

Los Alamos

Los Alamos National Laboratory
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memorandum

TO: Henry Nunes, HSE-13, MS K481
THRU: Ron Conrad, HSE-8 *rc*
FROM: Phil Fresquez, HSE-8 *pf*
SUBJECT: **AN ENVIRONMENTAL RESTORATION INTERIM ACTION (ERIA)
RECONNAISSANCE SURVEY AT THE SITE OF THE WEAPONS ISOTOPE
SEPARATOR FACILITY AT TA-48**

DATE: April 1, 1991
MAIL STOP/TELEPHONE: K490/7-0815
SYMBOL: HSE-8:91-507

Scope of Work

The Environmental Restoration Group (HSE-13) has requested that an Environmental Restoration Interim Action (ERIA) reconnaissance survey be performed at the site of the proposed Weapons Isotope Separator Facility (WISF) located north of TA-48-8 (Figure 1). Three Solid Waste Management Units (SWMU's) - 48-001, 48-005 and 48-007(e) - have been identified as existing in close proximity to the proposed building site.

SWMU 48-001 is described as an air exhaust system from TA-48-1. Airborne releases from this system that may have contaminated the surrounding buildings include: mixed fission products, uranium and plutonium (LANL 1990) (Figure 2).

SWMU 48-005 is an acid waste line that includes lines #36 and #37 along the west side of Building TA-48-1 at a depth of 11 ft (Figure 1). In 1982, a radioactive waste main broke at the northwest corner of TA-48-1. Line #37 was removed in 1981. Wastes in the lines contained radionuclides and chemicals.

SWMU 48-007(e) is described as an outfall located on the north side of building TA-48-8 (it discharges in the area of the proposed building) (Figure 1). There is no release history for this SWMU, but water treatment chemicals (~~acetone, alcohol and benzene~~) are added to cooling waters at TA-48-8.

Therefore, in order to ascertain the nature and extent of contamination, if any, the Environmental Protection Group (HSE-8) is proposing to collect soil surface and subsurface



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samples from in and around the site of the proposed Weapons Isotope Separator Facility.

Sampling Plan

All soil samples will be collected according to the protocol described in SW-846 (EPA 1986). The proposed site measures 40 wide x 100 feet long and is located 20 feet away from the north side of Building TA-48-8. Therefore, five soil surface (0-1.5 m) and five soil subsurface (> 1.5 m) will be systematically collected from the proposed site of the WISF (Figure 2). Soil samples will be collected with a soil bucket auger and placed into the appropriate containers identified by Williams (1990).

Back at TA-59, soil samples will be screened by HSE-8 personnel for gross alpha, beta and gamma radioactivity before they are submitted to the Health and Environmental Chemistry Group (HSE-9) for the analysis of Toxicity Characteristic Leaching Procedure (TCLP) metals (Ag, As, Ba, Cd, Cr, Hg, Pb and Se), and Resource Conservation and Recovery Act (RCRA) target volatile (VOC), semivolatile (SVOC) and polychlorinated biphenal (PCB) compounds. In the event that above background levels of radioactivity are found, levels of Pu-238, Pu-239, 240 and total uranium will be requested.

Quality Assurance/Quality Control (QA/QC)

QA/QC will follow EPA guidelines and specifications found in the Environmental Protection Group's Quality Assurance Project Plans (LANL report LA-UR-87-1076), and Quality Assurance for Health and Environmental Chemistry (LANL report LA-11637-MS).

Site Safety and Health Plan

The following elements will be communicated to site workers by the Site Safety Officer (R. Romero) prior to entering the site. At the site, the safety officer will have the responsibility to implement the site safety and health plan and verify compliance according to 29 CFR 1910.120.

- A. Hazard Analysis. Wastes listed as potentially contaminating the area include mostly radionuclides from SWMU 48-001. Levels of radioactivity, however, are

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expected to be low. ~~Additionally, no liquids are expected to be encountered.~~

- B. Employee Training. All ERIA supervisors and team personnel associated with the Solid Waste Assessment Team have had 40 hr. of Hazardous Waste Operation and Emergency Response training. Additionally, supervisors have had HAZWOPER-supervisor (8 hr.) training.
- C. Personal Protective Equipment. Personnel associated with this project will be required to wear level D personnel protection equipment. This will include coveralls, safety boots, hard hat, and safety glasses.
- D. Medical Surveillance Requirements. Personnel associated with this study have had a medical examination performed by the Occupational Medicine Group (HSE-2).
- E. Site Monitoring. Personnel from Radiation Protection (HSE-1) and Industrial Hygiene (HSE-5) will be present during the sampling operation to monitor radiological and organic hazards, respectively. Monitoring for radiological hazards will consist of evaluating the sample before it is collected by HSE-8 personnel. Organic monitoring will consist of evaluating the presence of organic vapors at the breathing zone with a photo ionizing detector (PID) and/or a flame ionizing detector (FID) during sample collection. If gases in the breathing zone exceeds background concentrations (> 1 ppm) over a 1-minute period work will cease. Work will only be continued after consultations with HSE-5 and an upgrade to the appropriate level of protection.
- F. Site Control. No entry by unauthorized personnel will be allowed during the ERIA survey. To accomplish this, barricade tape will be placed around the perimeter of the work area.
- G. Decontamination. NA
- H. Emergency Response. Emergency response procedures as defined in the Laboratory's Environment, Safety and Health Manual will be followed.
- I. Confined Space. NA
- J. Spill Containment. NA

Estimated Costs

Group HSE-8 is prepared to carry out this project during the first week of April. The estimated costs (M205) of the project are:

Soil Analysis Analysis of 12 total samples (10 samples + 1 QA/QC + 1 trip blank).	\$16,797
Survey points	\$365
Materials	\$50
Total estimated costs	\$17,212

References:

- Environmental Protection Agency (EPA). 1986. Test Methods for Evaluating Solid Waste (SW-846). Volume II: Field Manual Physical/Chemical Methods. Office of Solid Waste and Emergency Response, Washington, DC.
- Los Alamos National Laboratory (LANL). 1990. Solid Waste Management Unit Report, Volume III of IV (TA-26 through TA-50), Los Alamos National Laboratory report, UR90-3400.
- Williams, M. 1990. Handbook for Sample Collection, Preservation, and Instrumental Techniques. Los Alamos National Laboratory Manual LA-11738-M.

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