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LETTER AND THE U S EPA REGION III COMMENTS REGARDING THE DRAFT REMEDIAL
INVESTIGATION SITE 43 NSWC INDIAN HEAD MD
06/30/2014
U S EPA REGION III PHILADELPHIA PA



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029**

June 30, 2014

Joseph Rail, P.E.
NAVFAC Washington
1314 Harwood St. SE, Bldg. 212
Washington Navy Yard, DC 20374-5018

Subject: Draft Site 43 RI. February 2014.

Mr. Rail:

Thank you for the opportunity to review the subject document. EPA submits the following comments at this time.

EPA RPM Comment 1: Page xi: "Chromium speciation was not performed on surface soil samples; therefore, chromium was evaluated conservatively as hexavalent chromium in the HHRA. If chromium had been evaluated as trivalent chromium, then all ILCRs would have been within USEPA's target risk levels." Seems as though it may be beneficial to collect a chromium speciation sample which may be a recommendation later on. If so, this comment can be disregarded.

EPA RPM Comment 2: Page xii. "Groundwater sampling identified elevated concentrations of VOCs in groundwater near Building 720 and 716 that posed vapor intrusion concerns." All buildings within 100' of a groundwater VOC MCL exceedence should be evaluated for potential vapor intrusion consistent with section 6.2.1 of the 2013 VI guidance:

<http://www.epa.gov/oswer/vaporintrusion/documents/vaporIntrusion-final-guidance-20130411-reviewdraft.pdf>

EPA RPM Comment 3: 23,000-30,000 gallons is a lot of product and it doesn't appear that our plume concentrations support it that amount of product being released. Where do we think the rest of it went?

EPA RPM Comment 4: Potentiometric surface doesn't seem to necessarily match the plume footprint. Do we believe at least part of the reason is due to ditch near Schuyler Rd (soil source area) disposed of product may have traveled within the ditch? If not, how do we explain the easterly component to the plume?

EPA RPM Comment 5: Page 4-4. Perchlorate. Was it ever detected at the site?

EPA RPM Comment 6: Page 4-7. Metals. Are the metals that are displayed on the figures and discussed total or dissolved? Cobalt and Arsenic?

EPA Tox Comment 1: For the calculation of exposure point concentrations in gw, it seems that data from all on-site mws was considered. However, Regional policy recommends focusing on only the most contaminated cluster of wells for this task. The approach used in the report will not significantly change the conclusions of the Baseline Risk Assessment for this site, but future calculations of this nature should adhere to Regional policy.

SECTION 2.1

EPA Tox Comment 2: According to the report, elevated concentrations of VOCs were observed in gw and soil gas samples collected near Buildings 716, 720 and 1040; however, indoor air samples from these buildings did not reveal a concern. While soil gas provides a single line of evidence regarding site conditions, it is not an accurate indicator of the subslab environment. Consequently, although indoor air from Buildings 716, 720, and 1040 does not at this time appear to be impacted by vapor intrusion, because shallow gw and soil gas VOC levels are very high, the potential for a threat should continue to be monitored. Ideally, concurrent subslab, indoor air and outdoor air samples should be collected. Further, any Work Plan describing a proposed vapor intrusion investigation should be reviewed by EPA technical support staff, including Patricia Flores. (I don't know if this occurred for the evaluation at Site 43.)

SECTION 6.3.1

EPA Tox Comment 3: The text in the report should be clarified to indicate that exposure to subsurface soil was evaluated for all receptors.

SECTION 6.3.4.1

EPA Tox Comment 4: Similar to the previous comment, the text in the report should be clarified to indicate that dermal exposure to subsurface soil was evaluated for all receptors.

TABLE 3.1.RME

EPA Tox Comment 5: The maximum aluminum concentration presented in this table should be 20,200 mg/kg, not 2020 mg/kg.

EPA BTAG Comment 1: Section 7.0 Ecological Risk Assessment states that “During the SSP ecological screening (Tetra Tech, 2009), VOCs, explosives, and metals were identified as preliminary ecological COPCs. Following Step 3A, none of the chemicals were retained as COPCs and ecological concerns in the eastern portion of Site 43 were dismissed by the project team. The goal of this Screening Level Ecological Risk Assessment (SLERA) for Site 43 was to evaluate the potential for adverse ecological impacts resulting from site-related contamination in groundwater discharging in the western downgradient area near the Potomac River.” BTAG does not have a record of reviewing the SSP screening and reserves comments on the eastern portion. In addition it does not appear that surface soil has been adequately characterized (generally 0-6”) in the western portion or that SVOCs and pesticides/PCBs were included in the analysis. The following comments are provided regarding the potential for site related groundwater contamination discharging in the western downgradient area near the Potomac River.

EPA BTAG Comment 2: Page 7-4 states that “Although birds and mammals may be exposed to contaminants in surface water and sediment via incidental ingestion of surface water, sediment,

and ingestion of invertebrates that have accumulated contaminants from surface water or sediment, this is not expected to be a significant exposure pathway because of the limited habitat in channels. Also, VOCs, the primary COCs at the Site, are not bioaccumulative. Therefore, risks to birds and mammals were not evaluated in this ERA.” Region 3 ERA guidance requires that birds and mammals be evaluated in the SLERA if there is the potential for exposure. It is inappropriate at this stage of the ERA to eliminate these receptors.

EPA BTAG Comment 3: Section 7.2.4.1 discusses the groundwater transport and exposure pathway. The section correctly states that benthic invertebrates and other aquatic invertebrates can be exposed to contaminants in groundwater as groundwater discharges through sediment to surface water in the Potomac River. Fish larvae and eggs can also be exposed in the hyporheic zone. It does not appear that this pathway was adequately addressed in Step 3A. The use of dilution factors in this transition zone from groundwater to surface water would be inappropriate. TCE and dissolved metals should be retained as COPCs for baseline ERA activities in the Potomac River. Furthermore the refinement of sediment and surface water COPCs based on more specific invertebrate screening values does not address potential toxicity to amphibians which may use the ditches. Invertebrates and amphibians do not need permanent standing water areas in their life cycle. Amphibians were identified as receptors that could potentially be exposed in Section 7.2.4.1. The elimination of COPCs based on habitat quality is not appropriate and the COPCs should be retained for a BERA.

EPA BTAG Comment 4: It does not appear SVOCs and pesticides/PCBs were included in the analysis for the this screening ERA. A full suite of CERCLA contaminants is required for the screening ERA and initial site characterization. Please indicate if SVOC and pesticide/PCB sampling data is available.

EPA Hydro General Comment: The cross-sections and associated contaminant maps indicate that the contamination follows the geology. Specifically, it looks as if the contamination follows the top of the clays. However, I think additional stratigraphic information, especially in the vicinity of MW-01 will better define the plume, and therefore, cleanup locations, for the following reasons:

EPA Hydro Comment 1: DNAPL source: Figure 4-9, the chlorinated contour map overlain on cross-section E-E’, clearly shows DNAPL emanating from the surface in the vicinity of MW-01 to at least, the top of the organic-rich black basal clay. It is possible that the surficial clay is discontinuous in this area, causing the DNAPL to travel vertically. Additional stratigraphic and contaminant data in the vicinity of MW-01 will provide information regarding stratigraphic control of the source.

EPA Hydro Comment 2: DISSOLVED PLUME: Figure 4-9 and the associated data indicate the halo of the dissolved plume moving into the sand layers, with an appropriate educated interpretation of it moving into some portion of the clays. Details regarding the stratigraphy of the interfingering sands and clays with associated contamination data are needed to delineate the extent of the contamination.

EPA Hydro Comment 3: WATER LEVEL DATA: The stratigraphic component of the well data really helped to define the geology. However, the fact that the wells are completed in different sand layers, and in some cases, in both sand and clay units, means that groundwater flow should not necessarily be used to interpret contaminant flow and predict future sampling. Once the stratigraphy is better defined, more accurate potentiometric maps can be prepared by grouping the wells into similar units. The discussion under “Nature and Extent of Contamination” may change once additional wells in similar units are evaluated.

EPA Hydro Comment 4: Groundwater Risk: Once the stratigraphy and source area are delineated, an appropriate Risk Assessment can be prepared. Contamination in a sandy unit considered to be an aquifer, should be used for the Risk Assessment. I think further investigation may indicate that contamination in the clays are probably associated with the source area and therefore considered as Principal Threat Waste. However, only contamination in the sandy units outside of the waste area should be evaluated for risk with respect to groundwater. However, the interfingering nature of the geology may blur these distinctions.

EPA Hydro Comment 5: CONCLUSIONS: Perhaps recommendations for further work should be described in this section. I don't think we can definitively state that the plume and source area have been defined at this point.

If you have any questions, please contact me at 215-814-3378.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Burchette', written in a cursive style.

John Burchette
Remedial Project Manager

cc: Curtis Detore