



TECHNICAL MEMORANDUM

J.H. Baxter Response to DEQ Comments on the Draft Sampling and Analysis Plan, J.H. Baxter & Co. Wood Treating Facility, Eugene, Oregon

To: Ann Farris, Oregon Department of Environmental Quality, Western Region Cleanup Program

From: Josh Bale, GSI Water Solutions, Inc.

CC: Georgia Baxter, J.H. Baxter & Co.

Attachments: Attachment A – DEQ Comments Letter
Sampling and Analysis Plan, J.H. Baxter & Co. Wood Treating Facility, Eugene, Oregon, June 2021 (redline version and final clean version)

Date: June 1, 2021

Executive Summary

In response to a November 16, 2020 letter from Oregon Department of Environmental Quality (DEQ) to J.H. Baxter & Co. (Baxter), and as further discussed in regular Technical Working Group meetings between supporting agencies and Baxter, Baxter submitted a Draft *Sampling and Analysis Plan, J.H. Baxter & Co. Wood Treating Facility, Eugene, Oregon* (SAP) to DEQ for review on April 30, 2021. DEQ provided comments to Baxter in a letter dated May 12, 2021 (Attachment A). This memorandum serves as Baxter's response to DEQ's comments.

DEQ Comments on Draft Sampling and Analysis Plan, J.H. Baxter & Co. Wood Treating Facility, Eugene, Oregon, Dated April 2021

General Comments on the SAP

General Comment 1

DEQ appreciates you and your consultant being diligent in meeting the April 30th deadline for the submittal of this plan.

Baxter Response

No response required.

General Comment 2

DEQ has worked with Lane Regional Air Protection Agency (LRAPA) to have a preliminary air deposition model run for this facility, based on emission unit data provided by you and your consultants. These modeling efforts are preliminary and have several limitations, but they offer some insight for the soil sampling strategy. These results will be presented during our upcoming videoconference on May 18th. After that presentation, the

sampling locations should be updated accordingly and a phased approach to the investigation more fully described.

Baxter Response

GSI has utilized the preliminary modeling data provided by LRAPA, with the acknowledgment of the issues identified with the Stormwater Treatment Plant and Groundwater Treatment system sources in the model, to determine final properties to sample as part of this initial off-site investigation effort. Based on the results of this investigation, and in coordination with DEQ, we will evaluate whether additional sampling is required beyond the areas identified in the 2021 SAP at a future date. Please note, while we would have included tax lot 8000 in the sampling plan based on potential deposition patterns, due to construction of a new home on this lot and full replacement of the yard soil with a sod surface within the last 2 years, this lot was excluded.

General Comment 3

The soil locations proposed include an incremental sampling methodology (ISM) approach that spans multiple residential yards. After consultation with numerous technical experts on ISM sampling methodology and risk assessment at DEQ, EPA, and OHA, and considering the data quality objectives (DQOs), DEQ has concluded that the DUs in the residential areas must be based on the boundaries of the residential property lines. That is, one residential yard should be one DU, rather than including multiple residences together in a single DU. Please update your sampling approach accordingly.

Baxter Response

The sampling approach has been modified in accordance with the request.

General Comment 4

The increments for each DU should be collected in areas where people are likely to play, garden, or otherwise come into direct contact with the soil. Additionally, the sampling process should consider that the highest concentrations from air deposition are likely to be drip lines from trees, houses, or other structures. We believe both of the items can be addressed via the systematic random sampling grid method proposed with intentional placement of the grid.

Baxter Response

Noted.

General Comment 5

Please clarify the DQOs in the work plan and how the data will be utilized. DEQ considers the DQOs to be as follows:

- a. The primary objective of this sampling is to gather sufficient data to evaluate the potential risk to residences from surface soil contamination originating from Baxter's facility.
- b. The second objective is to gather additional data to understand the magnitude and extent of offsite soil contamination that originated from Baxter's facility.
 - i. The proposed sampling may only be the first phase in achieving this objective, but it should be designed in such a way that helps direct future sampling as necessary.
- c. The data should achieve sufficiently low detection levels to be able to compare with DEQ's risk-based concentrations for the residential scenario and, in addition to the individual constituents, the toxicity equivalent quotient (TEQ) for dioxins and polycyclic aromatic hydrocarbons (PAHs) will need to be calculated to evaluate risk.

i. Attachment B in the plan indicates the individual method detection limits meet this objective, however dioxin detection levels have presented a challenge in the past so DEQ wants to be clear about this objective for the data.

Baxter Response

Additional texts have been added to the SAP related to Data Quality Objectives, estimated detection limits, and laboratory procedures. On May 20, 2021, GSI, James Mc Ateer of QA/QC Solutions, Chris Cornwell of Cape Fear Analytical, and DEQ conducted a call to attempt to resolve many of DEQ's concerns related to point c in this comment. We recognize the importance of this data and the data quality goals. A number of approaches were discussed during the call to attempt to achieve the best possible detection limits for data. Adaptive management discussions between Baxter and DEQ will be necessary as the samples are collected and processed to ensure we work to achieve DQOs.

General Comment 6

6. ODEQ's DU Characterization guidance, dated September 2020, recommends at least 50 increments per decision unit to increase the certainty that the results:

- a. are representative,
- b. achieve appropriate precision (defined as a relative standard deviation (RSD) of <35%); and
- c. reflect a normal distribution.

However, given the variability in size of some of the decision units in this plan, the number of increments may range from 30 to 75 in order to achieve those criteria. Residential lots may only require 30 increments, but other larger decision units may need to include more than 50. Please evaluate the number of increments needed by the areal size of each DU. Also note that the guidance indicates at least 1000 g of soil is needed for each ISM sample so regardless of the number of increments, the minimum weight must be met.

Baxter Response

Noted and SAP texts has been modified to accommodate increment ranges from 30 to 75. Once final approval of the SAP is given, GSI will develop the grid sampling maps for each DU for review by DEQ prior to sampling.

General Comment 7

Note that DEQ uses the nomenclature "decision units" to be consistent with ODEQ's DU Characterization guidance. The work plan uses "sampling unit" instead, but we recommend updating that to be consistent with the guidance and avoid confusion. The sampling results will be used for decision-making purposes.

Baxter Response

This was used when sampling consisted of multiple properties. With the change in approach, the text has been revised to Decision Units throughout.

General Comment 8

The proposed locations for background samples are nearly all located downwind of the facility. DEQ supports collecting these samples to assist in understanding the potential downwind extent of air deposition from the facility, but they are likely not going to be useful as background concentrations. There should be background samples collected that would be comparable to the residential yards, such as a couple of residential yards to the east of the facility. Another background location should be located along Roosevelt ditch to the east of Baxter's facility, if possible. The air deposition modeling results may also assist in selection of better background locations.

Baxter Response

Background sampling locations have been revised to reflect this comment. Two residential lot background samples will be included in the investigation.

Specific Comments on the SAP

Specific Comment 1

On Page 3, the 4th bullet: This sentence indicates 11 multi-property sampling units will be tested, but elsewhere in the text and on the figure, there are only 9. Based on the general comments above, these numbers will need to be changed and made consistent with future updates to the sampling strategy.

Baxter Response

Text has been revised to reflect final sampling approach.

Specific Comment 2

Page 4, Section 4.1: It is recommended that the full TAL metals list be included since the analytical costs remain the same and the full list may be helpful in understanding fate and transport from the facility.

Baxter Response

There is actually a cost difference of \$175 per sample to run the full TAL list. Additionally, Baxter is unclear how metals that are not suspected to be indicative of treatment operations emissions increase understanding of Fate and Transport related to air deposition from the Site. The constituents of interest chosen for the investigation are based on the Record of Decision COCs for the Eugene Facility. These were identified due to historic use of ammoniacal copper zinc arsenate (ACZA), ammoniacal copper quat (ACQ), and chromated copper arsenate (CCA) wood treatment agents.

Specific Comment 3

Page 5, Section 4.3: Please include one triplicate sample in this sampling event. DEQ's guidance recommends at least one triplicate per batch even when the increment count is high in order to evaluate variability. The preliminary samples collected in 2020 show significant variability so a triplicate is appropriate in order to be able to better understand the results.

Baxter Response

A triplicate sample Decision Unit has been included in the investigation.

Specific Comment 4

On Page 5, Section 4.4, 2nd Paragraph: The plan states that locations can be moved up to 6 feet in any direction without recording changes. Please change this protocol to record any changes in increment location that exceeds one foot in the residential area. This could be particularly significant in the smaller yards.

Baxter Response

The text was changed to state any movement greater than one foot requires recording the change in the RTK-GPS field unit.

Specific Comment 5

On Page 11, Section 9, Field documentation: As part of the field documentation effort, please develop a questionnaire for the residents to fill out regarding their property. This questionnaire should be designed to help understand the land use, any changes to the yard or structure that may have happened in last 15-20 years, other potential sources of contaminants such as burn barrels, wood stoves, commercial operations on the property, etc. This information will be helpful in interpreting the sample results.

Baxter Response

The Draft questionnaire has been included as Attachment C and a Draft field form to be used during sampling has been included as Attachment D for DEQ's review.

Specific Comment 6

Various sections of the report will need to be deleted or changed based on the general comments above and revised decision unit locations. Section 4.6, for example, will no longer be necessary.

Baxter Response

Agreed. Text has been revised throughout document, as necessary, to address overall changes to approach. Additional minor modifications were made to the laboratory ISM composited steps in Section 8.2 based on input from the Kent Patton, Technical Director of Apex Laboratories, LLC.