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LETTER AND THE U S NAVY REVISED RESPONSE TO THE U S EPA REGION III
COMMENTS ON THE DRAFT SAMPLING AND ANALYSIS PLAN SITE 25 REMEDIAL
INVESTIGATION NWS YORKTOWN VA

11/10/2014
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November 10, 2014

Mr. Moshood Oduwole
Federal Facility Remediation (3HS11)
USEPA Region 3
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Subject: Revised Response to Comments dated June 3, 2014 on the Draft Sampling and Analysis Plan for the Remedial Investigation at Site 25, WPNSTA Yorktown, Yorktown, Virginia

Dear Mr. Oduwole,

This letter is in response to comments dated June 3, 2014 for the subject document. Comments are presented below followed by responses in italics.

1) Comment #2 on page 1 recommended that soil samples be collected outside of the Building 386 to determine if a release from this building has occurred. The response to comments (RTC) states that SB31 will be located on the upslope side of Building 386 while SB33 will be collected on the downslope side of the building. The purpose of SB31 should be provided since it is upslope of the building. A downslope sample should be collected closer to the building as SB33 is nearly 30 feet away from the building and is across the road. Comment #2 also recommended sampling outside of the doorways of Building 373. The RTC states that the sample locations at Building 373 were selected based on interviews with employees regarding where chemicals were historically disposed. The response to comment #7 on page 6 further states that sample locations were selected based on areas where employees had reported that chemicals would likely have been disposed during historical operations. This statement is not very definitive and implies that dumping could have occurred outside of other doorways. Unless specific doorways can be definitely ruled out as disposal areas from interviews with former employees, soil outside of all doorways should be sampled. This may require multiple samples per entrance/exit because there is no information as to where the chemicals were dumped. There appear to be nine entrances/exits to 373 and seven to 386. Regarding the solvent storage shed, the single sample proposed is not adequate. Because it is not known where chemicals were dumped, three samples need to be collected (left, right, and center out of the door).

Based on interviews with base employees, chemical dumping occurred primarily on the west side of Building 373. However, since chemical disposal practices on the east side of the building cannot be ruled out, some samples have been moved to achieve more even sample distribution and sample more doorways. Additionally, as per the partnering team discussion in October 2014, three point composite samples will be collected outside of these doorways (in addition to those at Building 386), rather than individual samples. A revised figure is attached.

There were never any reported spills from Building 386, and much of the building was used as break room space. There were chemicals stored in two rooms in the eastern portion of the building. These chemicals reportedly comprised toluene diisocyanate, diphenylamine, acetol formal powder, glycols, and microscopic beads. Most of these chemicals do not have corresponding RSLs/toxicity values in IRIS or ESVs and many of them do not have standard analytical methods. The microscopic beads were made of glass and are not toxic. Toluene diisocyanate has toxicity information in IRIS and acetol formal powder is related to formaldehyde, which does have both an accepted analytical method, an RSL, and a preliminary ESV. As such, these constituents can be reported as

tentatively identified compounds (TICs), but the Navy will require more guidance from EPA regarding how detections should be treated for the purpose of assessing site specific risks if analysis is required. One additional three point composite sample is proposed on the eastern side of Building 386, just outside of the storage area doors for the purpose of completeness.

The solvent storage shed consists of a concrete containment tub, has only one doorway, and is very small in size (please refer at the map scale). Photographs are attached to this letter as per the October 2014 partnering team discussion. In accordance with that discussion, one sample will be composited from each side of the building except for the south side. The sample to the south-southwest of the building (downslope) will be an individual sample. The figure has been updated to show this.

2) Because a chemical concentration exceeded the ecological screening value in the "...vicinity of the tank..." at least two additional samples (SB01 plus one more) need to be located in the vicinity of these former concentration exceedances. It appears that any contamination from sample SS/SB07 will not be from the tank but would be from Building 373. Therefore, another sample needs to be located near the former manhole cover in line with the tank.

Response: The ecological screening value that was exceeded was for manganese, which is not believed to be a site-related contaminant. The collection of the two subsurface soil samples within the footprint of the original excavation (SB01 and SB03) was a conservative measure. Confirmation samples from the removal action indicate site-related contaminants were removed. Additionally, the location of SS/SB07 is only a few feet from the location being proposed at the location marked as having a former manhole, and any contaminants released from the piping system would have been the same contaminants in both locations. There is no manhole currently in this area. Piping containing contaminants initially left the building and fed to the east into the drainage ditch and later was rerouted to enter the former UST. The location where the piping left the building is key because it will capture contaminants released during both of these historical waste management practices. However, because the source of the fill material is unknown and only TCLP samples are available for this fill, surface soil samples will be added to these locations to evaluate the quality of the back fill. Samples originally proposed for collection beneath the backfill have been moved into the 6-24" depth to better assess ecological risks, as per the October 2014 partnering discussion. Additionally the samples in the removal action footprint have been moved to the two locations which previously had exceedance of manganese.

3) The groundwater data from a 2004 report is at least 10 years old. The 1996 SSP data is at least 18 years old. Based on the age of these data, it is not clear they should be used to limit analyses of contaminants which would be used in the ecological risk assessment. Please confirm this is not what is being done at this site.

Response: While the data available for the site are older, it is not clear to the Navy why they cannot be used to limit the analytical suite for some of the site samples. Site contaminants were reportedly released prior to the completion of the SSP (pre-1996). Site use did not change following the SSP and contaminants that could have been released between 1996 and 2008 are anticipated to remain unchanged. However, in order to be conservative, the Navy is proposing to sample a subset of the samples for full suite analysis (samples within drainage ditches and samples in monitoring well locations). These proposed locations were not sampled in past investigations and these represent areas where contamination would have accumulated, based on the site topography. In the event that contamination is noted in these "worst case scenario" areas that is not explosives, VOCs, and metals, then the extent of that contamination will be delineated as part of a contingency sampling strategy. This contingency will be built into the text of the SAP.

4) The first link provided leads to the following article: Smith, PN; L. Yu; S.T. McMurry, and T.A. Anderson. 2004. Environmental Pollution. 132(1). Pgs. 121-127. November. Regarding perchlorate sampling in soils, it is not clear how the limited sampling proposed will allow for additional sampling "...if the initial sampling approach proposed fails to adequately delineate the nature and extent of contamination." Please provide the details as to how the failure to adequately delineate the nature and extent of contamination will be determined. The links to articles provided show that perchlorate does accumulate in plants from soils and water. Plants also serve as a migration pathway for contaminants to higher trophic level receptors. Concentrations of contaminants can also vary widely in soils. These pieces of information support the potential need for analysis of vegetation as well as other ecological receptors.

The article referenced discusses impacts to a watershed in Nevada, where there is very little precipitation in general, and rain that does fall falls quickly as surface runoff and has limited infiltration. This environment is dissimilar to the climate at WPNSTA Yorktown where precipitation occurs frequently. Perchlorate is not known to remain in soils for any length of time in most environmental settings. If vegetation were to be collected, it is not clear how the data would be used. While there are some data that show that perchlorate can accumulate in plant tissue, primarily leaves, most of these studies used nutrient solutions. Since perchlorate is highly soluble in water, it is likely that the perchlorate was taken up during water uptake for normal plant functions but it is unclear what the accumulation factors would be on a steady-state basis. Regardless, since perchlorate is not on the current list of bioaccumulative chemicals, and thus would not be evaluated for food web exposures, plant tissue samples would be of little use. Direct toxicity to plants will be evaluated as there are available soil ESVs for this chemical. The Navy requests guidance on how EPA would want to evaluate vegetation data, if it were to be collected. The Navy also requests information related to previous collection of similar data at other sites and how these data were used and evaluated.

The Navy believes that a phased approach (sampling a limited subset of soil samples) for perchlorate first, and then adding more if a perchlorate is detected) is appropriate to address the potential for perchlorate contamination at this site. In order to ensure that the sampling strategy is sufficient, it is proposed that in addition to the new well locations, the drainage ditch soil samples also will be analyzed for perchlorates. These additions will be incorporated into the SAP.

5) Because the previous data sets are greater than 10 to 18 years old, this does not support limiting the list of contaminants for pore water based on these data sets. The response further indicates these limitations are due primarily to the difficulty in collecting pore water. This portion of the analysis needs to be re-evaluated and included. If necessary, a call should be scheduled to discuss limiting the analytical parameters due to potential sampling limitations.

The Navy has agreed to modify the pore water, surface water, and sediment approaches so that analytical parameters will not be selected until groundwater and soil results are received. Following receipt of the data, a call with the team will take place to ensure we agree to parameters and sample locations.

6) It is still not clear why only select samples of soil, groundwater, surface water, and sediment will be analyzed for perchlorate. The clarification needs to adequately support the use of select samples and provide information on how these select sample locations were chosen over other sample locations.

See response 3 above.

7) The EcoSSLs typically have four concentrations depending upon the ecological receptor group. Please confirm that most conservative EcoSSL was used in all cases.

The revised ESVs included as part of the original response to EPA's Comment 17 use the lowest (most conservative) of the available Eco-SSLs for each chemical.

8) This response is acceptable, provided that the direct sampling of Felgates Creek also involves sampling the groundwater discharge points in Felgates Creek (at the groundwater/surface water interface). Please confirm all these groundwater discharge points will be directly sampled.

Based on partnering team discussions, the surface water and sediment approach will now be phased and sample locations will not be selected until soil and groundwater results are received. Further discussion will take place following receipt of the groundwater data to ensure the completeness of the sampling strategy in Felgates Creek.

9) The ecological screening values for the seven Aroclors are those listed in the draft BTAG soil screening levels.

The Navy will consider these values once BTAG issues its revised soil screening values (there is nothing currently posted on the Region 3 web site) and the basis for these values can be evaluated. Note that the proposed BTAG values are similar (within about a factor of 3 or less) to those originally proposed in the SAP for these constituents.

10) If the limit of detection (LOD) exceeds the project action limit (PAL) and the estimated concentration of the chemical is less than the LOD but still exceeds the PAL, then both need to be considered exceeding the PAL, regardless of being considered a non-detect.

Thank you and the comment is noted. This will be clarified in the SAP and discussed in the uncertainty section of the RI report.

11) Please specify the range of surface water depths adjacent to this site in order to support the statement "...that the depth of sample collection is not expected to be a significant factor in the observed chemical concentrations."

This statement has been removed from the text and will be replaced with the following: "The depth of surface water is not known at this time even following review of navigation charts. Since surface water sampling is to determine potential contaminant discharge from groundwater into the surface water media, all surface water samples will be collected no more than two inches from the bottom of the creek."

12) Both surface sediment (0-4 inches bgs) and subsurface sediment are needed because both aquatic plants and benthic invertebrates can come into contact with contaminants in these two layers of sediment. Risk to both of these ecological receptors can be assessed directly as well as part of a contaminant migration pathway to higher trophic level receptors. This approach has been used at other sites at Yorktown NWS.

It is agreed that two sediment intervals (0-4" and 4-8") will be collected to support this RI investigation.

In addition to the changes described above, the following additional changes will be made to the SAP based on the October 2014 partnering discussion:

- SS/SB17 will be moved off of the concrete pad and into the adjacent soil to the north
- SS/SB05 will be biased toward an area of the pad that is cracked or jointed

In addition to these changes, a field visit was completed to provide photographic support to better show site conditions. The loading dock in the vicinity of samples SS/SB22, SS/SB24, and SS/SB 25 was photographed as requested. Additionally, the topography in the vicinity of SS/SB29 was walked and photographed to determine likely depositional areas. During this visit, it was determined that the drainage on the previous figure containing SS/SB29 and the drainage containing SS/SB30 are in fact, connected, and the "low spot" shown with the 16 ft contour does not exist and is likely an interpretive artifact of the USGS contouring program. The figure has been updated to more accurately reflect this and no additional samples are recommended to address the "low spot." A site photo log is attached.

Review and response to this letter is requested within two weeks of today (12 September 2014). Please let me know if you have questions or concerns at 757-671-6214.

Sincerely,
CH2M HILL

Project Manager

cc: Mr. Wade Smith/VDEQ
Mr. Bryan Peed/NAVFAC Midlant
Ms. Mary Anderson/CH2M HILL
Mr. William Friedmann/CH2M HILL