



DEPARTMENT OF THE NAVY

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE INDIANA 47522-5001

N00164.AR.000801
NSWC CRANE
5090.3a

IN REPLY REFER TO:

5090/S4.7.1
Ser 095/3074

26 FEB 2003

U.S. Environmental Protection Agency, Region V
Waste, Pesticides, & Toxics Division
Waste Management Branch
Illinois, Indiana, and Michigan Section
ATTN: Mr. Peter Ramanauskas (DW-8J)
77 West Jackson Blvd.
Chicago, IL 60604

Dear Mr. Ramanauskas:

Crane Division, Naval Surface Warfare Center (NSWC Crane) submits documents for finalizing the Quality Assurance Project Plan (QAPP) for Solid Waste Management Units (SWMUs) 12/14, 13/14, 16/16, and 19/00. The response to U. S. EPA comments, change pages, and the permit required Certification Statement are provided as enclosures (1), (2), and (3), respectively. Note that enclosure (2) also includes updated binder cover and spine.

NSWC Crane point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-6160.

Sincerely,

JAMES M. HUNSICKER
Director, Environmental
Protection Department

By direction of the Commander

Encl:

- (1) Response to U. S. EPA Comments
- (2) QAPP Change Pages for SWMUs 12/14, 13/14, 16/16, and 19/00
- (3) Certification Statement

Copy to:

ADMINISTRATIVE RECORD
SOUTHNAVFACENCOM (Code ES32) (w/o encl)
IDEM (Doug Griffin)
TTNUS (Ralph Basinski) (w/o encl)

**RESPONSE TO NOVEMBER 2002 REMAINING U.S. EPA COMMENTS ON
THE QUALITY ASSURANCE PROJECT PLANN (QAPP) FOR
THE RCRA RFI AT
SWMUS 12, 13, 16, & 19 – REVISION 0 – DATED FEBRUARY 2002
NAVAL SURFACE WARFARE CENTER CRANE
CRANE INDIANA**

EPA Response to Comment 6: The response is acceptable. However, is it possible to sample the material in the UAP drainage piping? I seem to recall there was a drain in the center of the pad.

Response: An additional sample (12SD24) will be collected of sediment contained in the drain sump of the UAP, if the drain sump can be located and sufficient sediment exists for sampling. The sample will be analyzed for the same constituents as sample 12SW/SD09. Surface water sampling is not warranted at this location as the unit is inactive and not discharging liquids to the sump at this time. Sediment sampling would provide results that are reflective of historical discharges.

The text in the 2nd sentence of Section 3.4.3.1 has been modified as follows to reflect the additional sediment sample:

"A total of nine sediment samples (12SD16 through 12SD24) will be collected to determine the impact, if any, of long-term historical discharges"

In addition, Tables 3-13 and 3-14 have been modified to reflect the additional sample. A footnote has been added to Table 3-13 as follows:

"TBD – This sample will be collected in the drain sump of the UAP, if the drain sump can be found and contains a sufficient volume of sediment for sampling."

EPA Response to Comment 8: In referring to B173, the response states that there are no records of historical spills in the area. Did the Navy along with Tetra Tech visually inspect these areas prior to developing the QAPP?

Response: The Navy and Tetra Tech jointly inspected these areas prior to developing the QAPP. This inspection was conducted in June 2001.

EPA Response to Comment 10: The text on pages 1-38 and 1-39 remains confusing with respect to VOC analysis at MFB. The paragraph before the bottom bullet on page 1-38 mentions VOCs as having potentially be releases at MFB and VOCs are noted for analysis near the therminol boilers in Table 1-3; however, VOCs are not mentioned in the analytical scheme bullets on pages 1-38 and 1-39. Please provide clarification to the text on VOC sampling and why this analysis will be only done near the therminol boilers. Mention of the VOC sampling results done under Interim Measures for MFB would be useful.

Response: Volatiles may have been present at materials managed at the therminol boilers. Any releases of these materials could have contaminated these materials with subsurface volatiles.

For clarification, a new 3rd sentence has been added to the 3rd paragraph of Section 1.4.1 for Subsection SWMU 13 as follows:

"The chemicals or chemical mixtures potentially released at SMWU 13 generally fall into four categories: metals (aluminum), SVOCs (bitumin), VOCs (naphtha), and high explosives (TNT, H-6, HBX, Trilonal, Composition B, and Tetrytol). Recent MFB Interim Measures data indicate that VOC concentrations in soil were less than detectable levels in most cases and that the detectable concentrations were much less than residential cleanup levels. Existing analytical methodologies are sufficient to quantify these chemicals in each of the environmental matrices of interest for comparison to risk-based screening criteria and for risk assessment. Refer to Table 1-7 for specific analytical methodologies and corresponding target analyte lists. Thus, the following analytical scheme has been selected:"

A new 3rd bullet has been added to the 3rd paragraph of Section 1.4.1 for Subsection SWMU 13 as follows:

- *"VOCs (surface and subsurface soils and ground water) – VOCs may have been released directly to surface or subsurface soils near the therminol boilers."*

Additionally, site investigation indicated a second set of therminol boilers in the MFB area. The first paragraph of Section 3.4.1.2 has been modified to include sampling in this area as follows:

"As previously discussed in Section 1, PCB soil contamination exists in the vicinity of Buildings 166 and 171 as a result of leaking Therminol boilers. The boilers and soil have been removed, but PCBs at concentrations greater than 10 mg/kg are still believed to exist in these areas. Therefore, 14 additional soil borings (13SB01 through 13SB06 and 13SB09 through 13SB16) are proposed to be installed immediately outside the known areas of soil removal to determine whether any residual PCBs are present. One surface soil sample (0 to 2 feet bgs) and one subsurface soil sample (2 to 4 feet bgs) will be collected from each boring."

EPA Response to Comment 12: Please state rationale for not performing hexavalent chromium analysis in this project.

Response: Hexavalent chromium is a strong chemical oxidant and is reduced in the presence of electron donors. Reduction of hexavalent chromium happens very quickly in the environment, in some cases in a matter of minutes, in other cases in a matter of days (EPA/540/5-94/505). This very fast reaction rate is of interest for this project because, given the length of time since the cessation of site operations, it is unlikely that hexavalent chromium would be present and; therefore, detected in any samples collected at this site. However, for risk assessment purposes, any total chromium detections will be assumed to be all hexavalent chromium.

No changes have been made to the QAPP in response to this comment.

EPA Response to Comment 15: Does this mean that if soil sampling results near the therminol boilers exceed RBTLs for SVOCs and the sediment results for SVOCs do not exceed RBTLs, the soils will not be further investigated for SVOCs?

Response: No, it does not mean that if soil sampling results near the therminol boiler exceed RBTLs for SVOCs and sediment results for SVOCs do not exceed RBTLs, the soils will not be further investigated for SVOCs. To eliminate possible confusion concerning the role of sediment contamination in the risk decision making process, the text of the last sentence of the existing 3rd bullet in the 3rd paragraph of Section 1.4.1 Subsection SWMU 13 has been updated, replacing the revised as follows:

- *“SVOCs (surface and subsurface soils, sediments, surface water, and ground water) – SVOCs, including PAHs, may have been released directly to surface or subsurface soils near the thermol boilers. Sediments will be used to establish, at least in part, the influence of surface soil runoff because they represent the accumulation of surface runoff from a relatively wide area.”*

EPA Response to Comment 16: The rationale stated for PCB sediment sampling at SWMU 16 seems to be opposite of the rationale stated for SVOC sampling at SWMU 13 noted in Response to Comment 15. If there was a PCB release to surface soils, particulates with PCB adhering to them would most probably have been transported to stormwater runoff channels. Same with dioxins/furans.

Response: The extent of SVOC contamination in soil is expected to be greater than that for PCBs because of the differences, in part, between the chemical natures of PCBs and SVOCs. In particular, SVOCs are more soluble as a group and are, therefore, likely to migrate further in a given amount of time than PCBs. Even if overland runoff is the only mechanism of migration, the spread of SVOCs to, or throughout, neighboring soils is more likely than for PCBs. Therefore, the likelihood of transport to drainage channels is more likely for SVOCs than for PCBs. Accordingly, the strategy for investigating PCBs is to first determine the PCB concentrations, if detectable, in the soil before beginning an investigation of PCB contamination in sediments. The chosen PCB sampling and analysis strategy is also a matter of economics. It is most cost-effective to analyze for contaminants with a limited migration potential only if their presence can be demonstrated, especially when the contaminants in questions constitute a separate analysis.

As stated in the original response document, if PCBs are found in soil samples from selected areas at levels that could indicate potential sediment PCB contamination, then a case-by-case determination will be made regarding whether or not it is necessary to collect additional sediment samples for PCBs analysis.

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

EPA Response to Comment 18: Please clarify how data points detected below TV will be qualified.

Response: The following table is provided for clarification of QAPP “Qualifiers” that are described in Section 1.4. The data will be qualified as indicated in this table unless other data quality problems would require the data to be qualified in a different manor. For example, serious data quality problems might yield an “R” qualifier rather than a “J” qualifier.

Measured Concentration	Reported Concentration	Qualifier
<Threshold Values (TV)	TV	U
>TV and <Reporting Limit (RL)	Measured Concentration	J
>RL	Measured Concentration	No qualifier

As noted in Section 8.2.2, data validation will be conducted in accordance with U.S. EPA Region 5 Standard Operating Procedures for Validation of CLP Inorganic and Organic Data and the National Functional Guidelines for Inorganic and Organic Data Review to the greatest extent practicable.

No changes have been made to the QAPP in response to this comment.

EPA Response to Comment 23: This response is acceptable. Are there similar areas at MFB which require similar investigation?

- Response: NSWC Crane is not aware of any similar areas (settling basins from which releases may have occurred) at MFB. Therefore, no additional sample locations are proposed.

No changes have been made to the QAPP in response to this comment.

EPA Response to Comment 27: Laboratory analysis of nitrate is noted in Tables 1-3 (SW-846 9056) and 1-7. Field test kits may be used for screening prior to lab analysis provided the detection limit is below RBTLs.

Response: Nitrate will be analyzed in the laboratory and not in the field. All references to nitrate in QAPP Tables 1-3, 1-4, 1-5, 1-7, 3-4, 3-5, 3-11, 3-12, 3-16, 6-1, 7-15, and 7-16 and Appendix B Tables 1 and 2 have been modified to nitrate plus nitrite as nitrate. The reference to field screening for nitrate has been removed from Table 3-1. The reference to nitrate in the 1st sentence of 1st paragraph in Section 6.1 has been removed and the text has been revised as follows:

“Chemical and physical parameters to be measured using field instrumentation include pH, specific conductance, temperature, turbidity, dissolved oxygen, groundwater flow rate, ORP, grain size, sample depth, sample location, and water-level elevation.”

Additional EPA Comments:

EPA Additional Comment 1: Referring to MFA – Revise the document to include additional investigation of the MFA Battery area.

Response: The field work for MFA (SWMU 12) will not take place until fiscal year 2008. Prior to the implementation of the SWMU 12 field work, the Navy will modify the QAPP to include any additional investigation at the MFA battery area.

No changes have been made to the QAPP in response to this comment.

EPA Additional Comment 2: When determining sample locations for firing ranges at SWMU #19, were locations selected and samples placed to account for residues present at the firing point, safety fan, and target areas?

Response: Sample locations at SWMU 19 were determined to account for residues present at the firing point, safety fan, and target area.

ADDITIONAL MODIFICATIONS TO THE QAAP

1. The following information was added as a new paragraph has been added at the end of Section 1.3.2:

"On March 4, 2002, there was a 72,000-gallon release of wastewater from the scrubber building (B-3111) in the MFA. The building had not been in operation for up to a year, and all of the pumps were shut off as is normal procedure when the building is not in operation. The backflow prevention device failed, which allowed potable water to flood the building to the height of the six-inch curb. The water then flowed out of the building, across the pavement, and into a ditch along the railroad tracks. Residual TNT from within B-3111 resulted in a small amount of TNT contamination in the water. The spilled water was sampled; and the total quantity of TNT release was well below the reportable quantity (RQ) of 10 pounds in any 24-hour period. The contaminated water contained in the building was transferred to B-3110 for treatment. This incident was reported to IDEM. An IDEM inspector visited the spill site on March 7, 2002."

Response: Results of earthworm toxicity testing showed an increase in toxicity that may be attributable to the infusion of compost leachate from the windrows placed about the 2.5 years old windrow, the Navy has determined that ammonia may potentially be leaching into the ground water.

The following text has been added a new 9th bullet to 3rd paragraph of SWMU 12 in Section 1.4.1:

- *"Ammonia (surface water and ground water) – This parameter will be analyzed to determine the impact of ammonia in surface water and ground water. Ammonia may be leaching from bioremediated soils."*

The following text has been added a new 8th bullet to 3rd paragraph of SWMU 13 in Section 1.4.1:

- *"Ammonia (surface water and ground water) – This parameter will be analyzed to determine the impact of ammonia in surface water and ground water. Ammonia may be leaching from bioremediated soils."*

Additionally, ammonia was added to QAPP Tables 1-3, 1-7, 3-2, 3-3, 3-4, 3-5, 3-11, 3-12, 3-15, 3-16, 6-1, 7-15, and 7-16 and Appendix B Tables 1 and 2 for surface water and ground water sampling at SWMUs 12 and 13.

2. Figures 3-1 and 3-3 are being replaced to correct the headers and footers.
3. In response to information received from Laucks Testing Labs, Table 2-15 has been modified as follows for Volatiles:

TABLE 3-15

SUMMARY OF SAMPLE ANALYSES, CONTAINER TYPES AND VOLUMES,
PRESERVATION REQUIREMENTS, AND HOLDING TIMES FOR SOILS AND SEDIMENTS
CTO 166 NSWC CRANE
PAGE 1 OF 2

Parameter	Analyte/Methodology	Sample Container	Container Volume	Preservation	Maximum Holding Time ⁽¹⁾
Volatiles ⁽²⁾	SW-846 8260B	"3 Encore™ samplers"	Four 5-gram containers	Cool to 4 °C	"48 hours to preservation ⁽³⁾ ; 14 days to analysis"
	SW-846 8015B	"2 Encore™ samplers"	Four 5-gram containers	Cool to 4 °C	"48 hours to preservation ⁽⁴⁾ ; 7 days to analysis"

TABLE 3-15

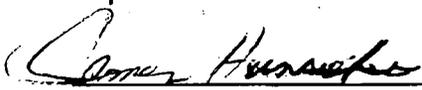
SUMMARY OF SAMPLE ANALYSES, CONTAINER TYPES AND VOLUMES,
PRESERVATION REQUIREMENTS, AND HOLDING TIMES FOR SOILS AND SEDIMENTS
CTO 166 NSWC CRANE
PAGE 2 OF 2

- 3 "One Encore™ extruded into 5 ml H₂O and frozen. Second Encore™ frozen as received. Third Encore™ preserved with methanol for medium level analysis.
- 4 One Encore™ extruded into 5 ml H₂O and frozen. Second Encore™ frozen as received."

**TABLE 1
CHANGED PAGES ACTION ITEMS
QAPP SWMU 12, 13, 16 AND 19
FEBRUARY 2003 REVISION
NSWC CRANE
CRANE INDIANA**

Item	Replacement Page Numbers
GENERAL ITEMS	
Binder Cover Page	Replace the existing Binder Cover Page with the new Binder Cover Page.
Binder Spine	Replace the existing Binder Spine with the new Binder Spine.
Table of Contents	Replace the first page of the Table of Contents (TOC) with the new first page of the TOC.
SECTION 1.0	
Section 1.0 Project Description Text	Replace the existing Section 1.0 text Pages 1 through 56 of 109 with the replacement Pages 1 through 56 of 109.
Tables 1-2 (existing), 1-3 (revised), 1-4 (revised), and 1-5 (revised table Pages 1 and 2 of 3)	Replace existing Pages 65 through 72 of 109 with the replacement Pages 65 through 72 of 109.
Table 1-7 (revised table Pages 5 of 6 and 6 of 6)	Replace existing Pages 79 and 80 of 109 with replacement Pages 79 and 80 of 109.
SECTION 3.0	
Section 3.0 Sampling and Analysis Plan	Replace existing Pages 5 and 6 of 71 with replacement Pages 5 and 6 of 71.
	Replace existing Pages 11 and 12 of 71 with replacement Pages 11 and 12 of 71.
Tables 3-1 (revised), 3-2 (revised table), 3-3 (revised table), 3-4 (revised table), 3-5 (revised table), and 3-6 (existing table)	Replace existing Pages 31 through 44 of 71 with replacement Pages 31 through 44 of 71.
Table 3-11 (revised), 3-12 (revised), 3-13 (revised), 3-14 (revised), 3-15 (revised), and 3-16 (existing)	Replace existing Pages 49 through 60 of 71 with replacement Pages 49 through 60 of 71.
Figures 3-1 (header/footer revision), 3-2 (revised), 3-3 (header/footer revision)	Replace existing Pages 65 through 69 of 71 with replacement Pages 65 through 69 of 71.
SECTION 6.0	
Table 6-1 (revised)	Replace existing Page 5 of 5 with replacement Page 5 of 5.
SECTION 7.0	
Table 7-14 (existing), 7-15 (revised), and 7-16 (revised)	Replace existing Pages 27 and 28 of 30 with replacement Pages 27 and 28 of 30.
APPENDIX B	
Table 1 (replacement Pages 5 and 6 of 6)	Replace existing Table 1 Pages 5 and 6 of 6 with replacement Table 1 Pages 5 and 6 of 6.
Table 2 (replacement Pages 3 and 4 of 4)	Replace existing Table 2 Pages 3 and 4 of 4 with replacement Table 2 Pages 3 and 4 of 4.

C I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



SIGNATURE

Environmental Protection Department Manager

TITLE

2/26/23

DATE