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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: January 16, 1997
Refer to: EM/ER:96-640

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

SUBJECT: RESPONSE TO THE NOD FOR THE TA-18, PRSs 18-003 (a-d, g) IA PLAN AND REPORT

Dear Mr. Garcia:

Enclosed please find the Los Alamos National Laboratory Environmental Restoration (ER) Project's responses to your bureau's notice of deficiency (NOD) pertaining to the interim action (IA) plan and report for Technical Area 18, Potential Release Sites 18-003(a-d, g). This interim action was initiated by the Laboratory as a proactive voluntary measure to inhibit the potential for future contaminant migration from one of our solid waste management units.

We appreciate your comments regarding this IA and a response to each one of your concerns has been generated. The ER Project, however, requires clarification on the regulatory status of these actions. Currently, the Project considers IAs to be proactive voluntary measures that are not specifically regulatory driven by either the Laboratory's Hazardous and Solid Waste Amendments Permit or Proposed Subpart S. The plans and reports for these documents are, therefore, exempt from the potential incurrence of NODs and are sent to the New Mexico Environment Department for informational purposes.

The topic of the status of IAs is planned for discussion during the monthly meeting scheduled for January 21, 1997. We look forward to receiving the requested clarification and entering into a discussion with you on how these actions can best be approached.

If you have any questions regarding these responses, please contact Gene Gould at (505) 667-0402 or Everett Trollinger (505) 667-5801. If you would like to discuss our stance on receiving comments on voluntary activities, please contact David McInroy at (505) 667-0819 or Bonnie Koch at (505) 665-7202.

Sincerely,

Jorg Jansen, Program Manager
LANL/ER Project

Sincerely,

/r/Theodore J. Taylor, Program Manager
DOE/LAAO

JJ/TT/rfr

1515

TL

Enclosure: (1) Response to NOD for TA-18 IA Plan and Report

Cy (w/ enc.):
S. Anderson, NMED-AIP, MS J993
S. Dinwiddie, NMED-HRMB
G. Gould, ESA-EPE, MS G787
D. Griswold, AL-ERD, MS A906
J. Harry, EES-5, MS M992
M. Leavitt, NMED-GWQB
N. Naraine, DOE-HQ, EM-453
D. Neleigh, EPA, R.6, 6PD-N (2 copies)
C. Rodriguez, CIO, MS M707
G. Saums, NMED-SWQB
T. Taylor, LAAO, MS A316
E. Trollinger, 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 #C185), 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

RESPONSES TO COMMENTS BY
NEW MEXICO ENVIRONMENT DEPARTMENT
ON INTERIM ACTION PLAN FOR PRSs 18-003(a,b,c,d, and g)
AND INTERIM ACTION REPORT FOR PRSs 18-003(a,b,c,d, and g)

Comments in Attachment A - Interim Action Plan

1. *Section 1.1, Release Potential/Health and Environmental Risks: The first paragraph states, "Floor drains in the TA-18 facility, which formerly drained to the septic tanks, have been sealed." Please clarify how the floor drains were sealed.*

Response

The floor drains were sealed by fastening a gasket and metal plate over the drain opening.

2. *Section 2.2, Operational/contamination History: The first paragraph states, "Because such discharge would reach the drainfield, water service to the building has been shut off and the catch tank's overflow line has been plugged. However, the concrete pit is open at the bottom, leaving a pathway to the soil for any leaks or spills from the tank." Please indicate how the overflow line was plugged and summarize the sampling methodology and analytical results of the concrete pit's characterization.*

Response

The overflow line was plugged with an expandable rubber stopper (see Figure A.1-1, Annex A). As stated in Section 3, radiological swipes were collected from the exterior of the catch tank, and samples of gravel were collected from the bottom of the pit. Annex A to these responses contains a discussion of the sampling methodology and analytical results.

3. *Section 3.0, Interim Action: The last paragraph states, "The outside surface of the catch tank at PRS 18-003(a) will be swiped to determine if alpha contamination is present indicating that an overflow may have occurred. In addition, the gravel bottom of the pit will be sampled for contamination." Please clarify how the gravel bottom of the pit was sampled and provide a table summarizing the analytical results.*

Response

See response to Comment 2.

4. *Section 6.2, Second Paragraph: Please clarify which PRS at 18-003 will have both the liquid and sludge portions treated to meet RCRA Land Disposal Restriction treatment standards.*

Wastes requiring treatment to meet LDR standards are liquid, sludge, and decontamination water from PRS 18-003(a) and sludge and decontamination water from PRS 18-003(b).

5. *Section 6.2, Mixed Waste Treatment and Disposal: Table 6-2 indicates that wastes from PRS 18-003(a) will not receive RCRA treatment while the text seems to indicate otherwise. Please clarify.*

Response

When the IA plan was prepared, it was anticipated that the liquid from PRS 18-003(a) could be treated at the TA-50 liquid waste treatment facility. However, the quantity of liquid was too small to remove without concern for including sludge from the bottom of the tank. As a result, the liquid and sludge were removed as a single waste stream and both will be treated to meet LDR standards.

6. *Appendix A, Table A-1: Please clarify the columnar headings by providing an explanation or legend for the table. It is unclear what is meant by the columnar headings (i.e., Preliminary Regulatory Status, TC Regulatory Levels, etc.) and acronyms.*

Response

Explanation for the headers is given below.

- Matrix/Sample Number/Estimated Volume:

  Self-explanatory

- Preliminary Regulatory Status

  The probable regulatory status of the waste, based on existing characterization data. Final status is determined when waste profile forms are reviewed by the Laboratory's waste management group.

- RCRA Constituents/Radionuclides Due to DOE Operations

  The known contaminants in the waste based on existing characterization data.

- Maximum Concentration

  Self-explanatory

- Preliminary RCRA Waste Codes

  The probable waste code that will be applied, based on existing data. Actual waste codes are applied by the Laboratory's waste management group after the waste profile form is submitted.

- TC Regulatory Levels

  The toxic characteristic regulatory levels stipulated in 40 CFR 261.24.

- LDR Treatment Standards Wastewaters (based on total analyses)

  Self-explanatory

- LDR Treatment Standards Non-Wastewaters (based on total analyses)

  Self-explanatory

Comments in Attachment B - Interim Action Report

1. *Section 2.0, Interim Action: It is unclear if the decontamination waters were sampled after the triple-rinses. LANL shall clarify this issue and provide the analytical results from the decontamination water or other samples collected as part of the interim action.*

Response

As stated in Section 3, no confirmatory samples were collected from the tanks. Decontamination water was characterized using data from the waste, which had been sampled previously.

2. *Section 3.0, Monitoring and Confirmatory Sampling: LANL states, "The interiors of the tanks were considered clean..." because of the decontamination procedures. However, since no confirmatory samples were collected from the tanks and the decontamination water contained radionuclides and spent organic solvents (Section 5.1), LANL cannot provide reasonable assurances that the tanks were adequately decontaminated. LANL shall provide the rationale behind the assumption or sample the tanks to ensure proper decontamination.*

Response

LANL's position is that triple rinsing of a tank effectively removes nearly all contamination. The intent of the rinsing is to remove source material that might result in unacceptable releases to the environment, rather than to remove all contamination. Visual inspection of the sides and bottom of each tank did not detect visible contamination. (See response to Comment 4 for discussion of eventual disposition of these tanks.)

3. *Section 5.0, Waste Management: Final disposition of the wastes generated from this Interim Action has not been achieved. Many of the wastes still require analyses, and evaluation of treatment and disposal options. In short, this report does not provide a comprehensive narrative, but provides a status of on-going activities for the PRSs of concern. Once final dispositions have been achieved for the wastes generated as a result of this Interim Action, LANL shall provide NMED HRMB a complete report.*

Response

Agree: NMED will be notified regarding the final disposition of the wastes generated by this interim action.

4. *LANL does not provide an indication of the final actions to be conducted on the holding and septic tanks of these PRSs. LANL shall provide NMED HRMB with the anticipated future activities (i.e., removal, filling, etc.) for these tanks.*

As noted in Section 1 of the interim action plan, it was originally proposed in the RFI report that these tanks be remediated as an expedited cleanup (EC). However, comments on the report have not been received from NMED, and the lead time required for an EC would have significantly delayed the planned

removal of the tank contents. Accordingly, the tank contents were removed as an interim action. No future discharges of hazardous chemicals will occur to the PRSs addressed by this IA; all such discharges were historical. The sanitary facilities that discharged to PRSs 18-003(b, c, and d) have been removed or taken out of service. LANL proposes to backfill the tanks at PRSs 18-003(b and c) with flow-crete to prevent possible future mobilization and release of any residual contamination in the tanks. This action is consistent with that used for the cleanup at two other septic tanks—PRSs 18-003(e) and 36-003(a).

The catch tank at PRS 18-003(a) will remain open temporarily to receive discharge of emergency decontamination water from the nearby experimental facility. That decontamination water will contain only radioactive contamination; no RCRA-regulated materials are used in the contamination facility. A replacement decontamination facility that will not discharge to the tank is planned for installation in 1997. When that facility is completed, any radioactive waste present will be removed by the operating group, and the tank and pit will be filled with flow-crete.

As noted in Section 1 of the IA report, a corrective action is being conducted at the drainfield serving PRS 18-003(d), because of the detection of 1-2 dichloroethane in groundwater at a concentration above the New Mexico ground water quality standard. The septic tank will remain open until final resolution of the corrective action. The sanitary facilities that discharge to that tank have been removed. Unless the results of the corrective action indicate otherwise, LANL proposes to fill that tank with flow-crete.

The sanitary facilities that discharge to PRS 18-003(g) have been locked and are not in use. LANL administrative policies prohibit the discharge of any chemicals to sanitary drains. A decision is pending on the future status of this tank. It will either be filled with flow-crete or bypassed by a new sanitary drain line.

ANNEX A
RESULTS OF SAMPLING AT PRS 18-003(a)

A.0 Summary

PRS 18-003(a) is a holding tank that historically received radioactive liquids from sinks and floor drains in the adjacent experimental facility, Building TA-18-23. Currently, only potentially radioactive water from an emergency decontamination facility is discharged to the tank. The tank sits in a concrete vault that is open to the environment at the bottom. There is no record of overflows of the tank, but overflows or spills are possible.

Two samples were collected from the bottom of the vault. The samples were collected from 0 to 6 in. in the gravel in the bottom of the vault, which is approximately 10 ft below grade (Figure A.1-1). The samples were analyzed for total uranium, isotopic plutonium, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and target analyte list metals. Low concentrations of several metals—uranium and plutonium—were detected above background. Trichloroethane and other organics were also detected. Of these, only polycyclic aromatic hydrocarbons (PAHs) were present above screening action levels (SALs). As discussed in the following sections, the reported concentrations of potential contaminants indicate that at some time during the use of the holding tank (1955 to present), some contamination was released from the tank to the vault. However, it is concluded that the concentrations of contaminants of potential concern (COPCs) in the gravel do not present unacceptable risk to human health and NFA will be proposed for this PRS.

A.1 Evaluation of Inorganic Chemicals

Seven inorganics—barium, cadmium, copper, lead, mercury, uranium, and zinc—were detected in the soil at concentrations greater than their respective background upper tolerance limits (UTLs) (Table A.1-1). Background statistical analyses were not conducted because of the small number of samples collected. As a result, all of the inorganics above background are carried forward to the SAL comparison. All inorganics that were undetected or detected below background UTLs are eliminated from further evaluation. The location of inorganics with concentrations above background UTLs is presented in Figure A.1-1.

A.2 Evaluation of Radionuclides

Plutonium-238 and plutonium-239/240 were detected in the soil samples at concentrations that exceed the maximum detected values detected in the Environmental Surveillance data (Table A.2-1). Uranium was also detected at concentrations that exceed its background UTL (Table A.2-2). All three radionuclides are carried forward to the SAL comparison. No other radionuclides were analyzed for at this site. The location of radionuclides with concentrations above background UTLs is presented in Figure A.1-1.

A.3 Evaluation of Organic Chemicals

Fifteen organic chemicals, including 12 PAHs, were detected in the soil and carried forward to the SAL comparison (Table A.3-1). The qualifiers shown in the table were assigned during baseline validation. The data are usable for site-specific decisions. Although some sample values are detected below the estimated quantitation limits (EQL), there are sufficient detects to indicate that PAHs are present in the soil. The location of detected organics is presented in Figure A.1-1.

TABLE A.1-1

INORGANIC CHEMICALS WITH CONCENTRATIONS AT OR ABOVE BACKGROUND SCREENING VALUES FOR PRS 18-003(a)

Sample ID	Depth (ft)	Barium (mg/kg)	Cadmium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Uranium (mg/kg)	Zinc (mg/kg)
SAL	N/A[b]	5,300	38	2,800	400	23	230	23,000
Soil UTL[a]	N/A[b]	315	2.7	15.5	23.3	0.1[c]	5.45	50.8
0218-96-0200	10-10.5	1,030	11.9	60.3	181	0.43	9.6	813
0218-96-0201	10-10.5	236	4.2	30.3	60.2	0.17	10.3	364

[a] Upper tolerance limit of LANL-wide soil background data from A, B, and C horizons.

[b] N/A = not applicable.

[c] Maximum detected background value.

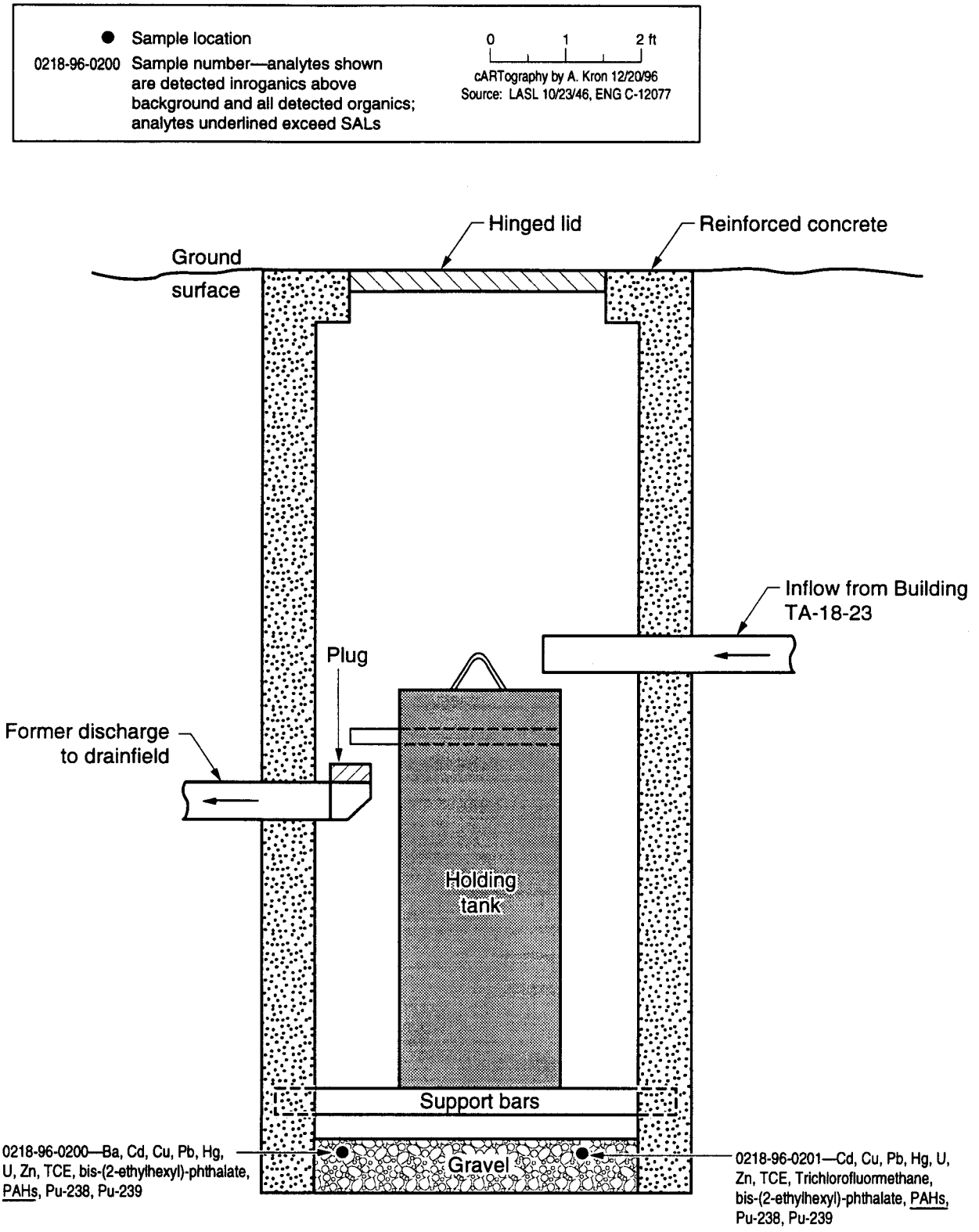

Figure A.1-1. Sampling results for PRS 18-003(a).

TABLE A.2-1

RADIONUCLIDES WITH CONCENTRATIONS AT OR ABOVE BACKGROUND SCREENING VALUES FOR PRS 18-003(a)

Sample ID	Depth (ft)	Plutonium-238 (pCi/g)	Plutonium-239/240 (pCi/g)	Uranium (mg/kg)
SAL	N/A[b]	27	24	29[d]
Soil UTL[a]	N/A[b]	0.014[c]	0.052[c]	5.45
0218-96-0200	10-10.5	0.014	0.55	9.6
0218-96-0201	10-10.5	0.005	0.43	10.3

[a] Upper tolerance limit of LANL-wide soil background data from A, B, and C horizons.
[b] N/A = not applicable.
[c] Maximum detected value from Environmental Surveillance data.
[d] SAL is for natural uranium.

TABLE A.2-2

RADIONUCLIDES WITH CONCENTRATIONS AT OR ABOVE BACKGROUND SCREENING VALUES FOR PRS 18-003(a)

Sample ID	Depth (ft)	Plutonium-238 (pCi/g)	Plutonium-239/240 (pCi/g)	Uranium (mg/kg)
SAL	N/A[b]	27	24	29[d]
Soil UTL[a]	N/A[b]	0.014[c]	0.052[c]	5.45
0218-96-0200	10-10.5	0.014	0.55	9.6
0218-96-0201	10-10.5	0.005	0.43	10.3

[a] Upper tolerance limit of LANL-wide soil background data from A, B, and C horizons.
[b] N/A = not applicable.
[c] Maximum detected value from Environmental Surveillance data.
[d] SAL is for natural uranium.

TABLE A.3-1

DETECTED ORGANIC CHEMICALS AT PRS 18-003(a)

Sample ID	Depth (ft)	Anthracene (mg/kg)	Benzo(a)-anthracene (mg/kg)	Benzo(a)-pyrene (mg/kg)	Benzo(b)-fluoranthene (mg/kg)	Benzo(k)-fluoranthene (mg/kg)	Benzo(g,h,i)-perylene (mg/kg)
SAL	N/A[a]	19	0.61	0.061	0.61	6.1	No SAL
EQL	N/A[a]	0.39	0.39	0.39	0.39	0.39	0.39
0218-96-0200	10-10.5	0.22(J)	0.49	0.59	0.39	0.59	0.49
0218-96-0201	10-10.5	0.39(U)	0.16(J)	0.2(J)	0.18(J)	0.15(J)	0.39(U)

Sample ID	Depth (ft)	Bis(2-ethylhexyl)-phthalate (mg/kg)	Chrysene (mg/kg)	Dibenzo(a,h)-anthracene (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Fluoranthene (mg/kg)
SAL	N/A[a]	32	24	0.061	0.61	2,600
EQL	N/A[a]	0.39	0.39	0.39	0.39	0.39
0218-96-0200	10-10.5	0.25(J)	0.53	0.13(J)	0.39	1.1
0218-96-0201	10-10.5	0.07(J)	0.17(J)	0.39(U)	0.39(U)	0.4

Sample ID	Depth (ft)	Phenanthrene (mg/kg)	Pyrene (mg/kg)	Trichloroethene (mg/kg)	Trichlorofluoromethane (mg/kg)
SAL	N/A[a]	No SAL	2,000	7.1[b]	710
EQL	N/A[a]	0.39	0.39	0.006	0.006
0218-96-0200	10-10.5	0.38(J)	0.86	0.008	0.001(J)
0218-96-0201	10-10.5	0.12(J)	0.18(J)	0.009	0.006(U)

[a] N/A = not applicable.

[b] Trichloroethene is synonymous with trichloroethylene (TCE).

A.4 Risk-Based Screening Assessment

No inorganics were detected at concentrations greater than their respective SALs. The six inorganics detected above background UTLs were submitted to a multiple chemical evaluation (MCE) (see Section A.5).

No radionuclides were detected at concentrations greater than their respective SALs. The three radionuclides detected above background UTLs were submitted to an MCE (see Section A.5).

Two organics—benzo(a)pyrene and dibenzo(a,h)anthracene—were detected at concentrations greater than their SALs (Table A.3-1). The other detected organics, including nine PAHs, were below their respective SALs. Two PAHs—benzo(g,h,i)perylene and phenanthrene—were detected but do not have SALs. The source of the PAHs is very likely the asphalt area adjacent to the site. Because the lid is flush with the paved parking area and is not sealed against surface runoff, the runoff from this area can flow directly into the vault. These organics were not evaluated further because they are considered to be the result of non-site-related activities (i.e., runoff from asphalt). The other organics—bis(2-ethylhexyl)-phthalate, trichloroethene, and trichlrofluoromethane—were submitted to an MCE (see Section A.5).

A.5 Multiple Chemical Evaluation

Eight analytes were submitted to the MCE for noncarcinogenic effects (Table A.5-1). The sum of the maximum normalized concentrations is 1.1, which is greater than the target value of 1.0. Except for uranium, the maximum detected values are from one sample (0218-96-0200).

TABLE A.5-1

MULTIPLE CHEMICAL EVALUATION FOR SOILS SAMPLES AT PRS 18-003(a)

Chemical	Sample ID	Maximum Sample Value	Soil SAL	Normalized Value
Noncarcinogenic Effects (mg/kg)				
Barium	0218-96-0200	1,030	5,300	0.19
Cadmium	0218-96-0200	11.9	38	0.31
Copper	0218-96-0200	60.3	2,800	0.02
Lead	0218-96-0200	181	400	0.45
Mercury	0218-96-0200	0.43	23	0.02
Trichlorofluoromethane	0218-96-0200	0.001(J)	710	0.00
Zinc	0218-96-0200	813	23,000	0.04
Uranium	0218-96-0201	10.3	230	0.04
			Total:	1.1
Carcinogenic Effects of Radionuclides (pCi/g)				
Plutonium-238	0218-96-0200	0.014	27	0.00
Plutonium-239	0218-96-0200	0.55	24	0.02
Uranium	0218-96-0201	7.2*	29	0.25
				0.27
Carcinogenic Effects of Chemicals (mg/kg)				
Bis (2-ethylhexyl)phthalate	0218-96-0200	0.25(J)	32	0.01
Trichloroethene	0218-96-0201	0.009	7.1	0.00
				0.01

*The maximum concentration of 10.3 mg/kg was converted to pCi/g by multiplying the sample value by 0.7.

Inclusion of the uranium concentration in the calculation for that sample will not reduce the maximum normalized sum below 1.0. Barium, cadmium, and lead are, therefore, retained as COPCs, while the other inorganics are eliminated from further evaluation. Three radionuclides were submitted to the MCE for carcinogenic effects of radionuclides (Table A.5-1). The sum of the maximum normalized concentrations is 0.27, which is less than the target value of 1.0. These radionuclides are eliminated from further evaluation.

Two organics were submitted to the MCE for carcinogenic effects of chemicals (Table A.5-1). The sum of the maximum normalized concentrations is 0.01, which is less than the target value of 1.0. These organics are eliminated from further evaluation.

A.6 Human Health Risk Assessment

Three inorganics—barium, cadmium, and lead—were retained as COPCs as a result of the MCE for noncarcinogenic effects. In order to determine if corrective action is warranted, these COPCs are compared to their respective preliminary remediation goals (PRGs) for a continued Laboratory operations land-use scenario. Because the soils were at 10 to 10.5 ft, the human receptors are considered to be onsite construction workers. The PRGs for barium and cadmium were calculated using Laboratory-specific parameters and were based on guidance set forth in the Risk Assessment Guidance for Superfund (RAGS), Part B (EPA 1991, 0746). The PRG for lead was provided by EPA Region VI directive (EPA 1995), which considers a female pregnant worker as the human receptor in order to address fetal effects.

The calculated PRGs are 32,300, 248, and 1,000 mg/kg for barium, cadmium, and lead, respectively. Comparison of these values to the maximum sample values (1,030, 11.9, and 181 mg/kg, respectively) indicates that concentrations of all three COPCs are well below the PRGs, indicating that there is no unacceptable risk from exposure to the COPCs and no corrective action is warranted.

A.7 Effects on Groundwater

As originally installed, the holding tank was equipped with an overflow that discharged to a drainfield associated with a nearby septic tank [PRS 18-003(b)]. Data collected before and during the RFI suggested that the holding tank had discharged to the drainfield on at least one occasion in the past. The overflow line was plugged in 1995.

The depth to groundwater at PRS 18-003(a) has been measured in three nearby monitoring wells and has varied from 7 to 20 ft over the past three years (Environmental Restoration Project 1995, 1255). This indicates that the water table has, on occasion, been above the bottom of the vault. Standing water was observed in the bottom of the vault on several occasions during that period. These monitoring wells were sampled as part of the RFI and the data indicate the presence of several contaminants at concentrations above those measured in upgradient background wells. Analytical results and the locations of these monitoring wells (reproduced from the RFI report and its addendum) are presented in Table A.7-1 and Figure A.7-1.

The measured concentrations of uranium, thorium, and EDC were slightly in excess of the respective SALs in some of these wells. The conclusion, as presented in the RFI report, is that these concentrations do not present a significant risk to human health because there is no exposure pathway. Similarly, because all detected contaminants were at depths below 5 ft, the RFI concluded that there was no ecological risk. A revised ecological risk assessment methodology is under development, and these conclusions may be re-evaluated in the future.

TABLE A.7-1

DATA COMPARISON FOR MONITORING WELLS NEAR PRS 18-003(a)

Inorganics

Analyte	Well No.	Location No.	Sample Date	Sample ID	Medium[1]	Result	Background[2]	SAL	Units	>SAL
Barium	MW-4	18-2016	2/95	AAB2536	Groundwater(F)	304	214	2,000	µg/L	
Mercury	MW-2	18-2014	7/94	AAA9564	Groundwater(F)	0.12	ND	2	µg/L	
Nickel	MW-1	18-2013	2/95	AAB2533	Groundwater(F)	5.8	ND	100	µg/L	
	MW-4	18-2016	10/93	AAA5960	Groundwater(F)	20	ND	100	µg/L	
Zinc	MW-3	18-2015	10/93	AAA5959	Groundwater(F)	83	64.3	10,000	µg/L	

Organics

Analyte	Well No.	Location No.	Sample Date	Sample ID	Medium[1]	Result	Background[2]	SAL	Units	>SAL
Carbon disulfide	MW-4	18-2016	7/94	AAA9566	Groundwater	14	ND	3,500	µg/L	
1,2-Dichloroethane	MW-3	18-2015	7/94	AAA9565	Groundwater	6	ND	5	µg/L	x
HMX	MW-1	18-2013	10/93	AAA5957	Groundwater	3.1	2.84	1,800	µg/L	
			2/94	AAA9539	Groundwater	4.25	2.84	1,800	µg/L	
			7/94	AAA9563	Groundwater	3.4	2.84	1,800	µg/L	
	MW-2	18-2014	2/94	AAA9542	Groundwater	3.31	2.84	1,800	µg/L	
			7/94	AAA9564	Groundwater	3.2	2.84	1,800	µg/L	
	MW-3	18-2015	2/95	AAA9543	Groundwater	4.54	2.84	1,800	µg/L	
			1/94	AAA9565	Groundwater	3.8	2.84	1,800	µg/L	
			10/93	AAA5960	Groundwater	3.15	2.84	1,800	µg/L	
				AAA5961	Groundwater	3.45	2.84	1,800	µg/L	
	MW-4	18-2016	2/94	AAA9545	Groundwater	3.24	2.84	1800	µg/L	
			7/94	AAA9566	Groundwater	3.42	2.84	1800	µg/L	
				AAA9567	Groundwater	3.26	2.84	1800	µg/L	
m-Nitrotoluene	MW-1	18-2013	7/94	AAA9563	Groundwater	0.29	ND	350	µg/L	
	MW-2	18-2014		AAA9564	Groundwater	0.24	ND	350	µg/L	
RDX	MW-3	18-2015	2/94	AAA9543	Groundwater	3.01	2.15	3.2	µg/L	

[1](F) Filtered; all other samples nonfiltered.
[2] Maximum detected analyte concentration in background wells.
ND Not detected.
N/A Not applicable.
na Not available.

TABLE A.7-1 (concluded)

DATA COMPARISON FOR MONITORING WELLS NEAR PRS 18-003(a) (concluded)

Radionuclides										
Analyte	Well No.	Location No.	Sample Date	Sample ID	Medium	Result	Site-Specific Background	SAL	Units	>SAL
Plutonium-238	MW-3	18-2015	2/95	AAB2535	Groundwater	0.03	nd	15	pCi/L	
	MW-4	18-2016	2/94	AAA9544	Groundwater(F)	1.73	nd	15	pCi/L	
				AAA9545	Groundwater(F)	5.36	nd	15	pCi/L	
Plutonium-239	MW-3	18-2015	2/95	AAB2535	Groundwater	0.05	nd	15	pCi/L	
Thorium-228	MW-1	18-2013	7/94	AAA5957	Groundwater(F)	4.1	0.98	15	pCi/L	
	MW-2	18-2014	7/94	AAA5958	Groundwater(F)	16.6	0.98	15	pCi/L	X
	MW-3	18-2015	7/94	AAA5959	Groundwater(F)	13.2	0.98	15	pCi/L	
	MW-4	18-2016	7/94	AAA5960	Groundwater(F)	2.56	0.98	15	pCi/L	
				AAA5961	Groundwater(F)	2.51	0.98	15	pCi/L	
Thorium-230	MW-1	18-2013	7/94	AAA5957	Groundwater(F)	5.9	2.5	15	pCi/L	
	MW-2	18-2014	7/94	AAA5958	Groundwater(F)	16.7	2.5	15	pCi/L	X
	MW-3	18-2015	7/94	AAA5959	Groundwater(F)	11	2.5	15	pCi/L	
	MW-4	18-2016	7/94	AAA5960	Groundwater(F)	3.57	2.5	15	pCi/L	
				AAA5961	Groundwater(F)	4.71	2.5	15	pCi/L	
Thorium-232	MW-1	18-2013	7/94	AAA5957	Groundwater(F)	2.82	0.68	15	pCi/L	
	MW-2	18-2014	7/94	AAA5958	Groundwater(F)	14.4	0.68	15	pCi/L	
	MW-3	18-2015	7/94	AAA5959	Groundwater(F)	10.8	0.68	15	pCi/L	
	MW-4	18-2016	7/94	AAA5960	Groundwater(F)	1.56	0.68	15	pCi/L	
				AAA5961	Groundwater(F)	1.38	0.68	15	pCi/L	
Uranium	MW-2	18-2014	2/94	AAA9542	Groundwater(F)	6.67	1.51	20	µg/L	
				AAA9564	Groundwater(F)	5.81	1.51	20	µg/L	
	MW-3	18-2015	2/94	AAA9565	Groundwater(F)	4.68	1.51	20	µg/L	
	MW-4	18-2016	2/94	AAA9545	Groundwater(F)	29	1.51	20	µg/L	X
Uranium-234	MW-1	18-2013	7/94	AAA5957	Groundwater(F)	0.65	nd	na	pCi/L	
	MW-2	18-2014		AAA5958	Groundwater(F)	3.61	nd	na	pCi/L	
	MW-3	18-2015		AAA5959	Groundwater(F)	4.75	nd	na	pCi/L	
Uranium-235	MW-3	18-2015	7/94	AAA5959	Groundwater(F)	0.85	nd	na	pCi/L	
Uranium-238	MW-1	18-2013	7/94	AAA5957	Groundwater(F)	0.53	nd	na	pCi/L	
	MW-2	18-2014		AAA5958	Groundwater(F)	3.28	nd	na	pCi/L	
	MW-3	18-2015		AAA5959	Groundwater(F)	4.39	nd	na	pCi/L	

F Filtered groundwater.
nd Not detected.
na Not available.

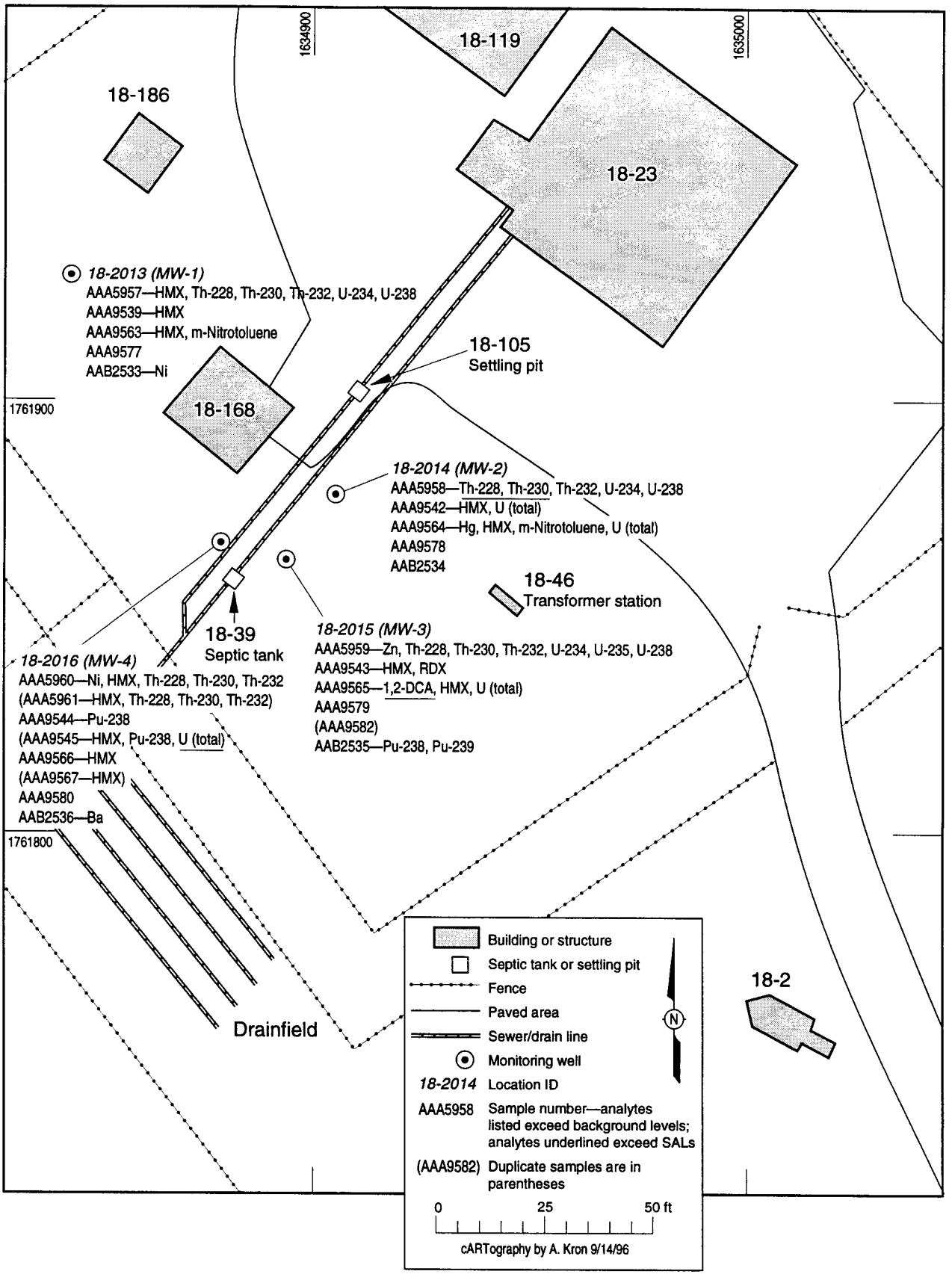

Figure A.7-1. Sample locations and results of analysis for monitoring wells near PRS 18-003(a).

A.8 Conclusions

The data from the samples collected from the bottom of the vault, in conjunction with the RFI data for this site and adjacent monitoring wells, indicate that a release from the holding tank to the environment has occurred, but the release has not resulted in soil or groundwater contamination that presents an unacceptable risk to human health. The holding tank is scheduled to be taken out of service in 1997. After that occurs, the tank and vault will be filled with flow-crete. NFA will be proposed for this PRS.

A.9 References

Environmental Restoration Project, January 1995. "RFI Report for Potential Release Sites 18-001(a), 18-001(b), 18001(c), 18-007, 27-001, 27-003 (Located in Former Operable Unit 1093), Field Unit 2," Los Alamos National Laboratory Report LA-UR-95-295, Los Alamos, New Mexico. (Environmental Restoration Project 1995, 1255)

EPA (US Environmental Protection Agency), March 25, 1991. "Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, Supplemental Guidance "Standard Default Exposure Factors," Interim Final,' OSWER Directive 9285.6-03, Office of Emergency and Remedial Response, Toxics Integration Branch, Washington, DC. (EPA 1991, 0746)