



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

AUG 25 1999

DW-8J

Mr. Tom Brent  
Naval Surface Warfare Center  
EPD, Code 095 B-3260  
300 Highway 361  
Crane, IN 47522-5001

Re: Field Sampling Plan for RCRA  
Groundwater Monitoring at the  
ABG, ORR, DR, & OJT

Dear Mr. Brent:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the Field Sampling Plan for Ground Water Monitoring at the Ammunition Burning Grounds, Old Rifle Range, Demolition Range, and Old Jeep Trail dated May 1999.

The Field Sampling Plan is nearly ready for approval. Attached you will find U.S. EPA's comments. Please revise the Field Sampling Plan to address these comments.

If you have any questions regarding this matter, please contact me at (312) 886-7890.

Regards,

A handwritten signature in black ink, appearing to read "Peter Ramanauskas".

Peter Ramanauskas  
Environmental Engineer  
WMB, IL/IN/MI Section

Enclosure

Filename: FSP NOD.wpd

cc: Core Team Members: Bill Gates, SOUTHDIV (w/o encls)  
Christine Freeman, NSWG (w/o encls)  
Phil Keith, NSWG (w/ encls)  
Doug Johnson, CAAA (w/ encls)  
E.P. Johns, SOUTHDIV (w/ encls)  
Michelle Timmerman, IDEM (w/o encls)

Project Team Members: Allen Debus, USEPA (w/ encls)

**NOTICE OF DEFICIENCY**  
**Field Sampling Plan for RCRA Ground Water Monitoring at the**  
**Ammunition Burning Grounds, Old Rifle Range, Demolition Range, and Old Jeep Trail**  
**Naval Surface Warfare Center**  
**Crane, Indiana**

*Comment 1:*

Referring to the Signature Sheet, Figure 1-1, and Table 1-1, please change the Carol Witt-Smith references to Peter Ramanauskas.

*Comment 2:*

On page 2-10 it is stated that Figure 2-5 shows the locations of the sedimentation ponds; however, these do not appear to be marked on the figure.

*Comment 3:*

On page 2-13, Geologic Column, the second Period name should read, "Mississippian".

*Comment 4:*

In Section 4.1.1, page 4-6, it is stated that semiannual monitoring of the ABG will be conducted after quarterly monitoring ceases. In Section 4.3, page 4-19, there are only tables summarizing water sample analyses and field QC samples for quarterly and annual sampling of ABG wells. In addition, Section 5.0 states that quarterly and annual sampling will take place for the ABG and ORR. Please correct this inconsistency.

*Comment 5:*

On Table 4-2, will there be separate analyses/scans for each subcategory of parameter? (Will benzene be reported separately as an Appendix IX VOC and as an Aromatic and Chlorinated hydrocarbon in any given sampling round? See Table 4-10. Will there be duplicated reporting of analytes? The analytical strategy for reporting the various subcategories is unclear in this regard.)

*Comment 6:*

Referring to Table 4-3, why are subcategories of parameters dropping off the parameter list in later quarters? (I am not disputing the pattern. I just do not understand the rationale for the strategy.)

*Comment 7:*

Referring to Section 4.1.2, how many quarters of sampling will be required for the ORR before switching to annual monitoring?

*Comment 8:*

Referring to Table 4-10, page 4-14, separate sampling containers will be necessary for the VOCs to be reported by methods 8015 and 8260B. (See 6<sup>th</sup> column, 7<sup>th</sup> row under heading.)

*Comment 9:*

Referring to Table 4-11, although equipment rinse blanks are not mentioned here, I understand from reading other portions of this QAPP that dedicated sampling equipment will be used. It is mentioned in the SOP section that a temperature blank shall be used. Provided this is understood, the temperature blank need not be added to this table.

*Comment 10:*

Referring to Table 4-16, page 4-27, shouldn't the "Samples" column total be 11 instead of 10? (See page 4-11, Table 4-9.)

*Comment 11:*

In Section 4.3.3, page 4-28, it is more or less implied that dedicated sampling equipment shall be used. However, since an equipment blank will be needed if this is not the case, it should be definitively stated that dedicated sampling equipment shall be used.

*Comment 12:*

Referring to SOP # 5 and SOP # 6 in Appendix B, the applicability of use for the 0.45 micron filter assembly should be defined for this project. (i.e. to be used in the processing of dissolved metals and phosphorous samples only.)

*Comment 13:*

Referring to section 3.2 in SOP # 7 in Appendix B, the expiration dates of reagents should be checked *prior to* sampling. Also, referring to the last sentence on page 2 of 3, for what purpose are field duplicates being evaluated then, if not for evaluating precision? Field duplicates provide a means for measuring precision.

*Comment 14:*

Referring to section 3.3 in SOP # 7, to avoid hydrogen sulfide redox reactions, it would be best not to filter these samples.

*Comment 15:*

If only dedicated sampling equipment will be used, SOP # 8 in Appendix B will not be implemented. If so, then shouldn't it be removed from the FSP?

*Comment 16:*

There is a typo on page 4 of 6 in SOP # 9, in Appendix B. The sample numbering example as shown should read as, "0 C11P24B04". Also, from the given nomenclature for the field QA/QC samples, how will it be apparent which monitoring well the samples are duplicates of from the given nomenclature?

*Comment 17:*

In section 3.5, of SOP # 11, page 4 of 7, insert the word "form," after the phrase, "The Chain-of-Custody.....", in the first sentence.

*Comment 18:*

Attachment 5 to SOP 11, (sample Chain of Custody Record), should include boxes for both total and dissolved metals and phosphorous.