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U S EPA COMMENTS ON DRAFT SAMPLING AND ANALYSIS PLAN ADDENDUM
CODDINGTON COVE RUBBLE FILL (CCRF) AREA NS NEWPORT RI
5/1/2013
U S EPA

EPA Comments on
Draft Sampling and Analysis Plan Addendum
Coddington Cove Rubble Fill (CCRF) Area
NAVSTA Newport, RI
May 2013

General Comment:

1. The SAP Addendum should provide a summary of the data from the Revised Draft SASE on the levels of metals in groundwater for the 5 metals identified as posing potential risks. The summary should document the maximum, minimum and average concentrations; the project action limit (PAL) and the basis for the PAL; a summary of the risk conclusions for the metals of concern; and, a comparison to likely cleanup goals including MCLs. A figure should also be provided showing the concentrations of the elevated metals at the existing wells, including an explanation of whether certain wells or areas of the site generally represented the most elevated groundwater conditions. The geochemical data collected during the SASE should also be summarized and discussed in relation to the elevated metals of concern.

Specific Comments:

1. Page WS 11-2, Step 5 – Analytical Approach: With respect to Cr, is this constituent expected to be elevated due to groundwater reducing conditions? Or, is the objective of this effort with respect to Cr to collect both total Cr and Cr^{+6} data so that Navy can evaluate whether the Cr data demonstrate that the Cr at the Site is or is not present as Cr^{+6}? In the Revised Draft SASE, Navy appropriately made the conservative assumption that the Cr measured was present as Cr^{+6}. However, if the Cr is primarily in the form of Cr^{+3}, the levels likely do not exceed applicable risk screening criteria. As such, an "if…then…" statement should be included here to address the purpose of the investigation related to Cr. It would be useful to note whether Cr would have exceeded the risk screening criteria if the maximum Cr level measured during the SASE were Cr^{+3}.

2. Page WS 11-2 Step 5 – Analytical Approach: The 2 bullets outlined in this section are targeted at evaluating whether the elevated metals in groundwater are due to naturally-occurring reducing conditions. However, providing data to address these 2 objectives alone may not fully address whether the elevated metals are solely a result of reducing conditions naturally caused by wetland subsurface geochemistry or as a result of reducing conditions driven by the biodegradation of petroleum or other substances released at the site. EPA recommends additional lines of evidence be incorporated into this section and the SAP to more fully address this issue. Navy's September 17, 2012 letter provided responses to EPA's comments on the Revised Draft SASE. Response to General Comment 1 stated: "*it is possible that the presence of low concentrations of TPH measured in soil is further promoting elevated metals concentrations in groundwater.*" Therefore, the primary goal of this effort should be to examine the SASE groundwater data and soil data, along with the proposed additional groundwater data, in an attempt to establish whether the elevated metals resulting from the reducing conditions is driven by natural wetland conditions or degradation

of petroleum constituents. There is not a 'signature' to the reducing conditions that will enable Navy to prove one driver over the other; therefore, it will need to be a weight of evidence approach. Lines of evidence to consider include:

a. Examination of groundwater data in relation to evidence of petroleum releases: If elevated levels of metals, coincident with groundwater reducing conditions, are present across the site, both where there was evidence of TPH and where TPH was not detected, then the reducing conditions may be driven by the natural wetland conditions. A figure depicting TPH levels in soils, along with concentrations of metals in groundwater and key groundwater geochemistry levels (e.g., DO, ORP), would be useful to support this discussion.
b. Metals concentrations and geochemistry of unimpacted upgradient groundwater: If elevated levels of metals, coincident with groundwater reducing conditions, are present upgradient of the site, where there are no Navy releases, then the reducing conditions may be driven by the natural wetland conditions. As such, the goal of the upgradient well should be to sample upgradient groundwater that would represent natural wetland conditions, not impacted by potential Navy releases and this needs to be supported in the SAP. Is the proposed location in a wetland environment or former wetland environment? Navy's September 17, 2012 letter states *"(h)istoric photographs document a wetland that occupied the majority of the site. In addition, it is likely that before the construction of the railroad, the area was likely a much larger coastal wetland extending to Coddington Cove.*" Do historic photographs, maps or data support that the location proposed for the upgradient well is located in a wetland environment? Can the Navy support that the location in not impacted by Navy releases?
c. Additional lines of evidence to consider may be groundwater samples from an uncontaminated 'reference' wetland area, if one could be identified, and literature searches that may support that the levels of metals observed are consistent with levels observed in comparable wetland environments.

Finally, pursuant to Navy's September 17, 2012 letter, response to General Comment 2, another objective of the SASE Addendum effort is to provide data to evaluate whether MNA is a feasible remedial alternative to address the elevated metals in groundwater should the Navy need to proceed to an FS to address the elevated metals in groundwater. This additional goal should be incorporated into the SAP Addendum.

3. Page WS 11-4, Groundwater Sampling and WS 18-1: SAP Worksheet 11 indicates the newly installed monitoring well will be screened "*across the water table*". SAP Worksheet 18 indicates the screen depth as "*mid-water column*". Please clarify. The Draft SAP should provide information on the screen depths for all of the existing wells and demonstrate that the proposed screen depth for the new well is consistent with those and support that the new well will be representative of groundwater upgradient of the aquifer depth measured by the existing monitoring well network.

4. Page WS 14-1, Drilling and Monitoring Well Installation: The Draft SAP indicates that, "*during advancement of the soil boring, soil samples will be continuously collected…for*

visual description of soil composition…" See Specific Comment 2.b. This data may provide support for whether the well location is in a former wetland area.

5. Page WS 14-4, Report Preparation: In the Tech Memo to be prepared to analyze the data from this supplemental investigation and sampling effort, ensure that a table is provided that depicts both the existing SASE groundwater data for the 5 metals of concern along with the new data and applicable risk screening criteria, so that all available data can be considered in the evaluation. If the new groundwater data suggest revisions to the risk screening results for the metals of concern are warranted, the Tech Memo should include new risk summary tables for these constituents or a discussion of the changes to the risk conclusions presented in the Revised Draft SASE.