



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

AUG 03 1999

REPLY TO THE ATTENTION OF:

DW-8J

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

Re: QAPP for Insect Collection and  
Analysis at the Ammunition Burning  
Grounds

Dear Mr. Brent:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the Quality Assurance Project Plan for Insect Collection and Analysis at the Ammunition Burning Grounds Revision 2 dated June 1999.

Attached you will find U.S. EPA's comments. Please revise the Quality Assurance Project 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", written over a horizontal line.

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

Enclosure

Filename: Bat QAPP NOD.wpd

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

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

**NOTICE OF DEFICIENCY**  
**Quality Assurance Project Plan, Revision 2, June 1999**  
**For Insect Collection and Analysis at the Ammunition Burning Grounds**  
**Naval Surface Warfare Center**  
**Crane, Indiana**

*Comment 1:*

Referring to section 1.1.2, note that the time of sample collection was two years ago. Can we vouch for the integrity of the samples for such a lengthy period? Under what preservation conditions were the samples stored for this duration? What assurances have we that the nitroaromatic constituents of concern have not degraded within the preserved insect tissues? While these samples could be analyzed, all things considered, it might be more scientifically valid for resampling to occur. Refined analytical methods could be employed on this fresh sample.

*Comment 2:*

Referring to Table 2, it is noted that Oral - Rat LD50 data does not exist for the metals constituents of concern. Wouldn't it be appropriate to substitute other possibly relevant data then, such as the shrew toxicity data?

*Comment 3:*

Referring to Table 3, note that it hasn't been sufficiently explained what the fish & wildlife "Target MDL" limits represent for inorganics constituents. Are these merely MDLs, or some other health based values which could be appropriately used in lieu of shrew data, or substitute for the non existent rat data.

*Comment 4:*

On page 11, change Carol Witt-Smith's name to Peter Ramanauskas.

*Comment 5:*

Referring to section 3.1, bottom of page 12, please note that Table 3 doesn't contain default control limit values for precision (although Table 5 does).

*Comment 6:*

Referring to section 3.2, on page 13, please note that Table 3 doesn't contain control limits for accuracy (although Table 5 does).

*Comment 7:*

Referring to section 3.3, isn't it possible to update the reference to sample mass obtained after sorting now because sorting may have already occurred? Based on the total mass of sorted insects, shouldn't it be possible to determine how many analyses, including QC analyses, can be performed?

*Comment 8:*

Referring to section 3.5, what are the anticipated reporting limits for compounds in insect matrices based on the cricket study? It should be mentioned that the LRLs in Table 3 happen to be the anticipated reporting limits based on the outcome of the cricket study (if this is the case).

*Comment 9:*

Referring to section 7.2, second paragraph, the phrase "will be used as a surrogate for method validation" should be changed to "has been used as a test matrix in the course of method development".

*Comment 10:*

Section 9 contains little or nothing concerning how the data will be ultimately be assessed.

*Comment 11:*

In section 9.2.2.1, how will (or "were") insects be kept cool during the sorting process?

*Comment 12:*

Section 9.2.3 discusses data validation. However, the referenced means for validating this data will not be possible for non-CLP compounds such as method 8330 explosives (and other explosives degradation products), in insect matrices. Elaboration is needed as to how the generated data will be appropriately validated.

*Comment 13:*

Appendix B is missing some important components. First the ICP-MS SOP for analysis of metals was not included. Also, the means of analyzing phosphorous was not reported. (It is unclear if this analysis will be performed by ICP-MS, or by a cited "nutrient method".) The SOP for explosives is missing important references to the 3 additional explosives degradation compounds (Azoxytoluene, MNX, TNX) and does not explain how the insect matrix will be prepared and extracted, using techniques which were experimentally developed for this purpose.

*Comment 14:*

Following, in comments #15 through #20, are several specific comments concerning SOP No. M-8330-00-WES-XX. In section 5.0, mention should be made of the possible interferences caused by addition of the 3 explosives breakdown products, and the possibility of encountering interferences caused by the insect matrices.

*Comment 15:*

Referring to section 7.11.3, note that all the target analytes (including the 3 explosives degradation compounds) should be included in the matrix spiking solution.

*Comment 16:*

Following section 8.4 should come another section on preparing insect matrices for this study. The actual procedure, which was not found in this QAPP, could be appended to this SOP.

*Comment 17:*

Referring to section 8.7, the details of second column confirmation need to be developed for the 3 additional explosives breakdown products.

*Comment 18:*

Referring to section 10.12, wasn't the MDL study already done in the cricket method demonstration phase? Why can't this information be somehow reflected in this SOP, as it is directly applicable to the project? Note that the Appendix 1 MDLs and LRLs do not apply.

*Comment 19:*

Referring to section 11.1, second bullet, note that the quadratic equations should not be utilized for initial calibration unless the rigor of method 8000 (current edition of SW-846) is also followed.

*Comment 20:*

Referring to the cricket study report in Appendix C, it would be interesting to know whether all samples been sorted and freeze dried as of yet?

*Comment 21:*

Evidently the cricket study was not completed in the case of tetryl, which "...will be repeated before Crane tissue is analyzed" What is the status of the tetryl study? When will it be completed?

*Comment 22:*

According to the last page of Appendix C, the phosphorous test to be used on insect matrices hasn't been determined yet. When will this information be made available?

*Comment 23:*

Referring to the final table in Appendix C, what is the explanation for the the differences in sample sizes between the 2<sup>nd</sup> and 3<sup>rd</sup> columns besides the deletion of Total Phosphorous from the last column.