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File: 0676-020-06

Subject: Work Plan Addendum No. 3 for Additional Groundwater Sampling from Selected Wells and Analysis Using Reductive Precipitation Method at the Former Mill A Site, Everett, Washington

This memorandum has been prepared as an addendum to the Weyerhaeuser Mill A Former Remedial Investigation/Feasibility Study (RI/FS) Work Plan (GeoEngineers 2014a) and Upland Area Sampling and Analysis Plan (SAP) for the Weyerhaeuser Mill A Former Site (Site) (GeoEngineers 2014b). This addendum is being provided on behalf of the Port of Everett and describes additional groundwater sampling from selected wells at the Site for analysis using the Reductive Precipitation Method (RPM). This addendum has been prepared to supplement and meet the RI requirements specified in the Work Plan.

The sampling and analysis described in this addendum is being performed as follow-up to the groundwater sampling and analysis performed in September 2016 (dry season) and in March 2017 (wet season). The additional sampling and analysis is based on the results of previous RI groundwater sampling and analysis and communication and coordination with the Washington State Department of Ecology (Ecology). The primary communications related to this work include the following:

- Upland Area Remedial Investigation Data Report Technical Memorandum Weyerhaeuser Mill A Former, Everett Washington dated March 19, 2018 (GeoEngineers 2018a).
- A meeting between representatives of Ecology, Port of Everett, Weyerhaeuser Company and Washington State Department of Natural Resources held on June 26, 2018.
- Email presenting the Proposal for Additional Groundwater Sampling and Analysis dated July 3, 2018.

The groundwater sampling and analysis described in this addendum includes:

- Additional dry season groundwater sampling at selected monitoring wells at the Former Mill A Site where marine water influence has affected the analytical results.
- Analysis for selected metals (i.e., copper, nickel and thallium) using the reductive precipitation (RPM) preparation method prior to analysis.



BACKGROUND

In accordance with the RI/FS Work Plan Upland Area SAP, dry season analyses for metals were performed using universal cell technology (UCT). The results from the dry season groundwater analyses performed in September 2016 using UCT for copper, nickel, silver and thallium had elevated reporting limits and/or concentrations greater than the preliminary screening levels (PSLs). The 2016 groundwater data were analyzed for both total and dissolved analysis. Samples analyzed for dissolved concentrations were filtered in the field to reduce influence from suspended solids. The elevated reporting limits and/or concentrations were identified to be likely associated with marine water (i.e., salinity) influence.

Based on communications with Ecology, wet season analyses for all metals were performed in March 2017 using UCT as well as RPM for copper, nickel, silver and thallium. Again, samples were submitted for both total and dissolved metals analysis. Locations selected for the use of RPM had groundwater with a specific conductance greater than 1,000 uS/cm. RPM was used to minimize marine water influence on these metals. RPM analyses resulted in reporting limits less than the PSLs and detections of these metals below the PSLs at multiple monitoring locations. The results for all previous metals analyses are presented in attached Tables 1 through 4. The attached Figure 1 provides a summary of the salinity measured in groundwater at wells at the Site.

The results for silver (Table 3) from analyses using RPM during the 2017 wet season sampling event show that silver is not present in groundwater at concentrations greater than the PSL. Results using RPM in 2017 show that the reporting limits and detected concentrations of silver were one to two orders of magnitude less than the PSL. Therefore, because all of the wells using RPM show silver at concentrations below the PSL, in addition to the fact that further inland wells not influenced by salinity had silver below the PSL, additional groundwater sampling and analysis for silver is not needed and not proposed.

The results for thallium (Table 4) from analyses using RPM during the 2017 wet season sampling event show that thallium is not present in groundwater at concentrations greater than the PSL. Results using RPM in 2017 show that the reporting limits and detected concentrations of thallium were one to two orders of magnitude less than the PSL except for dissolved thallium using UCT at EST09 during the wet season monitoring event (Table 4). However, total and dissolved thallium at EST09 were detected at concentrations less than the PSL during the wet season monitoring event using RPM.

The wet season results using RPM for copper and nickel resolved elevated reporting limits at all of the locations where it was performed (Tables 1 and 2). The detected concentrations of nickel using RPM were less than the PSLs at all but one location, EST19 (Table 2). Out of 11 locations, the detected concentrations of copper exceeded the PSL at three (Table 1).

ADDITIONAL GROUNDWATER SAMPLING AND ANALYSIS

Based on the results of previous groundwater sampling and analysis, additional dry season sampling is being performed for analysis using RPM to provide additional data to complete the characterization of metals in groundwater and support completion of the RI. Additional groundwater sampling and analysis is to be performed at the following locations using RPM:

- EST08 - copper
- EST09 – copper, nickel and thallium
- EST10 – copper and nickel
- EST10D – nickel
- EST13 – copper and nickel
- MW01 – copper
- MW02 – copper

Additional sampling and analysis is not being performed at EST14, EST18 or EST19 as these wells were decommissioned to support the South Terminal Wharf Upgrades Project. Notification of decommissioning of these wells was provided to Ecology in the memorandum titled Notification of Well Decommissioning at Mill A Cleanup Site dated February 14, 2018 (GeoEngineers 2018b).

Sampling for total and dissolved thallium, nickel and/or copper will be performed from the locations identified above in accordance with the Upland Area SAP approved by Ecology prepared as part of the RI/FS Work Plan. Sample analyses will be performed by ALS Environmental laboratory in Kelso, Washington using EPA Method 1640 (reductive precipitation) followed by EPA Method 200.8. ALS Environmental laboratory in Kelso previously performed these analyses on the wet season groundwater samples for the Mill A Site.

SCHEDULE

The additional groundwater sampling and analysis described in this addendum will be performed following approval for this Work Plan addendum. Additional groundwater sampling is anticipated to be performed the week of July 24, 2018.

REFERENCES

GeoEngineers 2018a. Upland Area Remedial Investigation Data Report Technical Memorandum Weyerhaeuser Mill A Former, Everett, Washington. Prepared for Washington State Department of Ecology on behalf of the Port of Everett. March 19, 2018.

GeoEngineers 2018b. Notification of Well Decommissioning at Mill A Cleanup Site. Prepared for Washington State Department of Ecology on behalf of the Port of Everett. February 14, 2018.

GeoEngineers 2014a. Remedial Investigation and Feasibility Study Work Plan. Weyerhaeuser Former Mill A Site, Everett, WA. Prepared for the Washington Department of Ecology on behalf of the Port of Everett, Weyerhaeuser Company, and Washington State Department of Natural Resources. October 16, 2014.

GeoEngineers 2014b. Upland Area Remedial Investigation Sampling and Analysis Plan. Weyerhaeuser Former Mill A Site, Everett, WA. Prepared for the Washington Department of Ecology on behalf of



the Port of Everett, Weyerhaeuser Company, and Washington State Department of Natural
Resources. October 16, 2014.

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Attachments:

Table 1. Remedial Investigation Groundwater Monitoring Results – Copper

Table 2. Remedial Investigation Groundwater Monitoring Results – Nickel

Table 3. Remedial Investigation Groundwater Monitoring Results – Silver

Table 4. Remedial Investigation Groundwater Monitoring Results – Thallium

Figure 1. Upland Groundwater Investigation Salinity Results



Table 1
Remedial Investigation Groundwater Monitoring Results - Copper
 Port of Everett Mill A Former
 Everett, Washington

| Sample Location | Preliminary Groundwater Screening Level | EST01 | | EST02 | | EST03 | | EST04 | | EST05 | | EST06 | | EST07 | |
|-----------------------------------------------------|-----------------------------------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| Sample Identification | | EST01_092916 | EST01_03272017 | EST02_092916 | EST02_03272017 | EST03_092816 | EST03_03242017 | EST04_092816 | EST04_03282017 | EST05_093016 | EST05_03242017 | EST06_092616 | EST06_03292017 | EST07_092616 | EST07_03292017 |
| Date Sampled | | 09/29/16 | 03/27/17 | 09/29/16 | 03/27/17 | 09/28/16 | 03/24/17 | 09/28/16 | 03/28/17 | 09/30/16 | 03/24/17 | 09/28/16 | 03/29/17 | 09/26/16 | 03/29/17 |
| Well Location | | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland |
| Copper Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Copper | 3.1 | 1.35 | 0.467 J | 0.86 | 1.45 | 1.11 | 0.842 | 64.6 | 30.8 J | 0.935 | 1.6 | 0.500 U | 2.98 | 1.15 | 0.452 J |
| Dissolved Copper | 3.1 | 0.500 U | 0.500 U | 0.500 U | 0.500 U | 0.500 U | 0.411 J | 38.8 | 22.5 J | 0.577 | 0.500 U | 0.500 U | 0.474 J | 0.500 U | 1.14 |
| Copper Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | |
| Total Copper | 3.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Copper | 3.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| Sample Location | Preliminary Groundwater Screening Level | EST08 | | EST08D | | EST09 | | EST10 | | EST10D | | EST11 | | EST11D | | |
|-----------------------------------------------------|-----------------------------------------|--------------|----------------|----------------|---------------|-----------------|--------------|----------------|--------------|----------------|---------------|-----------------|--------------|----------------|---------------|-----------------|
| Sample Identification | | EST08_092616 | EST08_03302017 | DUP01_03302017 | EST08D_092616 | EST08D_03302017 | EST09_092816 | EST09_03282017 | EST10_092916 | EST10_03282017 | EST10D_101016 | EST10D_03282017 | EST11_101016 | EST11_03292017 | EST11D_102116 | EST11D_03292017 |
| Date Sampled | | 09/26/16 | 03/31/17 | 03/24/17 | 09/26/16 | 03/31/17 | 09/29/16 | 03/28/17 | 09/29/16 | 03/28/17 | 10/10/16 | 03/28/17 | 10/10/16 | 03/29/17 | 10/21/16 | 03/29/17 |
| Well Location | | Shoreline | Shoreline | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Upland |
| Copper Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | | |
| Total Copper | 3.1 | 11.7 | 6.64 J | -- | 1.62 | 1.00 UJ | 7.28 J | 10.0 UJ | 10.0 U | 2.50 UJ | 2.35 | 0.724 J | 0.500 U | 0.829 | 0.626 | 0.457 J |
| Dissolved Copper | 3.1 | 10.0 U | 2.69 | -- | 0.500 U | 0.500 U | 10.0 U | 10.0 U | 10.0 U | 2.50 U | 2.83 | 1.00 U | 0.500 U | 1.00 U | 0.500 U | 0.722 |
| Copper Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | | |
| Total Copper | 3.1 | -- | 5.44 | 5.25 | -- | -- | -- | 0.17 | -- | 0.43 | -- | 0.49 | -- | -- | -- | -- |
| Dissolved Copper | 3.1 | -- | 3.27 | 3.1 | -- | -- | -- | 0.15 | -- | 0.14 | -- | 0.31 | -- | -- | -- | -- |

| Sample Location | Preliminary Groundwater Screening Level | EST12 | | | | EST13 | | EST14 | | EST15 | | | | EST16 | |
|-----------------------------------------------------|-----------------------------------------|--------------|--------------|----------------|----------------|--------------|----------------|--------------|----------------|--------------|--------------|----------------|----------------|--------------|----------------|
| Sample Identification | | EST12_092816 | DUP01_092816 | EST12_03302017 | DUP01_03302017 | EST13_092716 | EST13_04032017 | EST14_093016 | EST14_03302017 | EST15_092816 | DUP02_092816 | EST15_03242017 | DUP02_03242017 | EST16_092716 | EST16_04032017 |
| Date Sampled | | 09/28/2016 | 09/28/2016 | 03/24/17 | 03/24/17 | 09/27/2016 | 04/03/17 | 09/30/2016 | 03/30/17 | 09/28/2016 | 09/28/2016 | 03/24/17 | 03/24/17 | 09/27/2016 | 04/03/17 |
| Well Location | | Upland | Upland | Upland | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Upland | Upland | Upland | Upland |
| Copper Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Copper | 3.1 | 2.50 U | 0.500 U | 0.55 J | 2.06 | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 0.500 U | 0.500 U | 0.500 U | 0.596 | 0.458 J | 2.78 |
| Dissolved Copper | 3.1 | 0.500 U | 0.5 U | 1.00 U | 2.50 U | 10.0 U | 10.0 U | 10.0 U | 10.0 U | 0.500 U | 0.5 U | 0.489 J | 0.500 U | 0.500 U | 1.00 U |
| Copper Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | |
| Total Copper | 3.1 | -- | -- | -- | -- | -- | 0.05 J | -- | 1.5 | -- | -- | -- | -- | -- | -- |
| Dissolved Copper | 3.1 | -- | -- | -- | -- | -- | 0.06 J | -- | 1.43 | -- | -- | -- | -- | -- | -- |

| Sample Location | Preliminary Groundwater Screening Level | EST18 | | EST19 | | EST20 | | MW01 | | MW-02 | | SW01 | | SW02 | |
|-----------------------------------------------------|-----------------------------------------|--------------|----------------|--------------|----------------|--------------|----------------|-------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|
| Sample Identification | | EST18_092916 | EST18_03302017 | EST19_101016 | EST19_03302017 | EST20_092716 | EST20_03242017 | MW01_093016 | MW01_03272107 | MW02_093016 | MW02_03272107 | SW01_093016 | SW01_03302017 | SW02_093016 | SW02_03302017 |
| Date Sampled | | 09/29/2016 | 03/31/17 | 10/10/2016 | 03/30/17 | 09/27/2016 | 03/24/17 | 09/30/2016 | 03/27/17 | 09/30/2016 | 03/27/17 | 09/30/2016 | 03/30/17 | 09/30/2016 | 03/30/17 |
| Well Location | | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Surface Water | Surface Water | Surface Water | Surface Water |
| Copper Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Copper | 3.1 | 10.0 U | 3.1 J | 7.64 J | 10.0 U | 1.01 | 0.427 J | 10.0 U | 4.87 | 10.0 U | 4.96 | -- | -- | -- | -- |
| Dissolved Copper | 3.1 | 10.0 U | 5.00 U | 7.24 | 10.0 U | 0.500 U | 0.422 J | 7.42 | 4.74 | 10.0 U | 5.00 U | -- | -- | -- | -- |
| Copper Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | |
| Total Copper | 3.1 | -- | 2.97 | -- | 4.29 | -- | -- | -- | 3.84 | -- | 3.39 | -- | -- | -- | -- |
| Dissolved Copper | 3.1 | -- | 1.28 | -- | 4.64 | -- | -- | -- | 3.74 | -- | 1.05 | -- | -- | -- | -- |

Notes:

¹ Samples were analyzed on an NexION 300D instrument using Universal Cell Technology (UCT) to reduce interferences and potential false positives due to saline water. One or more samples were diluted to achieve laboratory quality control limit standard due to matrix interferences resulting in elevated reporting limits.

² Samples were prepared using reductive precipitation method (RPM) prior to analysis.

µg/L = micrograms per liter

U = The analyte was not detected at a concentration greater than the value identified.

Yellow shading indicates exceedance of the preliminary groundwater screening level.

Bold font type indicates the analyte was detected at the reported concentration.

-- = analysis not performed

n/a = not applicable

J = The analyte was detected and the detected concentration is considered an estimate.

Blue shading indicated non-detect result exceedance of the preliminary groundwater screening level.

Table 2
Remedial Investigation Groundwater Monitoring Results - Nickel
 Port of Everett Mill A Former
 Everett, Washington

| Sample Location | Preliminary Groundwater Screening Level | EST01 | | EST02 | | EST03 | | EST04 | | EST05 | | EST06 | | EST07 | |
|-----------------------------------------------|-----------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Sample Identification | | EST01_ | EST01_ | EST02_ | EST02_ | EST03_ | EST03_ | EST04_ | EST04_ | EST05_ | EST05_ | EST06_ | EST06_ | EST07_ | EST07_ |
| Date Sampled | | 09/29/16 | 03/27/17 | 09/29/16 | 03/27/17 | 09/28/16 | 03/24/17 | 09/28/16 | 03/28/17 | 09/30/16 | 03/24/17 | 09/28/16 | 03/29/17 | 09/26/16 | 03/29/17 |
| Well Location | | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland |
| Nickel Analysis Using UCT ¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Nickel | 8.2 | 1.39 | 0.399 J | 1.6 | 0.808 | 1.92 | 0.862 | 33.7 | 27.1 | 1.37 | 0.896 | 0.491 J | 1.52 J | 1.32 | 0.7 J |
| Dissolved Nickel | 8.2 | 0.524 | 0.323 J | 0.299 J | 0.456 J | 0.456 J | 0.213 J | 28.3 | 22.4 | 0.612 | 0.489 J | 0.428 J | 0.508 | 0.506 | 0.47 |
| Nickel Analysis Using RPM ² (µg/L) | | | | | | | | | | | | | | | |
| Total Nickel | 8.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Nickel | 8.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| Sample Location | Preliminary Groundwater Screening Level | EST08 | | | EST08D | | EST09 | | EST10 | | EST10D | | EST11 | | EST11D | |
|-----------------------------------------------|-----------------------------------------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|
| Sample Identification | | EST08_ | EST08_ | DUP01_ | EST08D_ | EST08D_ | EST09_ | EST09_ | EST10_ | EST10_ | EST10D_ | EST10D_ | EST11_ | EST11_ | EST11D_ | EST11D_ |
| Date Sampled | | 09/26/16 | 03/31/17 | 03/24/17 | 09/26/16 | 03/31/17 | 09/29/16 | 03/28/17 | 09/29/16 | 03/28/17 | 10/10/16 | 03/28/17 | 10/10/16 | 03/29/17 | 10/21/16 | 03/29/17 |
| Well Location | | Shoreline | Shoreline | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Upland |
| Nickel Analysis Using UCT ¹ (µg/L) | | | | | | | | | | | | | | | | |
| Total Nickel | 8.2 | 2.05 | 3.12 | - | 0.712 | 0.542 | 10.0 U | 10.0 U | 10.0 U | 1.04 | 12.8 | 4.11 | 0.9 | 0.656 J | 4.72 | 3.71 J |
| Dissolved Nickel | 8.2 | 2.08 | 2.62 | - | 0.236 J | 0.264 J | 10.0 U | 3.78 | 10.0 U | 0.71 | 16.2 | 3.92 | 0.264 J | 0.412 | 3.86 | 4.23 |
| Nickel Analysis Using RPM ² (µg/L) | | | | | | | | | | | | | | | | |
| Total Nickel | 8.2 | - | 2.87 | 2.99 | - | - | - | 0.58 | - | 1.19 | - | 3.18 | - | - | - | - |
| Dissolved Nickel | 8.2 | - | 2.9 | 2.95 | - | - | - | 0.5 | - | 0.72 | - | 3.38 | - | - | - | - |

| Sample Location | Preliminary Groundwater Screening Level | EST12 | | | | EST13 | | EST14 | | EST15 | | | | EST16 | |
|-----------------------------------------------|-----------------------------------------|------------|------------|----------|----------|------------|-----------|------------|-----------|------------|------------|----------|----------|------------|----------|
| Sample Identification | | EST12_ | DUP01_ | EST12_ | DUP01_ | EST13_ | EST13_ | EST14_ | EST14_ | EST15_ | DUP02_ | EST15_ | DUP02_ | EST16_ | EST16_ |
| Date Sampled | | 09/28/2016 | 09/28/2016 | 03/24/17 | 03/24/17 | 09/27/2016 | 04/03/17 | 09/30/2016 | 03/30/17 | 09/28/2016 | 09/28/2016 | 03/24/17 | 03/24/17 | 09/27/2016 | 04/03/17 |
| Well Location | | Upland | Upland | Upland | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Upland | Upland | Upland | Upland |
| Nickel Analysis Using UCT ¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Nickel | 8.2 | 2.50 U | 0.371 J | 0.469 J | 0.991 | 23 | 10.0 U | 7.74 J | 7.94 | 0.646 | 0.595 | 0.657 | 0.882 | 0.342 J | 1.2 |
| Dissolved Nickel | 8.2 | 0.303 J | 0.262 J | 0.474 | 0.505 | 18.2 | 1.04 | 8.3 | 7.04 | 0.476 J | 0.489 J | 0.662 | 0.498 J | 0.214 J | 0.288 |
| Nickel Analysis Using RPM ² (µg/L) | | | | | | | | | | | | | | | |
| Total Nickel | 8.2 | - | - | - | - | - | 0.43 | - | 6.11 | - | - | - | - | - | - |
| Dissolved Nickel | 8.2 | - | - | - | - | - | 0.93 | - | 6.41 | - | - | - | - | - | - |

| Sample Location | Preliminary Groundwater Screening Level | EST18 | | EST19 | | EST20 | | MW01 | | MW-02 | | SW01 | | SW02 | |
|-----------------------------------------------|-----------------------------------------|------------|-----------|------------|-----------|------------|----------|------------|-----------|------------|-----------|---------------|---------------|---------------|---------------|
| Sample Identification | | EST18_ | EST18_ | EST19_ | EST19_ | EST20_ | EST20_ | MW01_ | MW01_ | MW02_ | MW02_ | SW01_ | SW01_ | SW02_ | SW02_ |
| Date Sampled | | 09/29/2016 | 03/31/17 | 10/10/2016 | 03/30/17 | 09/27/2016 | 03/24/17 | 09/30/2016 | 03/27/17 | 09/30/2016 | 03/27/17 | 09/30/2016 | 03/30/17 | 09/30/2016 | 03/30/17 |
| Well Location | | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Surface Water | Surface Water | Surface Water | Surface Water |
| Nickel Analysis Using UCT ¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Nickel | 8.2 | 7.26 | 3.15 | 29.9 | 16.7 | 0.628 | 0.616 | - | - | - | - | - | - | - | - |
| Dissolved Nickel | 8.2 | 7.08 | 2.1 | 25.7 | 16.5 | 0.459 J | 0.477 J | - | - | - | - | - | - | - | - |
| Nickel Analysis Using RPM ² (µg/L) | | | | | | | | | | | | | | | |
| Total Nickel | 8.2 | - | 2.95 | - | 15.1 | - | - | - | 0.44 | - | 0.35 | - | - | - | - |
| Dissolved Nickel | 8.2 | - | 2.39 | - | 14.6 | - | - | - | 0.42 | - | 0.27 | - | - | - | - |

Notes:

¹ Samples were analyzed on a NexION 300D instrument using Universal Cell Technology (UCT) to reduce interferences and potential false positives due to saline water. One or more samples were diluted to achieve laboratory quality control limit standard due to matrix interferences resulting in elevated reporting limits.

² Samples were prepared using reductive precipitation method (RPM) prior to analysis.

µg/L = micrograms per liter

U = The analyte was not detected at a concentration greater than the value identified.

Yellow shading indicates exceedance of the preliminary groundwater screening level.

Bold font type indicates the analyte was detected at the reported concentration.

- = analysis not performed

n/a = not applicable

J = The analyte was detected and the detected concentration is considered an estimate.

Blue shading indicated non-detect result exceedance of the preliminary groundwater screening level.

Table 3
Remedial Investigation Groundwater Monitoring Results - Silver
 Port of Everett Mill A Former
 Everett, Washington

| Sample Location | | EST01 | | EST02 | | EST03 | | EST04 | | EST05 | | EST06 | | EST07 | | |
|-----------------------------------------------------|-----------------------------------------|---------|----------|---------|----------|---------|----------|----------------|---------------|-----------------|----------|---------|----------|---------|----------|--------|
| Sample Identification | Preliminary Groundwater Screening Level | EST01_ | EST01_ | EST02_ | EST02_ | EST03_ | EST03_ | EST04_ | EST04_ | EST05_ | EST05_ | EST06_ | EST06_ | EST07_ | EST07_ | |
| Date Sampled | | 092916 | 03272017 | 092916 | 03272017 | 092816 | 03242017 | 092816 | 03282017 | 093016 | 03242017 | 092616 | 03292017 | 092616 | 03292017 | |
| Well Location | | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland |
| | | | | | | | | | | | | | | | | |
| Silver Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | | |
| Total Silver | 1.9 | 0.200 U | 0.200 U | 0.200 U | 0.400 U | 0.200 U | 0.200 U | 0.232 | 0.11 J | 0.0210 J | 0.200 U | 0.400 U | 0.200 U | 1.00 U | 0.200 U | |
| Dissolved Silver | 1.9 | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 0.158 J | 0.112 | 0.200 U | 0.200 U | 0.200 U | 0.200 UJ | 0.200 U | 0.400 UJ | |
| Silver Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | | |
| Total Silver | 1.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Dissolved Silver | 1.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |

| Sample Location | | EST08 | | | EST08D | | EST09 | | EST10 | | EST10D | | EST11 | | EST11D | | |
|-----------------------------------------------------|-----------------------------------------|-----------|----------------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-----------|-----------------|----------|---------|----------|--------|
| Sample Identification | Preliminary Groundwater Screening Level | EST08_ | EST08_ | DUP01_ | EST08D_ | EST08D_ | EST09_ | EST09_ | EST10_ | EST10_ | EST10D_ | EST10D_ | EST11_ | EST11_ | EST11D_ | EST11D_ | |
| Date Sampled | | 092616 | 03302017 | 03302017 | 092616 | 03302017 | 092816 | 03282017 | 092916 | 03282017 | 101016 | 03282017 | 101016 | 03292017 | 102116 | 03292017 | |
| Well Location | | Shoreline | Shoreline | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Upland | Upland |
| | | | | | | | | | | | | | | | | | |
| Nickel Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | | | |
| Total Silver | 1.9 | 2.00 U | 2.00 U | -- | 0.200 U | 0.400 U | 4.00 U | 4.00 UJ | 4.00 U | 1.00 UJ | 0.107 J | 0.400 UJ | 0.0590 J | 0.200 U | 0.200 U | 0.200 U | |
| Dissolved Silver | 1.9 | 4.00 U | 0.200 U | -- | 0.200 U | 0.200 U | 4.00 U | 4.00 U | 4.00 U | 1.00 U | 0.400 U | 0.400 U | 0.200 U | 0.400 UJ | 0.200 U | 0.400 UJ | |
| Nickel Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | | | |
| Total Silver | 1.9 | -- | 0.013 J | 0.008 J | -- | -- | -- | 0.02 U | -- | 0.02 U | -- | 0.02 U | -- | -- | -- | -- | |
| Dissolved Silver | 1.9 | -- | 0.004 J | 0.004 J | -- | -- | -- | 0.02 U | -- | 0.02 U | -- | 0.02 U | -- | -- | -- | -- | |

| Sample Location | | EST12 | | | | EST13 | | EST14 | | EST15 | | | | EST16 | |
|-----------------------------------------------------|-----------------------------------------|---------|--------------|----------|----------|-----------|-----------|-----------|----------------|---------|--------------|----------|----------|---------|----------|
| Sample Identification | Preliminary Groundwater Screening Level | EST12_ | DUP01_ | EST12_ | DUP01_ | EST13_ | EST13_ | EST14_ | EST14_ | EST15_ | DUP02_ | EST15_ | DUP02_ | EST16_ | EST16_ |
| Date Sampled | | 092816 | 092816 | 03302017 | 03302017 | 092716 | 04032017 | 093016 | 03302017 | 092816 | 092816 | 03242017 | 03242017 | 092716 | 04032017 |
| Well Location | | Upland | Upland | Upland | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Upland | Upland | Upland | Upland |
| | | | | | | | | | | | | | | | |
| Nickel Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Silver | 1.9 | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 4.00 U | 4.00 U | 4.00 U | 4.00 U | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 0.400 U |
| Dissolved Silver | 1.9 | 0.200 U | 0.2 U | 0.400 U | 1.00 U | 4.00 U | 4.00 U | 4.00 U | 4.00 U | 0.200 U | 0.2 U | 0.200 U | 0.200 U | 0.200 U | 0.400 U |
| Nickel Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | |
| Total Silver | 1.9 | -- | -- | -- | -- | -- | 0.02 U | -- | 0.015 J | -- | -- | -- | -- | -- | -- |
| Dissolved Silver | 1.9 | -- | -- | -- | -- | -- | 0.02 U | -- | 0.015 J | -- | -- | -- | -- | -- | -- |

| Sample Location | | EST18 | | EST19 | | EST20 | | MW01 | | MW-02 | | SW01 | | SW02 | |
|-----------------------------------------------------|-----------------------------------------|-----------|----------------|-----------|----------------|---------|----------|-----------|--------------|-----------|---------------|---------------|---------------|---------------|---------------|
| Sample Identification | Preliminary Groundwater Screening Level | EST18_ | EST18_ | EST19_ | EST19_ | EST20_ | EST20_ | MW01_ | MW01_ | MW02_ | MW02_ | SW01_ | SW01_ | SW02_ | SW02_ |
| Date Sampled | | 092916 | 03302017 | 101016 | 03302017 | 092716 | 03242017 | 093016 | 03272107 | 093016 | 03272107 | 093016 | 03302017 | 093016 | 03302017 |
| Well Location | | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Surface Water | Surface Water | Surface Water | Surface Water |
| | | | | | | | | | | | | | | | |
| Nickel Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Silver | 1.9 | 4.00 U | 0.200 U | 4.00 U | 4.00 U | 0.200 U | 0.200 U | 4.00 U | 2.00 U | 4.00 U | 2.00 U | -- | -- | -- | -- |
| Dissolved Silver | 1.9 | 4.00 U | 2.00 U | 4.00 U | 4.00 U | 0.200 U | 0.200 U | 4.00 U | 2.00 U | 4.00 U | 2.00 U | -- | -- | -- | -- |
| Nickel Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | |
| Total Silver | 1.9 | -- | 0.077 | -- | 0.014 J | -- | -- | -- | 0.034 | -- | 0.01 J | -- | -- | -- | -- |
| Dissolved Silver | 1.9 | -- | 0.008 J | -- | 0.014 J | -- | -- | -- | 0.032 | -- | 0.02 U | -- | -- | -- | -- |

Notes:

¹ Samples were analyzed on an NexION 300D instrument using Universal Cell Technology (UCT) to reduce interferences and potential false positives due to saline water. One or more samples were diluted to achieve laboratory quality control limit standard due to matrix interferences resulting in elevated reporting limits.

² Samples were prepared using reductive precipitation method (RPM) prior to analysis.

µg/L = micrograms per liter

U = The analyte was not detected at a concentration greater than the value identified.

Yellow shading indicates exceedance of the preliminary groundwater screening level.

Bold font type indicates the analyte was detected at the reported concentration.

-- = analysis not performed

n/a = not applicable

J = The analyte was detected and the detected concentration is considered an estimate.

Blue shading indicated non-detect result exceedance of the preliminary groundwater screening level.

Table 4
Remedial Investigation Groundwater Monitoring Results - Thallium
 Port of Everett Mill A Former
 Everett, Washington

| Sample Location | Preliminary Groundwater Screening Level | EST01 | | EST02 | | EST03 | | EST04 | | EST05 | | EST06 | | EST07 | |
|-------------------------------------------------------|-----------------------------------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| Sample Identification | | EST01_092916 | EST01_03272017 | EST02_092916 | EST02_03272017 | EST03_092816 | EST03_03242017 | EST04_092816 | EST04_03282017 | EST05_093016 | EST05_03242017 | EST06_092616 | EST06_03292017 | EST07_092616 | EST07_03292017 |
| Date Sampled | | 09/29/16 | 03/27/17 | 09/29/16 | 03/27/17 | 09/28/16 | 03/24/17 | 09/28/16 | 03/28/17 | 09/30/16 | 03/24/17 | 09/28/16 | 03/29/17 | 09/26/16 | 03/29/17 |
| Well Location | | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland | Upland |
| Thallium Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Thallium | 0.22 | 0.200 U | 0.200 U | 0.200 U | 0.400 U | 0.200 U | 0.200 U | 0.0260 J | 0.400 U | 0.0130 J | 0.200 U | 0.400 U | 0.200 U | 1.00 U | 0.200 U |
| Dissolved Thallium | 0.22 | 0.200 U | 0.0110 J | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 0.0170 J | 0.400 U | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 0.400 U |
| Thallium Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | |
| Total Thallium | 0.22 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Thallium | 0.22 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| Sample Location | Preliminary Groundwater Screening Level | EST08 | | | EST08D | | EST09 | | EST10 | | EST10D | | EST11 | | EST11D | |
|-------------------------------------------------------|-----------------------------------------|--------------|----------------|----------------|---------------|-----------------|--------------|----------------|--------------|----------------|---------------|-----------------|--------------|----------------|---------------|-----------------|
| Sample Identification | | EST08_092616 | EST08_03302017 | DUP01_03302017 | EST08D_092616 | EST08D_03302017 | EST09_092816 | EST09_03282017 | EST10_092916 | EST10_03282017 | EST10D_101016 | EST10D_03282017 | EST11_101016 | EST11_03292017 | EST11D_102116 | EST11D_03292017 |
| Date Sampled | | 09/26/16 | 03/31/17 | 03/24/17 | 09/26/16 | 03/31/17 | 09/29/16 | 03/28/17 | 09/29/16 | 03/28/17 | 10/10/16 | 03/28/17 | 10/10/16 | 03/29/17 | 10/21/16 | 03/29/17 |
| Well Location | | Shoreline | Shoreline | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Upland |
| Thallium Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | | |
| Total Thallium | 0.22 | 2.00 U | 2.00 U | 0.200 U | 0.200 U | 0.400 U | 4.00 U | 4.00 U | 4.00 U | 1.00 U | 0.200 U | 0.400 U | 0.200 U | 0.200 U | 0.200 U | 0.200 U |
| Dissolved Thallium | 0.22 | 4.00 U | 0.200 U | 1.00 U | 0.200 U | 0.200 U | 4.00 U | 0.24 | 4.00 U | 1.00 U | 0.200 U | 0.400 U | 0.0130 J | 0.400 U | 0.200 U | 0.400 U |
| Thallium Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | | |
| Total Thallium | 0.22 | -- | 0.007 J | 0.02 U | -- | -- | -- | 0.02 U | -- | 0.02 U | -- | 0.02 U | -- | -- | -- | -- |
| Dissolved Thallium | 0.22 | -- | 0.02 U | 0.02 U | -- | -- | -- | 0.02 U | -- | 0.02 U | -- | 0.02 U | -- | -- | -- | -- |

| Sample Location | Preliminary Groundwater Screening Level | EST12 | | | | EST13 | | EST14 | | EST15 | | | | EST16 | |
|-------------------------------------------------------|-----------------------------------------|--------------|--------------|----------------|----------------|--------------|----------------|--------------|----------------|--------------|--------------|----------------|----------------|--------------|----------------|
| Sample Identification | | EST12_092816 | DUP01_092816 | EST12_03302017 | DUP01_03302017 | EST13_092716 | EST13_04032017 | EST14_093016 | EST14_03302017 | EST15_092816 | DUP02_092816 | EST15_03242017 | DUP02_03242017 | EST16_092716 | EST16_04032017 |
| Date Sampled | | 09/28/2016 | 09/28/2016 | 03/24/17 | 03/24/17 | 09/27/2016 | 04/03/17 | 09/30/2016 | 03/30/17 | 09/28/2016 | 09/28/2016 | 03/24/17 | 03/24/17 | 09/27/2016 | 04/03/17 |
| Well Location | | Upland | Upland | Upland | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Upland | Upland | Upland | Upland |
| Thallium Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Thallium | 0.22 | 0.200 U | 0.200 U | 0.200 U | 0.200 U | 4.00 U | 4.00 U | 4.00 U | 4.00 U | 0.200 U | 0.200 U | 0.0100 J | 0.200 U | 0.200 U | 0.400 U |
| Dissolved Thallium | 0.22 | 0.200 U | 0.2 U | 0.400 U | 1.00 U | 4.00 U | 4.00 U | 4.00 U | 4.00 U | 0.200 U | 0.2 U | 0.200 U | 0.0180 J | 0.200 U | 0.400 U |
| Thallium Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | |
| Total Thallium | 0.22 | -- | -- | -- | 0.02 U | -- | 0.02 U | -- | 0.02 U | -- | -- | -- | -- | -- | -- |
| Dissolved Thallium | 0.22 | -- | -- | -- | 0.02 U | -- | 0.02 U | -- | 0.02 U | -- | -- | -- | -- | -- | -- |

| Sample Location | Preliminary Groundwater Screening Level | EST18 | | EST19 | | EST20 | | MW01 | | MW-02 | | SW01 | | SW02 | |
|-------------------------------------------------------|-----------------------------------------|--------------|----------------|--------------|----------------|--------------|----------------|-------------|---------------|-------------|---------------|-------------|---------------|---------------|---------------|
| Sample Identification | | EST18_092916 | EST18_03302017 | EST19_101016 | EST19_03302017 | EST20_092716 | EST20_03242017 | MW01_093016 | MW01_03272107 | MW02_093016 | MW02_03272107 | SW01_093016 | SW01_03302017 | SW02_093016 | SW02_03302017 |
| Date Sampled | | 09/29/2016 | 03/31/17 | 10/10/2016 | 03/30/17 | 09/27/2016 | 03/24/17 | 09/30/2016 | 03/27/17 | 09/30/2016 | 03/27/17 | 09/30/2016 | 03/30/17 | 09/30/2016 | 03/30/17 |
| Well Location | | Shoreline | Shoreline | Shoreline | Shoreline | Upland | Upland | Shoreline | Shoreline | Shoreline | Shoreline | Shoreline | Surface Water | Surface Water | Surface Water |
| Thallium Analysis Using UCT¹ (µg/L) | | | | | | | | | | | | | | | |
| Total Thallium | 0.22 | 4.00 U | 0.200 U | 4.00 U | 4.00 U | 0.200 U | 0.200 U | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Thallium | 0.22 | 4.00 U | 2.00 U | 4.00 U | 4.00 U | 0.200 U | 0.200 U | -- | -- | -- | -- | -- | -- | -- | -- |
| Thallium Analysis Using RPM² (µg/L) | | | | | | | | | | | | | | | |
| Total Thallium | 0.22 | -- | 0.006 J | -- | 0.01 J | -- | -- | -- | 0.006 J | -- | 0.02 U | -- | -- | -- | -- |
| Dissolved Thallium | 0.22 | -- | 0.005 J | -- | 0.01 J | -- | -- | -- | 0.006 J | -- | 0.02 U | -- | -- | -- | -- |

Notes:

¹ Samples were analyzed on a NexION 300D instrument using Universal Cell Technology (UCT) to reduce interferences and potential false positives due to saline water. One or more samples were diluted to achieve laboratory quality control limit standard due to matrix interferences resulting in elevated reporting limits.

² Samples were prepared using reductive precipitation method (RPM) prior to analysis.

µg/L = micrograms per liter

U = The analyte was not detected at a concentration greater than the value identified.

Yellow shading indicates exceedance of the preliminary groundwater screening level.

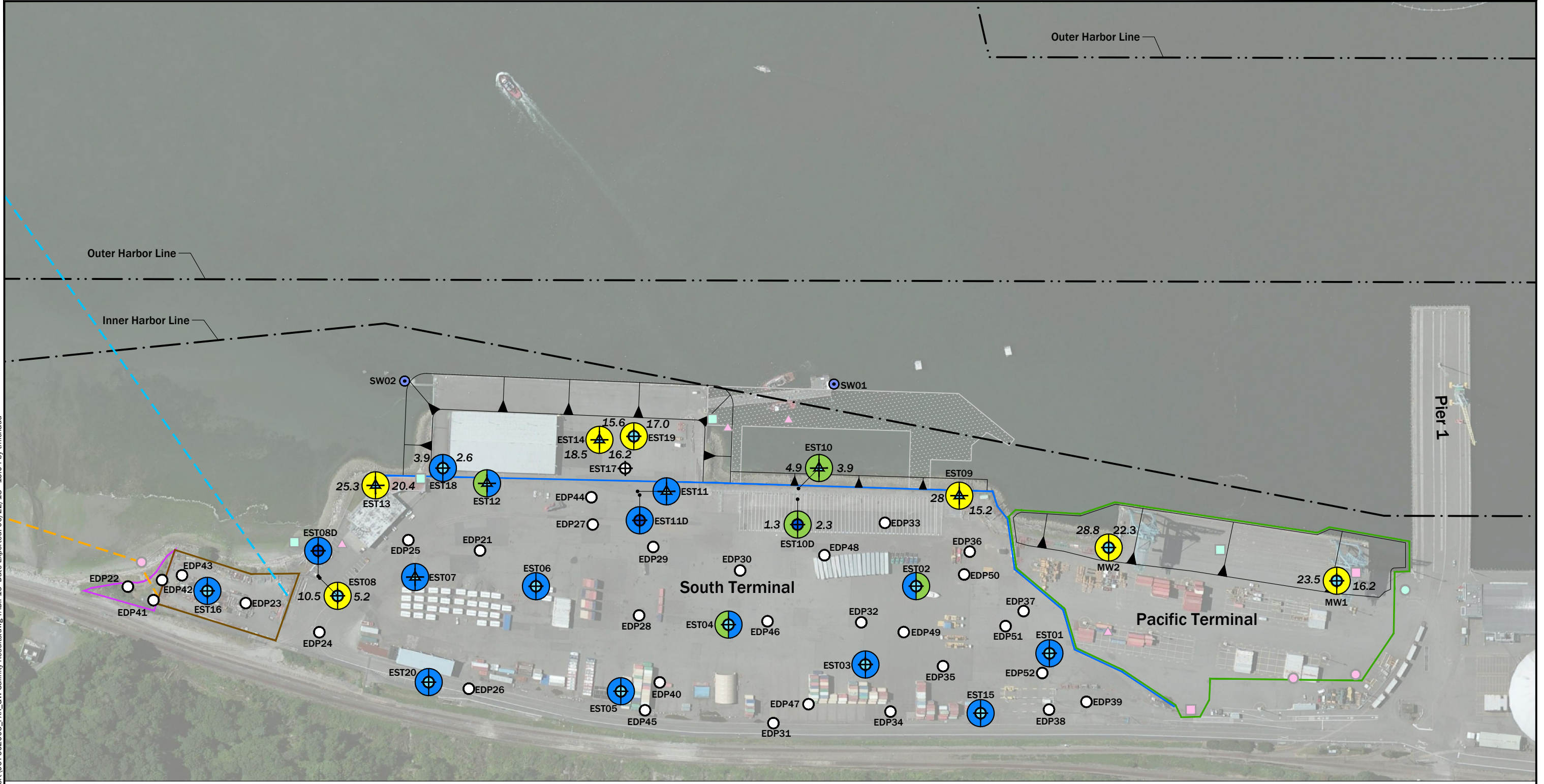
Bold font type indicates the analyte was detected at the reported concentration.

-- = analysis not performed

n/a = not applicable

J = The analyte was detected and the detected concentration is considered an estimate.

Blue shading indicated non-detect result exceedance of the preliminary groundwater screening level.



P:\0676020\05\CAD\Task 1400 Upland Data Report\067602005_FXX_GW Salinity Results.dwg;TAB:15 Date Exported: 06/22/18 - 15:04 by tmichaud

Notes:
 1. The locations of all features shown are approximate.
 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
 Data Source: Base aerial from Bing Maps, 2011.
 Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Legend</p> <ul style="list-style-type: none"> Shallow Soil Boring/Monitoring Well Deep Soil Boring/Monitoring Well Piezometer Surface Water Sample Location Soil Boring Previous Soil/Groundwater Investigation Location Shallow Soil Boring/Monitoring Well Acronyms PPT Parts Per Thousand | <p>Groundwater Sampling Event</p> <p>September 2016 Monitoring Event: 28</p> <p>March 2017 Monitoring Event: 15.2</p> <p>Salinity in PPT</p> <p>Sample Result</p> <ul style="list-style-type: none"> ≤1.0 PPT (Fresh Water) >1.0 and ≤5.0 PPT >5.0 PPT | <ul style="list-style-type: none"> Construction Berm Fill Historical Pier Nearshore Confined Disposal (NCD) Facility Bulkhead Open Space Equipment Storage Area (Bone Yard) Gravel Paved Working Surface Historical Industrial Outfall Former Combined Sewer Outfall (CSO) Former Stormwater Outfall Current CSO Current Stormwater Outfall Current Kimberly-Clark/City of Everett/City of Marysville Outfall 100 (Approximate) Current Kimberly-Clark/Weyerhaeuser Outfall SW001 (Approximate) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Upland Groundwater Investigation Salinity Results

Weyerhaeuser Mill A Former Everett, Washington

GEOENGINEERS

Figure 1