Environmental Restoration
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U. S. Department of Energy
Los Alamos Area Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
505-667-7203/FAX 505-665-4504

Date: April 18, 1997
Refer to: EM/ER:97-120

RECEIVED APR 1997

HSWA, LANL FU-4/OU-1129/TA-35

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

SUBJECT: RESPONSE TO THE NOD FOR RFI REPORT FOR PRSs IN TA-35 (FORMER OPERABLE UNIT 1129)

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 Resource Conservation and Recovery Act Facility Investigation Report for Technical Area 35, Potential Release Sites 35-003 (h, j, and k), 35-004 (b), 35-008, 35-009 (a through d), 35-014 (a, b, d, and e2), 35-015 (b), and 35-016 (e, f, and i). A certification form signed by the appropriate officials is also enclosed. The enclosed response repeats each comment from the NOD verbatim for convenience in reviewing.

Please contact Allyn Pratt at (505) 667-4308 or Bob Simeone at (505) 667-0587, if you have any questions regarding the response to the NOD.

Sincerely,

Jorg Jansen, Program Manager
LANL/ER Project

Sincerely,

for Theodore J. Taylor, Program Manager
DOE/LAAO

JJ/TT/ss

Enclosures: (1) Response To The NOD For RFI Report For PRSs in TA-35 (Former Operable Unit 1129)
(2) Certification

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Cy (w/ encs.):
D. Griswold, AL-ERD, MS A906
J. Harry, EES-5, MS M992
N. Naraine, DOE-HQ, EM-453
D. Neleigh, EPA, R.6, 6PD-N (2 copies)
A. Pratt, EES-13, MS J521
C. Rodriguez, CIO, MS M769
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J. White, ESH-19, MS K498
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K. Zamora, LAAO, MS A316
EM/ER File MS, M992

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 RFI REPORT FOR PRSs IN TA-35 (FORMER OPERABLE UNIT 1129)

Name: _____ Date: 4-18-97

Jorg Jansen, Program Manager
Environmental Restoration Project
Los Alamos National Laboratory

or

Tom Baca, Program Director
Environmental Management
Los Alamos National Laboratory

Name: _____ Date: 4/18/97

Mathew Johansen,
Acting Assistant Area Manager of
Environmental Projects
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DOE-Los Alamos Area Office

or

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

RESPONSE TO NOTICE OF DEFICIENCY FOR TECHNICAL AREA (TA) 35 RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION (RFI) REPORT (FORMER OPERABLE UNIT 1129)

GENERAL COMMENTS

No. 1

LANL needs to provide NFA Criterion (LANL 1995, 53863), specific to this report only, in the form of an Attachment or a Figure as part of this report. (Best Professional Judgment, (BPJ))

LANL does not understand this comment. The NFA criterion that is specific to each PRS is listed in the executive summary, in the introductory section for each PRS in Chapter 5, and in the conclusions and recommendations section for each PRS in Chapter 5. Table ES-1 from the executive summary is included as Attachment I.

SITE-SPECIFIC COMMENTS

PRS Nos. 35-003(j and k), 35-014(d), and 35-015(b)

No. 1

Page 5-12, Table 5.4.4-1: According to the Report, Site 35-015(b) had been backfilled with clean soil material and covered with asphalt for a parking lot. How thick is the backfill soils? How does LANL know that the only sample, taken at a depth of 6 inches, is a representative sample, not a backfilled soil sample? If not, LANL shall re-sample the site. (BPJ)

PRSs are combined to create a single decision set when they are located in such close proximity that contamination from one release would be intermingled with contamination from another release. The samples collected at the PRSs in this decision set (PRS Nos. 35-003[j and k], 35-014[d], and 35-015[b]) were used to evaluate the site as a whole. The data for all these PRSs were evaluated as a single data set. No single sample was used to make a decision about a single PRS; the decision was based on 47 samples collected from 17 locations.

Additional archival research has located photographs (see Attachment II) that show the stained soils at PRS Nos. 35-003(j and k), 35-014(d), and 35-015(b). Therefore, additional boreholes will be drilled and samples will be collected from the area north of Location ID No. 35-2086 and south of Location ID No. 35-2087. The boreholes will be drilled to an approximate depth of 6 ft. Sampling at depth cannot be performed near location ID No. 35-2086 because of the presence of an underground tunnel and utilities (see Attachment III). A site visit was conducted to locate the areas shown on the photographs, and the boreholes will be drilled in this area. Actual sample locations will depend on the positions of the utilities. In the area of Location ID Nos. 35-2288, 35-2289, 35-2291, 35-2292, and 35-2293 (see Attachment III for a map showing the locations) the depth of the backfill is between 3 and 6 ft. The sampling and analysis plan (SAP) that describes the proposed sampling activities is being written. It will be submitted to the Los Alamos Area Office of the Department of Energy (DOE/LAAO) by June 1997 and submitted later to the New Mexico Environment Department (NMED).

T2

No. 2

Page 5-12, Table 5.4.4-1: According to the work plan (See Figure 7-28 and Table 7-12), the boring samples at the location ID 35-2286 will extend to 6 ft. in depth. LANL gave no explanation why the result showed in Table 5.4.4-1 was taken at 0 - 0.5 ft. LANL shall re-sample the location at approved depth. (BPJ)

Samples at Location ID No. 35-2286 were collected at PRS No. 35-015(a), which is in Aggregate V of the work plan (LANL 1992, 7666). Samples at Location ID Nos. 35-2086 and 35-2089 were collected at PRS No. 35-015(b), which is in Aggregate I of the work plan (LANL 1992, 7666). Location ID No. 35-2086 was planned as a surface sample, which was collected from a depth interval of 0 to 0.5 ft. Location ID No. 35-2089 was planned as a 6-ft borehole and was sampled at the planned depth. See response No. 1 in the site-specific comments of this notice of deficiency (NOD) for additional sampling proposed at this site.

No. 3

Page 5-19, Table 5.4.6-1: Several surface sample results indicated extraordinarily high in TPH concentrations, specially at Location ID No. 35-2081, 35-2089, 35-2090 and 35-2291. LANL should re-sample and analyze for the entire suite of petroleum hydrocarbons utilizing analytical methods 8240, 8020, and unmodified 8015. (BPJ)

The samples proposed in response No. 1 in the site-specific comments of this NOD will be analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and diesel-range TPH. VOC analysis will be performed using Environmental Protection Agency (EPA) SW-846 method 8240, which includes the aromatic VOC analytes that are also measured by EPA SW-846 method 8020. The oil product handled at the waste-oil treatment facility was not gasoline or a fuel product; it was non-PCB-containing dielectric oil used for the Gemini Laser Project. Therefore, unmodified EPA SW-846 method 8015 will not be used.

PRS No. 35-009(d) - An Abandoned Sanitary Septic System

No. 4

Page 5-72, 3rd paragraph: One water sample was collected during the investigation as stated in the report. Please explain: 1) why the sample Location ID. 35-2228, did not appear either in Table 5.11.4-1 or in Figure 5.11.4-1; 2) No follow-up of the investigation on this sample although organic vapor were detected (6.0 ppm) when the septic tank lid was opened, and organic vapor was detected at the surface of the water and was recorded at 1.0 ppm. (BPJ)

Water samples were not planned or required by the work plan (LANL 1992, 7666). The septic tank at PRS No. 35-009(d) was the subject of a voluntary corrective action (VCA), which included removing and disposing of the septic tank contents and filling the septic tank and manhole with concrete (LANL 1996, 54967). The water sample was collected to characterize the contents of the septic tank for waste disposal purposes during the VCA, which was completed on March 25, 1996. The septic tank water data were not used to make the NFA recommendation for this PRS because the contents of the tank do not constitute a release and were subsequently removed. No contaminants of concern were identified in samples collected in the leach field or around the septic tank (see Section 5.11.10 of the Resource Conservation and Recovery Act facility investigation [RFI] report).

No. 5

LANL shall explain why tuff cooling Qbt3 was sampled and analyzed for background comparison purposes. Conflicting statements are made about what tuff units were actually sampled. For example, Qbt3 is described in the stratigraphy section as a poorly welded tuff, and paragraph 5.11.2 states that consolidated tuff is reached at depths from 8 to 10 feet in the leach field. Is the tuff in the leach field naturally in-place, or does it comprise fill material? Could the tuff sampled for background determinations be fill material rather than in-place Qbt3? How was it possible to use a hand auger to sample consolidated tuff? (BPJ)

No PRS-specific background samples were collected at Technical Area (TA) -35. Cooling unit Qbt3 of the Bandelier Tuff was sampled and analyzed Laboratory-wide by the Environmental Restoration Project Earth Sciences Council to determine background comparison values (Longmire et al. 1995, 52227; Longmire et al. 1995, 48818). Great care was taken during the collection of background samples to ensure that the samples were undisturbed, unweathered, and representative of the true formation characteristics. At PRS No. 35-009(d), Qbt3 data were used for background comparison because this unit underlies the soil that comprises the leach field. In the leach field, fill material is found from the surface to depths of 8 to 10 ft. Below 8 to 10 ft *in situ* tuff is present. Samples were collected from depths greater than 8 to 10 ft to determine if a release had occurred from the bottom of the leach field.

Generally, Qbt3 is a poorly welded tuff; however, it is still lithified enough to be considered a cliff-forming unit. The terms "consolidated" or "unconsolidated," when used as descriptions in the geological logs (Attachment II of the RFI report), refer to the *in situ* nature of the unit. A consolidated tuff is one that is in place, undisturbed, and unweathered regardless of the amount of welding it has undergone. An unconsolidated tuff is one that is disturbed, transported (as in fill material), or weathered to a degree that it does not represent the true nature of the *in situ* rock unit.

Poorly welded strata in the Bandelier Tuff are routinely sampled using hand-auger techniques. These techniques are most commonly used in areas where hollow-stem auger rigs or other mechanical drilling machines are inappropriate because of access or safety concerns. All the sample locations within the leach field at PRS No. 35-009(d) (Location ID Nos. 35-2060, 35-2061, and 35-2062) were drilled and sampled using a hollow-stem auger equipped with a 5-ft split-spoon core barrel. Location ID Nos. 35-2057 and 35-2058, which are near the septic tank but not in the leach field, were drilled with a power-assisted hand auger because of safety concerns.

PRS No. 35-014(a) - Radionuclides Air Release Site

No. 6

Page 5-82: Site history indicates that the area is highly industrialized with soils that has been disturbed. The report shall indicate whether soils in sampled areas have been disturbed and/or replaced after 1979, the date at which several thousand curies of tritium were emitted from the facility stack. Of the 11 locations sampled, were only two samples (35-2078, 35-2070) from undisturbed areas? If so, the 10 other samples appear to present results that are not representative of potential soil contamination. (BPJ)

The sample locations were chosen because they were likely areas of contaminant accumulation. The conceptual model for the SAP (LANL 1992, 7666) considered the following situations.

- A grass-covered soil area surrounds portions of building TA-35-2. It is a likely location for contaminants; therefore, the soils were sampled and analyzed. At the time of Phase I sampling, there was no evidence that disturbance or excavation of the grassy area had

occurred since 1979. However, since Phase I sampling, an area south of TA-35-2 has been extensively excavated to remove inactive waste lines.

- The asphalt cap allows rainfall to wash potential contaminants to outfall gutters. The soils beneath the gutters and the soils that receive moisture from the roof of TA-35-2 were sampled and analyzed.

The site will be resampled to replace the gamma spectroscopy data. The SAP that describes the proposed sampling activities is being written. It will be submitted to DOE/LAAO by June 1997 and submitted later to NMED.

PRS No. 35-014(b) - Leak of Dielectric-Oil-Containing PCB

No. 7

Because some of the QA/QC problems associated with this investigation, such as: the EQLs exceeded their corresponding SALs; some hydrocarbon contaminations were not resolved by the analytical laboratory; EQLs for SVOC analysis to be elevated by greater than a factor of 10... etc. The investigation is inconclusive. LANL must resolve the above problems and re-investigate the site. (BPJ)

The site of PRS No. 35-014(b) will be resampled. The samples will be analyzed using EPA SW-846 methods for SVOCs, PCBs, and diesel-range TPH. Samples submitted for SVOC analysis will undergo cleanup before analysis to remove hydrocarbon interferences. The SAP will be submitted to DOE/LAAO by June 1997 and submitted later to NMED.

No. 8

If the asphalt surface has been replaced since the PCB leak, there is a possibility that PCB runoff occurred in a direction other than the current drainage path (5.13.2). LANL shall sample around the perimeter of the paved area. As the report states, the extent of contamination has not been precisely determined; an NFA is not suitable for this PRS until further analysis is made. (BPJ)

The site of PRS No. 35-014(b) will be resampled as stated in response No. 7 in the site-specific comments of this NOD. Three additional hand-auger holes will be drilled, and samples will be collected from three depth intervals in each hole. The samples will be located near the previous sample in the following configuration to bound extent: one to the north, one to the south, and one to the east. The SAP that describes the proposed sampling activities is being written. It will be submitted to DOE/LAAO by June 1997 and submitted later to NMED. If the spill had drained away from the building instead of toward it, then the spill would have drained into the site of PRS Nos. 35-003(j and k), 35-014(d), and 35-015(b), which were sampled for PCBs. See Figure A3-1 (Attachment III), which shows all the samples collected near PRS No. 35-014(b). PCBs were detected above SALs in 1 sample at Location ID No. 35-2291, but extensive PCB contamination was not found based on the 29 samples that were analyzed for PCBs at PRS Nos. 35-003(j and k), 35-014(d), and 35-015(b). Also, located at the eastern edge of the parking lot is PRS No. 35-018(a) (PCB-contaminated soil associated with an active transformer), which was the subject of a voluntary corrective action during which PCB-contaminated soil was removed. The results of the cleanup are reported in the "Voluntary Corrective Action Completion Report for Potential Release Site 35-018(a)" (LANL 1996, 55063).

PRS Nos. 35-014(e_2) and 35-016(i) - Oil Spill Site and Active Storm-Water Outfall

No. 9

Page 5-98, Table 5.14.5-1: The surface soil at location ID 35-2165 contains zinc four times higher than its background UTL. LANL shall perform more subsurface samples at this location in one-foot interval until zinc concentrations below the background UTL. (BPJ)

Zinc was detected in concentrations above its background UTL value at several locations throughout TA-35, which is an industrial facility. Zinc is associated with material such as galvanized iron, which is widely used throughout the facility; therefore, elevated levels of zinc are not unusual. In the case of PRS Nos. 35-014(e_2) and 35-016(i), the elevated zinc levels may be associated with the site-specific waste-oil contamination. Nevertheless, the SAL for zinc, based on residential exposure assumptions, is 23,000 mg/kg. The maximum detected value of zinc at PRS Nos. 35-014(e_2) and 35-016(i) is less than 2% of the SAL value. Because the observed zinc concentrations are so far below concentrations of concern for a health-based assessment, it is unclear what the objective would be of additional sampling for zinc at these PRSs. Therefore, additional zinc analyses will not be performed at this site unless a specific objective for the additional data is defined.

REFERENCES

LANL (Los Alamos National Laboratory), May 1992. "RFI Work Plan for Operable Unit 1129," Los Alamos National Laboratory Report LA-UR-92-800, Los Alamos, New Mexico. **(LANL 1992, ER ID Number 7666)**

LANL (Los Alamos National Laboratory), March 1996. "Voluntary Corrective Action Completion Report for Potential Release Sites 35-009(b, c, and d) Abandoned Septic Tanks," Los Alamos National Laboratory Report LA-UR-96-2449, Los Alamos, New Mexico. **(LANL 1996, ER ID Number 54967)**

LANL (Los Alamos National Laboratory), September 1996. "Voluntary Corrective Action Completion Report for Potential Release Site 35-018(a)," Los Alamos National Laboratory Report LA-UR-96-3271, Los Alamos, New Mexico. **(LANL 1996, ER ID Number 55063)**

Longmire, P. A., D. E. Broxton, and S. L. Reneau, October 1995. "Natural Background Geochemistry and Statistical Analysis of Selected Soil Profiles, Sediments, and Bandelier Tuff, Los Alamos, New Mexico," Los Alamos National Laboratory Report LA-UR-95-3468, Los Alamos, New Mexico. **(Longmire et al. 1995, ER ID Number 52227)**

Longmire, P., S. Reneau, P. Watt, L. McFadden, J. Gardner, C. Duffy, and R. Ryti, January 1995. "Natural Background Geochemistry, Geomorphology, and Pedogenesis of Selected Soil Profiles and Bandelier Tuff, Los Alamos, NM" (draft), Los Alamos National Laboratory Report LA-12913-MS, Los Alamos, New Mexico. **(Longmire et al. 1995, ER ID Number 48818)**

Attachment I

Table ES-1
Summary of Proposed Actions

TABLE ES-1

SUMMARY OF PROPOSED ACTIONS

		Proposed Action			
PRS	HSWA	NFA Criteria	Further Action	Rationale	Section No.
35-003(h)	X	4		Contamination below SALs, no COPCs identified	5.3
35-003(j) 35-003(k) 35-014(d) 35-015(b)	X X X	4		COPCs were determined to pose a negligible threat to human health	5.4
35-004(b)	X	4		Contamination below SALs, no COPCs identified in human health screening assessment	5.6
35-016(e)		4		Contamination below SALs, no COPCs identified in human health screening assessment	5.7
35-009(a)	X	4		Contamination below SALs, no COPCs identified in human health screening assessment	5.8
35-009(b)	X	4		Contamination below SALs, no COPCs identified in human health screening assessment	5.9
35-009(c)	X	4		COPCs were determined to pose a negligible threat to human health	5.10
35-009(d)	X	4		Contamination below SALs, no COPCs identified in human health screening assessment	5.11
35-014(a)	X	1		Site has not received solid or hazardous wastes as defined in the HSWA module	5.12
35-014(b)	X	4		Contamination below SALs, no COPCs identified	5.13
35-014(e_2) 35-016(i)	X X	3 and 4		Contamination below SALs, no COPCs identified in human health screening assessment	5.14
35-014(f)			VCA	Contamination obvious, small area, remedy obvious	5.15
35-016(f)		4		Contamination below SALs, no COPCs identified in human health screening assessment	5.16
35-008 35-014(e_1)	X X		VCA	Contamination above SALs, surface water issues, remedy obvious	5.19

Attachment II

Photographs

Photographs of PRS Nos. 35-003(j and k), 35-014(d), and 35-015(b), a former waste-oil treatment facility.

Figure 2-1. Photograph #57 photographed on 4/27/88. Oil-stained area around the oil tank near Location ID No. 35-2087 southwest of TA-35-29. The oil siege tank was removed in 1989 or 1990.

Figure 2-2. Photograph #59 photographed on 4/27/88. Oil-stained soil around the oil siege tank north of Location ID No. 35-2087 northwest of TA-35-29. The oil siege tank and metal shed were removed in 1989 or 1990.

Photographs of PRS Nos. 35-003(j and k), 35-014(d), and 35-015(b), a former waste-oil treatment facility.

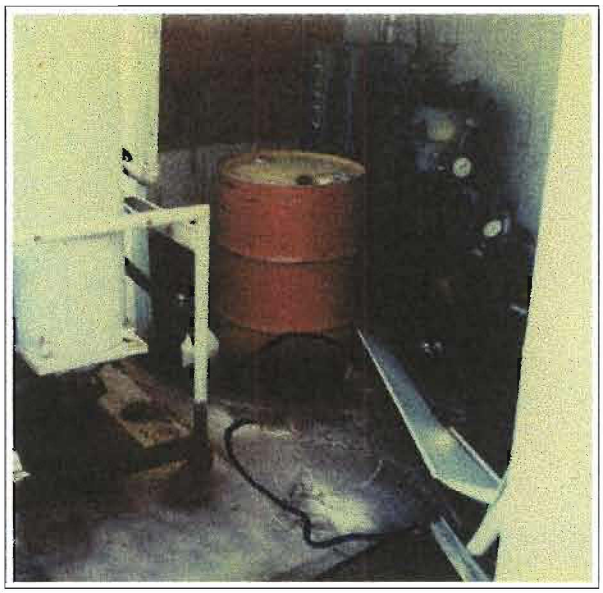


Figure 2-3. Photograph #58 photographed on 4/27/88. Oil-stained area around 55-gal. drum near Location ID No. 35-2087 west of TA-35-29. The 55-gal. drum was removed in 1989 or 1990.

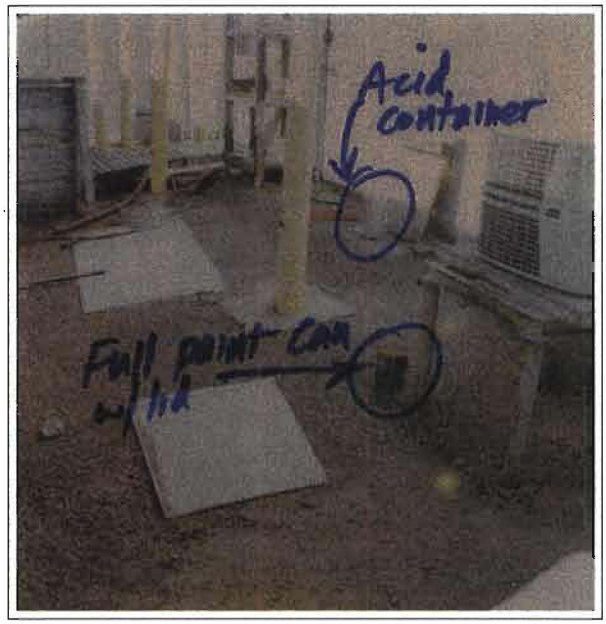
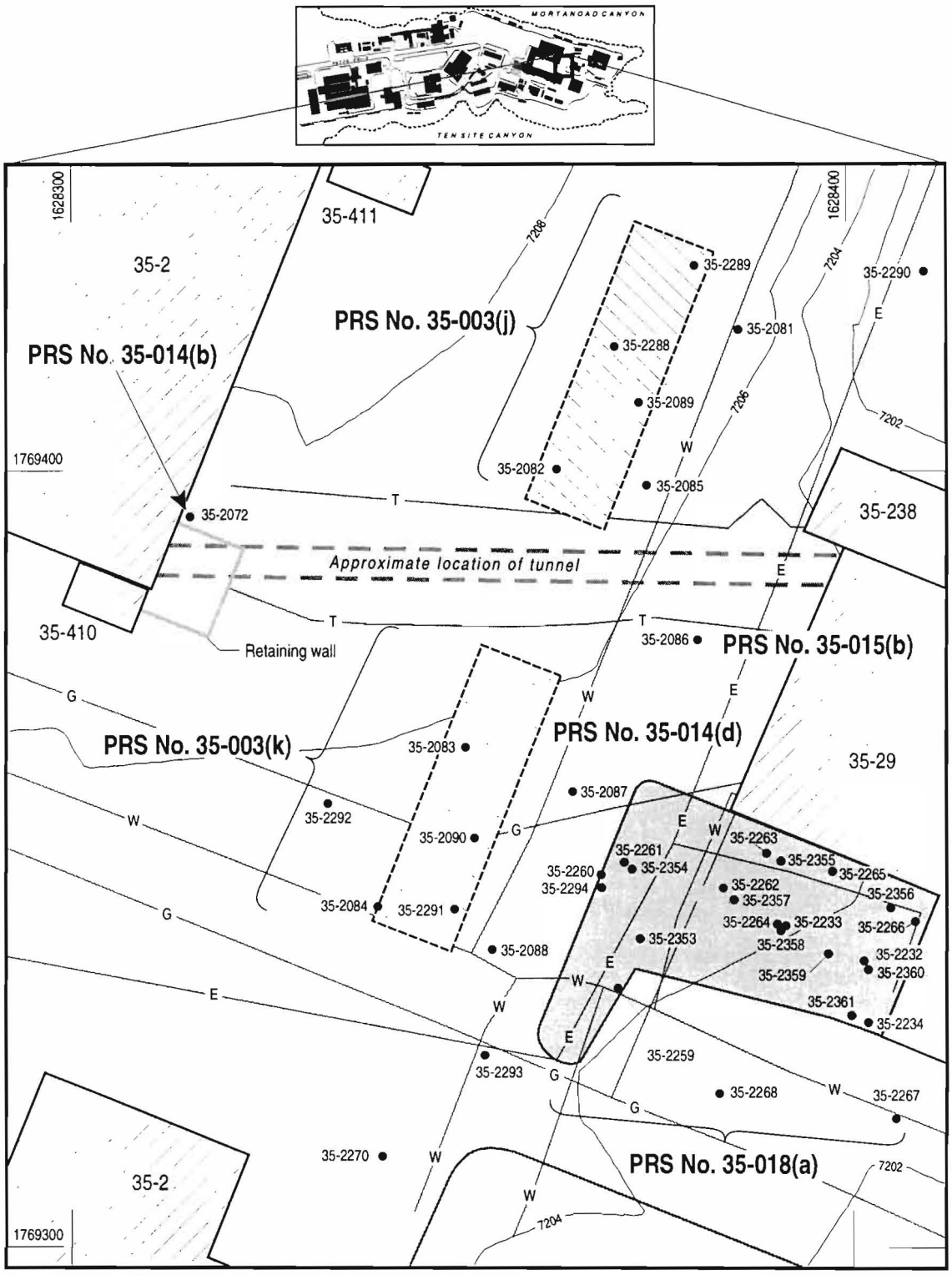


Figure 2-4. Photograph #60 photographed on 4/27/88. An acid containter and a full, uncovered paint can on the floor north of Location ID No. 35-2087 east of TA-35-29. Both containers were removed in 1989 or 1990.

Attachment III

Sample Location Map



Source: FIMAD; Eng-R5117 (ER ID Number 31438); Eng C-43943 (ER ID Number 55609)

FA3-1 / TA-35a NOD / 041196

0 10 20 30 40 50

FEET

Coordinates are NMSP NAD-83

▭	Building or structure location	—G—	Gas Line
▭	Former structure location (approx.)	—E—	Power line
•	Sample location	—T—	Telephone line
▭	Unpaved area	—W—	Water line

Figure A3-1. Locations of samples near PRS No. 35-014(b).