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U.S. Department of Energy
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Date: January 19, 2000
 Refer to: E/ER:00-015

JAN 2000
 RECEIVED

Mr. John Kieling
 NMED-HRMB
 P.O. Box 26110
 Santa Fe, NM 87502

SUBJECT: SUBMITTAL OF RESPONSE TO REQUEST FOR SUPPLEMENTAL INFORMATION (RSI) AND THE ADDENDUM TO THE VOLUNTARY CORRECTIVE ACTION (VCA) PLAN FOR POTENTIAL RELEASE SITE (PRS) 0-019

Dear Mr. Kieling:

Enclosed is the Addendum to the VCA Plan for PRS 0-019. This addendum addresses subsurface sampling relative to the structures found during the implementation of the original VCA Plan submitted to your office April 29, 1999. It also addresses the comments and concerns in NMED-HRMB's RSI received by the Los Alamos National Laboratory's Environmental Restoration Project Office on January 13, 2000.

If you have any questions or concerns, please contact Dave McInroy at (505) 667-0819 or Joe Mose at (505) 667-5808.

Sincerely,

Julie A. Canepa, Program Manager
 Los Alamos National Laboratory
 Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
 Department of Energy
 Los Alamos Area Office

JC/TT/NR/ev-nr



HSWA CASE 1/1071/0

TV

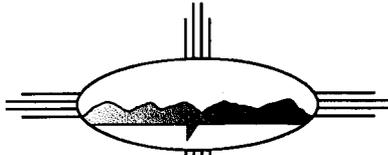
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LA-UR-99-1707
(Supplement)
January 2000



**Addendum to the
Voluntary Corrective Action Plan
for
Potential Release Site
0-019**

Environmental Restoration Project
A Department of Energy Environmental Cleanup Program
ER20000015

Los Alamos
NATIONAL LABORATORY

Los Alamos, NM 87545

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1.0 INTRODUCTION

1.1 Site Type and Description

1.1.1 Operational History

Potential release site (PRS) 0-019 is also known as the Central Waste Water Treatment Plant (WWTP). The WWTP was operated from 1947 until 1964-5 when it was taken out of service and kept in standby status until the property was transferred to Los Alamos County (LAC) in 1967

LAC did not operate the WWTP but did use the site for various activities after assuming ownership. Amongst the uses was as the county street maintenance headquarters, staging, and stockpile storage area as well as other county departmental storage and staging. Recently, several local construction companies have used the site to store equipment and supplies.

The voluntary corrective action (VCA) for this site was originally scoped in fiscal year (FY) 98 and subsequently initiated in FY 99. Based on careful investigation of aerial photographs, interviews with former Zia Company personnel and Los Alamos County workers, and a review of the Solid Waste Management Unit Report and the Operable Unit 1071 RCRA Facility Investigation (RFI) Work Plan, it was determined that LAC had decommissioned the WWTP and used the site for a variety of activities over many years. All indications and recollections from interviewed site workers were that the WWTP structures were removed—except for the original pump house and, perhaps, an undetermined amount of subsurface piping.

In June 1999, LANL personnel mobilized to the site to begin remediation, as described in the VCA plan (LA-UR-99-1707). They began by removing the pump house and remaining underground piping, and then by addressing asbestos in the pump house (which had been identified during a prejob inspection) and collecting waste characterization samples from the piping. Upon completion of the asbestos remediation, the removal of subsurface piping and of the pump house began. Pipe removal resulted in over 2200 linear ft of cast iron pipe (of varying diameters) being removed and placed in containers, pending segregation for recycling. The demolition of the pump house was completed; over 350 yd³ of concrete was screened before its disposal at the LAC landfill.

During the removal of the remnant piping and pump house, which was outlined in the original VCA plan (LA-UR-99-1707), it was discovered that some of the process structures might still remain on-site. After a series of exploratory excavations were undertaken, it was determined that all the process structures (primary settling tank, sludge digestion tank, trickling filter, final settling tank, and chlorine contact tank) remained in place. Preliminary investigation indicates that each of the process tanks was emptied, then completely or partially collapsed in on itself, and then filled and buried with soil of unknown origin to provide a broad open expanse for LAC use. The soil depths on-site range from 4 to 8 ft above each tank.

Upon discovery of these unexpected site conditions, several potential scenarios were considered and evaluated. The following affected stakeholders were included in the evaluation of the scenarios: the property owner (LAC), the proposed lessee (Los Alamos Retirement Center, Inc.), the New Mexico Environment Department (NMED), the Department of Energy (DOE), and LANL's Environmental Restoration (ER) Project.

1.1.2 Rationale for Proposed Remedial Action

This PRS is located on property that was transferred to Los Alamos County (LAC) in 1967 and that is currently planned for lease to Los Alamos Retirement Center, Inc. (LARC), for development as an assisted living retirement center. Site remediation should be completed prior to a private development effort taking place on the property.

2.0 SITE CHARACTERIZATION

2.1 RFI Information/Other Decision Data

The initial characterization was accomplished according to the approved work plan for OU 1071 and is discussed in the original VCA plan. The original RFI characterization results were presented in the original VCA pan and will not be revisited. Analytical results from all VCA sampling work will be presented in the final VCA report.

Once the new site conditions were discovered, samples were taken from the fill inside each tank. The sampling was done in the tanks to determine potential waste issues because their fill was representative of the LAC-placed fill material. The site was secured pending additional funding and this revision of the remediation plan.

3.0 REMEDIAL ACTION

3.1 Description of the Planned Remedial Action

Sampling from under the WWTP structures will be accomplished via the use of a 6.25-in. (diameter) hollow stem auger (HSA) to advance the coring to the base of each of the concrete tanks. The auger will penetrate several in. into the concrete base and a 3-in. temporary steel casing will be placed in the coring. Bentonite pellets/hole plug will be placed around the outside of the casing and hydrated with distilled water to seal off the interior of the casing from outside sources.

A 5-ft conventional core barrel will then be placed onto the drill rig to core through the concrete. A 4-ft-long, 1.75-in.(diameter) macro core sampler will be advanced through the remaining concrete and up to 3 ft into subsurface soils below the concrete tank. A 1.75-in. (diameter) core sample will be retrieved for sampling and analysis. After sampling has been completed at each location, the coring will be filled with bentonite pellets/hole plug and the temporary casing will be removed.

Continued sampling of the outfall drainages will be performed with guidance from the Canyons Focus Area (CFA) in order to ensure compatible and consistent data sets. It was determined, after a site tour with the CFA, that a reasonable interface point would be the confluence of Graduation Canyon with the western outfall drainage (Figure 3.1-1). The Remedial Actions Focus Area (RAFA) Townsite Team will continue the proposed mesa-top VCA and outfall sampling as indicated. If necessary, based on analytical results, the CFA will develop the plans necessary for sampling Graduation Canyon, both up- and down-canyon from the WWTP contribution.

The eastern outfall drainage forms a clearly defined "fan" to the south of Graduation Canyon's ephemeral stream primary channel. This fan area will be sampled at four representative and random locations, at two depths each (Figure 3.1-1).

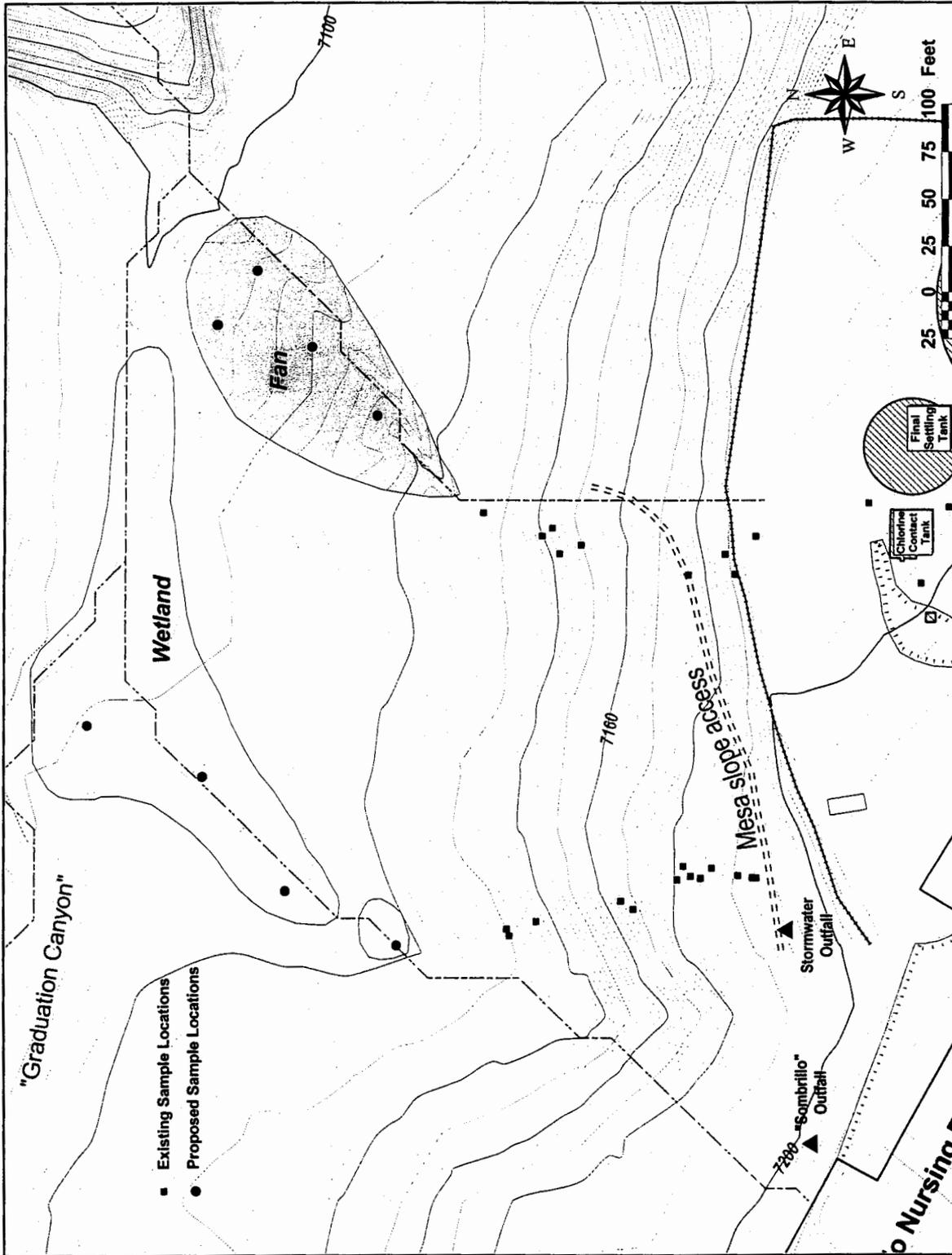


Figure 3.1-1. Graduation Canyon sample locations

The western outfall drainage flowed into an area now occupied by cattails and other wetland-type vegetation. An outfall from the Sombrillo facility immediately west of the PRS is maintaining this "wetland" area. The drainage and wetland area will be sampled at four representative and random locations at two depths each (Figure 3.1-1).

3.2 Basis for Cleanup Levels

Based on the proposed future use of the mesa-top site and the unexpected discovery of the process structures, the site conceptual model is revised to address the new site conditions. Cleanup levels will remain as described in the originally submitted VCA plan; however, the sampling needs from beneath the structures warrant attention.

The data collected from this sampling will be used to demonstrate the condition of the site after completion of the VCA activities and prior to construction planned by the property owner's leasee.

3.3 Site Restoration

Upon completion of the confirmation sampling and the receipt of preliminary data, any excavations will be closed using fill material originally removed from the excavation. The site will be minimally compacted and contoured to minimize erosion before final demobilization.

Although the site and the WWTP structures have been heavily modified from the operational conditions, the NMED has requested that LANL undertake representative sampling of the fill material used by Los Alamos County to backfill the structures and contour the site. To satisfy that request, LANL will collect one sample from each of the confirmatory sample locations (Figure 3.3-1) at a random depth above the structure floor. To document the final site conditions, these results will be summarized and presented in the final VCA report.

At the request of the NMED, samples of the concrete structure will also be collected from each confirmatory location during the coring process. Concrete sampling will be biased to best exhibit evidence of an operational release. These results will also be presented in the final VCA report to document the final site conditions.

4.0 WASTE MANAGEMENT

4.1 Estimated Types and Volumes of Waste

Waste types are not expected to change from what was outlined in the original VCA plan. Final waste disposal volumes will be documented in the final VCA report.

4.2 Method of Management and Disposal of Waste

Waste management and disposal will remain in accordance with the original VCA plan and waste disposal documents.

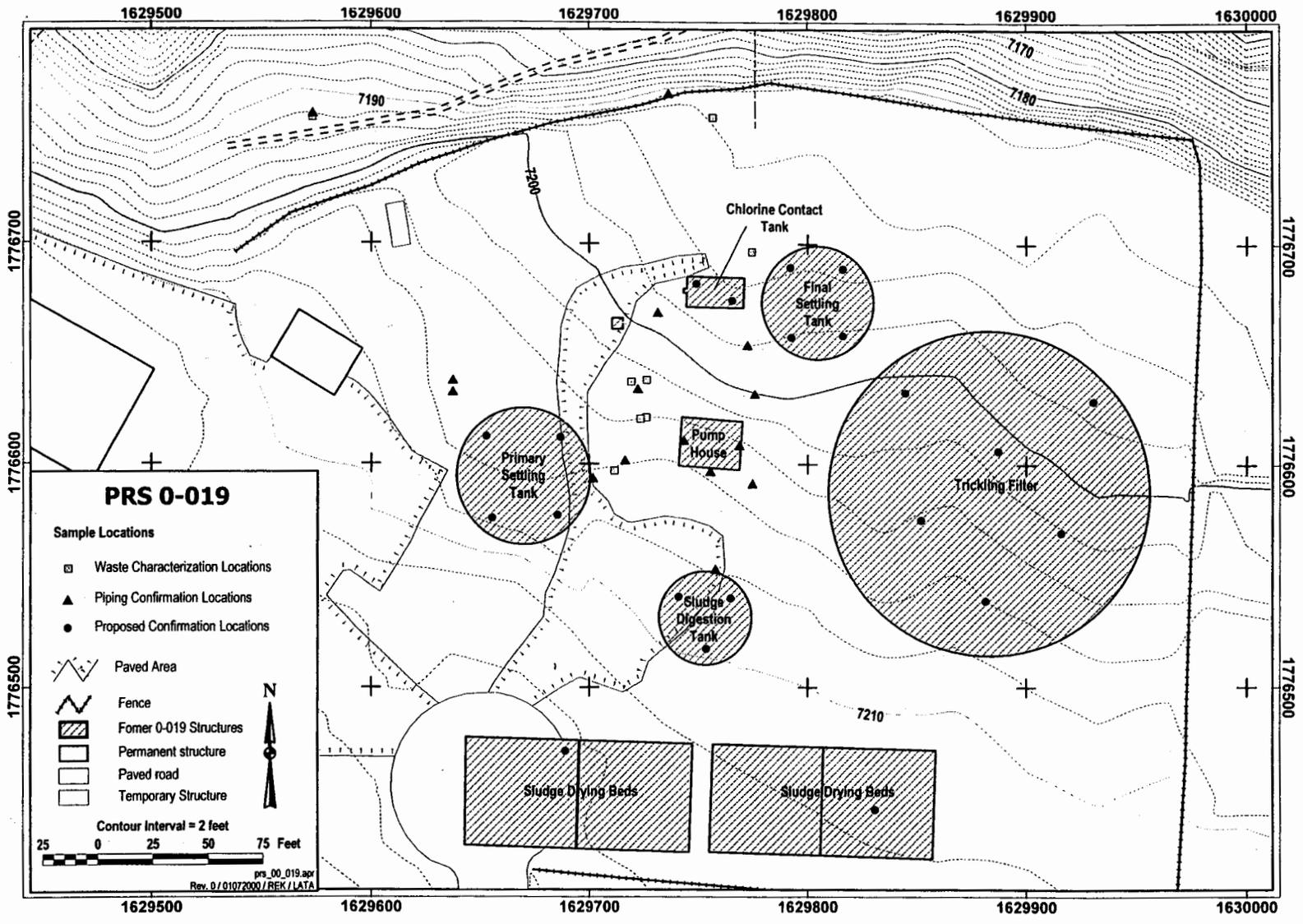


Figure 3.3-1. PRS 0-019 process structure confirmation sample locations

5.0 DESCRIPTION OF CONFIRMATION/VERIFICATION SAMPLING

Sampling will be accomplished from under each remaining structure. All confirmation sampling will be analyzed for target analyte list (TAL) metals; volatile organic compounds (VOCs); semivolatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs)/pesticides; and gross alpha, beta, and gamma. Proposed confirmatory sampling locations are presented on Figure 3.3-1.

Table 5.0-1
Mesa-Top Sampling

Confirmatory Sampling ^a				Fill ^b	Concrete
Structure Name	Number of Locations	Number of Depths per Location	Depth Interval (ft)		
Chlorine contact tank	2	2	2	1	1
Primary settling tank	4	2	2	1	1
Sludge digestion tank	3	2	2	1	1
Trickling filter	6	2	2	1	1
Final settling tank	3	2	2	1	1
Sludge drying beds (2)	1 per bed	2 ^c	— ^d	NA	NA

^aConfirmatory sampling will be conducted from beneath the existing structures.

^bFill sample locations will be coincident with the confirmatory samples but collected from random depths within each structure.

^cThe OU1071 work plan specifies four samples based on field screening or at regular intervals and within the tuff/alluvium beneath the bed. Previous sampling of two of the beds indicated that the depth to tuff is not adequate to collect four samples from different depths, so two were collected; this effort will duplicate the prior sampling.

^dSamples will be collected from the sludge/fill material and the tuff/alluvium beneath. Depth interval will depend on the depth of any remnant sludge or fill material above the tuff/alluvium (OU 1071 work plan).

Table 5.0-2
Outfall Drainage Sampling

Drainage	Number of Locations	Number of Depths	Depths
East Outfall	4	2	0-12" 12-24"
West Outfall	4	2	0-12" 12-24"

*One location from each drainage will have its deepest sample taken from a depth that is as deep as reasonable (expected to be at the soil/tuff interface)

Two of the four sludge drying beds were sampled according to the approved OU 1071 RFI work plan during the 1996 sampling effort; the remaining two sludge drying beds will be sampled, at NMED and EPA Region 6's request, using the same approach.

6.0 ESTIMATED TIME TO COMPLETE THE ACTION AND UNCERTAINTIES

The estimated time required to complete the activities described in this addendum and to complete the final VCA report is 216 days. This assumes normal analytical response time with no sample loss or

shipping problems and document preparation and review cycles. It does not include potential delays due to federally listed threatened and endangered species nesting in nearby Graduation Canyon.

Table 6.0-1

Estimated Cost to Complete

Pre-field Activities	\$19,000
Field Activities	\$80,000
Analytical Costs	\$90,000
Waste Costs	\$50,000
Reporting/post-field costs	\$155,000
Total	\$444,000

7.0 ANNEXES

No additional annexes are attached at this time.

8.0 REFERENCES

No additional references are included at this time; see VCA plan for original references.

Appendix A

Acronyms and Glossary

CFA	Canyons Focus Area
DOE	(U.S.) Department of Energy
ER	Environmental Restoration (Project)
FY	fiscal year
HSA	hollow stem auger
LAC	Los Alamos County
LANL	Los Alamos National Laboratory
NMED	New Mexico Environment Department
PCB	polychlorinated biphenyl
PRS	potential release site
RAFA	Remedial Actions Focus Area
RFI	RCRA facility investigation
SVOC	semivolatile organic compound
TAL	target analyte list
VCA	voluntary corrective action
VOC	volatile organic compound
WWTP	Waste Water Treatment Plant