

April 15, 2019

Tom Mackie
Department of Ecology
1250 West Alder Street
Union Gap, WA 98903-0009

Re: Status Report for Fourth Quarter 2018
Port of Seattle – Terminal 91 Site
Agreed Order No. DE 8938

Dear Tom,

This quarterly status report for the Terminal 91 Site (T91 Site) is submitted to you on behalf of the Port of Seattle (Port) as required under the terms of Agreed Order No. DE 8938, amended by the First Amendment to Agreed Order (January 2016) (together, the Agreed Order) between the Port and the Department of Ecology (Ecology).

WORK PERFORMED

Work performed during the period from January through March 2019 (First Quarter) applicable to the entire T91 Site includes, by report:

- The *Status Report for Fourth Quarter 2018* (PGG 2018a) was submitted on January 18, 2019.
- The *Annual Compliance Monitoring Report (November 2017 through November 2018) Terminal 91 Tank Farm Affected Area, Seattle, Washington* (PGG 2018b) was submitted on February 7, 2019.

Subarea-specific work in this time period is described in the sections below.

TANK FARM AFFECTED AREA

- Consistent with the Compliance and Monitoring Plan (CMP) (PES Environmental [PES] 2013a), groundwater sampling is conducted on a semi-annual schedule in 2018 with sampling conducted in May (Q2) and November (Q4) events. The next monitoring event will be in May 2019.

- The quarterly light non-aqueous phase liquid (LNAPL) monitoring event at the Tank Farm Affected Area (TFAA) was performed on February 21, 2019 by Pacific Groundwater Group (PGG), on behalf of the Port. The scope of work is described in the Operation and Maintenance (O&M) Plan (PES 2013b). The following observations were made and/or actions were performed:
 - LNAPL thicknesses ranged from sheen to 0.11 feet, consistent with previous measurements. LNAPL recovery was not performed because LNAPL thicknesses were less than 0.25 feet.

DISCRETE UNITS

- No actions were conducted nor work products required for the discrete units during this quarter.

SUBMERGED LANDS

- The Washington Department of Ecology (Ecology) approved the final deliverable for the submerged lands preliminary investigation by letter dated September 28, 2018. Therefore, there were no work products or deliverables for the submerged lands during this quarter.

PROBLEMS, SOLUTIONS, AND DEVIATIONS FROM WORK PLANS

- There were no deviations from work plans during this quarter.

PROJECTED WORK FOR APRIL THROUGH JUNE (SECOND QUARTER) 2019

The sections below describe the work anticipated to be performed in the TFAA and Submerged Lands portions of the T91 Site in the second quarter of 2019.

TANK FARM AFFECTED AREA

- PGG, on behalf of the Port, plans to perform quarterly LNAPL gauging and recovery in May 2019, as described in the CMP Plans (PES 2013a) and O&M (PES 2013b).
- PGG, on behalf of the Port, plans to perform semi-annual groundwater monitoring in May 2019, as described in the CMP (PES 2013a).

SIGNIFICANT FINDINGS, PERSONNEL CHANGES, CONTACTS

Unless otherwise reported elsewhere in this report, there were no significant findings, personnel changes, or contacts during the previous quarter.

CLOSING

PGG's work was performed using generally accepted hydrogeologic practices used at this time and in this vicinity, for exclusive application to the T91 Site, and for the exclusive use by the Port of Seattle and its legal counsel. This is in lieu of other warranties, express or implied. Please feel free to contact me if you have any questions or comments regarding this quarterly status report.

Sincerely,

Pacific Groundwater Group



Glen Wallace, Ph.D., LG
Pacific Groundwater Group
AO Project Coordinator

2019Q1_T91_Quarterlyv04-01-19.docx

cc:

Kristin Davies, Department of Ecology
Kathy Bahnick, Port of Seattle
Joanna Florer, Port of Seattle (PDF only)
Fred Chou, Port of Seattle (PDF only)
Elizabeth Black, Port of Seattle (PDF only)
Brian Knox, K&L Gates (PDF only)
Glen Wallace, PGG (PDF only)
Janet Knox, PGG (PDF only)

Attachments:

Updated Exhibit C (Revised 1/8/2019)

REFERENCES

- Pacific Groundwater Group [PGG], 2018a. Status Report for Fourth Quarter 2018, Port of Seattle--Terminal 91 Site, Agreed Order No. DE 8938. Prepared for Port of Seattle. January 18, 2019.
- Pacific Groundwater Group [PGG], 2018b. Annual Compliance Monitoring Report (November 2017 through November 2018) Terminal 91 Tank Farm Affected Area, Seattle, Washington. January 20, 2019.
- PES Environmental, 2013a. Compliance Monitoring Plan, Terminal 91 Tank Farm Cleanup, Port of Seattle, Seattle, Washington. Prepared for Port of Seattle. July 11, 2013.
- PES Environmental, 2013b. Operation and Maintenance Plan, Terminal 91 Tank Farm Cleanup, Port of Seattle, Seattle, Washington. Prepared for Port of Seattle. July 11, 2013.

Exhibit C

Releases Requiring Corrective Action

Revised 1/8/19

Terminal 91 Site - Known Discrete Units of Contamination

| Discrete Units to Be Addressed During Redevelopment (Section VII.C.1.a) | | | |
|--|-------------------------------------|---|--|
| | SWMU, AOC, or Other Area | Description | Status |
| A.1. | AOC 2 | USTs and UST Releases on Terminal 91 Premises—Tanks A-G | Complete with recording of restrictive environmental covenant 8/30/17. |

| Discrete Units to Be Addressed under Work Plans and Schedules (Section VII.C.1.b) | | | |
|--|-------------------------------------|---|---|
| | SWMU, AOC, or Other Area | Description | Status |
| B.1. | SWMU 32 | Oil Blending Station | Complete; Ecology letter 4/20/05 |
| B.2. | SWMU 33 | Solid Waste Yard | Complete; Ecology letter 4/20/05 |
| B.3. | SWMU 35 | Storage Area Outside Building W-47 | Complete; Ecology letter 4/20/05 |
| B.4. | SWMU 36 | Storage Inside Building W-47 | Complete; Ecology letter 4/20/05 |
| B.5. | SWMU 37 | Car Wash Station | Complete; Ecology letter 4/20/05 |
| B.6. | SWMU 38 | Paint and Motor Oil Waste Building C-154 | Complete; Ecology letter 4/20/05 |
| B.7. | SWMU 39 | Paint Filter Waste Storage Area | Complete; Ecology letter 4/20/05 |
| B.8. | SWMU 40 | Short Fill | Complete after restrictive covenant; Ecology letter 4/20/05 |
| B.9. | SWMU 43 | Berth Stations and Valve Vaults | Complete; Ecology letter 4/20/05 |
| B.10. | SWMU 44 | Waste Oil Storage Shed | Complete; Ecology letter 4/20/05 |
| B.11. | SWMU 45 | Storm Drain at North End of Terminal 91 | Complete; Ecology letter 4/20/05 |
| B.12. | SWMU 46 | Two Storm Drains at Center of Terminal 91 | Complete; Ecology letter 4/20/05 |
| B.13. | SWMU 47 | Abandoned Oil/Water Separator | Complete; Ecology letter 4/20/05 |
| B.14. | SWMU 48 | Transfer Piping | Complete; Ecology letter 4/20/05 |

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|-------|---|---|---|
| B.15. | AOC 2 | USTs and UST Releases on Terminal 91 Premises—Tanks H and I | Complete; Ecology letter 4/20/05 |
| B.16. | AOC 2 | USTs and UST Releases on Terminal 91 Premises—Tank J | Complete; Ecology letter 4/20/05 |
| B.17. | AOC 2 | USTs and UST Releases on Terminal 91 Premises—Tank K | Complete; Ecology letter 4/20/05 |
| B.18. | AOC 2 | USTs and UST Releases on Terminal 91 Premises—Tank T | Complete; Ecology letter 11/16/11 |
| B.19. | AOC 2 | USTs and UST Releases on Terminal 91 Premises—Tank Z | Complete; Ecology letter 4/20/05 |
| B.20. | AOC 4 | Leaking Motor | Complete; Ecology letter 4/20/05 |
| B.21. | AOC 5 | PCB Transformer Pad | Complete; Ecology letter 4/20/05 |
| B.22. | AOC 7--Pier 90 Area | Concrete Aprons | Complete; Ecology letter 11/16/11 |
| | AOC 7--Pier 91 Area | Concrete Aprons (see also 1991 Soil Investigation for Pier 91 Chill Facility) | Complete; Ecology email 10/9/12 |
| B.23. | AOC 16 | Inactive Transformers | Complete; Ecology letter 4/20/05 |
| B.24. | Other Area (from Baseline Report) | 1990 PNO Pipeline Break South of Building T-38, Pier 91 | Complete after restrictive covenant; Ecology letter 4/20/05 |
| B.25. | Other Area (from Baseline Report) | 1991 PNO Pipeline Break at South End of Pier 91 | Complete; Ecology letter 4/20/05 |
| B.26. | Other Area (from Baseline Report) | 1994 Transformer Pad | Complete; Ecology letter 4/20/05 |
| B.27. | Other Area (from Baseline Report) | 1994 DAS Building Site Investigation | Complete; Ecology letter 4/20/05 |
| B.28. | Other Area (from Baseline Report)--Pier 90 Area | 1991 Soil Investigation for Pier 91 Chill Facility--Pier 90 Area (see also AOC 7) | Complete; Ecology letter 11/16/11 |
| B.29. | Other Area (from Baseline Report) | 1996 PNO Pipeline Alignment Soil Remediation, Pier 90 | Complete; Ecology letter 11/16/11 |
| B.30. | Other Area (from Baseline Report) | 1996 PNO Pipeline Break, Pier 91 | Complete; Ecology email 10/9/12 |
| B.31. | Other Area (from Baseline Report) | 1994 DAS Utility Trench Investigation | Complete; Ecology letter 11/16/11 |
| B.32. | Other Area (Independent Cleanup) | 1999 PNO Pipeline Release on Pier 90 | Complete; Ecology email 3/16/12 |

| | | | |
|-------|--|---|--|
| B.33. | Other Area (Independent Cleanup) | Pier 91 Pipeline Decommissioning and Historic Pipeline Releases in the Vicinity of the Carnitech Building | Complete; Ecology email 10/9/12 |
| B.34. | Other Area (Independent Cleanup) | Pier 91 Pipeline Decommissioning and Historic Pipeline Releases in the Vicinity of the Cruise Ship Terminal | Complete; Ecology email 10/9/12 |
| B.35. | Other Area (Independent Cleanup) | Pier 91 Historic Pipeline Releases | Areas B & C--Complete; Ecology emails 2/3/12 and 3/16/12 Area D--Complete; Ecology email 7/17/13 |
| B.36. | Other Area (Brownfields Investigation) | Building 136 Building 136 Hydraulic Lifts | Complete; Ecology memo emailed 12/23/13 Complete; Ecology letter 10/31/18.. |
| B.37. | Other Area (Brownfields Investigation) | Locomotive Fueling Area | Complete; Ecology email 8/4/16 |
| B.38. | Other Area (Brownfields Investigation) | Incinerator UST Area | Complete; Ecology email 8/4/16 |
| B.39. | Tank Farm Affected Area Interim Action | Stormwater Sump Bottom Filling Interim Remedial Action | Complete; Ecology letter 12/7/11 |

| Discrete Units Addressed under the Contamination Contingency Plan | | | |
|--|-------------------------------------|------------------------------|------------------------------|
| | SWMU, AOC, or Other Area | Description | Status |
| B.36. | [intentionally blank] | [intentionally blank] | [intentionally blank] |

REFERENCES

- U.S. Environmental Protection Agency. 1994. Port of Seattle/Burlington Environmental Inc. Terminal 91 Facility, Final Resource Conservation and Recovery Act Facility Assessment. November 4, 1994.
- Kennedy/Jenks Consultants. 1996. Letter to Port of Seattle re Update on SWMUs and AOCs at Terminal 91, Port of Seattle. April 12, 1996.
- Washington Department of Ecology. 1996. Letter to Port of Seattle re Corrective Action for the Remainder of Terminal 91 Facility. July 3, 1996.
- Kennedy/Jenks Consultants. 1997. Terminal 91 Baseline Report, Terminal 91, Seattle, Washington. Prepared for Port of Seattle. April 1997.
- Roth, Susan J. 1997. Letter to Washington Department of Ecology re Transmittal of Terminal 91 Baseline Report. April 3, 1997.
- Washington Department of Ecology. 1998. Letter to Port of Seattle re Independent Remedial Action Report for the Port of Seattle Terminal 91 Facility. June 26, 1998.
- Roth Consulting. 1998. Letter to Washington Department of Ecology re Transmittal of Documents, Terminal 91 Upland Project. October 16, 1998.
- Roth Consulting. 1998. Proposed Additional Work, Terminal 91 Upland Independent Cleanup, Port of Seattle. Prepared for Port of Seattle. December 10, 1998.
- Port of Seattle. 1999. Letter to Washington Department of Ecology re Submittal of VCP Application and Clarification of 2/9/99 Meeting Minutes, Terminal 91 Upland Independent Cleanup. March 10, 1999.
- Roth Consulting. 2004. Letter to Ecology re Request for Letter Confirming No Further Action Required; Certain SWMUs, AOCs, and Other Areas; Port of Seattle Terminal 91 Independent Cleanup; Voluntary Cleanup Program Application Dated March 10, 1999. May 26, 2004.
- Washington Department of Ecology. 2005. Letter to Port of Seattle re Certain SWMUs, AOCs and Other Areas at the Port of Seattle's Terminal 91 Facility (listed under the March 10, 1999 Voluntary Cleanup Program Application as *Terminal 91 Uplands*). April 20, 2005.
- PES Environmental, Inc. 2009. Pier 90 Independent Remedial Action Report, Pier 90 Work Plan for Confirmation Sampling, and Pier 91 Work Plan for Additional Assessment, Terminal 91, Seattle, Washington. Prepared for Port of Seattle. December 29, 2009.
- Pinnacle GeoSciences. 2009. Work Plan, and Sampling and Analysis Plan, Locomotive Fueling Area and West-Central Building 136 Area Investigation, Port of Seattle Terminal 91, Seattle, Washington. Prepared for Port of Seattle. December 29, 2009.

Roth Consulting. 2010. Letter to Ecology re Request for Opinion on T91 Upland Independent Cleanup Areas, Discrete Units B.18, B.22, B.28, B.29, B.30, B.31, B.33, and B.34 from Exhibit C to Draft Agreed Order, Port of Seattle Terminal 91 Site. May 20, 2010.

Roth Consulting. 2011. Stormwater Sump Bottom Filling Interim Remedial Action Report, Terminal 91 Site–Tank Farm Affected Area. April 14, 2011. Attachment C to Status Report for First Quarter 2011 by Kennedy/Jenks Consultants dated April 20, 2011.

Washington Department of Ecology. 2011. Letter to Port of Seattle re Request for Opinion on Some of the Port of Seattle Terminal 91 Discrete Units Identified in Exhibit C of Agreed Order No. DE 7321. November 16, 2011.

Washington Department of Ecology. 2011. Letter to Port of Seattle re Approval of a Tank Farm Affected Area Interim Action at the Port of Seattle Terminal 91. December 7, 2011.

Washington Department of Ecology. 2012. Email from Galen Tritt to Susan Roth re Ecology comments on Summary report Piers 90 and 91 by Kennedy/Jenks. February 3, 2012.

Washington Department of Ecology. 2012. Email from Greg Caron to Susan Roth re T-91 independent cleanup sites B.32 and B.35. March 16, 2012.

Landau Associates. 2012. Focused Investigation Work Plan, Terminal 91 Discrete Unit B.38 (Incinerator Underground Storage Tank Area), Seattle, Washington. Prepared for Port of Seattle. June 26, 2012.

Aspect Consulting. 2012. Summary Report for Additional Assessment Activities, Pier 91, Terminal 91, Seattle, Washington. Prepared for Port of Seattle. August 22, 2012.

Washington Department of Ecology. 2012. Email from Galen Tritt to Susan Roth re FW: Summary Report for Additional Assessment Activities, Pier 91: Ecology response. October 9, 2012.

Washington Department of Ecology. 2013. Email from Galen Tritt to Susan Roth re RE: T91 - Discrete Unit B.35 Area D: Closure Report. July 17, 2013.

Landau Associates. 2013. Closure Report, Discrete Unit B.36 Area, Port of Seattle Terminal 91, Seattle, Washington. Prepared for Port of Seattle. July 24, 2013.

Washington Department of Ecology. 2013. Email from Galen Tritt to Susan Roth re *T91 - Discrete Unit B.36: Closure Report, approval* with attached memo to Kathy Bahnick, Sue Roth, and Ecology NWRO Central Records. December 23, 2013.

Washington Department of Ecology. 2016. Email from Greg Caron to Kathy Bahnick and Susan Roth re NFA request Discrete Units B 37, B 38. August 4, 2016.