



**TETRA TECH NUS, INC.**

661 Andersen Drive • Pittsburgh, PA 15220  
Tel 412.921.7090 • Fax 412.921.4040 • www.tetrattech.com

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November 2, 2007

Project No. 112G00352

Mr. Howard Hickey  
NAVFAC MW  
201 Decatur Avenue  
Building 1A, Code EV  
Great Lakes, Illinois 60088

Subject: CLEAN Contract No. N62467-04-D-0055  
Contract Task Order (CTO) No. 0020

RE: **Draft**  
Response to United States Environmental Protection Agency (EPA) E-Mail  
Comments Dated May 16, 2007 on Interim Measures Work Plan (IMWP) for  
Solid Waste Management Unit (SWMU) 13 (Mine Fill B) Dated March 2006  
Naval Surface Warfare Center (NSWC) Crane  
Crane, Indiana

Dear Mr. Hickey:

Enclosed for your review and comment are the draft responses to EPA comments of May 16, 2007 on the IMWP for SWMU 13. The document has been marked up and upon Navy concurrence or resolution of these comment responses it will be revised.

Please contact Valerie Plachy at 412-921-8389 (e-mail [Valerie.Plachy@ttnus.com](mailto:Valerie.Plachy@ttnus.com)) or me at 412-921-8308 (e-mail [Ralph.Basinski@ttnus.com](mailto:Ralph.Basinski@ttnus.com)) regarding any questions or comments.

Sincerely,

Ralph R. Basinski  
Task Order Manager

VJP:RRB/mlg  
Enclosure

cc: Mr. Tom Brent, NSWC Crane (letter and enclosure)  
Ms. Lee Anne Rapp, NAVFAC Atlantic (PDF copy of letter via e-mail)  
Ms. Bonnie Capito, NAVFAC Atlantic (PDF copy of letter via e-mail)  
Mr. John Trepanowski, Tetra Tech (letter and enclosure)  
Mr. Timothy Smith, Tetra Tech (letter and enclosure)  
Mr. Garth Glenn, Tetra Tech (letter only)  
Project File – CTO 0020 (Midwest)

**ENCLOSURE**

**DRAFT**

**RESPONSE TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)  
COMMENTS DATED MAY 16, 2007 (E-MAIL FROM PETER RAMANAUSKAS) ON THE  
INTERIM MEASURES WORK PLAN (IMWP)  
FOR SWMU 13 – MINE FILL B  
NAVAL SURFACE WARFARE CENTER  
CRANE, INDIANA**

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COMMENTS DATED MAY 16, 2007 (E-MAIL FROM PETER RAMANAUSKAS) ON THE  
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FOR SWMU 13 – MINE FILL B  
NAVAL SURFACE WARFARE CENTER  
CRANE, INDIANA**

Comments provided by the United State Environmental Protection Agency (U.S.EPA) are shown in bold font. Responses following each Comment EPA-are shown in regular font. Changes to the IMWP are italicized and enclosed in quotation marks.

**Comment EPA-1: The text of Section 1.1 mentions PCB contaminated soil and sediment in the vicinity of Building 169 and 171.**

Response to EPA-1: There is PCB-contaminated soil located between Buildings 171 and 169. There is also PCB contaminated soil located between Buildings 169 and 166. The text in the first paragraph of Section 1.1 has been revised as follows:

*"...The IMWP provides requirements for the excavation and off-site disposal of polychlorinated biphenyl (PCB) contaminated soils and sediments located in the vicinity of Buildings 166, 169, and 171 and within the drainage channels that receive surface water runoff from these areas..."*

**Section 1.3.2 states that the therminol boilers located near Buildings 166 and 171 leaked oils containing PCB. What was the PCB source for B-169?**

Response to EPA-1 (continued): No PCB source was found in Building 169. The second bullet in Section 1.3.2 was provided as information on the types of activities that occurred in Building 169. The last sentence in the first paragraph of Section 1.3.2 has been revised as follows:

*"This IMWP focuses on the PCB-contaminated soil located between Buildings 171 and 169, the PCB-contaminated soil located between Buildings 169 and 166, and the PCB-contaminated sediments in the drainage channels that receive surface water runoff from these areas. Buildings 166, 169 and 171 were used for the following activities:"*

**The bullets in this section mention all three buildings, yet this work plan addresses only PCB impacts near B-169 and B-171. What is the status of B-166?**

Response to EPA-1 (continued): The contamination source from Building 169 was from the washdown activities that occurred in Building 169. The first sentence in the second to the last paragraph of Section 1.3.2 has been revised as follows:

*"The major source of contamination at Building 169 resulted from the washdown of explosive formulations from building roofs onto the ground surface and exhausts vented from ventilation systems."*

**Comment EPA-2: Section 2.2: Please present the 1990 TCLP action levels and EP Tox test results of 1985.**

Response to EPA-2: This information cannot be found.

No change has been made to the document in response to this comment.

**Comment EPA-3: Section 2.3: Please clarify why a ground surface to 2 foot bgs depth is set for the preliminary cleanup goal of 1 mg/kg. The sediment goal should be 1 mg/kg regardless of depth. Verify that land use at MFB is and will remain low-occupancy.**

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Response to EPA-3: The 2 foot bgs depth is for the protection of ecological receptors. The cleanup goal of 1 mg/kg for sediments is set regardless of sediment depth. The first sentence in the second Paragraph of Section 2.3 has been revised as follows:

*"For SWMU 13, a preliminary cleanup goal of 1 mg/kg for the protection of ecological receptors has been established for the surface soil (ground surface to 2 feet bgs) and sediments regardless of depth."*

**Will proposed future use of MFB render the area high-occupancy such that removal to 1 mg/kg is best undertaken at this time?**

Response to EPA-3 (continued): There are no current or future uses of the MFB that would render the area as high occupancy.

**Comment EPA-4: Referring to the bullets in Section 3.0, why not decide which route to take now?**

**As noted in Section 3.2.1, the removal volume difference is estimated at an additional 90 cubic yards under Option 2. This doesn't seem to be an excessive amount of material to manage to get you to unrestricted use of 1 mg/kg for PCB.**

Response to EPA-4: The Navy does not intend on removing the optional excavation areas at this time. The activities discussed in the SWMU 13 IMWP were intended to be simply interim removal actions. The Navy's primary goal for the site (to remove PCB contaminated soils from the surface soils and from within the drainage channels) is to eliminate the potential of PCB-contaminated sediments from migrating to the facility and off-site waterways through the process of sedimentation and to achieve acceptable direct contact risk for facility workers and ecological receptors. The Navy's intent of excavating/removal of surface soil and sediment to obtain this goal needs to be accomplished utilizing the available funding and is occurring prior to establishing the corrective measure cleanup goals [i.e., prior to development of a Corrective Measures Proposal (CMP)]. Therefore, the EMAC contractor will be asked to provide additional costs for the optional excavations.

As stated in the Section 3.2.8, the total volume of excavation is estimated to be 1,910 cubic yards (base case), 1,960 cubic yards (Option 1), and 2,320 cubic yards (Option 2). Therefore, the difference in excavation volumes between the Base Case and Option 1 is 50 cubic yards, and difference between the Base Case and Option 2 is 410 cubic yards (volume numbers include soils and sediment excavation volumes). However, because the volumes are the "best case" volume estimates (e.g., limits of excavation are based on the locations of the known contamination), the estimated volumes are likely to understate. Additionally, based on existing analytical data, it is anticipated that the Option 1 and Option 2 volumes are likely to increase based on verification sampling than the Base Case volumes.

Based on these uncertainties and the Navy funding constraints, the Navy has elected to have the EMAC contractors provide a base case proposal with incremental costs for the optional excavations. Optional excavations maybe remediated based upon Navy funding.

No change will be made to the document in response to this comment.

**Comment EPA-5: Referring to the bullets starting on page 3-2, soils and sediments (including those removed from underground culverts and sumps) are to be characterized for disposal based on in-situ characterization concentrations/delineations (40 CFR 761.61). You may not excavate and then characterize for disposal. Greater than 50 mg/kg PCB soils must go to a TSCA approved or RCRA Subtitle C landfill. Less than 50 mg/kg soils may go to a solid waste landfill.**

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**If bedrock is encountered and cleanup goals have not been achieved, the condition of the bedrock should dictate whether additional work is required to achieve the goal (i.e. intact vs. weathered).**

**Sediments should be excavated to 1 mg/kg for ecological risk purposes.**

**Water drained during dewatering activities can only be discharged to a surface water drainage channel if it is less than 0.5 ug/L PCB.**

Response to EPA-5: The IMWP has been re-written to indicate that in-place concentrations will be used to define areas where PCB concentrations are greater than 50 mg/kg. These locations will be excavated and disposed off-site at a TSCA-approved or RCRA Subtitle C landfill. The text has also been revised to indicate that additional disposal characterization sampling will be performed based on the requirements of the selected disposal facility.

Additionally, the IMWP has been revised to indicate that excavation will stop at bedrock and verification samples will be collected. In the event that verification samples indicate that additional volume needs to be excavated, the condition of the bedrock will determine the extent of additional excavation (i.e., weathered bedrock will be excavated and intact bedrock will remain in place).

Next, the Navy agrees that surface soil and sediment containing PCB concentrations greater than 1 mg/kg require excavation for protection of ecological receptors. The excavation areas and volumes will be reviewed and revised as necessary to ensure that surface soils [0 to 2 feet below ground surface (bgs)] and sediment to all depths containing PCB concentrations greater than 1 mg/kg are removed. However, below a depth of 2 feet the soil becomes subsurface soil and the use of 25 mg/kg [Toxic Substance Control Act (TSCA) low occupancy standard] will be used as Option 1 for subsurface soil removal.

Finally, the text has been revised to indicate that dewatering pads will be constructed to contain any liquids that accumulate. Further, to avoid improper discharge or disposal of collected water, the text has been revised to require characterization of water prior to discharging or off-site disposal.

The IMWP has been updated to indicate that soils and sediments disposal is based upon in-situ characterization.

**Comment EPA-6: Referring to the second to last paragraph of Section 3.2.1, sediments that accumulate in erosion and sediment control devices (e.g. In-stream sediment trap mentioned in the second bullet on page 4-2) should be sampled prior to off-site disposal to determine concentration and prior to placement as backfill material to ensure it is not contaminated above cleanup levels.**

Response to EPA-6: The second to the last Paragraph in Section 3.2.1 has been revised as follows:

*"Sediment that accumulates in the erosion and sediment control devices (see Section 4.0) prior to verification that all contaminated surface soils have been removed from the excavation areas will be stockpiled, dewatered (if necessary), and characterized for proper disposition (e.g., use as backfill, disposed as hazardous material, or disposed as non-hazardous material). Following verification of contaminant removal, sediment that accumulates in the erosion and sediment control devices will be stockpiled, dewatered (if necessary), and characterized for proper disposition."*

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Additionally, the second to the last paragraph in Section 3.2.2 has been revised with this same text and the remainder of the document has been revised as appropriate to incorporate this text.

**Comment EPA-7: Referring to the first two sentences of Section 3.2.2, sediments removed from drainage channels may not be stockpiled or containerized together for disposal characterization. In-situ concentrations dictate disposal options. See Comment 5.**

Response to EPA-7: Agreed. Refer to response to Comment EPA-4

**Comment EPA-8: Referring to the second sentence on page 3-7, U.S. EPA recommends stockpiling excavated sediments on a dewatering pad and sampling collected water prior to discharge. See also Comment 5. This seems to be proposed in Section 3.2.14. We want to ensure it is done for all collected waters which have been in contact with contaminated soils/sediments.**

Response to EPA-8: Agreed. Refer to response to Comment EPA-5.

**Comment EPA-9: Referring to the sump noted in the first paragraph of Section 3.2.3, is it known how the sump sediments may have become contaminated?**

Response to EPA-9: It is unknown how the sump sediments became contaminated. However, overland flow is the suspected source of contamination.

**Could there be a continuing source of PCB contamination to the sump?**

Response to EPA-9 (continued): It is unlikely that PCB contamination from the thermol boilers contaminated other sumps.

**Where does this sump discharge and should any continuing discharge be prevented?**

~~Response to EPA-9 (continued): The sump discharges to ??? (Tom Brent to provide this information).~~

~~Tom, Can you provide assistance in determining where the sumps discharge or should the response state that the discharge of the sumps is unknown.~~

**Water collected from sumps and culverts must be tested prior to discharge surface waters to ensure it is less than 0.5 ug/L PCB. See also Comment 5. Following the cleaning of the culverts and sump, they should be wipe sampled (<10 ug/100 sq. cm.)**

Response to EPA-9 (continued): It is agreed that the water used to clean the sump and culverts needs to be collected and characterized for proper disposition (e.g., discharged to drainage channels, storm drains, sanitary sewer system, or treated/disposed off-site). Waters that are discharged to surface waters must have PCB concentrations less than 0.5 µg/L. Waters that are disposed off-site must meet the criteria of the disposal facility. As noted in the comment, all waters used throughout the removal of SWMU 13 contaminated soils will be containerized and characterized for proper disposition. The text has been reviewed and changes have been made as appropriate to detail this requirement. (See the response to Comment EPA-5.)

The IMWP has been updated for the requirement that water collected from the sumps and culverts must be characterized prior to discharge and that wipe samples will be collected from the clean surfaces of the culverts and sump. The total PCB concentration of the characterized water will be compared to 0.5 µg/L. The updated text includes following two provisions:

- Waters with the total PCB concentration less than 0.5 µg/L can be discharged to a local stabilized drainage channel or storm drain and

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- Waters with the total PCB concentration greater than or equal to 0.5 µg/L must be transported off-site for disposal.

Additionally, the text has been modified for total PCB concentration media cleanup standard for the culverts and sump by wipe sample of 10 µg per 100 square centimeters.

In addition, the use of wipe samples on the sump and within the culverts will be added to the verification sampling protocol. However, due to the length of culverts and their size, wipe samples are only able to be collected from the ends of the cleaned culverts.

**Comment EPA-10: To what "drains" does Section 3.2.4 refer? All collected and potentially impacted water must be sampled prior to discharge. See also Comment 5.**

Response to EPA-10: "Drains" refers to floor drains. For clarification, the fifth and sixth sentences in Section 3.2.4 have been revised as follows:

*"Prior to pressure washing, all floor drains within the area to be cleaned will be plugged to prevent the migration of liquids and sediments from the removal area. Following the removal of sediments, the floor drains will be unplugged and the sediments will be dewatered (if necessary) and consolidated with the drainage channel sediments for characterization, and off-site disposal."*

Additionally, for consistency with the response to Comment EPA-5, the next to the last sentence in Section 3.2.4 has been revised as follows:

*"However, containerized liquids require characterization sampling prior for proper disposition."*

**Comment EPA-11: Referring to Section 3.2.5, will these biodegradable temporary access trails be constructed in known clean areas? What is meant by "PC contamination"? What mechanisms will be in place to prevent contamination of access trails and haul roads at Crane (e.g., trucks hauling impacted material do not enter exclusion zone)?**

Response to EPA-11: The biodegradable access roads presented in Section 3.2.5 are meant for use in wooded areas, upon review of the site, the use of biodegradable access trails will be replaced with standard gravel access roads. Therefore, Section 3.2.5 has been revised as follows:

*Because the contaminated soil and sediment are not located in areas that are readily accessible by the existing roadways, temporary access roads will be constructed to provide access to the individual excavation areas. The temporary road will be removed after completion of verification sampling and analysis activities and restoration of the excavation areas. Access roads will be constructed by placing geotextile on the exiting ground surface and placing coarse aggregate on top of the geotextile (minimum 6-inch thickness). Upon removal of the access road, if coarse aggregate is verified clean (i.e., not contaminated from the process of hauling materials), the coarse aggregate will be salvaged for Navy use. The coarse aggregate will be transported to a location identified by the OICC. This location will be identified prior to the start of work. It is anticipated that this location will be within 1/2-mile of the excavation areas. The EMAC contractor will stockpile this material at the identified location.*

*"In addition, the EMAC contractor will be required to install the decontamination pads adjacent to each excavation areas. This will prevent the movement of excavation vehicles over clean haul roads and will keep haul vehicles outside of the exclusion zones.*

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**Comment EPA-12: Referring to Section 3.2.6, the Navy should seek to avoid leaving excavated soils and sediments in dewatering pads for time periods that may trigger TSCA storage regulations. Perhaps text should be added to the end of the paragraph to explicitly state that this will be avoided. Regarding the second paragraph of this section, see Comment EPA-8.**

Response to EPA-12: The following sentence has been added to the end of the first Paragraph in Section 3.2.6:

*"Following characterization of stockpiled material, the EMAC contactor must containerize or transport the material to the off-site disposal facility as soon as possible to avoid exceeding any time restriction on contaminated material storage."*

The second paragraph of Section 3.2.6 has been updated to require water characterization prior to discharge per response to Comment EPA-5.

**Comment EPA-13: There is a typo in Section 3.2.7: "tails".**

Response to EPA-13: "...temporary access tails" has been replaced with "temporary gravel access roads" in the second to last sentence of Section 3.2.7.

**Comment EPA-14: Referring to Section 3.2.13, wash water should be sampled prior to discharge.**

Response to EPA-14: Agreed. Refer to response to Comment EPA-5.

**Comment EPA-15: Section 3.2.14 states that an 8-mil thick polyethylene geomembrane will be overlaid with a gravel drainage layer. Is there any concern about piercing this liner with the gravel and/or soil/sediment/machinery loads?**

Response to EPA-15: The purpose of the gravel layer is to allow the drained water to flow to a collection point and to act as an indication layer (i.e., a layer that separates the membrane from the soil/sediment that is being remediated) during the removal of contaminated soil or sediment. Typically, this layer is a minimum of 6 inches thick that will provide adequate protection of the liner system and will adequately distribute loads of construction machinery. The 6-inch thickness (minimum) requirement will be added to the gravel layer.

To address concerns regarding puncturing of the liner during the remediation process, verification samples will be collected from surface soils located beneath support facilities (decontamination pad, dewatering pad(s), and material storage area) as detailed in Section 5.

For clarification, the third sentence in Section 3.14 has been revised as follows:

*"At a minimum, the dewatering pad(s) shall be constructed of an 8 millimeter (mil) thick polyethylene geomembrane overlain by a 6-inch thick gravel drainage layer."*

**Comment EPA-16: Referring to the first bullet on page 5-2, the first two sentences are confusing when it discusses excavation floor verification samples. The first sentence indicates floor samples will be taken while the second sentence indicates that is not the case. Which is it?**

Response to EPA-16: Based on the shape of the existing drainage channels and proposed excavation, there will be no excavation floor samples. The first sentence of the second bullet of Section 5.2 has been deleted.

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**Comment EPA-17: Referring to the second full sentence on page 5-3, how many sample aliquots will make up one composite?**

Response to EPA-17: All verification composite samples will be made up of six sample aliquots. The third bullet of Section 5.2 has been revised follows:

*"...material storage area). In addition, verification samples will be collected from the temporary access roads. The verification samples will be collected at a rate of one composite sample (made up of soil collected at 6 grab locations) for every 1,000 square feet of temporary access road (i.e., if the access road is 10 feet wide composite verification samples will be collected at an approximate rate of one per 100 linear feet of temporary access road). A minimum of one verification sample will be collected from each length of temporary access road. Based on the proposed location of temporary access roads, eight verification samples will be collected from the temporary access roads and ..."*

**Comment EPA-18: The last bullet on page 5-3 states that if the field test kits are "non-detection", the sample will be confirmed at a fixed-based lab. Might this also be the case if the field test kit result is below 1 mg/kg or 25 mg/kg? The text also states that if the field test kit result is positive, the Navy "may or may not direct" the contractor to perform additional excavation. What is the decision criteria here? If greater than 1 mg/kg? 25 mg/kg? This seems to be implied in the last bullet on page 5-4.**

Response to EPA-18: Based on the historic correlation between test kit results and fixed base laboratory sample results, and the downtime associated with sending samples to a fixed base laboratory, non-detections on test kits will be the trigger to send samples to a fixed base laboratory. During the verification sampling process, should the correlation between the test kit results and the fixed base laboratory results improve, this approach might occur. However, the decision not to excavate additional soils will always be based upon fixed base laboratory results.