

**NSWC CRANE
CRANE, INDIANA**

**QUALITY ASSURANCE PROJECT PLAN FOR FULL-SCALE OPERATIONS
AT THE BIOREMEDIATION FACILITY
REV. 2, March 12, 1998**

COMMENT- RESOLUTION

Comments on PETN SOP, Rev. 2, Dated 04/01/98

Comments by: Allen A. Debus, EPA Region 5. (Conditional Approval - E-mail to Chris Freeman, NSWC Crane EPD on 4/3/98)

Comment 1. A shorter sonication extraction period of one hour should be used in the analysis of PETN to avoid compound degradation. However, an 18 hour sonication for the other method 8330 explosives is acceptable. According to Tom Jenkins of the CRREL, it would be possible to obtain an extract aliquot from the sonication bath after one hour. Then after 18 hours, the extract aliquot can be obtained for method 8330 analyses. The PETN SOP, specifically section 7.1.2.1, should be modified accordingly. Mr. Jenkins volunteered his assistance in this matter. He can be contacted at (603) 646-4385. All QC standards for PETN analysis should be prepared in an analogous sense.

Response: After a discussion with Tom Jenkins, and a cursory evaluation in the laboratory of spiked aliquots of PETN by both the proposed one hour and the stated 18 hour extraction period, the laboratory found that significant degradation did not occur during the 18 hour extraction. A copy of the laboratory evaluation summary is attached for information. Therefore, it is proposed that the extraction period for PETN remain consistent with the published procedure and with the other explosives analyzed in this project.

Comment 2. An initial calibration run including the MDL study mentioned in Crane's 4/2/98 response should be submitted to the U.S. EPA. This data can be generated during analysis of the first pile. Also, representative sample data for an entry and a final day compost sample (one of each) and all associated QC results for each sample should be submitted along with this data. Until the U.S. EPA has reviewed this initial sample data package, resulting in a written approval, further PETN sampling should be suspended.

Response: Comment is noted. The initial calibration and MDL study of PETN, as well as the associated QC results for PETN during the first pile will be submitted to EPA for further review.

Comment 3. In section 5.5.2, the phrase "...upper extent of the..." should be inserted just before the phrase "detector linear range".

Response: Comment is noted. The SOP will be changed in subsequent revisions. This revision will be forwarded upon completion of the MDL study.

Comment 4. Referring to section 5.6, note that for this project, use of the Initial Calibration Check Standard is required.

Response: Comment is noted. Southwest Laboratories will obtain a second source standard to verify the initial calibration standard. If no alternative sources are available, Southwest will prepare a second

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independent standard for use as the Check Standard.

Comment 5. The proposed approach of the 3,4 DNT as surrogate, as stated in section 5.9, is acceptable provided that LCS and MS/MSD samples obtained from a source (as stated in the SOP) independent of that used for Initial Calibration Standards are also used in the assessment of data quality. However, control limits for precision and accuracy based on matrix recovery data for PETN must be developed for the project. Until this data is generated, default acceptance criteria must be utilized in accordance with method 8000 of SW-846, Update III.

Response: Comment is noted. LCS and MS/MSD samples will be spiked with a solution prepared independent of the calibration standards. Precision and accuracy criteria specific to PETN will be developed once sufficient analytical lots have been prepared and analyzed. SW-846 criteria where applicable will be used until such limits are established.