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**Status Report for Fourth Quarter 2021
Port of Seattle Terminal 91 Site
Agreed Order Numbers DE 8938 and DE 24768**

January 20, 2022

Dear Christa,

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) (subsequent Agreed Order references here include this amendment) between the Port and the Washington Department of Ecology (Ecology); and,
- Agreed Order No. DE 24768 between the Port and Ecology.

This quarterly status report fulfills the required reporting for both agreed orders. The status reports are combined because the T91 Site is regulated as a single site under the Re-source Conservation and Recovery Act (RCRA) due to historic permitted hazardous waste operations at the site. Agreed Order DE 8938 describes ongoing work in the up-lands portion of the T91 Site (hereafter referred to as Upland Areas); the portions of Agreed Order DE 8938 related to submerged lands have been satisfied. Agreed Order DE 24768 describes work for the Remedial Investigation (RI) in the submerged lands portion of the T91 Site (hereafter referred to as Submerged Lands).

1 Work Performed

Work performed during the period from April through June 2021 (Second Quarter) applicable to the entire T91 Site includes, by report:

- The Status Report for Third Quarter 2021 (Pacific Groundwater Group [PGG] 2021a) was submitted on October 18, 2021.

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

1.1 Upland Areas – Agreed Order DE 8938

Tank Farm Affected Area

- Consistent with the Compliance and Monitoring Plan (CMP) (PES Environmental [PES] 2013a), and subsequent approvals (PGG 2019, Ecology 2021a), groundwater sampling and water level snapshots occur on an annual basis in August of each year. The next event is in August 2022.
- The quarterly light non-aqueous phase liquid (LNAPL) monitoring event at the Tank Farm Affected Area (TFAA) was performed on November 12, 2021 by PGG, on behalf of the Port. The scope of work is described in the Operations and Maintenance (O&M) Plan (PES 2013b). The following observations were made and/or actions were performed:
 - LNAPL thicknesses ranged from sheen to 0.12 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

- Ecology approved the final deliverable for the submerged lands preliminary investigation by letter dated September 28, 2018. There are no remaining work products or deliverables for the submerged lands under Agreed Order DE 8938.

1.2 Submerged Lands – Agreed Order DE 24768

- Windward Environmental conducted RI sediment investigations.
 - Surface sediment sampling was conducted June 14 -16, 2021.
 - Intertidal sediment sampling was conducted on June 24, 2021.
 - Subsurface sediment sampling was conducted October 18-November 19, 2021.

2 Problems, Solutions and Deviations from Work Plans

This section describes deviations from the respective Agreed Order scopes of work or as-associated work plans developed under the Agreed Orders.

2.1 Uplands Areas

The annual groundwater monitoring event and water level snapshot schedule was adjusted from May to August of each year beginning in 2021 and for future monitoring events.

2.2 Submerged Lands Areas

- There were no significant deviations from work plans during the reporting quarter.

3 Projected Work for January through March 2022 (Q1)

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

3.1 Uplands Areas

Planned work in the Uplands area will occur in the Tank Farm Affected Area (TFAA).

- PGG, on behalf of the Port, plans to perform quarterly LNAPL gauging in February 2022, as described in the CMP (PES 2013a) and O&M Plan (PES 2013b).

3.2 Submerged Lands Areas

Windward Environmental, on behalf of the Port, will conduct additional subsurface sediment sampling in March 2022 and begin work on the RI.

4 Significant Findings, Personnel Changes, Contacts

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

5 Closing

PGG/MM's work was performed using generally accepted hydrogeologic practices 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.

Regards,



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cc:

Christa Colouzis, Department of Ecology
Kristin Davies, Department of Ecology
Kathy Bahnick, Port of Seattle
Joanna Florer, 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)
Susan McGroddy, Windward (PDF only)

Attachments:

Updated Agreed Order No. DE 8938 Exhibit C (Revised 1/8/2019)

References

Ecology, 2019. Letter from Tom Mackie, Re: Approval: transition to Annual Confirmational Monitoring in the Tank Farm Affected Area. September 18, 2019.

Ecology, 2021a. Letter from Tom Mackie, Re: Approval: transition to Annual Confirmational Monitoring in the Tank Farm Affected Area Approval (with comments) of Annual Compliance Monitoring Report (November 2019 through August 2020) Terminal 91 Tank Farm Affected Area Seattle, Washington. January 8, 2021.

Ecology, 2021b. Letter from Christa Colouzis, Re: Ecology/Port of Seattle Agreed Order No. DE 24768, Approval of RI WP – Terminal 91 Facility Seattle, Washington. June 3, 2021.

Pacific Groundwater Group [PGG], 2019 TFAA Compliance Monitoring Recommendation and Statistical Analysis, Port of Seattle Terminal 91 Site. August 20, 2019.

Pacific Groundwater Group [PGG], 2021a. Status Report for Third Quarter 2021, Port of Seattle– Terminal 91 Site. Prepared for Port of Seattle. October 18, 2021.

PES Environmental, 2013a. Compliance Monitoring Plan, Terminal 91 Tank Farm Clean-up, 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.

Windward Environmental, 2021. Remedial Investigation Work Plan – Final. Prepared for Port of Seattle. June 3, 2021.

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 |

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|-------|--|---|--|
| 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.