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U S NAVY RESPONSE TO THE U S EPA REGION III COMMENTS ON THE DRAFT SAMPLING AND ANALYSIS PLAN REMEDIAL INVESTIGATION AT SITE 69 BUILDING 1018 OXIDIZER PROCESS BUILDING NSWC INDIAN HEAD MD

08/17/2016

KOMAN GOVERNMENT SOLUTIONS LLC

Draft Sampling and Analysis Plan (January 2016)
Site 69 – Building 1018 (Oxidizer Process Building)
Naval Support Facility Indian Head, Indian Head, Maryland

Comments By Robert Thomson, RPM, US EPA	Responses By Boyd Allen/Stephane Roy KOMAN Government Solutions, LLC (KGS)

Comment Number	Page Number	Section, Paragraph, Line, Figure, or Table No.	Comment	Response/Action Taken
1		General Comment	General Comment - Site 69 encompasses approximately 10 acres but the RI SAP focuses on Building 1018 and the drainage way leading to Town Gut Creek. Considering the statement, "site contains many buildings, elevated walkways, and access roads associated with perchlorate processing and storage"; have the other buildings and structures been evaluated for perchlorate contamination? Please provide clarification in the RI SAP as to why the focus is only on Building 1018; alternatively, include additional soil sample locations across Site 69.	*The NSF Indian Head Installation Restoration Team (IHIRT) (i.e., Tier 1 Partnering Team) agreed to use the Site Screening Process (SSP), per the Federal Facility Agreement (FFA), to evaluate perchlorate contamination in the area, presumably from past unloading spills and subsequent washing of the building floor and loading dock (Tt, 2015). The CERCLA screening risk evaluation (i.e., SSP) was performed, which included a review of historical records of chemical material usage and activities at Site 69. Building 1018 (Oxidizer Process Building) was the only area with hazardous chemical usage resulting in a CERCLA release. The SSP investigation in 2013 mostly delineated the area(s) of perchlorate contamination. This current Remedial Investigation (RI) is being performed to better define the extent of perchlorate contamination in soil and groundwater coming from the Building 1018 source area, as well as to calculate risks associated with exposure to perchlorate in site media. The other buildings are not considered sources based on the SSP. This will be clarified in the Section 4.1 by inserting a third sentence as follows:* Other buildings and areas at Site 69 were ruled out based on historical site operations, as well as based on previous sampling efforts associated with the building demolition in 2012.

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2		General Comment	General Comment- EPA recommends providing for additional surface and subsurface soil sampling based on the results of the sampling event outlined in the draft SAP.	*The RI sampling design was developed and determined by the IHIRT, and, thus, is currently deemed adequate to address the DQOs for the RI. If substantive data gaps are identified following the RI, then additional sample locations will be discussed with the IHIRT (and samples collected using the same protocols in this SAP).*
3	15 and 16	Section 3.1	The draft RI SAP states that *there is no unacceptable ecological risk from perchlorate because there are no accepted toxicological values and there are minimal ecological studies for perchlorate at this time.* Please be aware that by simply assuming there is no risk because there are no values creates an uncertainty. Research through SERDP on perchlorate in the beginning of this century led to contributions to several publications including the reference already mentioned as well as Perchlorate Ecotoxicology (edited by Ronald J Kendall and Philip N Smith). The original statement may be a conclusion from a previous document, but text could be added to eliminate the uncertainty that is created with the current text. Given the evolving nature of this issue and the likely timeframe until the RI (and decision document) is finalized, the ecological evaluation may need to be revisited. In addition, the SLERA should include an evaluation of potential risk to wildlife receptors including but not limited to birds and mammals. Information on the toxicity of perchlorates as well as toxicity reference values to use in food chain evaluations can be found in the following reference: https://cluin. org/download/contaminantfocus/perchlorate/Perchlorate-wildlife-toxicity. pdf	*Navy agrees that the evolving nature of ecological risk benchmarks warrants the SLERA to be revisited during the RI following the collection of currently proposed samples. However, the SLERA in the SSP Report evaluated ecological risk within the scope of a screening assessment. The SSP data were compared to existing ecological benchmarks at the time. Considering the screening and subsequent COPC refinement in the SLERA, no unacceptable ecological risk was concluded. Section 3.1 will be revised to reflect that the SLERA conclusions were not based simply on the absence of accepted toxicological values. Navy proposes the following text addition:* The SLERA concluded no unacceptable ecological risk from exposure to perchlorate in surface soil, sediment, and surface water. The uncertainty associated with a lack of accepted toxicological values for perchlorate will be revisited in the RI Report in case new studies/benchmarks become available.
4	16	Section 3.1 Last bullet	The additional surface soil samples add up to 5, not 6.	*There are 6 additional surface soil samples: 2 flanking MW02, 1 in the area between MW02 and MW03, and 3 surrounding MW03. The bullet text will be corrected.*

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5	16	Section 3.1 Third bullet	Subsurface and surface soil sampling locations need to be reviewed. The subsurface soil bullet states additional samples will be collected from 12 sample borings (as per Figure 7), however 13 locations are listed in the bullet ("6 in the source area, 4 between the source area and MW02, and 3 surrounding MW03"). Similarly, descriptions of surface soil sample locations also do not match Figure 7, or add up to the 6 new surface soil only sample locations ("2 flanking MW02, 1 in the area between MW02 and MW03, and 2 in the area between MW02 and MW03"). It appears that the last sample locations listed in each of these bullets was inadvertently reversed.	*Surface and subsurface samples locations were mistakenly reversed between the bullets. The proper sample count (12 borings, 12 subsurface soil samples, and 18 surface soil locations) will be corrected in the respective bullet text and throughout the document.*
6	17	Section 3.1 Third bullet	Consensus Decisions should state that while surface water and sediment sampling will not be extended past Akins Spur Road, if analytical results suggest perchlorate contamination exists in the furthest (sic) downstream sample collected, additional sampling will be required to delineate contamination past this point.	*Navy agrees. This bullet text will be will be revised to indicate that sampling farther downstream will be considered following evaluation of the data from the currently proposed locations.*
7		Section 4.1	Site Description and history should include an ecological description. Based on the figures provided, there appear to be sensitive ecosystems such as wetlands or tidal marsh associated with Town Gut Creek. Appendix B, attachment A, provides a site reconnaissance form to identify these types of receptors. This information should be used in developing the RI work plan, including sampling and SLERA activities in these habitats.	*Navy agrees. Section 4.1 will be revised to include more robust habitat information. Note a SLERA was performed during the 2013 SSP. The results and conclusions are provided in the Final SSP Report (Tt, 2015). The SLERA evaluated surface soil, sediment, and surface water at Site 69. Based on the initial screening of the chemical data (Tier 1, Step 2), no ecological COPCs were retained for surface water or sediment at Site 69. Several chemicals (e.g., perchlorate) were selected as ecological COPCs in surface soil, because they were detected at concentrations that exceeded the ecological benchmark or there was no benchmark (introduces uncertainty). However, following COPC refinement in Tier 2, Step 3a, no chemicals were retained as ecological COPCs in surface soil.*

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7 (cont'd)		Section 4.1	Site Description and history should include an ecological description. Based on the figures provided, there appear to be sensitive ecosystems such as wetlands or tidal marsh associated with Town Gut Creek. Appendix B, attachment A, provides a site reconnaissance form to identify these types of receptors. This information should be used in developing the RI work plan, including sampling and SLERA activities in these habitats.	*Navy proposes adding the following text to expand the ecological risk discussion in this section:* A SLERA evaluated surface soil, sediment, and surface water during the SSP at Site 69. Based on the initial screening of the chemical data (Tier 1, Step 2), no chemicals of potential concern (COPCs) were retained for surface water or sediment at Site 69. Several chemicals (e.g., perchlorate) were selected as COPCs in surface soil, because they were detected at concentrations that exceeded conservative screening levels or because they did not have screening levels. However, following COPC refinement in Tier 2, Step 3a, no chemicals were retained as ecological COPCs in surface soil.
8	23	Section 5.1	The second sentence states ammonium perchlorate as the known chemical released at Site 69, however earlier references to Site activities in the document state that both ammonium perchlorate as well as potassium perchlorate were processed in building 1018, and both of these should be listed here.	*This sentence will be revised to indicate that both chemicals were likely released in the past.*
9	27	Section 6	The table provided indicates a field duplicate frequency of one per ten field samples collected. This should be one per ten field samples collected per matrix.	*The Table will be revised to reflect the proper duplicate sample count per matrix.*
10	31	Section 7.4	Table Matrix: Direct Push technology (DPT) groundwater - Within the rationale column, it states that "approximately 30 groundwater grab samples," but the number of DPT samples according to Figure 7 is between 35 and 37. Recommend clear description of sampling rationale.	*The Table matrix will be revised under the DPT groundwater section to reflect the proper approximate sample count (35 to 37).*

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11	39	Section 8.1.4	Aerial photographs appear to show Town Gut Creek as a relatively stagnant or slow moving water body where sediments may easily be stirred up, and not clear quickly. If surface water sampling locations are to be accessed via wading , samplers will have to be careful to approach sampling locations from downstream, and to collect the surface water sample from as far upstream as possible from the sampler's location to minimize potential sediment entrainment caused by entering and traversing Town Gut Creek. Similar measures may be needed if a boat is used to access sample locations due to disturbances caused by poling, rowing, or trolling.	*Navy agrees. This procedure to reduce sediment disturbance was utilized during the SSP Investigation and will be adhered to during the RI.*

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12	40	Section 8.1.8	This section appears to be missing from the document. Explanation on how the DPT groundwater sampling will be conducted needs to be included in the sampling plan. Additionally, the SOP in Appendix B relevant to this work (SA-2.5 - Direct Push Technology) has the section concerning groundwater sampling procedures red-line crossed out as being irrelevant to Site 69.	*The text for Section 8.1.10 DPT groundwater sampling will be added to read as follows. Also, SOP SA-2.5 in Appendix B will be corrected to include (i.e., not line-out) the DPT groundwater sampling procedure.* Approximately 35-37 DPT groundwater samples will be collected in a series of lines across the site, perpendicular to groundwater flow. This number may be reduced based on terrain and DPT rig access. At each location, a 2-foot x 1-inch diameter mill-slotted (0.005- to 0.02-inch) well point attached to connecting rods will be advanced to the desired depth using DPT rig. The well point will be allowed to equilibrate for at least 15 minutes, after which a measurement of the static water level will be taken. The initial measurement of the water level will be used to assess the amount of groundwater present in the well point and to determine the amount of silt and sand infiltration that may have occurred. The well point will be developed using a peristaltic pump and dedicated/disposable polyethylene tubing to remove any silt and sand that entered the well point. The well point will be developed by inserting the polyethylene tubing to the bottom of the well point and lifting and lowering the tubing slightly while the pump is operating. The pump will be operated at a maximum rate of approximately 2 L/min. After removal of sediment from the bottom of the well point, the well point will be vigorously pumped at maximum capacity until discharge water is visibly clear and no further sediments are being generated.

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12 (cont'd)	40	Section 8.1.8	This section appears to be missing from the document. Explanation on how the DPT groundwater sampling will be conducted needs to be included in the sampling plan. Additionally, the SOP in Appendix B relevant to this work (SA-2.5 - Direct Push Technology) has the section concerning groundwater sampling procedures red-line crossed out as being irrelevant to Site 69.	Measurements of pH, specific conductance, temperature, and turbidity shall be recorded every 5 to 10 minutes during the purging process. After two consistent readings of pH, specific conductance, temperature and turbidity (+ 10 percent), the well may be sampled. A sample will be collected directly from the peristaltic pump discharge using a reduced speed.
13		Figure 7	a. S04, S 11 , and S 13 are not clearly presented - Recommend "MW001/S04, MW002/S11 , and MW003/S13" b. Recommend surface and subsurface soil samples within and along border of Building 1018 footprint (for example, the loading dock area). c. Recommend moving S101, which is 15 ft above drainage trench and behind a mound and not likely to receive drainage water originating at Bldg 1018, to the area at the head of the drainage trench between S07 and SO8.	*a. Figure 7 will be revised as recommended.* *b. The SSP investigation sampled surface soil in the two most likely runoff sites proximate to former Building 1018 (S69-SS003 and S69-SS004). The maximum perchlorate concentration found during the SSP (2,000 µg/Kg at S69-SS04) is an order of magnitude below the 55,000 µg/kg residential RSL and two orders below the 820,000 µg/Kg industrial RSL. The locations recommended by EPA in this comment likely will be below the RSL and not add value to perchlorate delineation in the RI.* *c. The location of SB101 was chosen to examine the area near the loading dock. The SSP found negligible contamination in the trenches. Perchlorate concentrations at S07 (150 µg/Kg) and at S08 (520 µg/Kg) are two orders of magnitude below the residential soil RSL. The EPA-recommended location of S101 between these S07 and S08 likely will be below the RSL and not add value to perchlorate delineation in the RI.*
14		Appendix A Table 4-3	Why is the result for sediment sample S10 not provided? Please clarify in table.	*Surface water and sediment were not present at location S10 during the SSP sampling effort in 2013. A note to indicate this will be added to Appendix A, Tables 4-3 and 4-4.*

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Comments By Curtis DeTore, Federal Facilities Coordinator, MDE	Responses By Boyd Allen/Stephane Roy KOMAN Government Solutions, LLC (KGS)

Comment Number	Page Number	Section, Paragraph, Line, Figure, or Table No.	Comment	Response/Action Taken
1	15	Section 3.1, last sentence	This sentence states, "...There is no unacceptable ecological risk from perchlorate in surface soil, sediment, and surface water because there are no accepted toxicological values and there are minimal ecological studies for perchlorate at this time." While ecological risk may not be able to be calculated at this time due to the lack of any accepted toxicological values that does not mean that no risk exists. Please add text stating this fact.	*Understood. Please see EPA Comment/Response 3.*
2	17	Section 3.1, third bullet	Please reword this bullet to state "...beyond Atkins Spur Road at this time."	*The bullet text will be revised as requested (also see EPA Comment/Response 6).*
3	21	Section 4.2	Please include text describing the use of potassium perchlorate as it was ground into powder form in Building 1018 as well (as detailed in the Executive Summary on page 3 and in Section 4.1 on page 19 of this document).	*The requested text will be added to Section 4.2.*
4	23	Section 5.1, first paragraph, second sentence	Please add potassium perchlorate as a known chemical released at Site 69. See comment 3 for reason.	*Potassium perchlorate will be added to respective text throughout the document.*
5	40	Section 8.1.8	There is no text within this section. Please revise.	*The text will be added. Please see response to EPA Comment/Response 12.*