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NIROP ABL ROCKET CENTER
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U S NAVY RESPONSES TO U S EPA REGION III COMMENTS ON THE DRAFT UNIFORM
FEDERAL POLICY SAMPLING AND ANALYSIS PLAN ADDENDUM FOR SITE 13 REMEDIAL
INVESTIGATION NIROP ROCKET CENTER WV

8/19/2013
CH2M HILL

Response to Comments on the Draft *Uniform Federal Policy (UFP) Sampling and Analysis Plan (SAP) Addendum, Site 13 Remedial Investigation, Allegany Ballistics Laboratory, Rocket Center, West Virginia, June 2013*

This memorandum provides responses to comments received from USEPA via email on August 19, 2013 regarding the document referenced above. These responses will be incorporated into a final version of the SAP which will be submitted upon acceptance of these responses. Comments are presented as received, followed by the Navy's responses, shown in **bold**.

Comments from Sarah Kloss (Remedial Project Manger - EPA)

1. **Comment:** As noted in previous SAP comments at other sites, please change the title of the "consensus" decision section for the scoping sessions.

Response: Language will be modified as **requested**.

Commented [s1]: OK

2. **Comment:** Executive Summary, Page 4: In the surface water porewater, and sediment sampling section, change "ABL Partnering Team" to "Navy and Regulatory agencies," or "Navy, U.S. EPA, WVDEP." Please make this change throughout the document.

Response: All occurrences of "ABL Partnering Team" in the document have been changed to "Navy, U.S. EPA, and WVDEP" for greatest **precision**.

Commented [s2]: OK

3. **Comment:** Worksheet 9-7: This section states that GGW10 was not included as a background well even though it's a nearby alluvial well. Please include more detail as to why it is considered an outlier.

Response: GGW10 was considered an outlier due to the presence of constituents dissimilar from those found at other wells, and also due to higher total metal concentrations. Language to this effect will be added to Worksheet 9-7.

Commented [s3]: OK

4. **Comment:** Worksheet 9-7: This worksheet discusses consensus decisions that were not carried forward in the SAP addendum. Please clarify.

Response: Language will be added to the end of the consensus decisions section reading "This approach was modified during a subsequent scoping **session**."

Commented [s4]: OK

5. **Comment:** Worksheet 9-9: The comments section should note that additional data for perchlorate were presented to the team. This additional data supported the decision that alluvial sampling for perchlorate was unnecessary at this time.

Response: Language will be added to Worksheet 9-9 stating that additional data for perchlorate were presented to the team, and that the additional data supported the decision that alluvial sampling for perchlorate is unnecessary.

Commented [s5]: OK

6. **Comment:** Worksheet 10a: The remedial investigation section discusses bedrock sampling that predates the issue date given for the SAP. Please explain. Also, in the scoping session, described in worksheet 9-9, additional rounds of bedrock groundwater sampling were presented. Please add information about the additional rounds of groundwater sampling to this section.

Response: The July 2011 sampling was conducted under a previously amended version of the UFP-SAP approved by the Navy, U.S. EPA, and WVDEP.

Text will be modified to read "Subsequent discussions (WS 9-7 and WS 9-8) concluded that there was no need to collect surface water/pore water/sediment samples as previously planned; however, based on the data gaps associated with metals data for alluvial and bedrock wells, and because elevated metals are present in other facility-wide bedrock wells and in the Site 13 alluvial aquifer, additional groundwater sampling is warranted as discussed in WS 9-9. Additional sampling is discussed in WS 11."

Commented [s6]: OK

7. **Comment:** Worksheet 10a: The surface water, sediment, and porewater section should specify that this sampling would have been within the drainage ditch.

Response: Text has been modified to read "Surface water, pore water, and sediment sampling were initially proposed in the UFP-SAP (November 2011) and would have been conducted within the drainage ditch."

Commented [s7]: OK

8. **Comment:** Worksheet 10a: For the bedrock groundwater sampling, please include the depths that had water. Also, the second paragraph uses the term "well" which suggests a developed monitoring well rather than an open borehole.

Response: A review of the boring logs for the wells shows that water was encountered at 13 feet below ground surface at each well. A sentence reflecting this will be added to the text. The term "well" will be replaced by the term "borehole."

Commented [s8]: OK

9. **Comment:** Worksheet 11a: Why was the comprehensive investigation limited to the western side of the plume?

Response: The extent of the VOC plume was delineated through DPT in 2002 and 2003. In 2004, monitoring well samples primarily from the upgradient (western) portion of the plume were analyzed for a comprehensive suite of analytes. Subsequent investigations focused on the COCs, TCE and its degradation products.

The first paragraph of Worksheet 11a will be revised to read "The extent of the VOC plume was delineated through DPT in 2002 and 2003. In 2004, monitoring well samples primarily from the upgradient (western) portion of the plume were analyzed for a comprehensive suite of analytes. Subsequent investigations focused on the COCs, TCE and its degradation products; however, two pilot studies have been conducted at the site determine the ability of injected solutions into the groundwater to enhance the reductive dechlorination process. These injections have changed the geochemistry of the alluvial groundwater and potentially impacted concentrations of metals constituents in groundwater. Therefore, the data from 2004 may not be representative of current alluvial aquifer conditions. VOC and metals groundwater data is needed to quantify potential risk currently posed by the alluvial groundwater at the site."

Commented [s9]: What about the concept that the investigation focused on the Western side of the plume? Have we or are we going to collect data that will identify the extent of the plume?

RESPONSE: A comprehensive DPT groundwater study was completed at Site 13 between 2002 and 2003 to identify the overall dimensions of the VOC plume in the alluvial aquifer and provided the basis for subsequent studies. In 2004 monitoring wells were sampled for a comprehensive suite of analytes. Subsequent investigations have refined the extent of the plume and COCs.

10. **Comment:** Worksheet 11a: Page 34 discusses how the metals data will be used. It is unclear if the total metals result will be used for the construction workers scenario even if a disparity exists. Also, the phrase "over a magnitude" should be clarified.

Response: Total Metals will not be used in the risk assessment if a disparity exists. Worksheet 11a will state "Total metals data will be used for a construction worker exposure scenario because the construction worker would be directly exposed to groundwater via a subsurface activity, such as excavation. If a notable disparity exists between dissolved and total metals concentrations collected from a monitoring well, as demonstrated by total metals concentrations that are over one order of magnitude greater (that is, 10 times greater) than dissolved metals concentrations of aluminum, iron, and manganese in mutual samples, dissolved metals data would be used for that well in the HHRA."

Commented [s10]: OK

11. **Comment:** Worksheet 11a: The PQOs section discusses comparing data to site-specific background concentrations. While raw data for the proposed background wells are included, background concentration estimates have not been established. Proposed background wells should be sampled concurrently with the alluvial wells. Then the newest data can be combined with this older data to estimate background concentrations for metals in this local area.

Response: The text of the SAP will be modified to state that 5 alluvial wells will be sampled for metals only during a single event. These data will be combined with the existing data from the 5 wells to establish background values.

Commented [s11]: At some point we will need to talk about how background will be established in more detail. I can live with this for purposes of the SAP. The RI will need to have a much expanded discussion.

RESPONSE: Agreed

Comments from EPA Hydrogeologist

1. **Comment:** Executive Summary, Page 5: Is ENCO Laboratories NELAC certified or NFESC/Navy approved?

Response: ENCO Laboratories is NELAC certified and has been approved by NFESC and the Navy.

Commented [s12]: OK

2. **Comment:** Worksheet 3a: Distribution List, make all the changes for items to be deleted or added plus add Jamie's email address.

Response: Jamie Butler's email address has been added to the distribution list. All items to be deleted were deleted from the list, and all items added were left in.

Commented [s13]: OK

3. **Comment:** Worksheet 11a: For the Project Quality Objectives/Systematic Planning Process Statements on page 34, please add groundwater samples will be collected using the low flow/zero drawdown sampling protocols.

Response: The change will be made as requested.

Commented [s14]: OK

4. **Comment:** Worksheet 17a: On page 59, in the table under rationale "data metals" is highlighted, this should read "metals data".

Response: "Data metals" has been changed to "metals data."

Commented [s15]: OK

5. **Comment:** Worksheet 18a: For the Sampling Locations and Methods/SOP Requirement Table on page 61, under the column marked "Depth Units" instead of "mid-screen," the actual depth to top of screen and depth to the bottom of screen should be in the table. These ranges should already be known.

Response: The text will be revised to specify the specific sampling depth.

Commented [s16]: OK

6. **Comment:** Worksheet 18a: For the Sampling Locations and Methods/SOP Requirement Table on page 63, in the table under column "Depth Units." What is the sample interval of reach of the bedrock boreholes? Are you trying to target a specific fracture? Is the sampling depth the same in each borehole?

Response: Specific fractures or water bearing zones have not been identified. Sample depth is specified to be the midpoint between the bedrock/alluvial interface and the bottom of the borehole, approximately 60-70feet bgs.

Commented [s17]: OK

7. Where are worksheets 21 and 22? Or were there no changes to the original worksheets 21 and 22?

Response: There were no changes to Worksheets 21 and 22, so they were not included in this addendum.

Commented [s18]: OK

Comments from EPA Laboratory

1. **Comment:** It is recommended that the analysis be expanded to include "Tentatively Identified Compounds" (TIC's). TICs are a valuable tool used by EPA to aide in clean-up, removal or treatment decisions by identifying compounds that might otherwise be missed at the site. Therefore, it is important that any contract laboratory analyzing organic (volatile and/or semi-volatile) target samples be tasked to analyze and report TICs as part of their final data reporting package.

- **Response: TIC data is not quantifiable and are identified on a tentative basis. There is no direct way to investigate the potential detections and no regulatory criteria on which to evaluate them. Therefore data generated from TIC analysis cannot be evaluated to meet the requirements of this RI.**

Commented [s19]: TIC data is useful for a number of purposes (agree it is not useful for HIRA). Im not going to hold up this work while we have a discussion about the value of reporting TICs but disagree with your evaluation that they are of no value. If a new RI is started at ABLwe will likely have the discussion.

RESPONSE: Comment Noted