



Technical Memorandum

To: Robert A. Hood, Jr., DEQ Date: November 1, 2023

From: Jessica Glenn and Dana Domenighini, MFA Project No.: M1016.01.008

Re: J.R. Simplot Company Rivergate Terminal: Ammonia Groundwater Sampling Work Plan

On behalf of J.R. Simplot Company (Simplot), Maul Foster & Alongi, Inc. (MFA) prepared this memorandum to outline sampling for ammonia in groundwater at the Simplot Rivergate Terminal facility located at 14003 N Rivergate Boulevard in Portland, Oregon (the Site) (see Figure 1). This source control investigation is being completed to determine whether potential residual contaminants in media at the Site are migrating from the Site to the Willamette River at concentrations that may pose unacceptable risks and to identify potential contaminant sources requiring control prior to implementation of a remedy for the Portland Harbor Superfund Site.

Background

Source control evaluation (SCE) activities were conducted at the Site in 2021 and 2022 consistent with the Oregon Department of Environmental Quality (DEQ)-approved *Final Source Control Evaluation Work Plan, J.R. Simplot Company Rivergate Terminal* (Work Plan) (MFA 2021). The initial findings of the SCE were discussed in-person with DEQ and the U.S. Environmental Protection Agency (EPA) on October 14, 2022. On November 9, 2022, DEQ indicated that an evaluation of potential sources of ammonia may be required as part of the source control investigation, and provided a document drafted for the Portland Harbor River Mile 2 East (RM 2E) project area describing potential ammonia sources (Integral 2022). Based on communications with DEQ and EPA, MFA submitted a draft SCE report (MFA 2023a) for review on January 24, 2023, and an ammonia evaluation memorandum (MFA 2023b) on April 17, 2023.

In response to MFA's ammonia memorandum, DEQ issued a letter to MFA on June 20, 23 requesting additional groundwater sampling at the Site, with analysis for ammonia. This groundwater sampling is intended to investigate if a potential ongoing source of ammonia may be contributing to the Willamette River from the Site. Sampling activities will be conducted consistent with the previously approved Work Plan and procedures as summarized below; including steps specific to this ammonia sampling plan.

Sample Collection

Groundwater sampling and water level measurements will be conducted in accordance with the Work Plan (MFA 2021) from the five monitoring wells on the Site (MW-1 through MW-5) (see Figure 2). In addition, water levels will be measured at two piezometer wells located on the Site (see Figure 2). Groundwater samples will be collected from each of the monitoring wells using a peristaltic pump and dedicated polyethylene tubing. Two monitoring events are planned to account for low- and high-water elevations.

Samples will be collected in containers supplied by the analyzing laboratory to ensure that the container has been properly cleaned and sufficient sample material is collected. Sample container and preservation requirements for contaminants are listed in Table 1.

Chemical Analyses

Groundwater samples will be submitted to an analytical laboratory for chemical analysis for total ammonia by Standard Method (SM) 4500. Table 2 identifies the specific analytical methods and reporting and detection limits for groundwater samples.

Reporting

At the conclusion of the sampling program (i.e., both sampling events), MFA will prepare a site investigation report that includes a description of field activities, a summary of analytical results, along with conclusions and recommended next steps (as applicable).

Schedule

Sampling will be conducted immediately following DEQ approval. MFA and Simplot respectfully request an expedited review by DEQ to allow MFA to conduct sampling during the 2023 low water period (i.e., before November 15, 2023). Pending DEQ approval, the following is the anticipated schedule of the fieldwork proposed herein:

Task	Anticipated Completion Date
First monitoring event	Upon approval, but no later than November 15, 2023 ¹
Second monitoring event	March to May 2024

¹ If DEQ approval is not received so that sampling can occur before November 15, 2023, the second monitoring event will occur during the low water period of 2024, anticipated to occur between September and October.

Attachments

References

Limitations

Figures

Tables

References

- Integral. 2022. *Draft Pre-Design Investigation Evaluation Report: River Mile 2 East Project Area, Portland Harbor Superfund Site*. Prepared by Integral Consulting. Prepared for Evraz Oregon Steel. October 31.
- MFA. 2021. *Final Source Control Evaluation Work Plan, J.R. Simplot Company Rivergate Terminal*. Prepared for J.R. Simplot Company. Maul Foster & Alongi, Inc.: Portland, OR. February 18.
- MFA. 2023a. *Draft Source Control Evaluation Report, J.R. Simplot Company Rivergate Terminal, Portland, Oregon*. Prepared for J.R. Simplot Company. Maul Foster & Alongi, Inc.: Portland, OR. January 24.
- MFA. 2023b. J. Glenn and P. Wiescher, Maul Foster & Alongi, Inc. *RE: Evaluation of Ammonia Concentrations in the RM2E Project Area*. Letter to R. Hood, Jr., Oregon Department of Environmental Quality. April 17.

Limitations

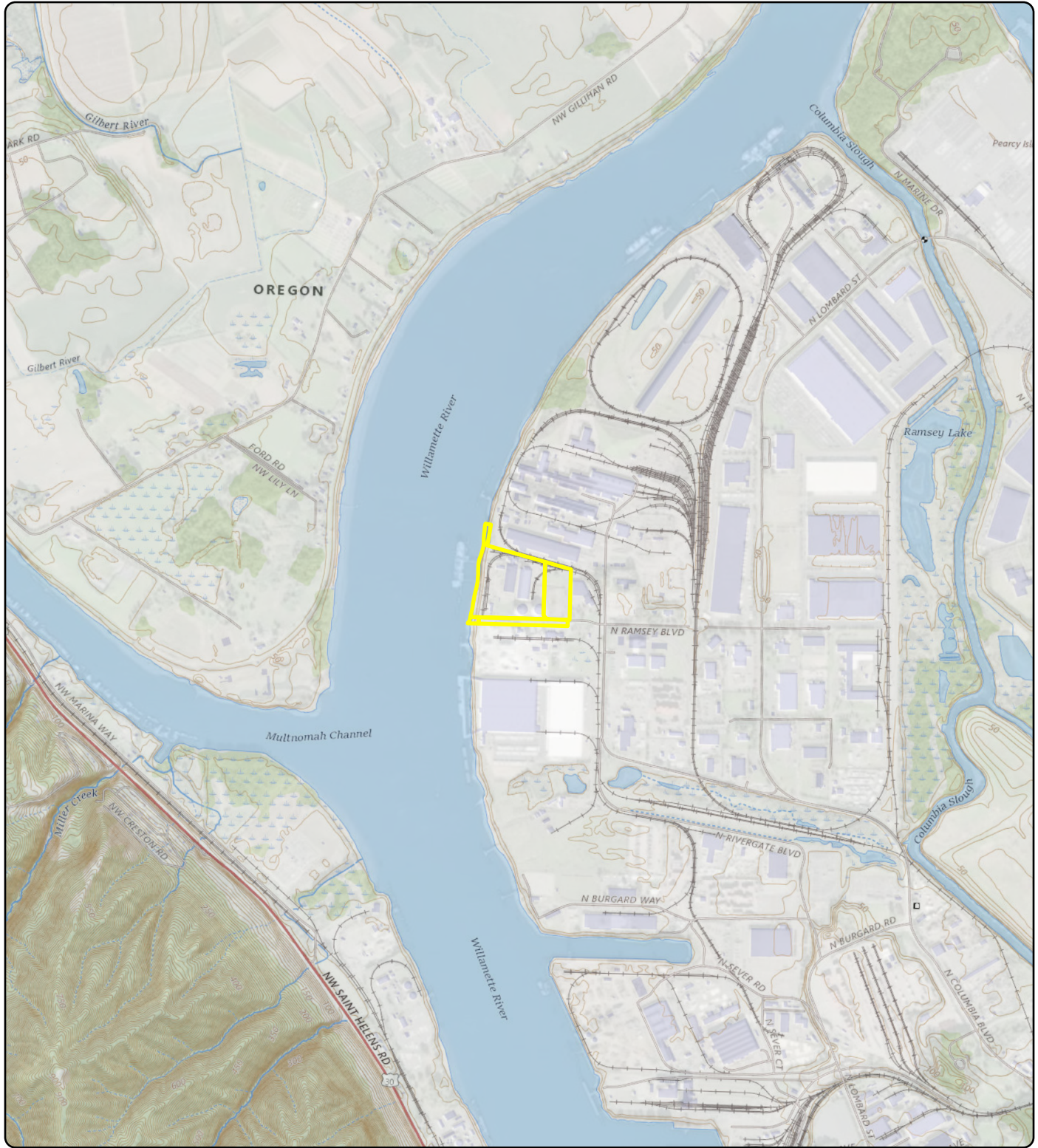
The services undertaken in completing this technical memorandum were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This technical memorandum is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this technical memorandum apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this technical memorandum.

Figures



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Notes
U.S. Geological Survey 7.5-minute topographic quadrangles (2021): Linnton and Sauvie Island. Township 2 north, range 1 east, sections 26 and 27.

Data Source
Property boundary obtained from Oregon Metro RLIS.

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Legend
 Property Boundary

Figure 1
Site Location

J.R. Simplot Company
Rivergate Terminal
Portland, Oregon

0 1,000 2,000
Feet

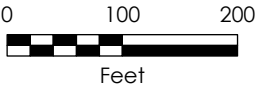




Figure 2
Groundwater Monitoring
Well Locations
J.R. Simplot Company
Rivergate Terminal
Portland, Oregon

- Legend**
- Monitoring Well
 - Piezometer (existing)
 - Property Boundary (approximate)

Note
All locations are approximate.



Data Sources
Aerial photograph obtained from Esri; tax lot data obtained from Oregon Metro RLIS.

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Tables



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Table 1
Analytical Methods and Sample Container Requirements
J.R. Simplot Company Rivergate Terminal
Portland, Oregon



Sample Matrix	Method	Parameter or Parameter Group	Container	Preservation	Storage Temperature	Hold Time
Groundwater	SM 4500	Total Ammonia	1 x 250-mL poly	H ₂ SO ₄	4°C	28 days
Notes °C = degrees Celsius. H ₂ SO ₄ = sulfuric acid. mL = milliliter. SM = Standard Methods for the Examination of Water and Wastewater.						

Table 2
Analytical Methods and Detection Limit Goals
J.R. Simplot Company Rivergate Terminal
Portland, Oregon



Method	Parameter	MDL (mg/L)	MRL (mg/L)
General Chemistry			
SM 4500	Total Ammonia	0.01	0.02
Notes MDL = method detection limit. mg/L = milligrams per liter. MRL = method reporting limit. SM = Standard Methods for the Examination of Water and Wastewater.			