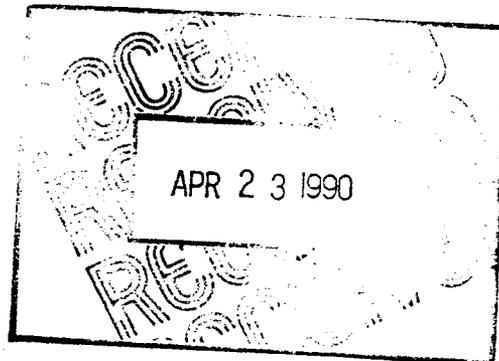




Department of Energy

Albuquerque Operations
Los Alamos Area Office
Los Alamos, New Mexico 87544

APR 19 1990



CERTIFIED MAIL - RETURN RECEIPT REQUESTED

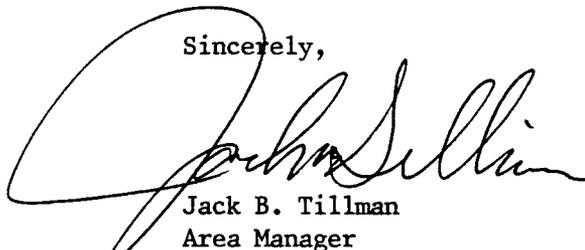
Mr. Jack Elvinger
Hazardous Waste Bureau
Harold Runnels Building
1190 St. Francis Drive
Santa Fe, New Mexico 87503

Dear Mr. Elvinger:

Enclosed please find two copies of the Interim Action Work Plan for the upper Mortandad Canyon. This investigation is being sent out as an interim measure with respect to our EPA RCRA permit, as the activities fall under the auspices of the Environmental Restoration Program Office in connection with the siting of the new Materials Science Laboratory at Los Alamos National Laboratory. The reason for the investigation is that the upper part of Mortandad Canyon that will be impacted by the new laboratory has received releases from several Solid Waste Management Units and thus may have been contaminated with hazardous wastes or hazardous waste constituents.

Should you have any questions, please contact Dr. Paul Schumann of my staff at FTS 843-5288.

Sincerely,



Jack B. Tillman
Area Manager

Enclosure (2) - *one copy is in magazine file.*
6/11/90 Asta

LESH:PBS:0026



5393

4/19/90

LA-UR-90-986

4/19/90 4/10/90/00/500/000

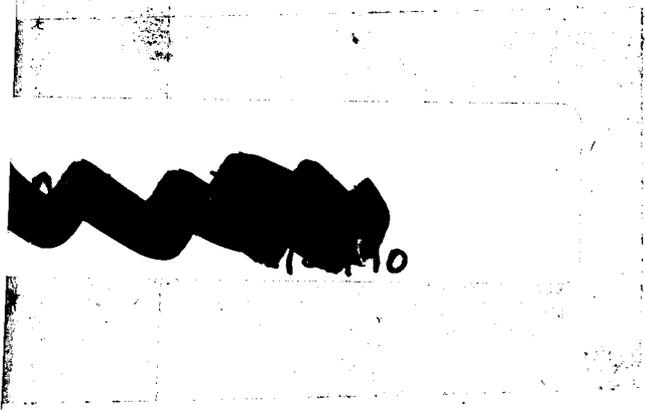
Los Alamos National Laboratory

Environmental Restoration

A Department of Energy environmental clean-up program

INTERIM ACTION WORK PLAN FOR
 INVESTIGATION IN
 UPPER MORTANDAD CANYON,
 MATERIALS SCIENCE LABORATORY--
 TASK 57

LANL
 4 / 1049 / M



TV

NA

LA-UR-90-986

INTERIM ACTION WORK PLAN FOR
INVESTIGATION IN
UPPER MORTANDAD CANYON,
MATERIALS SCIENCE LABORATORY--
TASK 57

INTERIM ACTION WORK PLAN FOR INVESTIGATION IN UPPER
MORTANDAD CANYON, MATERIALS SCIENCE LABORATORY--TASK 57

Background

During the summer of 1974, an accidental release from a radioactive liquid-waste line at Los Alamos National Laboratory occurred (W.J. Smith, II, et al. "Experience in the Cleanup of Plutonium-Contaminated Land," Los Alamos Scientific Laboratory report LA-6731-MS [March 1977]). The accident occurred at the corner of Diamond Dr. and Pajarito Rd., resulting in the flow of discharge from the liquid waste line from a manhole junction northward along the west side of Diamond Dr. (Figure 1). At the entrance to the west parking lot for the Chemical and Materials Research facility, the discharge entered a storm drain and flowed eastward into the uppermost reaches of Mortandad Canyon. The discharge flowed approximately 50 m through the streambed until stopped by a small, earthen dam constructed for that purpose. The residual radioactive contamination was cleaned up to levels undetectable by the instrumentation of that day (<25 pCi/g). The contaminated material was not sampled for nonradiological, hazardous substances. In addition to the discharges from this event, it is believed that a bottle washing operation discharged corrosives into this reach of Mortandad Canyon. Because of the concerns about residual hazardous substances that are regulated under the Resource Conservation and Recovery Act (RCRA), this area

has been designated by the Environmental Restoration Program as a Solid Waste Management Unit (SWMU) under the Laboratory's RCRA permit. Additional contaminants may have entered the canyon in runoff from developed sites on the Laboratory. This entire area is being addressed in a revision of the Laboratory's SWMU report to EPA.

Currently, the Laboratory is planning to construct a new facility, the Materials Science Laboratory, immediately to the north of the head of Mortandad Canyon. This construction could alter drainage patterns, increasing flow through the identified and candidate SWMUs and dispersing any residual contamination further downstream. Construction of the facility will necessitate rerouting of Sigma Rd. so that it crosses the head of Mortandad Canyon. The proposed crossing is about 5 m downstream from the outfall that carried the flow from the 1974 accident described above and within the boundaries of the SWMUs.

Because construction of the Materials Science Laboratory could impact the known and candidate SWMUs, the Laboratory's Environmental Restoration Program is required to initiate an interim action investigation to preliminarily characterize the residual contamination that may still remain in the sediment of the stream channel and banks. This Statement of Work outlines the approach the Environmental Protection Group (HSE-8) proposes to take in implementing the initial sampling of the impacted SWMUs. If

residual contamination is found to still exist in amounts sufficient to bring this area under the authority of RCRA, then the Environmental Restoration Program will initiate and complete a Corrective Action investigation and decision. Any construction of facilities that might affect the area will be delayed until all corrective actions required by EPA are completed and approved.

Field Sampling Approach

Transects of three samples each will be established perpendicular to the streamflow at five stations between the head of Mortandad Canyon and the earthen dam constructed in 1974. At each station surface samples will be taken from the stream bottom and each adjacent bank. The stations will be located approximately 15 m (Station 1), 55 m (Station 2), 105 m (Station 3), 175 m (Station 4), and 260 m (Station 5) downstream from the head of the canyon. The first through third stations will be located at stormwater drain outfalls, including the one at Station 3 which was involved in the 1974 accident and is a NPDES-permitted outfall for cooling water blowdown. Station 5 will be located immediately upstream from the earthen dam.

Approximately six subsurface (0.6 to 1 m deep) samples will be taken from sediment near stations 3 and 5. They will be obtained either with a hand auger or by shoveling a trench to the appropriate depth. The outfall at Station 3 maintains an almost continuous flow from discharge of

cooling tower blowdown from the CMR facility. Water from the outfall, in the stream below the outfall, and in standing water behind the earthen dam will also be sampled.

The sampling survey will be designed and performed in a manner consistent with the guidelines presented in the Environmental Protection Agency's (EPA) "Test Methods for Evaluating Solid Wastes" (Office of Solid Waste and Emergency Response, SW-846, 3rd Ed., November 1986). These guidelines are the most recent set of methods approved by EPA for ensuring compliance with the requirements of RCRA. All sampling procedures will follow Standard Operating Procedures, Quality Assurance Procedures, and Health and Safety Procedures of the Environmental Restoration Program (U.S. Department of Energy report RPT88-ER-GN000-SOP-001, "Environmental Restoration Program Standard Operating Procedures," May 1988) and the Environmental Protection Group (Los Alamos National Laboratory report LA-UR-87-1076, "Environmental Surveillance Group Quality Assurance Project Plans," February 1987, and "Environmental Surveillance Group Safety Manual," rev. August 1989). Sampling, decontamination, document and data control, quality control, and sample analyses will be consistent with SW 846. Field and trip blanks consisting of empty sampling containers accompany samples during handling and transport of the samples to detect any cross contamination during those periods. Samples will be handled and transported under a chain-of-custody tracking system.

Analytical Laboratory Approach

Samples will be analyzed by the Health and Environmental Chemistry Group's (HSE-9) analytical laboratories for constituents regulated by RCRA (40 CFR 261 App. VIII) as well as selected radionuclides, including plutonium. The analyses of RCRA hazardous substances will be carried out using EPA approved methodologies listed in SW-846 following HSE-9 Standard Operating Procedures for analysis and quality assurance (M.A. Gautier and E.S. Gladney [eds.], "Health and Environmental Chemistry: Analytical Techniques, Data Management, and Quality Assurance," Los Alamos National Laboratory report LA-100300-MS [1986]; M.A. Gautier et al., "Quality Assurance for Health and Environmental Chemistry: 1988," Los Alamos National Laboratory report LA-11637-MS [October 1989]).. Three additional samples will be submitted to an outside laboratory for quality control purposes.

The Radiation Protection Group (HSE-1) will provide radiological field screening of all samples. Samples will be further screened by HSE-8 for gross alpha, gross beta, and Cs-137 activity.

Quality Assurance Plan

Quality assurance for sampling, analyses, and data management will follow procedures outlined in the

Environmental Restoration Program's Standard Operating Procedures (U.S. Department of Energy report RPT88-ER-GN000-SOP-001, "Environmental Restoration Program Standard Operating Procedures," May 1988) and the quality assurance plan for the Environmental Protection Group (Los Alamos National Laboratory report LA-UR-87-1076, "Environmental Surveillance Group Quality Assurance Project Plans," February 1987). These procedures are consistent with those described in EPA's SW-846.

Health and Safety Plan

This task will implement health and safety procedures as outlined in the Environmental Restoration Program's Standard Operating Procedures (U.S. Department of Energy report RPT88-ER-GN000-SOP-001, "Environmental Restoration Program Standard Operating Procedures," May 1988) and the standard operating procedures for the Environmental Protection Group ("Environmental Surveillance Group Safety Manual," rev. August 1989).

Technical Data Management Plan

The results of analyses will be recorded in the project log book and presented in a interim action investigation report to the Department of Energy for transmittal to the EPA. The log book, sample analysis reports, and final report will be archived in the ER program files. The data

will be incorporated into the Environmental Restoration
Program's data management system as it evolves.

Costs and Schedule

Effort:	9 staff days @ \$580	\$ 5,200
	9 tech days @ \$330	\$ 3,000
Total effort		<hr/> \$ 8,200
M & S		\$ 2,500
Sample analysis	27 samples @ \$3200	\$ 86,400
Grand total		<hr/> \$ 97,100

The current plan is to sample the site in mid-March 1990. Results will be available in four to six weeks. The final report will be ready by early to mid-April.

Project Leader

Roger W. Ferenbaugh, Environmental Restoration Program,
Health, Safety, and Environment Division, Los Alamos
National Laboratory, Los Alamos New Mexico

List of Preparers

Lars F. Soholt, Environmental Protection Group, Los Alamos
National Laboratory, Los Alamos, New Mexico

David McInroy, Environmental Protection Group, Los Alamos
National Laboratory, Los Alamos, New Mexico

Distribution

Thomas Gunderson, HSE-DO
Ken Hargis, HSE-8
Thomas Buhl, HSE-8
James White, HSE-8
Doris Garvey, HSE-8
Robert Vocke, HSE-DO/ER
James Phoenix, DOE/LAAO
Richard Sena, DOE/AL
Steven Slaten, EPA Region VI

