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LETTER REGARDING SEACOAST ANTI-POLLUTION LEAGUE COMMENTS ON SITE 10
ADDITIONAL INVESTIGATION QUALITY ASSURANCE PROJECT PLAN NSY PORTSMOUTH
ME
6/7/2001
LEPAGE ENVIRONMENTAL SERVICES

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June 7, 2001

Portsmouth Naval Shipyard
Code 106.3R, Building 44
Attn: Ms. Marty Raymond
Portsmouth, New Hampshire 03804-5000

Subject: Comments on May 4, 2001 Responses to Comments on the February 2001 *Site 10 Additional Investigation Quality Assurance Project Plan*

Dear Ms. Raymond:

We are submitting comments on behalf of the Seacoast Anti-Pollution League (SAPL) regarding the Navy's May 4, 2001 responses to comments on the February 2001 *Site 10 Additional Investigation Quality Assurance Project Plan* (QAPP). As we noted in our March 31, 2001 comment letter, our review focused on Sections 5 through 9. Many of the Navy's responses to our comments were satisfactory. Questions or concerns remain regarding the following comments. Note that we have retained the original numbering from the March 31st letter.

Original Comment 3. Page 5-2, Section 5.2.1 Site Location and Description. The first paragraph in the section states "Partially overlapping with Site 10 is Building 238; however, Building 238 is not part of this investigation." This sentence is confusing because the area of the proposed investigation includes the crawl space beneath Building 238. The Site 10 Investigation Area, as shown on Figure 5-3, overlaps with Building 238. Perhaps the intent of the quoted passage is to clarify that the interior of Building 238 (above the crawl space) is not included in the Site 10 investigation. The text should be revised appropriately here and on page 5-4 in Section 5.2.3. That said, information should be added (perhaps to Section 5.2.2) regarding where the waste battery acids were fed into the drain line/underground tank system, and if there is or was evidence of spills, overflowing, or other releases in that area.

Navy Response: The Navy response provides revisions to the text for pages 5-2 and 5-4, and also states there is no information available regarding evidence of spills, overflowing, or other releases.

Additional Comment: The Navy's suggested revision for page 5-4, which reads as follows, does not clarify the extent of Site 10: "*Site 10 is defined as the area south of the drain line exiting Building 238 that may be impacted by releases from the acid drain line and former tank.*" According to this definition, Site 10 begins outside Building 238, and does not include the crawl space beneath the building. Therefore, the revision proposed for page 5-4 should be rewritten.

Original Comment 5. Page 5-3, Section 5.2.2 Site History and Background. The summary of the 1998 Field Investigation soil sampling presented in the third and fourth full paragraphs on the page imply that lead was the only contaminant detected. In fact, the 1998 investigation found that concentrations of antimony and arsenic in surface soils, and arsenic in subsurface soils exceeded the Region III RBCs. The groundwater discussion in the fifth paragraph does not mention the elevated levels of lead and nickel (along with high turbidity) detected in the upgradient well, and the elevated concentration of thallium detected in the downgradient well. It is important to present this background information in this section of the QAPP; the text should be revised.

Navy Response: As discussed in the first paragraph of Section 5.2.2, a tag map showing metal contaminant concentrations exceeding background/screening levels for past soil sampling locations is provided in Figure 5-4 and historical data summaries were used during the development of the DQOs (and are provided in Appendix A). However, lead was the primary contaminant identified in this section because of the historical process knowledge, i.e., wastes generated from lead-acid battery drainage. All TAL metals; including antimony, arsenic, lead, and nickel; have been included for analyses for all the proposed soil and groundwater samples. This is discussed further in Section 6.1.1.1. Groundwater turbidity at the upgradient well has been used as the basis to support the redevelopment of this well, as mentioned in Section 8.3. The elevated levels of lead and nickel have not been discussed because of the unreliability of these values in view of the high turbidity.

Additional Comment: The point of Original Comment 5 was that information regarding the results of the 1998 Site 10 investigation should be added to the text in Section 5.2.2. SAPL requested this information for the sake of accuracy and completeness. The Site History and Background section is certainly the appropriate place to summarize this information. As currently written, the only contaminant mentioned is lead. The Navy's response states "...lead was the primary contaminant identified in this section". However, lead is not the primary contaminant identified in Section 5.2.2, it's the **ONLY** contaminant identified. This is misleading and inaccurate. There is no mention or discussion of the other potential contaminants that have been detected so far at the site. Including the soil contamination information only on Figure 5-4 is not enough. The groundwater information is not presented at all. We do not disagree that lead is likely the primary contaminant in soil at Site 10. However, it is important to not exclude other potential contaminants that we know about from the Site Background summary. The text must be revised.

Original Comment 7. Page 5-5, Section 5.2.3 Problem Definition. The third full paragraph on the page includes the statement that, because the concentration of lead in the one monitoring well actually located at Site 10 was below detection level "..., no impact to groundwater is evident." This statement is incorrect and misleading. The March 2000 *Field Investigation Report, Site 10 (Building 238) and Site 29 (Teepee Incinerator)* states on page ES-3 (and

elsewhere in the report) that the concentration of thallium in well BA-01 exceeded federal Maximum Contaminant Levels (MCLs), Maine's Maximum Exposure Guidelines (MEGs) and the draft site-specific background for both freshwater and saltwater. Clearly this result shows there is an impact, at least for that one round of sampling. The text should be corrected here and in similar passages elsewhere in the QAPP to state that, based on limited data, groundwater at Site 10 has been adversely affected.

Navy Response: In the context of the discussion, the sentence implies that no impact due to the site-related contaminant, i.e., lead, is evident. Please see the text revisions provided in the Navy's response to MEDEP Comment No. 4 dated March 22, 2001. However, groundwater samples will be analyzed for TAL metals, including thallium. Therefore, a second round of data from the well that previously showed elevated levels of thallium will be available for comparison and further decision making. Also, note that thallium is not detected in any of the previously collected surface soil samples near the drain pipe and it was detected at low levels (near the background value of 0.23 mg/kg) in subsurface soil samples near the former tank. The available data indicates that thallium is not a site-related contaminant for groundwater. In addition, groundwater at the site is brackish/saline; therefore, MEGs and MCLs are not appropriate ARARs for groundwater at this site.

Additional Comment: SAPL appreciates that the results of TAL metals analysis should help define site impacts on groundwater. However, SAPL's Original Comment focused on the (lack of certain) information presented in the QAPP, and the need to revise the document. The first sentence of the Navy's response illustrates why it is important to present an accurate summary of the 1998 investigation results in Section 5.2.2. SAPL has not been a supporter of the Navy's development of background data, nor its application at other sites. However, the thallium concentration detected in the down-gradient Site 10 well exceeds both the freshwater and saltwater background levels, yet there is no mention of this fact in the text, nor any discussion regarding why thallium should not be considered a site-related contaminant at this time. The background information and the rationale for lead being the only site-related contaminant at this time must be added to the QAPP. Furthermore, there needs to be consistent use of terminology. In the response to Original Comment 5, lead was referred to as the "primary" contaminant, which implies that at least one other contaminant is present at the site. In the response to Original Comment 7, lead is "the site-related" contaminant, which implies nothing else has been detected. These terms must be defined and used consistently in the QAPP.

Original Comment 8. Page 6-1, Section 6.1.1.1 Target Analyte Suite. The first sentence in the second paragraph states that available chemical data from the March 2000 Field Investigation Report are summarized in Section 5.0. As we have noted in Comments 5 and 7, above, the information from the 1998 field investigation that is presented in Section 5 are inaccurate and misleading, and must be corrected.

Navy Response: The Navy recognizes SAPL's concerns noted in Comments Nos. 5 and 7 above. However, as noted in the Navy's responses to SAPL's Comments Nos. 5 and 7 above, the Navy has not removed any inorganics based on the findings of the 1998 the information from the 1998 field investigation. Please see the Navy's responses to SAPL Comments Nos. 5 and 7 related to Section 5.0 information.

Additional Comment: As we have stated in Comment No. 5 above, Section 5 does not present an accurate, adequate, or complete summary of the 1998 field investigation. Therefore, the first sentence in the second paragraph of Section 6.1.1.1 that states that available chemical data from the March 2000 Field Investigation Report are summarized in Section 5 is wrong. It is beside the point that the Navy has not removed any organics; the text is not correct and should be revised.

Original Comment 10. Page 6-4, Section 6.1.1.2 COPC Screening Levels and Quantitation Limits. The fourth reason given as supporting that conservative COPC screening levels are being developed states "the fact the lead has been identified as the primary site contaminant and the site lead detection limit is much less than any lead action level." This statement causes us concern as it indicates a potential short-coming of the proposed investigation. While we agree that concentrations of lead in soil at the site are significant, we are concerned that, by focusing on lead only, the other contaminants will not be given appropriate consideration. An example of this is the statement we cite in Comment Number 7, above, about there not being any groundwater impacts. There is also an unwritten assumption that all other contaminants at the site will behave in that same manner as lead, such that lead is a good indicator of overall site contamination. As the 1998 sampling results for well BA-01 indicate, this assumption does not hold true for groundwater. The QAPP should be revised to include a discussion of the behavior, including fate and transport, of the contaminants detected at the site, and an analysis of the appropriateness of using lead as the indicator contaminant for both soil and groundwater. The additional investigation report should include similar discussion and analysis that takes into account both existing and new data.

Navy Response: As provided in the text, the Navy provides four reasons to support the position that the COPC screening levels are conservative for Site 10. Based on the available information for Site 10, the Navy believes that its position is adequately justified. As provided in the response to SAPL Comment No. 5 above, lead is the primary contaminant based on historical process knowledge and the Navy believes that it is a good indicator of site-related contamination. However, as indicated in the Navy's responses to SAPL Comments Nos. 5 and 7 above, all samples will be analyzed for TAL metals. The QAPP provides that all samples will be analyzed for TAL metals and the data for all metals will be evaluated as provided in the QAPP (e.g., see the discussion in Section 6.1.1.1). Therefore, the Navy believes that SAPL's concerns indicated in this comment are appropriately addressed by the sampling program and data evaluation procedure indicated in the QAPP.

Additional Comment: While we do not disagree at this time with lead as the primary contaminant for soil at Site 10, there is nothing in the Navy's response that reassures SAPL that lead is the appropriate indicator contaminant for groundwater at the site. What is the available information that the Navy believes supports this assumption? The one downgradient monitoring well at the site had a concentration of thallium that exceeded both freshwater and saline background levels. This data is neither presented nor discussed in the QAPP. We also take issue with the final statement in the Navy's response that SAPL's concerns are adequately addressed by the sampling program and data evaluation procedure indicated in the QAPP. While the collection of TAL metals data will help, the one round of sampling proposed in the QAPP will not be adequate to characterize the site and support decisions regarding risk and remediation.

Original Comment 13. Page 6-6, Section 6.1.4 Analytical Tasks. The first paragraph states that offshore sampling of sediment and surface water will not be conducted as part of the investigation. What Operable Unit 4 monitoring locations are located in the vicinity of Site 10 and what are the results to date?

Navy Response: Monitoring Station (MS)-12 is located immediately offshore of the site. Sediment and biota data from this station are available in the data packages for Round 1, Round 2, and Round 3 that have been made available to SAPL and other RAB members. The offshore data will be evaluated in accordance with the data quality objectives developed under the monitoring program for Operable Unit 4.

Additional Comment: At what point in the Site 10 additional investigation will the on-shore and off-shore data be linked or evaluated together?

Original Comment 15. Page 7-1, Section 7.1 PROJECT QUALITY OBJECTIVES. This section identifies the two principal study questions as: "Is risk at Site 10 unacceptable to human receptors?" and, "Are onsite contaminants migrating to the offshore in concentrations great enough to create a current or future unacceptable impact?" The third question, "What is the extent of contamination at Site 10 in soils and groundwater?", is described as being of secondary concern because the extent of contamination is not a decision driver for this investigation, although it will be used to support the Feasibility Study for Site 10. We are dismayed by this down-grading of the importance of adequately characterizing the site. How can the risks to human receptors and potential impacts to the offshore be evaluated properly if there isn't sufficient information to determine what contaminants are present at the site, what the concentrations of the contaminants are, and where the contaminants are located in soil and groundwater? Certainly the currently-available information, which is based on limited soil sampling and only one sample from one monitoring well, is not sufficient to determine potential risks. Determining the extent of site contamination should be the basis for answering the two "primary" questions. The Navy's overall approach to the Site 10 additional investigation should be restated.

Navy Response: Characterizing the site for understanding risks at the site is indeed one of the primary questions that the Navy is attempting to answer in the proposed investigation. ... The Navy is conducting the additional investigation because the existing data are not sufficient to determine the potential site risks. However, the Navy believes that the additional investigation will provide sufficient data to characterize potential site risks and sufficient data will be available to support an FS. ... However, ... additional sampling may be required based on the remedy selected.

Additional Comment: SAPL understands that additional sampling, above and beyond what is proposed in the QAPP, may be necessary prior to implementing a remedy. However, in Original Comment 15, SAPL was objecting to the relative importance assigned to the three study questions on page 7-1. SAPL believes is crucial that the site be adequately and appropriately characterized so that risks to human receptors and the offshore can be properly assessed. Therefore, determining the extent of contamination in soils and groundwater at the site should not be of secondary concern, but of primary concern. The priority given to site characterization at this stage of site activity is fundamental to successfully addressing potential risks and implementing remedial measures in the future. The passage in the QAPP should be revised.

Original Comment 19. Page 7-9, Section 7.4 RISK, Protection of Groundwater. It is not clear in this section how many rounds of groundwater data will be collected. One round of sampling will not be sufficient to recommend no further action for groundwater.

Navy Response: One round of sampling will be collected as part of the additional investigation. The Navy believes that given the age of the site and the chemical concentrations detected in the soil, that if there is any impact to the groundwater, the proposed monitoring well near the source should provide the data to indicate such and impact. There are no indications of temporal variations at the site that would significantly impact groundwater concentrations or the evaluation of data for the site that require more than one round of sampling for groundwater as part of the Site 10 additional investigation.

Additional Comment: One round of sampling results is not sufficient to characterize site conditions or to evaluate potential risks. A minimum of two rounds is needed to confirm results - these are new monitoring wells. Three rounds would be preferable. If the results of the two sampling rounds show significant differences, a third round should be conducted.

Original Comment 20. Page 8-2, Section 8.1.2 Groundwater Sampling Rationale. As we have already noted in several comments above, statements to the effect that groundwater has not been impacted at Site 10 are inaccurate and misleading, and must be corrected. We also recommend that the "temporary" wells be retained until sufficient data is collected to characterize groundwater at the site (see Comment Number 19, above).

Navy Response: The groundwater data available for Site 10 (by the former tank) does not indicate that site operation (i.e., lead-battery operation) have impacted groundwater. Please see the responses to SAPL Comment Nos. 5 and 7 above for more detail. The Navy will determine an appropriate timeframe for well abandonment.

Additional Comment: As indicated in the Additional Comment 19 above, one round of groundwater monitoring data is not sufficient to characterize the site or evaluate potential risks. The wells should be retained until the decision is reached that sufficient data has been collected. This Additional Comment also applies to SAPL's Comment 24 regarding Section 8.3, which is not repeated below. Please see SAPL's Additional Comments 5, 7, 10, and 15 for additional detail.

Original Comment 21. Pages 8-3 & 8-4, Section 8.2.1 Area 1. Subsurface soils should also be collected at depths below the water table in the four Area 1 borings. Soil should be logged continuously to characterize geologic conditions, and additional soil samples should be collected at location 1-C (the MEDEP has suggested adding samples at 10-12 feet bgs, 20-22 feet bgs, and just above bedrock at 1-C). All soil samples, not just the samples below the water table, should be analyzed for TOC, CEC, and grain size.

Navy Response: The Navy has provided its rationale for the collection of each sample using the DQO process. Rationale for sampling for Area 1 is discussed in Section 8.2.1 Please see response to USEPA Comment No. 5 dated March 19, 2001 and MEDEP Comment No. 10 dated March 22, 2001 for additional clarification and text revisions for Area 1. The Navy requests additional information to understand SAPL's DQOs for the Navy to reevaluate its DQOs as to the need for and use of the additional samples requested. Soil boring logging is discussed in Section 9.2 (Soil Sampling Procedures) Please see the Navy's response to SAPL Comment 26 below related to soil sampling procedures.

Additional Comment: SAPL appreciates the proposed text revision and the additional discussion in the responses to USEPA Comment No. 5 and MEDEP Comment No. 10, respectively. Part of the response to the MEDEP's comment is a bit confusing. The Navy states that the sample from the depth 4 to 6 feet bgs (as well as from other sampling locations) will provide information on the chemical interaction between the unsaturated zone soil contaminants and the salinity and/or other chemical constituents of groundwater at high tide. This information can be used for potential modeling of contaminant migration and for risk evaluation. The depth interval of 4 to 6 feet bgs was selected because it is just above the water table at high tide. But the next interval the Navy proposes to sample is 14 to 16 feet bgs, well below the water table at high tide. Wouldn't it make sense to also collect an additional sample from just below the water table at high tide (close to the 10 to 12 feet bgs interval suggested by the MEDEP) for the unsaturated/saturated zone data? With regard to the second part of the Navy's response, SAPL has not gone through a formal DQO process, so cannot share specific DQOs. However, one of SAPL's primary concerns

is that the site characterization be sufficient to assess risks at Site 10. With the emphasis placed on the proposed modeling, it is all the more important to gather appropriate geologic, hydrologic, and soil and water quality data during the additional investigation. To that end, SAPL strongly suggests that split-spoon samples be collected continuously so that geologic conditions be logged continuously down to bedrock (or refusal) at boring location 1-C, the location proposed for monitoring well BA-MW-03. This would provide data that would support the design and calibration of the model. Subsurface soil samples could be selected based on observation and physical characteristics, rather than a pre-assigned depth.

Original Comment 22. Pages 8-4 & 8-5, Section 8.2.2 Area 2. Subsurface soils should also be collected at depths below the water table in the six Area 2 borings. Soil should be logged continuously to characterize geologic conditions, and additional soil samples, including one from just above bedrock, should be collected at location 2-F. All soil samples, not just the one "deeper" sample at location 2-F, should be analyzed for TOC, CEC, and grain size.

Navy Response: The Navy's response is similar to the response to Original Comment 21.

Additional Comment: For the reasons described in Additional Comment for Original Comment 21 above, SAPL strongly suggests that split-spoon samples be collected continuously so that geologic conditions be logged continuously down to refusal at location 2-F, the proposed location for well BA-TW-01. Because the source in Area 2 (the bottom of the tank) is thought to have been located at about 14 feet bgs, the Navy proposes collecting a soil sample for analysis from the 14 to 16 feet bgs interval. The addition of a sample collected from a slightly deeper interval should help in understanding contaminant migration and with developing a more realistic model.

Original Comment 23. Pages 8-5 & 8-6, Section 8.2.3 Area 3. Subsurface soils should also be collected at depths below the water table in the six Area 3 borings. Soil should be logged continuously to characterize geologic conditions, and additional soil samples, including one from just above bedrock, should be collected at location 3-C. All soil samples, not just the one "deeper" sample at location 2-F, should be analyzed for TOC, CEC, and grain size.

Navy Response: The Navy's response is similar to the response to Original Comment 21.

Additional Comment: For the reasons described in Additional Comment for Original Comment 21 above, SAPL strongly suggests that split-spoon samples be collected continuously so that geologic conditions be logged continuously down to refusal at location 3-C, the proposed location for well BA-TW-02.

Original Comment 25. Page 8-21, Figure 8-1. We concur with the MEDEP (Comment Number 13, dated 3/22/01) that the gap between Area 1 and the sampling points to the east in Area 3 requires the addition of a sampling location for adequate characterization.

Navy Response: The Navy refers to the response to MEDEP Comment No. 13, which describes the selection of sampling locations in Area 3. The response also states that additional biased sampling may be required to more accurately define the extent for remedial purposes.

Additional Comment: SAPL remains troubled by the gaps between sampling locations in portions of Area 3. The generation of sampling locations by random selection should not be followed blindly.

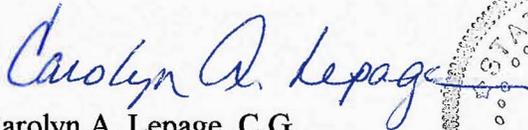
Original Comment 26. Page 9-4, Section 9.2.3 Hollow-Stem Augering and Split-Barrel Soil Sampling. As we noted in several comments above, soil samples should be collected and logged continuously.

Navy Response: The Navy's response describes the collection of split-spoon cores and soil cuttings during drilling, and collection of soil for logging during hand augering.

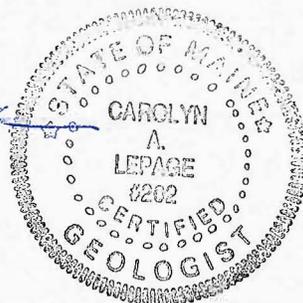
Additional Comment: SAPL strongly believes, for the reasons stated in the Additional Comments to Original Comments 21, 22, and 23 above, that split-spoon samples should be collected continuously at the three locations of proposed monitoring wells. With the emphasis placed on modeling in the Navy's responses to various comments, it is important to collect enough information during the additional investigation. Continuous split-spoon sampling is an efficient and relatively inexpensive way to gather real data to support the development and calibration of the model and the interpretation and application of the modeling results.

If you have any questions regarding the comments above, please give me a call at 207-777-1049.

Sincerely,



Carolyn A. Lepage, C.G.
President



cc: Jim Horrigan, SAPL
Iver McLeod, MEDEP
Meghan Cassidy, USEPA