

LANL
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Los Alamos National Laboratory

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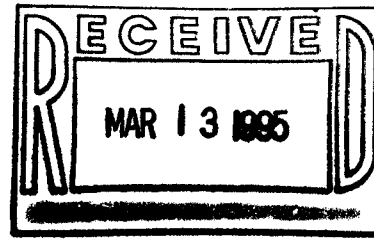
TA-53
OP/1100
unit

U. S. Department of Energy
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505-665-7203
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MAR 10 1995

Date:
Refer to: EM/ER:95-J076

Ms. Barbara Hoditschek, Program Manager
Hazardous & Radioactive Materials Bureau
New Mexico Environmental Department
1190 St. Francis Drive
Santa Fe, NM 87502



Dear Ms. Hoditschek:

**SUBJECT: RESPONSE TO TECHNICAL AREA (TA) 53, NE & NW
SURFACE IMPOUNDMENTS (FORMER OPERABLE UNIT
1100)**

Attached is our response to the telephone conversation between Merlin Wheeler and Everett Trollinger of the Environmental Restoration staff and the New Mexico Environment Department on January 24, 1995. It is related to the TA-53, NE and NW surface impoundments.

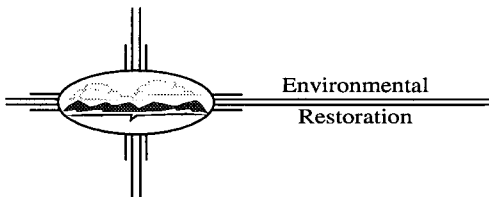
Also enclosed is an electronic copy of the response (excluding the figures). Please call Gene Gould at 667-0402 or Everett Trollinger at 667-5801, if you have any questions.

Sincerely,

Jorg Jansen, Project Manager
Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
Los Alamos Area Office



4307

TC

B. Hoditschek
EM/ER:95-J076
Page 2

JJ/TT/bp

Enc.: Hard copy and electronic response

Cy (w/hard copy enc.):

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File # 1.4.2.6.1.7.1.2, LAAO, MS A316

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**RESPONSE TO TELECON COMMENTS
OF JANUARY 24, 1995 WITH NMED**

Comment 1. The active sanitary sewer lines, located in TA-53, that transmitted waste to the surface impoundments will be incorporated in the RFI Work Plan as a Deferred Action.

Discussion:

We will include section 6.2.3, Active Sanitary Sewer Lines, in Chapter 6, Potential Release Sites Recommended For No Further Action Or Deferred Action, to incorporate the active sanitary sewer lines in the RFI Work Plan as a Deferred Action.

Proposed Text Changes:

6.2.3 Active Sanitary Sewer Lines

6.2.3.1 Description and History

The active sanitary sewer lines at TA-53 are an ancillary facility associated with PRS 53-002 (a), northeast and northwest surface impoundments. Figure 6-1 shows the location of the lines throughout TA-53.

The main sanitary sewer line, along La Mesa Road, was constructed in 1969. The line consisted primarily of 8 inch clay pipe that gravity-flowed to the impoundments, except for a small portion of force main, 6 inch cast iron pipe. As new buildings were constructed, secondary sanitary sewer lines were connected to the system. In 1993 the system was extended from manhole 163 to the TA-46 sanitary sewage system. At that time, effluent discharges to the impoundments were discontinued.

The sanitary sewer lines served all the TA-53 buildings that had sanitary facilities. The lines received sanitary waste and small amounts of industrial waste from 1969 to 1993, and radioactive waste from 1969 to 1989. In 1989, a separate, double-containment line was installed to direct radioactive waste to a third impoundment, located south of the other two impoundments.

6.2.3.2 Justification for DA

The existing sanitary sewer lines at TA-53, an extension of PRS 53-002 (a), are of concern because of a potential for leakage and resultant contamination of surrounding soil. The sampling required to determine whether such contamination exists would necessitate intrusive activities, such as drilling, that would be difficult to perform without

interrupting existing service, due to possible line breakage. It is also probable that intrusive sampling would weaken the lines at joints (especially clay pipe) and cause future leakages. Because there is no record or evidence of any releases from these lines, we recommend that the investigations be deferred until the sanitary sewer lines undergo decontamination and decommissioning.

Because DA can be implemented only in the absence of current risk, we have evaluated that risk using the conceptual exposure model elements presented in Chapter 4. For the sanitary sewer lines, the historical source of potential contaminants is the wastewater flowing through the lines, and the PRS creation mechanism is leakage from the lines to the vadose zone. The current sources of exposure to PCOCs is contaminated tuff, and current release mechanisms include excavation, infiltration/leaching, and direct radiation.

There is no current risk associated with excavation of potentially contaminated tuff, because of administrative controls in place at the Laboratory. Excavation requires a permit, which includes evaluation of potential sources of contamination and the use of appropriate protective measures.

Available information indicates that there is also no current risk associated with infiltration to groundwater: the only potential route of exposure is via the water supply wells located adjacent to TA-53 in Sandia and Los Alamos canyons, which are monitored periodically to ensure that they meet drinking water standards. Contaminants in the water would be detected by this monitoring. The risk of future contamination of groundwater is low, because of the great depth to groundwater and favorable hydrologic properties of the vadose zone.

The risk from direct radiation is considered to be negligible: because the lines are underground, potential contaminants from releases would be confined to the subsurface, and direct radiation from subsurface sources should be less than that encountered in the course of normal operations (i.e., from the waste itself).

We conclude that the active sanitary sewer lines do not pose an unacceptable risk and DA is appropriate. Because the lines are active and necessary for the operation of the site, deferral of RFI for the sanitary sewer lines until decontamination and decommissioning will not effect decisions on remediation.

Comment 2. The inactive portion of the sanitary sewer lines that transmitted waste to the surface impoundments as well as the inactive lines that discharged effluent from the impoundments will be addressed in the Closure Plan.

Discussion:

We will modify sections 1.0 Introduction, 3.0 Waste Characterization, and 5.0 Closure and Postclosure Requirements, to address the inactive portion of the sanitary sewer lines from manhole number 53-163 to the impoundments, and the inactive discharge lines.

Proposed Text Changes:

1.0 INTRODUCTION

This closure plan is submitted to the New Mexico Environment Department (NMED) to meet the requirements of the New Mexico Hazardous Waste Regulations-7 (HWMR-7) and the Resource Conservation and Recovery Act (RCRA). This closure plan only addresses closure of two surface impoundments, **a section of inactive sanitary sewer line from manhole number 163 to the impoundments, and the inactive discharge lines from the impoundments** at Technical Area (TA)-53, the TA-53-166 northeast (NE) and Northwest (NW) impoundments at the Los Alamos National Laboratory (LANL).

This closure plan provides a description of the surface impoundments, **inactive sanitary sewer line, and inactive discharge lines**, and the actions that will be implemented during closure.

3.0 WASTE CHARACTERIZATION

3.2 Sampling and Analysis Strategy

This section describes the strategy for the sampling and analysis activities to be implemented before and during closure. These activities will include sampling the water and sludge in the impoundments, the bentonite liner material, the soil/tuff beneath impoundment liners and beneath impoundments, **soil/tuff adjacent to sewer and discharge lines, inside surface of sewer and discharge piping**, and any waste generated as part of closure.

Soil samples will also be collected adjacent to the sewer line south of manhole 53-163. Seven samples will be collected along the 113.5 ft. length of pipe, in the sand bedding layer adjacent to and beneath the pipe. The line will be sampled at the manhole and distribution box locations and at intervals not to exceed 20 ft. on center for its length. The pipe depth varies from 5 to 6 ft. below grade with the bedding material extending 4 inches below and 12 inches above the pipe. Similarly, soil samples will be collected adjacent to the discharge piping. These samples will undergo the same analysis as the other samples.

Water samples will be collected at each sewer and discharge line. The samples will be attained by passing a quantity of DI water through the piping and sampling the water. These samples will undergo the same analysis as the other samples. These samples will provide data on the presence of potential contaminants within the line.

3.3 Sampling Procedures

3.3.4 Water Sampling Procedures

3.3.4.1. Procedure for Collection of Water From Sewer and Discharge Piping

Grab water samples will be collected, using a stainless steel or disposable polyethylene beaker, after the water has passed through the piping. Samples from the sanitary sewer line will be collected in the distribution box (a concrete box that forms a tee intersection in the piping for distributing the wastewater to the impoundments) after the water has passed through the piping. Samples will be collected using the following procedure:

- 1) Verify that the sewer line is isolated from the rest of the system, and the upstream manhole entrance is unplugged. Clean the distribution box by flushing it with approximately 10 gallons of DI water and then plug the two downstream exits from the distribution box. Discharge lines will not require isolation and do not have distribution boxes associated with them.
- 2) Carefully pour approximately 10 gallons of DI water down the sewer manhole, thus ponding it within the distribution box. Similarly pour DI water through discharge lines and collect it in plastic buckets at the discharge point.
- 3) Check the beaker to assure that it has been decontaminated and is clean.
- 4) Obtain a grab sample by slowly immersing the beaker and raising it out of the water. Carefully pour the water from the beaker into the sample containers.
- 5) Assure that all sample containers are tightly capped. Rinse and dry the sample containers, attach labels and seals, record sample information in the field log book, and complete the sample analysis request and chain-of-custody record.
- 6) Repeat steps 4 and 5 until all sample containers for this location have been filled.

- 7) Decontaminate the used sampler before sampling at the next location. Store rags and other waste in plastic bags for subsequent disposal.

5.0 CLOSURE AND POSTCLOSURE REQUIREMENTS

This chapter describes how the requirements of the New Mexico Hazardous Waste Management Regulations-7 (HWMR-7) for closure of the TA-53-166 northeast (NE) and northwest (NW) impoundments and adjacent sewer and discharge lines will be met.

5.2.2 Description of how Final Closure will be Conducted [HWMR-7, Section 265.112(b)(2)]

Clean closure of the inactive sanitary sewer and discharge lines will be performed through several activities. These activities include: 1) sampling of the soil directly adjacent to the lines; 2) sampling a quantity of DI water that has passed through the piping; 3) removal and disposal of contaminated materials; 4) sampling and analysis to confirm removal or decontamination. The initial or confirmatory sampling activities are discussed in detail in Sections 3.3 and 5.3.4 respectively. Removal activities are discussed in section 5.2.5.

The analytical data collected from the soil surrounding the inactive sewer and discharge lines will be evaluated based on the methodology described in Appendix K to determine an approach for demonstrating clean closure of surrounding soils. The analytical data collected from the piping water samples will be evaluated qualitatively with the soil data to determine an approach for demonstrating clean closure of the sewer and discharge piping. If little or no contamination is detected within the lines, and the soil samples collected adjacent to the line satisfy the clean closure performance standard, a proposal for certification of clean closure will be submitted. If unacceptable contamination is present in or adjacent to the lines, the lines and contaminated soil will be excavated.

Comment 3. Clarify the locations and extent of discharge lines from the surface impoundments in the Closure Plan.

Discussion:

Revision 0 of the TA-53-166 NE and NW Closure Plan, Figure 2-3, incorrectly indicated the location of the NE and NW surface impoundments discharge line to the SE, and indicated manhole and lift station locations. The figure was revised in Revision 1 of the TA-53-166 NE and NW Closure Plan to correctly show the discharge line to the SW, and deleted manhole and lift station locations. Prior to construction of the south impoundment, the NE and NW impoundments discharged

to the south as shown in figure 4-1. Figure 2-3 has been corrected to show the correct location of lines entering and discharging from the impoundments at a larger scale. The Closure Plan will address the possibility of contamination as a result of leakage from the original south discharge line.

Proposed Text Changes:

None

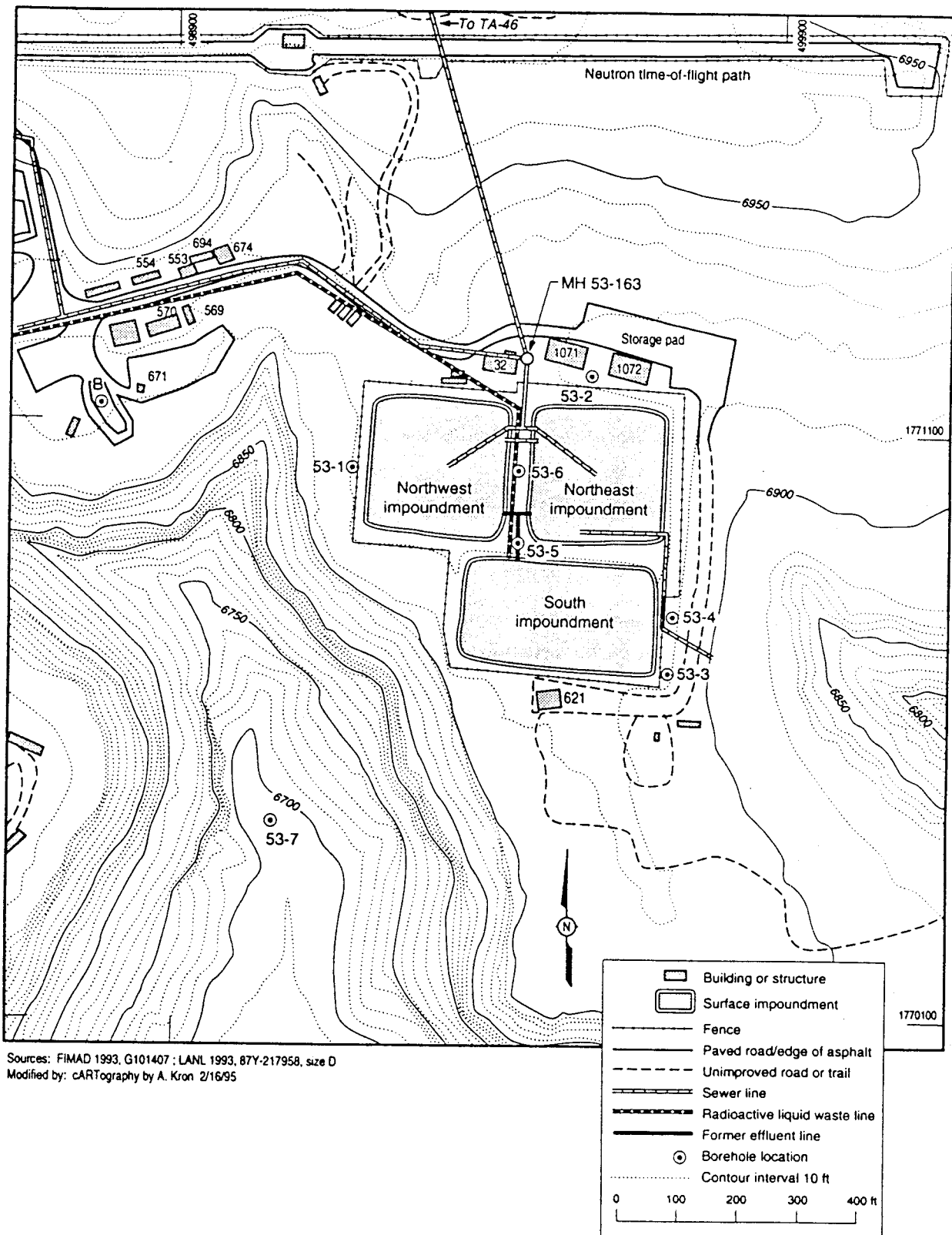
Comment 4. Review testing performed at the TA-46 Wastewater Treatment Facility that could identify PCOCs from OU 1100.

Discussion:

The Wastewater Treatment Facility has no method for separating the various waste streams that enter the Facility. They perform various analyses of the effluent from the facility. The Wastewater Treatment Facility performs operational testing to keep the plant in adjustment. Compliance testing is performed at JCI's Wastewater Testing Laboratory. The compliance testing consists of analysis of BOD, COD, Total Suspended Solids, PH, Chlorine, and Fecal Coliform. Except at plant startup, the plant has been in compliance with state regulations. Also, as part of the Laboratory's Sludge Management Plan, the sludge is periodically analyzed for TCLP, Total Metals, Physical Parameters, Agronomic Parameters, PCB, and Radioactivity. To date the sludge has been in compliance with New Mexico Solid Waste Regulations.

Proposed Text Changes:

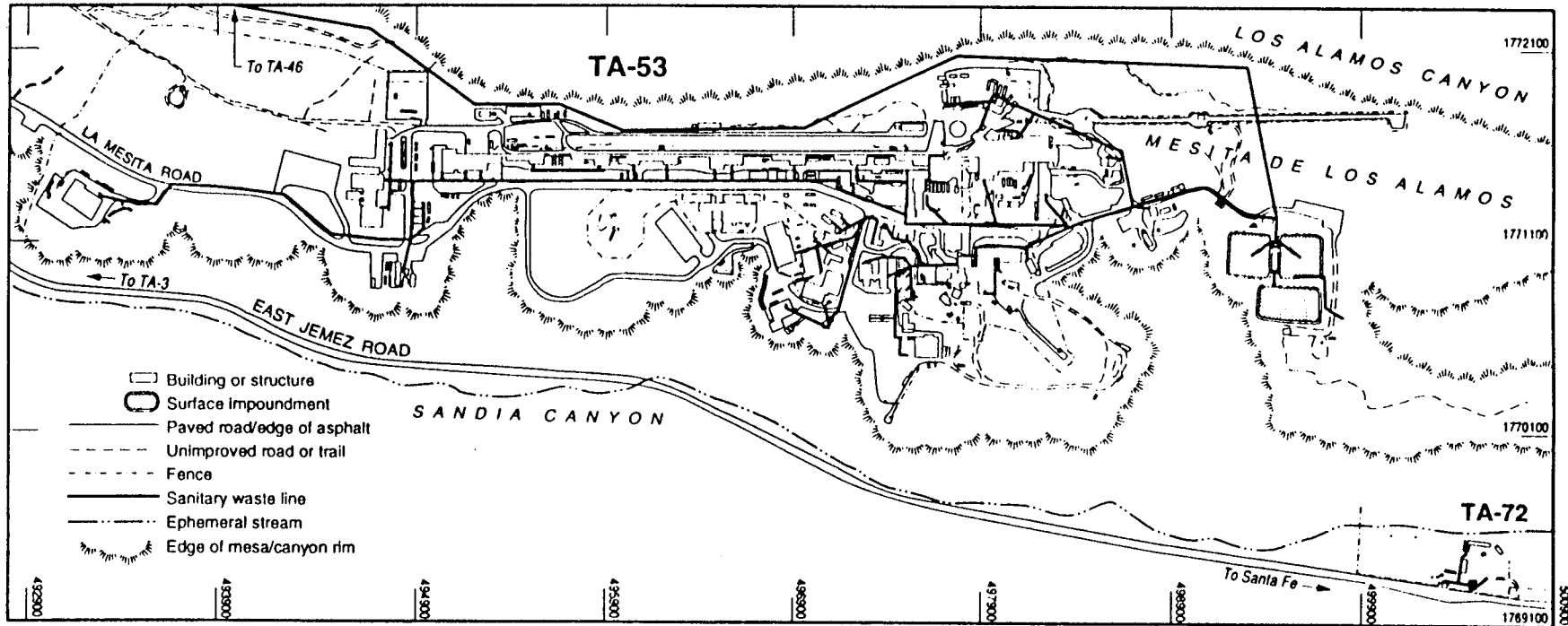
None



Sources: FIMAD 1993, G101407 ; LANL 1993, 87Y-217958, size D
 Modified by: cARTography by A. Kron 2/16/95

Figure 2-3. Current Configurations of the TA-53 Surface Impoundments

2-12



Source: FIMAD 1993 G101407
 Modified by: cA11Tography by A. Kron 2/15/95

Figure 2-4. Locations of Sanitary Sewer Lines in TA-53