



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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July 9, 2009

Engineering Field Activity, Midwest
Attn: Mr. Howard Hickey
Building 1A, Code 931
201 Decatur Avenue
Great Lakes, Illinois 60088-5600

Re: Sampling and Analysis Plan for the
Remedial Investigation/Risk Assessment
Site 9 – Camp Moffett Disposal Area
Naval Station Great Lakes, Great Lakes, Illinois

0971255048 – Lake
Great Lakes Naval Station
Superfund/Technical

Dear Mr. Hickey:

The Illinois Environmental Protection Agency (Illinois EPA or Agency) is in receipt of the Navy's Sampling and Analysis Plan for the Remedial Investigation/Risk Assessment Site 9 – Camp Moffett Disposal Area, Naval Station Great Lakes, Great Lakes, Illinois. It was dated April 2009 and was received on April 27, 2009. The SAP constitutes the Navy's planning document, addressing specific protocols for sample collection, sampling handling and storage, chain-of-custody, laboratory and field analysis, data validation, and data reporting. The SAP was generated for and complies with applicable U.S. Navy, Illinois EPA, and United States EPA Region 5 requirements, regulations, guidance, and technical standards, especially USEPA (1999) and Department of Defense and Department of Energy guidance for preparing Uniform Federal Policy for Quality Assurance Project Plans. The Agency has conducted a review of the Draft SAP and is herein providing comments generated during that review.

- 1) **SAP Worksheet #7** – Under Responsibilities, there are numerous instances where a line or part of a sentence begins with the word “Makes”, when the word used should be “Ensures”.
- 2) **SAP Worksheet #10** – The sampling and analysis plan includes no evaluation of surface soils. From an environmental risk perspective, this is a major omission. Typically, it is the surface stratum that is the most risky in hazard determinations for current receptors. The report fails to discuss the rationale for exempting the surface soils and provides no evidence that this stratum is uncontaminated or that it has been previously evaluated. It is understood that the vast majority of the site is currently overlain by buildings or paved

parking areas, but there should still be at least a few surface soil samples collected to address that exposure route.

- 3) **SAP Worksheet #11, Section 11.1** – Under number one in the study goals, it states “...the project team will consider the use of LUCs as a remedy for the site.” Although that may be accurate, a single remedy should not be called out at this point of the investigation. Until the data has been collected and evaluated, the team cannot know what the risk drivers for this site are and therefore must consider all possible remedies for the site. In addition, it is unlikely that mere land use controls will be sufficient to manage the unacceptable risk which may be attributed to this site.
- 4) **SAP Worksheet #11, Section 11.1** – Under number two in the study goals, suggest ending the last sentence with “...then further investigation *may not be* required.”
- 5) **SAP Worksheet #11, Section 11.1** – Under number one in the Information Inputs, the sentence here does not make sense. Please review and revise as necessary.
- 6) **SAP Worksheet #11, Section 11.1** – Under number seven of the Information Inputs, it mentions that indoor air samples will be collected should volatile organic compound be detected in the soil or groundwater. Indoor air sampling can be helpful in determining exposure to volatile chemicals; however the results seldom provide a clear picture of the source of the indoor contaminants. We suggest that point #7 be revised to state that “...indoor air samples may be collected...”. It should also specify the type of air samples, e.g. sub slab soil gas, indoor air, etc...
- 7) **SAP Worksheet #11, Section 11.1** – In line seven under Project Action Limits, the correct definition of TACO is Tiered Approach to Corrective Action Objectives.
- 8) **SAP Worksheet #11, Section 11.1** – Under Temporal and Spatial Boundaries, the location of the site is said to be bounded by Spaulding Street, Kentucky Street, a parking lot and 12th Street, and Kentucky Street and 11th Avenue. None of these are identified on any of the figures provided. Please provide a figure or figures identifying these boundaries.
- 9) **SAP Worksheet #11, Section 11.1** – Under Temporal and Spatial Boundaries, it states the aquifer will be investigated to a depth of approximately 25 feet below ground surface. It should probably also state that, if necessary, Phase II of this RI may extend to a greater depth, depending on the results of Phase I.
- 10) **SAP Worksheet #11, Section 11.1** – On page 26, in the first paragraph remove “1.” from the beginning of the paragraph. In the second sentence, suggest revising to “...may involve collecting soil vapor samples from below...” Correct the spelling of “criteria”. The final sentence should be revised and expanded for clarity.

- 11) **SAP Worksheet #15** – The TACO-based Project Action Limits were checked for accuracy and several discrepancies were noted. These discrepancies are based on new and revised screening values from the Agency’s proposed amendments to TACO. The internet citation for the amendments is given in the later comment for Appendix B. In addition, footnote #3 is incorrect. It should state that the value is based on chromium VI. Finally, please explain the entries in the column titled “Project Quantitation Limit Goal” and explain why these project goals apparently cannot be achieved.
- 12) **SAP Worksheet #15** – Another source for determining the Project Action Limits for groundwater should be the regulations found at 35 Illinois Administrative Code (IAC) 620. These are State of Illinois regulations for groundwater quality and are considered to be Applicable or Relevant and Appropriate Regulations (ARAR).
- 13) **SAP Worksheet #16** – The deliverable date for the Draft SAP is improperly listed as 3/35/09.
- 14) **SAP Worksheet #16** – The review times for Illinois EPA for the draft documents are both listed as 30 calendar days. The Agency is typically allowed 30 working days for review of these documents.
- 15) **SAP Worksheet #17** – Add a “start” designation to the upper left block of the figure. Indicate the action to be taken should answer to upper right block be “no”.
- 16) **SAP Worksheet #20** – Many of the listed values in the Total No. of Samples to Lab column do not appear to be accurate. Please review and revise as necessary.
- 17) **Figure 17.1** – Several of the soil boring locations are missing their identifications. Samples numbered NTC9-SB1-B, NTC9-SB3-B, NTC9-SB5-B, NTC9-SB7, NTC9-SB10, NTC9-SB14, NTC9-SB17, and NTC9-SB20 are the samples affected.
- 18) **Appendix A** – On the title page, the word safety has been misspelled.
- 19) **Appendix B, Sections 1.2 and 1.2.1** – In both of these sections, there is mention of using background concentrations of contaminants in soil as screening objectives such that “If the maximum concentration of a constituent exceeds any of these criteria, and if the constituent is considered to be present at concentrations greater than the concentrations of chemicals in background soil, the chemical will be selected as a COPC.” Illinois EPA can agree to this for inorganic contaminants only. Background values for organic constituents are for use as part of the risk assessment to determine the need for action, not for screening out chemicals of potential concern.
- 20) **Appendix B, Section 1.2** – In the first full paragraph on the subject page, the last sentence states that the detection limits are “unlikely” to be above the action levels for this project. Worksheet #15 shows this to be incorrect. While in the planning stage it is impossible to

anticipate which chemicals will be detected, the statement seems overly optimistic. Compounds with action levels below detection limits should be carried forward as COPCs.

- 21) **Appendix B, Section 1.2.1** – In the first paragraph, the second sentence refers to an “attachment”. Please explain what is being referenced or provide the attachment if it is missing.
- 22) **Appendix B, Section 1.2.1** – Please explain the difference between the Section 1.2.1 screening criteria and the Worksheet #15 project action levels.
- 23) **Appendix B, Section 1.2.1** – In the first bullet of the Screening Levels for Subsurface Soil section, TACO values are identified as screening levels. This reference should not be dated since the most current entry should be used. Proposed TACO amendments should also be considered for provision of additional and revised screening levels. TACO amendments are available on the internet at the following address:
(<http://www.ipcb.state.il.us/cool/external/CaseView2.asp?referer=coolsearch&case=R2009-009>; initial filing plus Agency addenda).
- 24) **Appendix B, Section 1.2.1** – On page B-5 at the top of the subject page, Bullets 2 through 6 list sources for the screening levels. None of the sources should be dated to assure that the most current values are utilized when the screening levels are finalized. Also, the third bullet on this page (fourth overall) should be removed. This source is no longer available. Finally, bullets #4 and #5 (#5 and #6 overall) can be combined. The screening level entry for the Agency-derived non-TACO chemicals must not be restrictive and should include values for all three receptors (residential, industrial/commercial, and construction worker).
- 25) **Appendix B, Section 1.2.1** – On page B-6, two bulleted references are presented identifying sources for screening levels for migration to groundwater concentrations. Dates should be removed and the ORNL Regional Screening Levels reference for Protection of Groundwater should be added.
- 26) **Appendix B, Section 1.2.1** – On page B-7, five bullets appear on this page presenting sources for groundwater screening levels. The fourth bullet should specify that Class I values will be used. The fifth bullet is ambiguous because the vapor intrusion reference presents several screening values which vary based on the desired risk level and soil attenuation factor.
- 27) **Appendix B, Section 2.1** – This section concerns the conceptual site model and refers the reader to Figure 1. Figure 1 identifies overland runoff of surface soil as a release mechanism for this site. Contrary to earlier statements, this implies that surface contamination may be a concern at this site.

- 28) **Appendix B, Section 2.1.3** – This section addresses the potential receptors and exposure routes at Site #9. The second bullet in this section identifies the future occupational worker as a potential receptor but no concern is expressed for the current worker. Attention should be given to current indoor workers such as secretaries, office workers, and maintenance workers plus outdoor landscaping maintenance workers.
- 29) **Appendix B, Section 2.3** – The last sentence in Section 2.3 states that one-half the detection limit will be reported for results that are below the detection limit. The actual detection limit should be reported and the result designated as below detection by annotation.
- 30) **Appendix B, Section 2.4.3** – This section places a condition on the evaluation of inhalation risk. The first paragraph of this section states that quantitative risk will be calculated only when a site concentration exceeds its corresponding USEPA Generic Inhalation SSL value. The Agency cannot agree with this approach.

The internet calculated generic inhalation SSL screening levels are only computed for the residential receptor. It is our experience that the construction worker receptor may have a lower screening level than the hypothetical resident. We recommend that the construction worker receptor screening levels be included. TACO provides a lookup table of screening levels for the construction worker. At this site, exposure to subsurface volatile contamination by a construction worker is a genuine possibility.

- 31) **Appendix B, Section 5.0** – The last sentence of this section appears to be an author's note and should be revised or removed.
- 32) **Appendix B, Table 2** – Please explain the circumstances whereby direct contact (ingestion, dermal contact, and dust inhalation) to subsurface soil occurs for the residential and occupational worker receptors.
- 33) **Appendix B, Tables 3 and 4** – Section 2.1.3 suggests that the future occupational worker receptor should fit the industrial/commercial exposure regimen. Some of the Table 3 and 4, RME and CME, exposure parameters are inconsistent with this premise, e.g., exposure frequency of 24 and 12 days, RME and CME, respectively. This receptor needs to be more fully described and defined.
- 34) **Appendix B, Attachment 1** – Attachment 1 describes the development of a site-specific construction worker PEF using the Supplemental SSL approach. It appears the calculation has been adjusted for a 30 day exposure and a road segment area that corresponds to a square 47.5 acre site. Changing the size of the site requires a corresponding change of the "A_{site}" (site area) factor in the Q/C equation. Additionally, the need to adjust the F_d dispersion correction factor for averaging times of less than one year is triggered and cannot be 0.185, as stated. Finally, the "T" (total time) value reported in Attachment 1

corresponds to 30, eight hour days. It is unclear whether T should equal the time worked, as reported, or the entire work interval of six weeks (3.63E+06 seconds).

- 35) **General Comment** - Both the body of the report and Appendix B contain citations to literature sources yet neither includes a reference section. Please add a reference section for each of these parts of the report.

If you have any questions regarding anything in this letter or require any additional information, please contact me at (217) 557-8155 or by electronic mail at brian.conrath@illinois.gov.

Sincerely,

Brian A. Conrath

Brian A. Conrath
Remedial Project Manager
Federal Facilities Unit
Federal Site Remediation Section
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cc: Bob Davis, Tetra Tech NUS, Inc.

Owen Thompson, USEPA (SR-6J)