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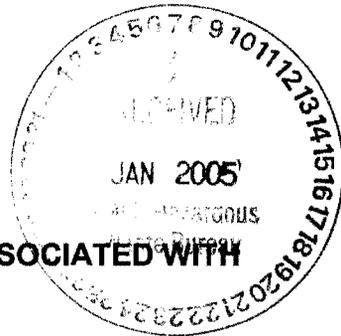
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Date: December 23, 2004
Refer To: ER2004-0727

Mr. James Bearzi
NMED – Hazardous Waste Bureau
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SUBJECT: AUTHORIZATION BASIS REQUIREMENTS ASSOCIATED WITH INVESTIGATION AT MDA C

Dear Mr. Bearzi:

NNSA and LANL understand our responsibilities for identifying and quantifying legacy contamination and proposing sound and defensible remedial alternatives. This letter is intended to provide further rationale followed by DOE/UC in proposing the locations of boreholes for sampling soils and determining nature and extent of contamination at MDA C.

MDA C is one of 10 potential release sites categorized as a nuclear environmental site (NES) and is classified as a Nuclear Hazard Category 2 facility. In compliance with the Nuclear Safety Management regulations of 10 CFR 830, LANL produced a Documented Safety Analysis (DSA) and Technical Safety Requirements (TSRs) to allow characterization activities, such as drilling proximate to MDA C. While the DSA and TSR allow for characterization activities such as drilling and surveillance and maintenance these documents also place restrictions on any activities that are likely to intrude into waste disposal units. Intrusion into any of the waste disposal units is strictly forbidden under this DSA and would be a violation of federal law.

Explicit within the TSR is the restriction that boreholes be located such that there is a high degree of certainty that none of the holes will contact any disposal unit. These same restrictions apply to exploratory trenching within the waste disposal units. The drawings for MDA C, including those presented in the investigation work plan, are conceptual and do not represent "as-built" accuracy. LANL and DOE have completed studies in an attempt to provide better definition of waste units but those results were not consistent and did not add confidence in identifying the exact location of the trench boundaries. At MDA C, Pits 1 through 4 are parallel to each other and separated by only a few feet on engineering drawings. These conceptual drawings show perfectly straight-edged pits with uniform boundaries and do not reflect the reality of uneven pit walls and sides. Geophysical measurements indicate that the boundaries are somewhat different from the drawings and further reduce the confidence in the accuracy of the



drawings. The uncertainty and variability of the boundaries of these pits precludes drilling between the pits under the current DSA and TSR. To avoid violation of DSA requirements during drilling activities the composite area of pits 1-4 should be treated as a single waste area for the purpose of this investigation.

To supplement the information anticipated from the proposed soil borings around this composite area we propose to collect additional analytical data by soil gas sampling across pits 1-4. These data will be useful in better defining the extent of contamination as well as aiding in the placement of borings around the composite area. A soil gas survey can be conducted over the footprint of pits 1-4 without intruding into the waste and without violating DSA and TSR requirements. Analyzing soil gas from across the area of pits 1-4 is a better way to define discrete areas with high concentrations of VOCs. While our focus is on potential threats to groundwater by downward contaminant migration we are more likely to detect VOCs near the surface as these compounds move in gaseous phase upward toward a lower concentration gradient. Moreover the rate of gas diffusion should be higher in the more homogeneous overburden rather than parent tuff material. Samples collected from the soil-gas survey would be analyzed using SW846 methods. Pore-gas concentrations are expected to correspond to releases from waste directly within the pits. Soil-gas sample points will be distributed in a grid across Pits 1-4. The distribution of the identified compounds and their relative concentrations will be used to further characterize the distribution of contaminants and support a future remedy selection for MDA C.

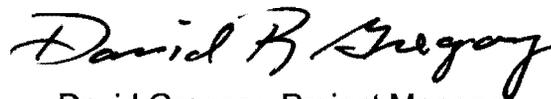
Thank you for allowing us the opportunity to clarify the reasoning behind our selection of sampling locations and how this rationale relates to federal authorization basis requirements. Our goal for this and other investigations is to provide all information, sufficient and necessary, to choose and defend selection of remedies or other appropriate actions.

Sincerely,



David McInroy, Deputy Project Director
Environmental Stewardship
Los Alamos National Laboratory

Sincerely,



David Gregory, Project Manager
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