

Quarterly Progress Report

April 20, 2020

To: Garin Schrieve, PE, Washington State Department of Ecology
From: Nicole LaFranchise and Kendra Skellenger, PE, Anchor QEA, LLC
cc: Kristin Gaines, Millennium Bulk Terminals – Longview, LLC, and
Michele Maidman, Northwest Alloys, Inc.

Re: Former Reynolds Metals Remediation – Quarterly Progress Report, 2020 Q1

Per Section XI of the Consent Decree (CD) issued by the State of Washington Cowlitz County Superior Court on December 14, 2018, Anchor QEA, LLC, is providing the following quarterly progress report on behalf of Millennium Bulk Terminals – Longview, LLC (MBTL), and Northwest Alloys, Inc. This quarterly progress report describes the actions taken during the previous quarter (between January 1 and March 31, 2020) to implement the requirements of the CD.

A. List of on-site activities that have taken place during the quarter

- The first quarter 2020, groundwater sampling occurred January 21 and 22, 2020.
- MBTL and Northwest Alloys received the U.S. Army Corps of Engineers (USACE) authorization for pre-design investigation (PDI) in the levee right-of-way and the Consolidated Diking Improvement District (CDID) encroachment permit on January 15, 2020.
- The *2019 Annual Groundwater Report* for the groundwater and surface water monitoring program was submitted to the Washington State Department of Ecology (Ecology) on February 28, 2020.
- MBTL and Northwest Alloys submitted the *Pre-Design Investigation Work Plan Addendum: Refinements to the Planned Geotechnical Investigation Locations* memorandum to Ecology on February 4, 2020, requesting modifications to the standard penetration test (SPT) and cone penetrometer test (CPT) locations. Ecology approved the proposed changes on February 5, 2020.
- PDI mobilization began on February 10, 2020, with fluoride screening along the possible permeable reactive barrier (PRB) installation areas using a direct push geoprobe rig and the collection of SPTs using a sonic rig for obtaining geotechnical data at the landfills. Fluoride screening was completed on February 14, 2020. CPT sampling using a CPT trac-rig began on February 19, 2020, and was completed on February 22, 2020. The PDI was concluded on February 24, 2020, with completion of the sonic drilling. All drilling locations were restored to grade, covered with sand, and seeded. The sonic rig demobilized on February 25, 2020. The overall PDI field effort took 12 days.
- The treatability studies for the reactive backfill and PRB media have been completed. The treatability studies determined that activated carbon and bone char are suitable for use in the

PRB, and hydrotalcite, activated alumina, or bone char are suitable for reactive backfill application. Final selection of media and dosage for the PRBs will be determined using hydraulic conductivity measurements collected during the fluoride screening. Modeling will inform the width and life of the PRBs.

- A conference call to discuss first impressions of initial PDI data and treatability study outcomes was held on March 12, 2020, with Ecology, MBTL, Northwest Alloys, and Anchor QEA. The next regular check-in meeting is scheduled for May 1, 2020.

B. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests

None.

C. Description of all deviations from the Scope of Work and Schedule (Exhibit C) during the current quarter and any planned deviations in the upcoming quarter

MBTL and Northwest Alloys is proposing limited additional PDI field work in the vicinity of an elevated screening fluoride concentration detected during the initial PDI field effort (PDI-PRB-DP-03) in order to refine the lateral and vertical distribution of fluoride concentrations and, if necessary, revise the PRB alignment. Ecology was contacted about this additional field effort on April 9, 2020.

D. For any deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule

None.

E. Summary of all environmental data received by Owner and Operator during the past quarter

Environmental data were received by MBTL and Northwest Alloys during the past quarter for the components of the PDI, including CPT data and soil index and laboratory compaction testing for SU2. PDI data will be reported in a PDI Data Summary Report that will be an appendix to the 60% Engineering Design Report. Data were also received for the first quarter interim program monitoring. Those data will be reported in the *2020 Annual Groundwater Report*.

F. (At Ecology's request) All raw data, including laboratory analyses and an identification of the source of the sample

No data were requested.

G. List of deliverables for the upcoming quarter, if different from the schedule

There are no changes to the CD Scope of Work schedule.

H. References

There are no applicable references.