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M E M O R A N D U M

TO: Barbara Hoditschek, Program Manager, HRMB

THROUGH: Edward Horst, Program Manager, HRMB

FROM: Steve Alexander, Supervisor, HRMB

DATE: January 6, 1993

RE: **REVIEW OF DECEMBER, 1992 20,000# EOD FACILITY RFI FIELD SAMPLING AND CHEMICAL ANALYSIS PLAN**

Tom Tatkin, Permitting Program, requested a review of the above submittal and to provide these comments to the facility in a January 7, 1992 conference call. The following comments are based upon the product goal stated in the **COVER SHEET**: "...produce a Resource Conservation and Recovery Act (RCRA) Facility Investigation document (RFI), that will identify existing conditions at the site, and establish monitoring wells for the facility."
Quotes in parenthesis below are taken directly from the text and are provided for clarity. Technical comments follow the quotes.

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4	1.1.2/2	What was the total amount of used motor oil discharged over the life of this unit? What constituents were contained in the used oil? When was the last time the used oil was discharged at this site? This is a possible violation of RCRA, do they have a permit for this disposal activity?
2	2.1.3.1/1	(Regional gradient is to the southwest). It is also mentioned that the local gradient may be to the southeast. How do you plan to determine if the location of the monitoring wells will take into account this apparent fluctuating groundwater flow direction?

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2	2.1.3.1/1 Following the initial groundwater and soil sample analyses four monitoring wells may be determined to be adequate to obtain groundwater which is representative of downgradient water quality.
9	2.1.3.5/18. Determine and indicate on Figure 2-3 the surveyed and marked point on the casing from which depth measurements will be taken.
12	2.1.4.1/1 Recommend that three depth measurements are taken and the average be recorded.
14	2.1.4.2/2A.C., 2B.D Depth measurements must be taken at the marked and surveyed point on the casing each time.
30	2.1.9.2/2. Contact the Groundwater Protection and Remediation Bureau (827-2919) for guidance on the proper discharge of the waste development water on the surface.
31	2.2.1.1/1 (To properly assess the site three samples should be collected from each of the two pits (craters), and four from around the site.") What is the justification for only three samples from each pit and four from around the site? Additionally, how is background for metals to be established?
31	2.2.1.3/3. The statement needs to include language noting that the soil sample will be collected undisturbed and will not be agitated or mixed prior to placement in the container.
32	2.2.2.1/1 (The objective of the subsurface soil sampling program is to define the subsurface geology and to determine if horizontal contamination has occurred.) It is not clear what is meant by "horizontal contamination"? Also, using soil core samples from locations far removed from the point of detonation (craters) is inadequate. A minimum of one soil boring per crater will be needed. Each boring must begin at the deepest point within the crater and extend a minimum of ten feet deep. Samples should be taken every 2.5' for a complete Appendix IX analysis. Should any contamination be detected in the samples additional soil samples must be taken at increasing depths until ten feet of "clean soil" is analyzed.

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32 2.2.2.1/1 (Two of these borings will become wells, the third most likely will be abandoned,...) Recommend this third well be utitilized as a possible additional monitoring well for sampling and/or water table elevations.

41 2.2.2.3.2/1.,2. What voltage lamp will be utilized? The voltage must be high enough to exceed the ionization potential of all the target constituents.

41 2.2.2.3.2/2.A. (...soil samples will be warmed in accordance with NMED regulations.) What regulations does this refer to?

42 2.2.3.1/3 The analyses listed for the groundwater samples must be expanded to include all the constituents listed in Appendix IX, 40 CFR Section 264, and the appropriate analytical methods must be applied. The collection, handling, preservation, preparation, analysis, quality assurance/quality control and reporting must be as per "Test Methods for Evaluating Solid Waste, EPA SW-846". Total metals will be required and must be obtained from unfiltered samples.

49 2.2.3.3.1/13.C (Stabilization is achieved when: C. the turbidity meter measurements do not exceed 50 NTUs;) 50 NTUs is an inappropriately high value. A range of 0-5 NTUs is recommended. In the event that NTU values exceed five it will be acceptable providing the upgradient well turbidity does not exceed the turbidity of any downgradient wells.

57 2.3.3.4/1 (DETECTION LIMITS) A new table including the Appendix IX constituents, their MDLs and PQLs, and the method of analysis must be included. NOTE: MDLs cannot exceed PQLs and PQLs cannot exceed EPA or New Mexico State Maximum Contaminant Levels (MCLs).

5 2.1.3.4./2 If the aquifer is relatively homogenous fifteen to twenty foot screens are necessary, with a minimum of five feet above the water table and ten or fifteen feet below. Should the initial groundwater and/or soil analyses detect the presence of Dense Non-aqueous Phase Liquids (DNAPLs) then additional wells to monitor deeper flow zones may be required.

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1	3.1.1/Table 3-1 (DQO LEVEL) Level three is acceptable for all media analysis providing the collection, handling, preservation, preparation, analysis, quality assurance/quality control and reporting is as per "Test Methods for Evaluating Solid Waste, EPA SW-846".