1.75E-02	1.20E-02	5.50E-03	6.00E-03	3.55E-02	5.50E-02	3.75E-02	3.10E-02
Aromatic EC 21-34	5.63E-04	8.63E-02	6.00E-02	3.23E-02	3.11E-02	1.31E-01	1.84E-01	1.35E-01	1.16E-01
Sum	2.35E-03	1.15E-01	7.79E-02	4.11E-02	4.26E-02	1.85E-01	2.65E-01	1.92E-01	1.68E-01

Table E2. Calculated Hazard Quotient Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Cell-7 0-2 ft	Cell-8 0-2 ft	Cell-9 0-1 ft	Cell-10 0-2 ft	Cell-10 2-4 ft	Cell-10 4-6 ft	Cell-10 6-8 ft	Cell-10 8-10 ft	Cell-11 0-2 ft
	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ
EPA-8021 Benzene	1.88E-06	1.88E-06	1.88E-06	1.88E-06	4.15E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06
EPA-8021 Toluene	2.03E-07	6.91E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	2.03E-07	1.22E-05
EPA-8021 Ethylbenzene	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07
EPA-8021 Xylenes	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07
Mercury	3.40E-03	2.02E-03	9.71E-04	1.62E-03	5.26E-03	1.82E-04	1.90E-04	1.90E-04	1.54E-03
Naphthalene	5.54E-06	7.38E-06	2.46E-06	2.58E-06	9.84E-06	6.15E-07	6.15E-07	6.15E-07	3.26E-06
2-Methylnaphthalene	3.09E-05	3.80E-05	1.18E-05	8.86E-06	7.88E-05	1.41E-06	1.41E-06	1.41E-06	1.55E-05
1-Methylnaphthalene	1.35E-06	1.80E-06	1.80E-07	3.71E-07	4.61E-06	1.13E-07	1.13E-07	1.13E-07	1.35E-06
Benzo[A]Anthracene									
Chrysene									
Benzo(b)fluoranthene									
Benzo[K]Fluoranthene									
Benzo[A]Pyrene	2.05E-03	3.24E-03	1.23E-03	5.33E-04	5.74E-03	4.10E-05	4.10E-05	4.10E-05	2.91E-03
Indeno[1,2,3-Cd]Pyrene									
Dibenz[A,H]Anthracene									
Aliphatic EC 5-6	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 6-8	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 8-10	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 10-12	1.35E-04	5.73E-05	5.73E-05	1.44E-03	8.48E-04	5.73E-05	5.73E-05	5.73E-05	1.56E-04
Aliphatic EC 12-16	7.50E-03	1.45E-02	5.50E-03	1.85E-02	2.30E-02	1.25E-04	1.25E-04	1.25E-04	6.50E-03
Aliphatic EC 16-21	3.90E-04	8.25E-04	2.93E-04	9.75E-05	8.25E-04	1.88E-06	1.88E-06	1.88E-06	2.93E-04
Aliphatic EC 21-34	9.75E-04	1.80E-03	6.15E-04	2.25E-04	1.88E-03	1.88E-06	1.88E-06	3.98E-06	6.45E-04
Aromatic EC 8-10	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Aromatic EC 10-12	8.59E-05	1.31E-04	8.59E-05	2.30E-04	1.32E-04	8.59E-05	8.59E-05	8.59E-05	8.59E-05
Aromatic EC 12-16	5.10E-04	3.60E-04	7.50E-05	1.38E-03	1.23E-03	7.50E-05	7.50E-05	7.50E-05	2.97E-04
Aromatic EC 16-21	2.20E-02	4.00E-02	1.25E-02	5.50E-03	3.30E-02	1.25E-04	1.25E-04	1.25E-04	1.10E-02
Aromatic EC 21-34	7.88E-02	1.16E-01	3.38E-02	1.76E-02	1.20E-01	9.38E-05	9.38E-05	9.38E-05	4.88E-02
Sum	1.16E-01	1.79E-01	5.52E-02	4.72E-02	1.92E-01	8.70E-04	8.78E-04	8.80E-04	7.23E-02

Table E2. Calculated Hazard Quotient Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Cell-11 2-4 ft	Cell-11 4-6 ft	Cell-12 0-2 ft	Cell-12 2-4 ft	Cell-13 0-2 ft	Cell-13 2-4 ft	Cell-13 4-6 ft	Cell-14 0-2 ft	Cell-14 2-4 ft
	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ
EPA-8021 Benzene	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06
EPA-8021 Toluene	2.60E-06	8.04E-07	7.80E-06	4.88E-07	2.93E-05	2.03E-07	2.03E-07	6.99E-06	2.03E-07
EPA-8021 Ethylbenzene	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07
EPA-8021 Xylenes	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07
Mercury	1.30E-03	3.48E-03	4.45E-03	2.63E-03	3.28E-03	3.00E-03	3.16E-04	2.79E-03	4.45E-03
Naphthalene	6.77E-06	3.20E-06	3.38E-04	8.00E-06	7.38E-06	9.23E-06	9.84E-07	6.77E-06	1.05E-05
2-Methylnaphthalene	3.23E-05	1.69E-05	3.38E-03	4.64E-05	4.22E-05	2.39E-04	2.74E-06	3.38E-05	5.48E-05
1-Methylnaphthalene	3.38E-06	1.35E-06	3.04E-04	2.70E-06	2.03E-06	3.04E-05	1.80E-07	1.80E-06	7.65E-06
Benzo[A]Anthracene									
Chrysene									
Benzo(b)fluoranthene									
Benzo[K]Fluoranthene									
Benzo[A]Pyrene	2.09E-03	2.67E-03	6.97E-03	1.76E-03	2.42E-03	2.05E-02	1.52E-03	3.53E-03	7.79E-03
Indeno[1,2,3-Cd]Pyrene									
Dibenz[A,H]Anthracene									
Aliphatic EC 5-6	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 6-8	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 8-10	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 10-12	1.54E-03	5.73E-05	4.81E-02	1.10E-03	2.29E-04	1.47E-03	5.73E-05	1.47E-04	5.96E-03
Aliphatic EC 12-16	1.50E-02	3.65E-03	2.70E-01	3.05E-02	1.45E-02	1.15E-01	1.30E-03	2.00E-02	1.40E-01
Aliphatic EC 16-21	3.30E-04	2.10E-04	5.55E-04	4.95E-04	6.08E-04	2.48E-03	3.83E-05	7.13E-04	2.70E-03
Aliphatic EC 21-34	5.48E-04	4.35E-04	9.75E-04	8.25E-04	1.43E-03	2.63E-03	1.28E-04	1.50E-03	1.88E-03
Aromatic EC 8-10	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Aromatic EC 10-12	8.59E-05	8.59E-05	1.51E-02	8.59E-05	1.20E-04	4.47E-04	8.59E-05	8.59E-05	1.20E-03
Aromatic EC 12-16	7.80E-04	3.90E-04	5.10E-02	9.30E-04	4.50E-04	1.77E-02	3.60E-04	7.50E-05	1.68E-02
Aromatic EC 16-21	1.35E-02	1.00E-02	4.05E-02	2.05E-02	2.85E-02	1.85E-01	5.50E-03	3.45E-02	1.40E-01
Aromatic EC 21-34	4.88E-02	3.75E-02	8.25E-02	5.63E-02	9.75E-02	2.51E-01	1.46E-02	8.63E-02	1.46E-01
Sum	8.40E-02	5.86E-02	5.24E-01	1.15E-01	1.49E-01	6.00E-01	2.40E-02	1.50E-01	4.67E-01

Table E2. Calculated Hazard Quotient Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Cell-15 0-2 ft	Cell-16 0-2 ft	Cell-16 2-4 ft	Cell-16 4-6 ft	Cell-16 6-8 ft	Cell-16 8-10 ft	Cell-16 10-12 ft	Cell-17 0-2 ft	Cell-17 2-4 ft
	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ
EPA-8021 Benzene	1.88E-06	1.88E-06	1.07E-05	1.88E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06	5.28E-06
EPA-8021 Toluene	4.55E-07	2.03E-06	1.46E-06	2.03E-07	2.03E-07	2.03E-07	2.03E-07	8.94E-07	2.03E-07
EPA-8021 Ethylbenzene	1.66E-07	1.66E-07	3.58E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	8.62E-07
EPA-8021 Xylenes	3.33E-07	3.33E-07	8.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	1.27E-06
Mercury	2.23E-03	2.63E-03	4.86E-03	2.59E-04	2.83E-04	6.88E-04	1.46E-04	4.86E-03	3.93E-03
Naphthalene	5.29E-06	3.26E-06	2.58E-05	1.35E-06	6.15E-07	6.15E-07	6.15E-07	8.00E-06	5.78E-05
2-Methylnaphthalene	2.53E-05	2.11E-05	1.55E-04	1.03E-05	1.41E-06	6.19E-06	1.41E-06	4.64E-05	6.19E-04
1-Methylnaphthalene	1.58E-06	1.06E-06	1.46E-05	7.88E-07	1.13E-07	7.31E-07	1.13E-07	2.59E-06	3.71E-05
Benzo[A]Anthracene									
Chrysene									
Benzo(b)fluoranthene									
Benzo[K]Fluoranthene									
Benzo[A]Pyrene	1.93E-03	1.48E-03	8.20E-02	2.42E-04	4.10E-05	2.99E-04	4.10E-05	3.08E-03	2.67E-02
Indeno[1,2,3-Cd]Pyrene									
Dibenz[A,H]Anthracene									
Aliphatic EC 5-6	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 6-8	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 8-10	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 10-12	5.73E-05	5.73E-05	7.10E-04	5.73E-05	5.73E-05	5.73E-05	5.73E-05	2.11E-04	1.17E-03
Aliphatic EC 12-16	6.00E-03	7.50E-03	3.95E-02	2.30E-03	1.25E-04	1.20E-03	1.25E-04	1.60E-02	3.90E-02
Aliphatic EC 16-21	3.83E-04	4.43E-04	1.65E-03	7.50E-05	1.88E-06	4.05E-05	1.88E-06	9.75E-04	1.20E-03
Aliphatic EC 21-34	9.00E-04	1.05E-03	3.68E-03	1.35E-04	1.88E-06	7.35E-05	1.88E-06	2.40E-03	3.00E-03
Aromatic EC 8-10	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Aromatic EC 10-12	8.59E-05	7.91E-05	2.06E-04	8.59E-05	8.59E-05	8.59E-05	8.59E-05	1.89E-04	6.19E-04
Aromatic EC 12-16	1.83E-04	6.90E-05	2.76E-03	1.59E-04	7.50E-05	7.50E-05	7.50E-05	1.65E-04	5.10E-03
Aromatic EC 16-21	2.15E-02	9.50E-03	1.60E-01	3.50E-03	1.25E-04	2.10E-03	1.25E-04	4.30E-02	8.00E-02
Aromatic EC 21-34	6.75E-02	4.50E-02	7.13E-01	7.88E-03	9.38E-05	5.25E-03	9.38E-05	1.46E-01	2.96E-01
Sum	1.01E-01	6.79E-02	1.01E+00	1.48E-02	9.71E-04	9.96E-03	8.34E-04	2.17E-01	4.58E-01

Table E2. Calculated Hazard Quotient Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Cell-17 4-6 ft	Cell-17 6-8 ft	Cell-17 8-10 ft	Cell-18 0-2 ft	Cell-18 2-4 ft	Cell-18 4-6 ft	Cell-18 6-8 ft	Subcell 16-1 3ft	Subcell 16-2 3ft
	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ
EPA-8021 Benzene	1.88E-06	1.88E-06	1.88E-06	1.88E-06	4.78E-06	1.88E-06	1.88E-06	1.88E-06	1.88E-06
EPA-8021 Toluene	2.03E-07	2.03E-07	2.03E-07	5.53E-07	2.03E-06	2.03E-07	2.03E-07	2.03E-07	6.74E-07
EPA-8021 Ethylbenzene	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07	1.66E-07
EPA-8021 Xylenes	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07	3.33E-07
Mercury	1.70E-04	2.35E-04	2.02E-04	4.45E-03	8.10E-03	7.29E-04	2.47E-04	6.88E-03	5.67E-03
Naphthalene	6.15E-07	6.15E-07	6.15E-07	7.38E-06	9.23E-06	1.29E-06	6.15E-07	1.60E-05	6.15E-06
2-Methylnaphthalene	1.41E-06	1.41E-06	1.41E-06	4.08E-05	6.33E-05	5.77E-06	1.41E-06	9.00E-05	6.05E-05
1-Methylnaphthalene	1.13E-07	1.13E-07	1.13E-07	2.25E-06	3.38E-06	3.83E-07	1.13E-07	8.78E-06	3.15E-06
Benzo[A]Anthracene									
Chrysene									
Benzo(b)fluoranthene									
Benzo[K]Fluoranthene									
Benzo[A]Pyrene	3.12E-03	4.10E-05	4.10E-05	2.34E-03	5.33E-03	5.33E-04	4.10E-05	4.92E-02	9.84E-03
Indeno[1,2,3-Cd]Pyrene									
Dibenz[A,H]Anthracene									
Aliphatic EC 5-6	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 6-8	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 8-10	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 10-12	5.73E-05	5.73E-05	5.73E-05	5.73E-05	5.73E-05	2.18E-05	5.73E-05	3.21E-04	5.73E-05
Aliphatic EC 12-16	3.15E-03	1.25E-04	1.25E-04	7.50E-03	1.40E-02	3.55E-03	1.25E-04	1.20E-02	5.00E-03
Aliphatic EC 16-21	1.28E-04	1.88E-06	1.88E-06	5.78E-04	1.20E-03	2.40E-04	1.88E-06	4.73E-04	2.78E-04
Aliphatic EC 21-34	3.45E-04	1.88E-06	1.88E-06	1.58E-03	2.70E-03	3.53E-04	1.88E-06	1.35E-03	6.08E-04
Aromatic EC 8-10	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05	1.72E-05
Aromatic EC 10-12	8.59E-05	8.59E-05	8.59E-05	7.05E-05	2.06E-04	1.72E-04	8.59E-05	1.72E-04	6.53E-05
Aromatic EC 12-16	2.01E-04	7.50E-05	7.50E-05	1.83E-04	6.60E-04	1.50E-04	7.50E-05	5.40E-04	5.70E-05
Aromatic EC 16-21	8.50E-03	1.25E-04	1.25E-04	3.00E-02	4.25E-02	8.00E-03	1.25E-04	3.05E-02	1.15E-02
Aromatic EC 21-34	2.85E-02	9.38E-05	9.38E-05	1.09E-01	1.58E-01	1.99E-02	9.38E-05	1.24E-01	3.75E-02
Sum	4.43E-02	9.23E-04	8.90E-04	1.56E-01	2.32E-01	3.37E-02	9.35E-04	2.25E-01	7.07E-02

Table E2. Calculated Hazard Quotient Values for Method C Direct Contact Determinations (Dermal Contact + Ingestion)

	Subcell 16-3 3ft	Subcell 16-4 3ft	Subcell 16-5 3ft
	HQ	HQ	HQ

EPA-8021 Benzene	1.88E-06	6.16E-06	5.78E-06
EPA-8021 Toluene	2.76E-06	5.36E-07	8.13E-07
EPA-8021 Ethylbenzene	1.66E-07	1.66E-07	1.66E-07
EPA-8021 Xylenes	3.33E-07	3.33E-07	3.33E-07
Mercury	7.69E-03	8.50E-03	8.10E-03
Naphthalene	6.15E-06	1.41E-05	6.15E-06
2-Methylnaphthalene	6.75E-05	9.14E-05	8.02E-05
1-Methylnaphthalene	3.49E-06	5.29E-06	4.39E-06
Benzo[A]Anthracene			
Chrysene			
Benzo(b)fluoranthene			
Benzo[K]Fluoranthene			
Benzo[A]Pyrene	5.33E-03	1.31E-02	8.61E-03
Indeno[1,2,3-Cd]Pyrene			
Dibenz[A,H]Anthracene			
Aliphatic EC 5-6	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 6-8	1.01E-06	1.01E-06	1.01E-06
Aliphatic EC 8-10	5.73E-05	5.73E-05	5.73E-05
Aliphatic EC 10-12	5.73E-05	1.15E-04	1.15E-04
Aliphatic EC 12-16	7.00E-03	1.05E-02	9.50E-03
Aliphatic EC 16-21	4.88E-04	7.05E-04	6.98E-04
Aliphatic EC 21-34	1.13E-03	1.50E-03	1.43E-03
Aromatic EC 8-10	1.72E-05	1.72E-05	1.72E-05
Aromatic EC 10-12	6.53E-05	1.72E-04	1.72E-04
Aromatic EC 12-16	5.70E-05	5.10E-04	3.60E-04
Aromatic EC 16-21	2.40E-02	3.70E-02	2.95E-02
Aromatic EC 21-34	7.13E-02	1.20E-01	9.38E-02
Sum	1.17E-01	1.92E-01	1.52E-01