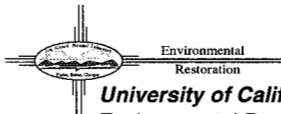


Teri D Jk



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U. S. Department of Energy
Los Alamos Area Office, MS A316
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Date: November 26, 1996
Refer to: EM/ER:96-597

FILE HSWA LAMV 001147/TA-50-001(a)

Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: RESPONSE TO THE NOD FOR THE RFI REPORT FOR TA-50, SWMUs 50-004(a,c) and 50-001(a) (FORMER OPERABLE UNIT 1147)

Dear Mr. Garcia:

Enclosed is a copy of the Los Alamos National Laboratory's response to the New Mexico Environment Department's Notice of Deficiency (NOD) concerning the Technical Area 50 Resource Conservation and Recovery Act Facility Investigation Report. A certification form signed by the appropriate officials is also enclosed. The enclosed response repeats each comment from the NOD for convenience in reviewing.

Please contact Don Krier at (505) 665-7834 or Mike Gilgosh at (505) 667-5794 if you have any questions regarding the response to the NOD.

Sincerely,

Jorg Jansen
Jorg Jansen, Program Manager
LANL/ER Project

Sincerely,

Theodore J. Taylor
Theodore J. Taylor, Program Manager
DOE/LAO

JJ/TT/bp

- Enclosures: (1) Response to NOD for TA-50 RFI Report, SWMUs 50-004(a,c) and 50-011(a)
(2) Certification



TC

Cy (w/ encs.):

S. Dinwiddie, NMED-HRMB
M. Gilgosch, LAAO, MS A316
D. Griswold, AL-ERD, MS A906
J. Harry, EES-5, MS M992
D. Krier, EES-1, MS D462
M. Leavitt, NMED-GWQB
N. Naraine, DOE-HQ, EM-453
D. Neleigh, EPA, R.6, 6PD-N (2 copies)
G. Saums, NMED-SWQB
C. Rodriguez, CIO, MS M707
T. Taylor, LAAO, MS A316
N. Weber, NMED-AIP, MS J993
J. White, ESH-19, MS K498
S. Yanicak, NMED-AIP, MS J993
EM/ER File (CT #C136), MS M992
RPF, MS M707

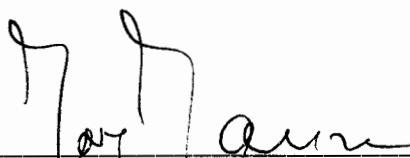
Cy (w/o encs.):

T. Baca, EM, MS J591
T. Glatzmaier, DDEES/ER, MS M992
D. McInroy, EM/ER, MS M992
J. Levings, AL-ERD, MS A906
W. Spurgeon, DOE-HQ, EM-453
J. Vozella, LAAO, MS A316
K. Zamora, LAAO, MS A316

CERTIFICATION

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title: Response to the NOD for the TA-50 RFI Report (Former Operable Unit 1147)

Name:  Date: 11-26-96
Jorg Jansen, Program Manager
Environmental Restoration Project
Los Alamos National Laboratory

or

Tom Baca, Program Director
Environmental Management
Los Alamos National Laboratory

Name:  Date: 11/26/96
Joseph Vozella,
Acting Assistant Area Manager of
Environment Projects
Environment, Safety, and Health Branch
DOE-Los Alamos Area Office

or

Theodore J. Taylor
Program Manager
Environment Restoration Program
DOE-Los Alamos Area Office

**RESPONSE TO NOTICE OF DEFICIENCY FOR
TECHNICAL AREA (TA) 50 RESOURCE CONSERVATION AND
RECOVERY ACT FACILITY INVESTIGATION (RFI) REPORT
(FORMER OPERABLE UNIT 1147)**

The following comments are in response to the August 19, 1996, Environmental Protection Agency (EPA)/New Mexico Environment Department (NMED) Notice of Deficiency (NOD) for the Technical Area (TA) 50 Shallow Bore Hole Resource Conservation and Recovery Act Facility Investigation (RFI) Report.

EPA Comment 1:

Solid Waste Management Units (SWMUs) 50-004(a,c): These two abandoned pipelines are known to have leaked during their history of operation, and this fact is reported in several different locations throughout the RFI Report. No other information is provided on the leaks. The report should state, if such information is available:

- (1) where along the pipelines the leaks occurred;
- (2) the length of time the pipelines were leaking;
- (3) the constituents passing through the pipelines at the time of the leaks.

The sampling and analysis program could have been much more thorough if this information had been available and considered. As reported, samples were collected from areas between buildings—as determined by accessibility, rather than by sampling the locations which incurred leaks.

Response:

- (1) where along the pipeline the leaks occurred;

SWMU 50-004(a)

This potential release site (PRS) is the site of a decommissioned, vitrified clay pipe waste line that delivered low-level radioactive waste water from various Los Alamos National Laboratory (Laboratory) TAs to the TA-50 waste water treatment plant. The pipeline was 520 feet in length and was composed of vitrified clay pipe with four-foot length joints. The treatment plant became operational in 1963. This pipeline and contaminated soil were removed in 1975 to allow construction of three additional buildings at TA-50. During the decommissioning of the pipeline, radiation surveys were conducted at each of the 131 pipe joints, as reported in two 1975 memoranda from Laboratory Groups H-7 and H-8. Sixteen pipe joints were identified as having elevated radiation measurements and thus were, in all likelihood, points where the pipeline leaked. Soil samples were collected underneath these joints for radiochemistry analysis during the 1975 cleanup. The memoranda did not have any engineering drawings showing the locations of these leaking joint

sampling points. They did have a pipe joint numbering system, which allows the approximate locations of the leaks to be identified. These estimated locations are shown on the attached figure. The reconstruction shows that core holes 50-3025, 50-3026, and 50-3027 were drilled at or near three of the leaking pipe joints.

SWMU 50-004(c)

This SWMU is the site of 16 decommissioned waste lines and manholes at TA-50. These structures were removed during 1981-1984. A report on the decommissioning of these structures [Radioactive Liquid Waste Lines Removal Project at Los Alamos (1981-1986) LA-10821-MS, Elders and others] indicates that radioactive contamination was found in the soil outside of manhole WM-6 and line 46, indicating that leaks had occurred. Elsewhere, radioactive contamination was found inside the pipelines but not on their exterior. The only TA-50 locations identified as having leaked were the manhole and line 46. As stated in our RFI report, sampling at the WM-6 manhole was not possible, but core hole 50-3022 was drilled and sampled at line 46. Engineering drawings with soil sampling results of the post-cleanup conditions of the decommissioned pipelines indicate that, with the exception of the WM-6 manhole, soil radiation levels remaining in the trenches were below cleanup criteria (no detectable gross alpha activity and ≤ 25 pCi/g gross beta activity in surface soils, and ≤ 75 pCi/g gross alpha and beta activity in the subsurface).

(2) the length of time the pipelines were leaking;

50-004(a,c)

There does not appear to be any archival information available indicating how long the pipelines leaked.

(3) the constituents passing through the pipelines at the time of the leaks.

50-004(a,c)

The pipelines conveyed waste water with low-level radioactive constituents. The available records on influent quality at the radioactive waste water treatment plant are limited to analyses of radioactive constituents; there do not appear to be any records available on any hazardous waste type constituents for that time period. The amount and type, if any, of hazardous waste constituents which flowed through the pipeline is unknown. It is certainly possible that some organic and/or inorganic hazardous constituents could have been discharged to the radioactive waste water conveyance system while the pipeline was in service. Such wastes would have commingled with the radioactive constituents and would have been released through leaky pipe joints with the radioactive constituents. Thus, the presence of radioactive constituents in the soil and tuff under the pipeline is a good indicator of where- and what type of releases occurred.

EPA Comment 2:

SWMUs 50-004(a,c): A second issue with the pipeline sampling program is the depth from which the samples were taken. It is reported that samples were taken from the contact between the trench floor, but no deeper. The contact zone may be essentially flushed and contaminants percolated downward through the permeable soil/trench fill. LANL should provide additional sampling at a depth below the trench floor. This should be based on information where leaks may have occurred. A sampling plan should be submitted with the NOD Response to address this issue.

Response:

Samples were taken from both the more permeable trench fill material and from the less permeable tuff interface in each core hole. The tuff interface is the contact of the trench fill material and the underlying, undisturbed tuff unit. At several core holes, samples were collected from clay-filled fractures located below the tuff interface. Thus, samples were collected at depths greater than the original trench bottom. It should also be noted that much of the area at TA-50 not occupied by buildings is covered with asphalt pavement. The potential for the downward flushing of contaminants is diminished due to the lack of infiltration and increased runoff of rainwater at the site. Furthermore, complete flushing of contaminants through such an interface, leaving no trace of their former presence, is highly unlikely.

Because of the intensive industrial setting of the TA-50 active waste lines and electrical and utility corridors, there are very few additional locations where core holes can be safely drilled. Out of necessity, the core holes were located away from underground utility lines in open areas in parking lots and between buildings. However, at least three of the core holes were located at or near locations where pipelines leaked. Low levels of plutonium (<1 pCi/g) were found at these same three sites, yet no hazardous waste chemicals were detected above the screening action levels. We believe the existing RFI sampling data adequately characterizes conditions at the decommissioned waste lines, and we request that no further action be taken on SWMUs 50-004(a, c).

