Voluntary Corrective Action Plan for

Potential Release Site
36-003(b)
Septic System

Field Unit 2

Environmental Restoration Project

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A Department of Energy
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VOLUNTARY CORRECTIVE ACTION PLAN FOR POTENTIAL RELEASE SITE 36-003(b) - SEPTIC SYSTEM

1.0 INTRODUCTION

1.1 Site Type and Description

Potential Release Site (PRS) 36-003(b) is a septic system that was built to handle sanitary waste from a bathroom and sink in Building TA-36-55 at I-J Firing Site. The site is situated in former OU 1130 (Figure 1.1-1). PRS 36-003(b) is identified as a solid waste management unit (SWMU) in the Hazardous Solid Waste Amendments Module of the Los Alamos National Laboratory's (LANL) Part B Permit.

The septic system consists of a subgrade septic tank, piping, and associated outfall. The tank is made of precast concrete and measures 7 x 3.5 x 5.7 ft high (LANL 1993, 1088). A 3.5 x 2.7 ft removable concrete lid is located at the northwest (inflow) end. A 2 ft diameter, steel manhole extends from the concrete lid to the ground surface. An internal 2 ft high concrete baffle extends wall-to-wall in front of the inlet pipe (LANL 1990, 0145). A vent stack is situated at the southeast (outflow) end of the tank. The outflow pipe extends from the tank and continues in the subsurface in a southwesterly direction (Figure 1.1-2).

1.1.1 Operational History

The septic system was put into use in 1949 and served as a holding tank that was pumped periodically. There is no archival information indicating that contaminants were discharged into the system. Based on site operations, it was recognized that organic solvents, metals, high explosives (HE), and depleted uranium could potentially be present in the system (LANL 1993, 1088). The outflow pipe was capped in 1989 to prevent direct discharges to the environment (LANL 1993, 1088). The inflow line remains open to the sanitary facilities in Building TA-36-55. However, the facility was taken out of service before the sampling occurred in 1994 and has remained inactive since that time. The building was locked and access to the building was controlled administratively. Thus, no discharges to the septic system have occurred since the 1994 sampling. The I-J Firing Site is being decommissioned, and the septic system will not be used in the future.

1.1.2 COPCs and Rationale for Proposed Remedial Action

Resource Conservation Recovery Act (RCRA) Field Investigations (RFIs) were conducted in August 1994. Samples of liquid, sludge, and soil below the outfall were collected and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, mercury, HE, and total uranium. The concentrations of detected analytes above background (for soils) and all detected concentrations of analytes in the liquid and sludge are presented in Annex 7.2. These concentrations are compared with background (for soils) and with SALs in this annex. No potential contaminants were present above SALs in the soil. As listed in Table 1.1.2-1, several potential contaminants were present above SALs in the liquid or sludge in the tank. Although comparison of the detected concentrations of analytes with the SALs for soil or water are not entirely relevant, the comparison does provide some indication of whether a potential contaminant may be of concern.

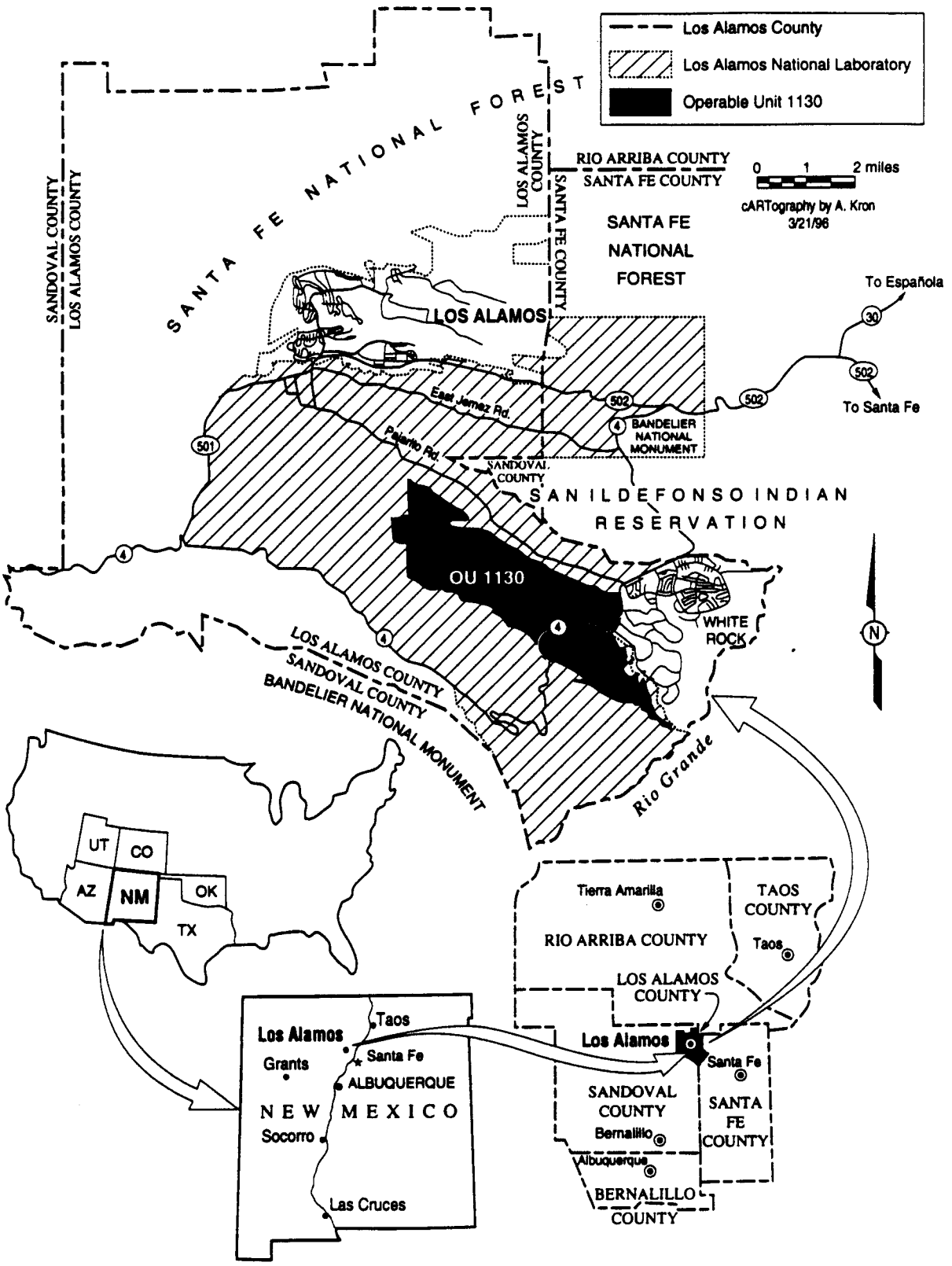

Figure 1.1-1. Location of former OU 1130.

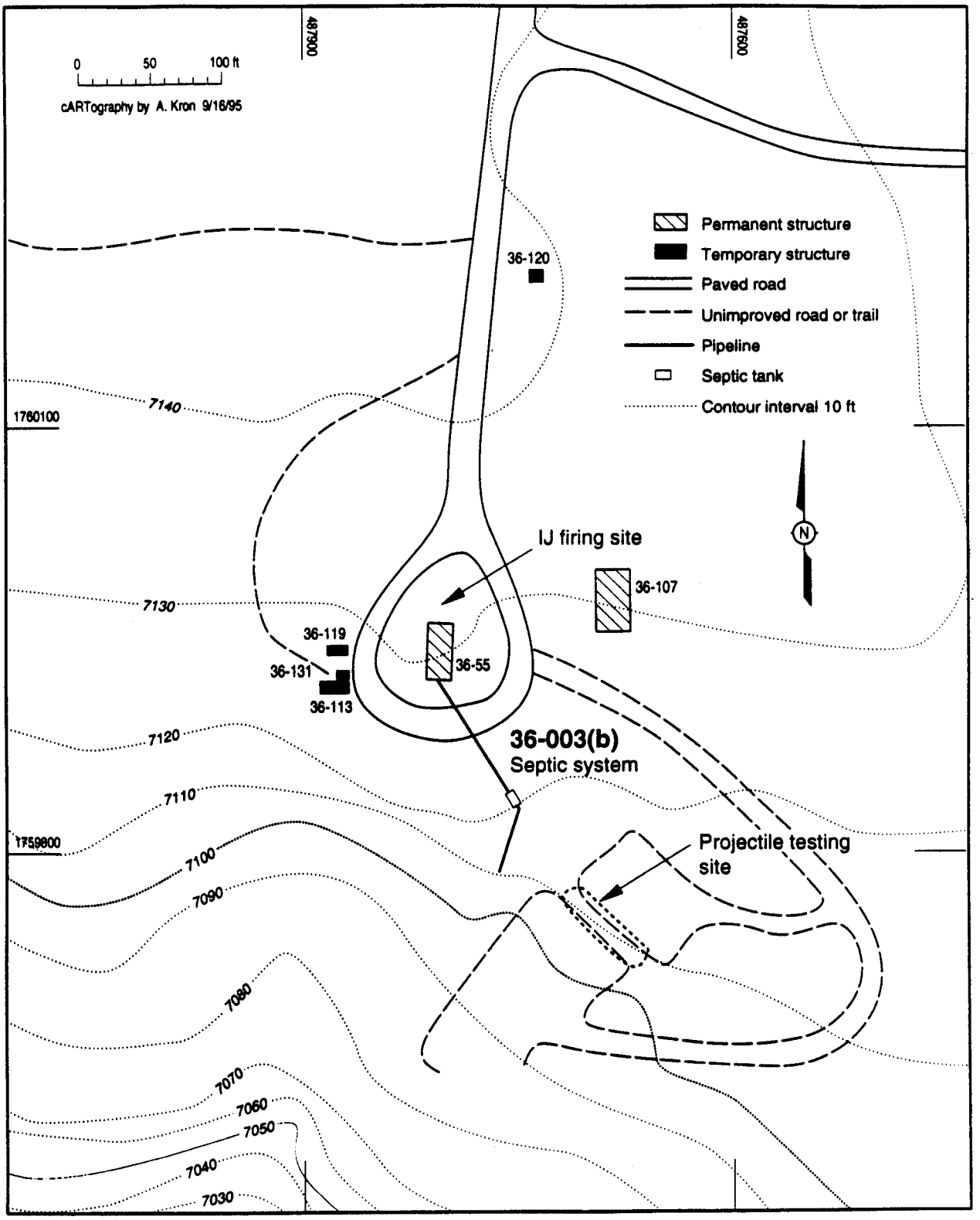

Figure 1.1-2. Location of PRS 36-003(b) at I-J Firing Site.

TABLE 1.1.2-1

COPCs in SEPTIC TANK

Analyte	Greater than SAL in:	
	Liquid	Sludge
Arsenic	X	X
Barium	X	X
Beryllium		X
Cadmium		X
Chromium		X
Cobalt		X
Copper	X	X
Lead	X	X
Manganese		X
Mercury		X
Nickel		X
Silver		X
Vanadium	X	X
Zinc	X	X
Uranium (total)	X	X
RDX	X	

The screening assessment, documented in the RFI report, concluded that the soils surrounding the outfall pipe do not pose a threat to human health or the environment. The assessment concluded that the contents of the tank pose a potential hazard to human health if not properly managed (Environmental Restoration Project 1995, 1335). Visual inspection of the tank did not detect signs of compromised integrity. Nevertheless, removal of the tank contents will ensure that the contaminants of potential concern (COPCs) present in the tank will not be released into the environment. The tank will be filled with expanding concrete to prevent the inadvertent introduction of other liquids. In addition, arrangements will be made with the operating group to either remove or block the sink in Building TA-36-55.

2.0 SITE CHARACTERIZATION

2.1 RFI Information/Other Decision Data

PRS 36-003(b) was originally believed to be free from contamination (Garde 1972, 12473). In 1981, the system was tested for HE, TNT, RDX, and HMX, and none of these potential contaminants were detected (Gonzales 1981, 14985). In the summer of 1994, a Phase I RFI was conducted to determine the presence, concentration, and migration of potential contaminants at the site. Archival research, visual inspection of the system, and geophysical and geomorphic surveys were used to determine potential contaminant source areas. A total of 11 samples were collected from septic liquid, septic sludge, soils surrounding the outfall, and soils along the surface water migration pathway. Three samples of the liquid in the tank were collected at different locations, and two samples of the sludge were collected from different locations. All samples were analyzed for VOCs, SVOCs, metals, mercury, HE, and total uranium.

Annex 7.2, taken from the RFI report (Environmental Restoration Project 1995, 1335), shows analytes detected, sample results, and their comparison to SALs, where applicable. The site map showing the

corresponding sample locations is included in Annex 7.2. For the sampling at PRS 36-003(b), complete analytical results, including values below background (for soil samples), are included in the RFI report.

2.2 Nature and Extent of Contamination

The nature and extent of contamination was determined under the 1994 Phase I RFI investigation. Results of the investigation indicate contamination is limited to the contents of the septic tank.

RFI Phase I samples were collected from potential contaminant source areas and submitted to an analytical laboratory. The samples were analyzed for VOCs, SVOCs, metals, mercury, HE, and total uranium. The analytical results from the septic tank and surrounding soils were compared (where applicable) to SALs, background UTLs, and ecotoxicological risk screening action levels (ESALs) to provide a risk-based point of comparison to assess which constituents may be a human health or environmental concern. The screening assessment identified several inorganic analytes and total uranium as COPCs in the septic tank liquid and sludge because the concentrations exceeded their respective SALs and/or they did not have SALs. These contaminant concentrations may pose a threat to human health. No human health COPCs were identified in the surface soil samples. Concentrations of several potential contaminants in soils exceeded ESALs. However, a revised methodology for ecological risk assessment is under development, and the significance of these concentrations above ESALs cannot be assessed at this time. The data review indicates that there has been little or no movement of material from the septic tank to the surrounding environment.

Annex 7.1 summarizes the findings of the RFI report (Environmental Restoration Project 1995, 1335). A complete discussion of the risk assessment procedures used and the results are included in the RFI report.

3.0 PROPOSED REMEDY

3.1 Description of the Proposed Remedial Action

Because the soils associated with the outfall area do not pose a risk to human health or the environment, the voluntary corrective action (VCA) will address only the contents of the septic tank.

Because of the presence of potentially elevated soluble lead levels in the septic sludge (Section 4.0), initial field activities will include establishing a less-than-90-day storage area and setting up spill control measures as stipulated in the Spill Prevention Control and Countermeasures Implementation Plan (SPCCP). The SPCCP is not included in this document. However, it is available upon request.

Before remediation begins, the appropriate health and safety screening will be conducted, using the site-specific health and safety requirements. The site-specific health and safety plan (Annex 7.5) will be followed during the remediation.

Remediation will begin with the removal, through the manhole, of the liquid contents of the tank by using a portable pump or vacuum tank system. The field team will be careful to minimize disturbing the sludge layer and will pump the liquids into DOT-certified 55-gallon drums. The sludge layer will then be similarly removed and placed in separate 55-gallon drums. A homogenized sample of the segregated sludge will be collected and submitted to an analytical laboratory. Following sampling of the sludge, the tank will be decontaminated by washing the interior with pressurized water. Care will be taken to minimize the volume of water used for decontamination. If the first rinse does not effectively remove any residual sludge, additional rinses may be performed. If the initial rinse water contains significant quantities of sludge, the rinse water will be combined with the tank sludge, creating a sludge slurry, and a second rinse may be necessary. If, however, there is little sludge present in the tank before the first rinse, the rinse water will be managed separate from the tank sludge, and only one rinse will be performed. After effective decontamination, the septic tank will be filled with expanding concrete to fill voids in corners,

around the baffle, and in the inlet and outlet ports. The concrete will be monitored for voids and cracks during drying. The operating group's facility manager will be contacted to remove or block the sanitary facilities in Building TA-36-55.

The sludge or sludge slurry will be retained onsite in a less-than-90-day storage unit pending analysis for RCRA toxicity characteristic leaching procedure (TCLP) metals.

The septic tank liquid and any rinse water relatively free of sludge will be designated as nonhazardous, low-level radioactive waste. Two options exist for treatment/disposal of this liquid. The radioactive liquid waste treatment facility (RLWTF) may be able to accept the liquids for treatment. Alternatively, the liquids could be solidified and disposed of at TA-54, Area G. Discussions are ongoing with the Water Quality Group (ESH-18), which oversees the TA-50 discharge permit regarding the preferred option. The nonhazardous liquid wastes will be separated from potentially hazardous sludge and placed in a less-than-90-day storage area pending resolution of the issue. The most cost effective treatment/disposal option that is consistent with regulatory concerns will be selected.

3.2 Basis for Cleanup Levels

PRS 36-003(b) is a septic system that lies within DOE-owned land. The site is located on a mesa top and is removed from public access roads. In the foreseeable future, the land is anticipated to be used exclusively for continued Laboratory (industrial) operations. COPCs that could pose human health risks are contained within the septic tank. Although the tank exhibits good integrity, the tank contains COPCs above the human health risk assessment levels. Therefore, remediation is necessary to ensure that releases of identified COPCs will not occur. The risk assessment for this PRS is included in Annex 7.1.

3.3 Site Restoration

Excavation activities will not be conducted at the site. However, the site will be returned to its approximate original condition upon completion of the field activities.

4.0 WASTE MANAGEMENT

4.1 Estimated Types and Volumes of Waste

Wastes expected to be generated during the remediation of the site are identified in Table 4.1-1. The volumes listed are estimates and do not include additional liquids that may be generated if difficulties occur in decontaminating the tank.

The 1994 RFI sampling results indicate that sludge removed from the tank will be low-level radioactive waste. Sample results also indicate the possibility of soluble lead at levels that slightly exceed RCRA values for toxicity characteristic (D008) waste. The analytical results for the sludge samples, as identified in Annex 7.2, varied by less than 50% between the two samples collected. Only lead was present at a concentration sufficiently high to potentially fail the toxic characteristic test. No solvents were detected in the septic liquid or sludge. Sludge pumped from the tank will be sampled and analyzed using EPA Method 1311 for TCLP metals to determine if the waste constitutes RCRA characteristic hazardous waste. The septic sludge (and possibly the first decontamination rinse liquids) will be retained onsite in a less-than-90-day storage area pending results of the sludge TCLP metal analysis. If the analytical results indicate that the waste is RCRA hazardous, the sludge (and possibly the first decontamination rinse liquids) will be treated by stabilization so that the final waste classification will be nonhazardous, low-level radioactive (see Section 4.2).

After the activity is completed, tools, equipment, and personal protective equipment (PPE) will be decontaminated. Based on the results of similar activity, the field team does not expect any PPE or equipment that is not successfully decontaminated. The decontamination fluid will be added to the

TABLE 4.1-1

EXPECTED WASTE TYPES AND VOLUMES

Item	Waste Type	Anticipated Volume and Storage Container
Sludge and slurry from first decontamination rinse of the tank	Low-level radioactive	< 4 55-gallon drums
Septic liquid and low particulate water from the tank and personnel decontamination efforts	Low-level radioactive	< 12 55-gallon drums
Decontaminated PPE and equipment	New Mexico special	< 1 55-gallon drum

decontamination liquid from the washing and pumping of the tank. Any equipment or PPE that cannot be adequately decontaminated will be managed as hazardous, low-level radioactive or mixed waste as determined by visual inspection and field screening.

The liquid from the tank, decontamination liquids that are relatively free of sludge, and liquids generated by personnel and equipment decontamination will all be managed as nonhazardous, low-level radioactive waste. The liquid from the tank will be characterized using analytical data from the RFI sampling described previously. As described in Section 3.1, a field decision will be made as to whether the tank rinse water contains significant sludge or not. The rinse water that is relatively free of sludge or particulates (i.e., appearing to contain less than 5% by volume) will be managed as nonhazardous, low-level radioactive waste and will be characterized using the analytical results for the sludge collected during the RFI. Rinse liquids that appear to contain more than 5% sludge or particulates will be managed with the sludge as potentially hazardous radioactive waste pending receipt of TCLP analyses of the sludge.

4.2 Method of Management and Disposal

Drums containing septic liquid and second/third decontamination liquids will be labeled "low-level radioactive" and will be segregated in accordance with LANL's Radiological Control Manual (LANL 1994, 1235). Drums containing sludge and first decontamination slurry (if any) will be labeled as mixed waste and will be retained onsite in the less-than-90-day storage area pending analysis. If the analytical results reveal that the soluble lead values are below RCRA hazardous waste criteria, the waste will be managed as nonhazardous, low-level radioactive waste. If deemed nonhazardous, the sludge/sludge slurry will be mixed with an acrylic polymer to absorb residual liquids and transported to TA-54, Area G for disposal. However, if the sludge sample results indicate that the soluble lead levels are sufficiently elevated and that the levels exceed the maximum allowable RCRA toxic characteristic (TC) value, the sludge/sludge slurry will be considered RCRA hazardous waste. Untreated, the waste would carry the EPA ID Number D008. However, the sludge/sludge slurry mixture will be treated by stabilization using Portland cement. Stabilization of lead (D008) using Portland cement is recognized by the EPA as an appropriate procedure for achieving the concentration-based treatment standard of 5.0 mg/L (20 NMAC 4.1, Section 40 CFR 268.40) (EPA 1995, 1336). Cement provides an alkaline media rich in carbonates that, when mixed with soluble lead, forms a chemically stable lead carbonate. The lead contained in the stabilized waste form will no longer exhibit the RCRA characteristic of toxicity and will not be classified as hazardous waste. The process creates a solid form of the sludge. In accordance with 20 NMAC Section 4.1, 40 CFR 261.3(d) (1) and 20 NMAC Chapter 9, Part 1, Section 105, BV.9, the stabilized sludge/sludge slurry will be managed as nonhazardous, low-level radioactive waste and disposed of at TA-54, Area G.

In accordance with 20 NMAC 4.1, Section 40 CFR 268.7(a)(4), a waste analysis plan is being submitted (on a contingency basis) to the New Mexico Environment Department (NMED) if container treatment of RCRA D008 waste is necessary. Following the 30-day NMED notification period for the treatment of RCRA waste, the sludge will be stabilized with Portland cement. The treatment process creates a stable form of the lead so that the waste no longer exhibits the characteristics of a RCRA hazardous waste. The stabilized waste can then be disposed of at TA-54 as nonhazardous, low-level radioactive waste. Before disposal, treated waste will be sampled and analyzed using the TCLP metals EPA Method 1311 to ensure the efficacy of the treatment process.

As previously mentioned, liquid waste will be either transported and disposed of at the RLWTF or the waste will be solidified for disposal at TA-54, Area G. Liquids containing excessive particulates cannot be accepted by the RLWTF. These wastes will be consolidated with the sludge and stabilized as described previously.

Uncontaminated PPE and equipment will be characterized based on visual contamination and levels of radioactivity that are determined from screening in accordance with LANL-ER-SOP-01.06, R1, Management of Environmental Restoration Wastes.

Waste Characterization Strategy Forms have been submitted to the following groups for review: Chemical and Mixed Waste Science, CST-5, and Environmental Services, ESH-19. The completed forms are included in Annex 7.6.

LANL Waste Profile Forms will be completed for each waste type that is expected to be submitted for disposal.

5.0 DESCRIPTION OF CONFIRMATORY/VERIFICATION SAMPLING

Because of the containment of the contamination within the tank, confirmatory sampling is not necessary at the site.

6.0 ESTIMATED TIME TO COMPLETE THE ACTION AND UNCERTAINTIES

This activity will take one week to complete (excluding the time required for the disposition of the waste). A tentative start date is September 9, 1996.

7.0 ANNEXES

ANNEX 7.1

RISK-BASED CLEANUP LEVEL ASSUMPTIONS AND CALCULATIONS

Because of the continuing potential for release of COPCs to the environment, all contents of the tank will be removed and disposed of either on or off Laboratory property. Therefore, risk-based cleanup levels are not applicable.

Surface soil samples surrounding the outfall and along the surface water migration pathway were subjected to a risk-based assessment. No VOCs or SVOCs were detected in the soil samples. One HE (RDX) was detected from soils along the outfall area. The concentration of RDX was below SALs and was not considered a COPCs. Several inorganics (metals and total uranium) were detected in the soil samples. A comparison to their background UTLs of these detected inorganics was performed. Analytes above background UTLs were compared to their respective SALs. No metals or total uranium were detected in the surface soil above SALs.

A multiple chemical analysis (MCA) was conducted on analytes detected in the soil samples at concentrations above background. Only one analyte was available for the carcinogenic and radionuclide categories. The MCA for these categories was not performed. Analytes in the noncarcinogenic category include antimony, copper, and mercury. Results of the MCA indicated that the concentrations of these metals are unlikely to produce adverse health effects.

Analytes detected in the soil samples were also compared to ESALs. Three inorganic ecological COPCs—antimony, copper, and mercury—were detected at levels above background UTLs and ESALs. The RFI report concluded that any ecological receptors at the PRS would use an area much larger than the area sampled, making it unlikely that the COPCs from this area alone would produce significant adverse effects to the environment. However, a revised methodology for ecological risk assessment is under development and the actual significance of these concentrations above ESALs cannot be assessed at this time.

ANNEX 7.2

RFI ANALYTICAL RESULTS

The information in this annex is a modification of Table 4-3 of the RFI report (Environmental Restoration Project 1995, 1335). Sample results above SALs (where available) are shown in bold. Complete sample information is presented in the RFI report.

TABLE 7.2-1

DATA COMPARISON OF ANALYTES DETECTED AT PRS-36-003(b)

ANALYTE	LOCATION NUMBER	SAMPLE ID NUMBER	DEPTH (in.)	MATRIX	SAMPLE VALUE	BACKGROUND UTL	SAL	UNITS
INORGANICS								
Antimony	36-3104	AAB1885	0 - 6	Surface Soil	6.3	2.5	32	mg/kg
Arsenic*	36-3100	AAB1881	N/A**	Tank Liquid	4.9	N/A*	50	µg/L
	36-3101	**AAB1882**	**N/A**	**Tank Sludge**	**154**	**N/A**	**50**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**132**	**N/A**	**50**	**µg/L**
Barium	36-3100	AAB1881	N/A	Tank Liquid	43.2	N/A	2,000	µg/L
	36-3101	**AAB1882**	**N/A**	**Tank Sludge**	**14,500**	**N/A**	**2,000**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**10,600**	**N/A**	**2,000**	**µg/L**
Beryllium	**36-3101**	**AAB1882**	**N/A**	**Tank Sludge**	**67.9**	**N/A**	**4**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**83.4**	**N/A**	**4**	**µg/L**
Cadmium	**36-3101**	**AAB1882**	**N/A**	**Tank Sludge**	**21.4**	**N/A**	**5**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**75.2**	**N/A**	**5**	**µg/L**
Chromium	**36-3101**	**AAB1882**	**N/A**	**Tank Sludge**	**668**	**N/A**	**100**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**925**	**N/A**	**100**	**µg/L**
Cobalt	36-3101	AAB1882	N/A	Tank Sludge	388	N/A	N/A	µg/L
	36-3101	AAB1884	N/A	Tank Sludge	440	N/A	N/A	µg/L
Copper	36-3100	AAB1881	N/A	Tank Liquid	2	N/A	1300	µg/L
	36-3101	**AAB1882**	**N/A**	**Tank Sludge**	**2,670**	**N/A**	**1,300**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**4,960**	**N/A**	**1,300**	**µg/L**
	36-3104	AAB1885	0 - 6	Surface Soil	33.1	15.7	3,000	mg/kg
	36-3104	AAB1886	0 - 6	Surface Soil	318	15.7	3,000	mg/kg

* Analytes in bold type are present at concentrations greater than SALs.

* * N/A = not available.

TABLE 7.2-1

DATA COMPARISON OF ANALYTES DETECTED AT PRS-36-003(b)
(continued)

ANALYTE	LOCATION NUMBER	SAMPLE ID NUMBER	DEPTH (in.)	MATRIX	SAMPLE VALUE	BACKGROUND UTL	SAL	UNITS
INORGANICS								
Copper (con't)	36-3105	AAB1887	0 - 6	Surface Soil	17.1	15.7	3,000	mg/kg
	36-3106	AAB1888	0 - 6	Surface Soil	34.3	15.7	3,000	mg/kg
Lead	36-3100	AAB1881	N/A	Tank Liquid	4.1	N/A	50	µg/L
	36-3101	**AAB1882**	**N/A**	**Tank Sludge**	**12,700**	**N/A**	**50**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**7,633**	**N/A**	**50**	**µg/L**
Manganese	**36-3101**	**AAB1882**	**N/A**	**Tank Sludge**	**22,500**	**N/A**	**180**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**22,800**	**N/A**	**180**	**µg/L**
Mercury	**36-3101**	**AAB1882**	**N/A**	**Tank Sludge**	**30**	**N/A**	**2**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**81.8**	**N/A**	**2**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**76.11**	**N/A**	**2**	**µg/L**
	36-3104	AAB1885	0 - 6	Surface Soil	0.15	0.1	24	mg/kg
	36-3104	AAB1886	0 - 6	Surface Soil	0.16	0.1	24	mg/kg
	36-3106	AAB1888	0 - 6	Surface Soil	0.16	0.1	24	mg/kg
Nickel	**36-3101**	**AAB1882**	**N/A**	**Tank Sludge**	**744**	**N/A**	**100**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**794**	**N/A**	**100**	**µg/L**
Silver	**36-3101**	**AAB1882**	**N/A**	**Tank Sludge**	**1,880**	**N/A**	**170**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**818**	**N/A**	**170**	**µg/L**
Vanadium	36-3100	AAB1881	N/A	Tank Liquid	13.3	N/A	240	µg/L
	36-3101	**AAB1882**	**N/A**	**Tank Sludge**	**733**	**N/A**	**240**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**861**	**N/A**	**240**	**µg/L**

TABLE 7.2-1

DATA COMPARISON OF ANALYTES DETECTED AT PRS-36-003(b)
(concluded)

ANALYTE	LOCATION NUMBER	SAMPLE ID NUMBER	DEPTH (in.)	MATRIX	SAMPLE VALUE	BACKGROUND UTL	SAL	UNITS
INORGANICS								
Zinc	36-3099	AAB1879	N/A	Tank Liquid	40.4	N/A	10,000	µg/L
	36-3100	AAB1880	N/A	Tank Liquid	44.2	N/A	10,000	µg/L
	36-3100	AAB1881	N/A	Tank Liquid	109	N/A	10,000	µg/L
	36-3101	**AAB1882**	**N/A**	**Tank Sludge**	**50700**	**N/A**	**10,000**	**µg/L**
	36-3101	**AAB1884**	**N/A**	**Tank Sludge**	**41900**	**N/A**	**10,000**	**µg/L**
ORGANICS								
RDX	36-3106	AAB1888	0-6	Surface Soil	0.51	N/A	64	mg/kg
	36-3099	AAB1879	N/A	Tank Liquid	128	N/A	N/A	µg/L
RADIONULCIDES								
Uranium (total)	36-3100	AAB1880	N/A	Tank Liquid	130	N/A	N/A	µg/L
	36-3100	AAB1881	N/A	Tank Liquid	130	N/A	N/A	µg/L
	36-3101	AAB1882	N/A	Tank Sludge	143	N/A	N/A	µg/L
	36-3101	AAB1884	N/A	Tank Sludge	533	N/A	N/A	µg/L
	36-3104	AAB1885	0 - 6	Surface Soil	63.2	5.71	160	mg/kg
	36-3104	AAB1886	0 - 6	Surface Soil	84.5	5.71	160	mg/kg
	36-3105	AAB1887	0 - 6	Surface Soil	11.2	5.71	160	mg/kg
	36-3106	AAB1888	0 - 6	Surface Soil	32.3	5.71	160	mg/kg
	36-3107	AAB1889	0 - 6	Surface Soil	9.0	5.71	160	mg/kg

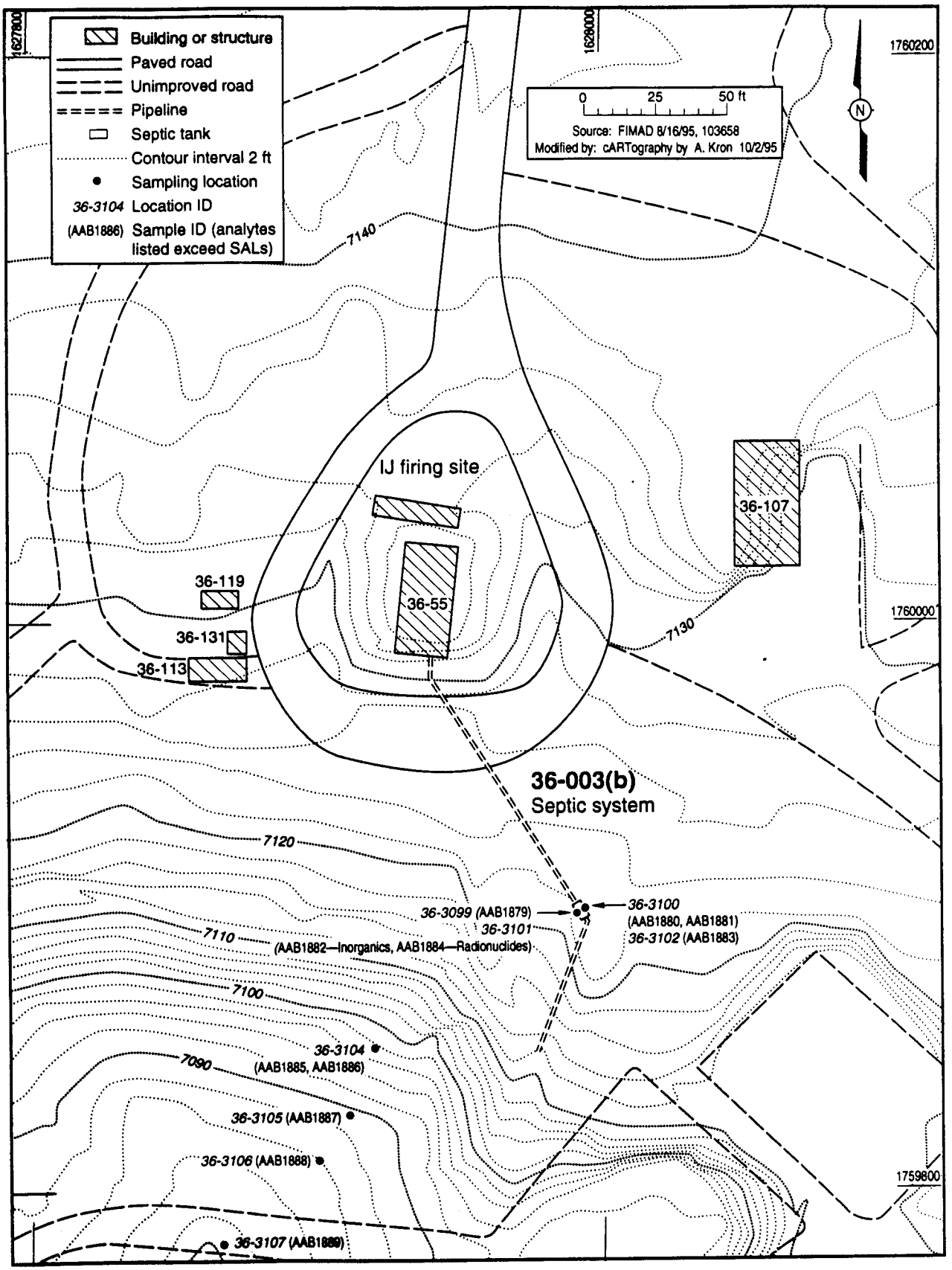

Figure 7.2-1. Septic system with sample locations and identifiers.

ANNEX 7.3

IMPLEMENTATION SOPS

See Environmental Restoration Standard Operating Procedures Volumes I and II, November 17, 1993, Los Alamos National Laboratory.

ANNEX 7.4

QUALITY ASSURANCE PLAN

See Quality Assurance Project Plan for Environmental Restoration, February 1995 revision, Los Alamos National Laboratory.

ANNEX 7.5

SITE-SPECIFIC HEALTH AND SAFETY PLAN

Los Alamos National Laboratory Environmental Restoration Project Health and Safety Plan, February 11, 1995, Los Alamos National Laboratory. A Site-Specific Health and Safety Plan has been prepared, reviewed, and approved in accordance with the Environmental Restoration Project Plan and requirements of the operating group at TA-36.

ANNEX 7.6

WASTE MANAGEMENT CHECKLIST

Los Alamos
NATIONAL LABORATORY
memorandum

Engineering Sciences and Applications
ESA-EPE, Energy and Process Engineering

To/MS: Memo To The File
From/MS: T. E. Gene Gould, ESA-EPE, G787
Phone/FAX: 7-0402/5-1976
Date: September 9, 1996

SUBJECT: CHARACTERIZATION STRATEGY FORM

Based on my review of available information and my professional judgment, it is not necessary to sample for tritium because it is not a potential contaminant at PRS 36-003(b).

TEG/nr

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
All Waste Types of Wastestreams: Septic Tank Liquid; Sludge-Slurry; Low-Particulate Decontamination Water; Sampling/Waste Management Equipment		

Completed By: Stephanie Stoddard	Date: 8/28/96
FPL: T. E. Gene Gould	WMC: Jeff Bingham
Type of Activity (site investigation, EC, etc.): Voluntary Corrective Action	

Description of the Activity (e.g., drilling, surface sampling, excavation and recontouring, soil washing, etc.)The liquids and sludge contained in the I-J firing site septic tank (PRS 36-003(b)) will be pumped out of the tank, and the tank will be rinsed to remove residual sludge. If the first rinse does not effectively remove all residual sludge, additional rinses may be performed. The tank liquids and sludge were analyzed in 1994 for VOCs, SVOCs, metals, mercury, HE, and total uranium. Table 7.2-1 of the Voluntary Corrective Action Plan compares detected analytes to their respective screening action levels. No VOCs or SVOCs were detected. Analytical results for the tank liquids indicate that the liquids are low-level radioactive (non hazardous), and may meet the waste acceptance criteria of LANL's Radioactive Liquid Waste Treatment Facility (RLWTF). If these liquids cannot be accepted by the RLWTF, they will be solidified and sent to TA-54 Area G for disposal.

Analytical results for the sludge (EPA SW 846 Method 6010) indicate that the sludge may exhibit the characteristic of toxicity for lead. The sludge will be re-analyzed, using SW 846 Method 1311, for TCLP metals. If the analytical results show that the waste will carry EPA Hazardous Waste Number D008, the sludge (and possibly the first decontamination rinse liquids) will be stabilized using Portland cement such that the final waste form will no longer exhibit the characteristic of toxicity for lead. Stabilization using Portland cement is recongized by the EPA as the best demonstrated available technology (BDAT) for D008 wastes. If TCLP results indicate that the waste exhibits a characteristic other than D008, the waste will be shipped off site for disposal. The septic tank contents, decontamination rinses, and all other wastes generated by this activity will be segregated and stored within a less-than-90-day storage area in DOT approved 55-gallon drums pending approval for treatment and/or disposition.

Acceptable knowledge for the decontamination rinsewater (2nd, 3rd tank rinses, and sampling/equipment decontamination) indicate that this waste will be low level radioactive. If these liquids cannot be accepted by the RLWTF, they will be solidified and sent to TA-54 Area G for disposal. Typically, the first decontamination rinse is complete when visual inspection of the tank shows that very little sludge remains inside. A second decontamination rinse is utilized to remove the sludge residuals. If the tank contains sludge that is resistant to removal, a third decontamination rinse is used. Acceptable knowledge from previous tank decommissionings indicates that second and third decontamination rinses conservatively contain no more than 5% sludge. The 5% value is based upon field observation of in-tank sludge residuals, volume of decontamination water used, and very low turbidity in the rinsewater. Acceptable knowledge is documented in the official OU field log book.

Acceptable Knowledge

Site Description, Site History, and Historical Waste Generating Processes or Activities: (Include dates for site history):

The PRS 36-003(b) septic system consists of a subgrade septic tank, piping and associated outfall built to manage sanitary waste from a toilet and lavatory in TA-36-55 at the I-J Firing Site. The septic system was put into use in 1949 and served as a holding tank that was pumped periodically. The tank is made of precast concrete and measures 7 ft by 3.5 ft by 5.7 ft high (LANL 1993, 1088). A 3.5 ft by 2.7 ft removable concrete lid is located at the northwest (inflow) end. Extending from the concrete lid to the ground surface is a 2 ft diameter, steel manhole. An internal 2-ft-high concrete baffle extends wall-to-wall in front of the inlet pipe (LANL 1990, 0145). A vent stack is situated at the southeast (outflow) end of the tank. The outflow pipe extends from the tank and continues in he subsurface in a southwesterly direction. The outflow pipe was capped in 1989 to prevent potential direct discharges to the environment (LANL 1993, 1088). The inflow line remains open to the sanitary facilities in Building 36-55. The firing site and support buildings were taken out of service prior to the 1994 sampling. Prior to 1994, TA-36-55 was locked and access to the building controlled administratively from the time it was locked to the present. The I-J Firing Site is being decommissioned; thus, the septic system will not be used in the future.

Previous Investigation Analytical Results: (Report the analytical methods and results above background levels)

Although there is no archival information indicating that contaminants of potential concern (COPCs) were discharged into the septic system, it was recognized that organic solvents, metals, high explosives (HE), and depleted uranium could be present (LANL 1993, 1088). In 1981, the system was tested for HE, TNT, RDX, and HMX, with negative results (Gonzales, 1981, 14985). In 1994, a total of 11 samples were collected from the septic tank liquids, sludge, and surrounding soils. Samples were analyzed for the following: SW846 Methods 8240, 8270, 6010, 7470; HE; and total uranium. Table 7.2-1 of the Voluntary Corrective Action Plan for this PRS compares detected analytes to their respective screening action levels.

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Septic Tank Liquid		

Waste Description

Description of Waste Type, Potential Contaminants, Volume Estimate, and Waste Packaging:

Waste Type Description:	Septic Tank Liquid
Potential Regulatory Status:	Low-level Radioactive Waste
Volume Estimate:	500 gallons
Waste Packaging:	Tanker Truck or 55-gallon drums

Characterization Strategy

Description of Strategy:

The septic tank liquids will be characterized based on previous analytical results that show the waste to be low-level radioactive. This waste stream is a candidate for the Radioactive Liquid Waste Treatment Facility. See Table 7.2-1 of the Voluntary Corrective Action Plan for analytes detected in the septic tank liquids.

Waste Sampling*: (If sampling will be used, indicate how many grab or composite samples will be collected per container or volume of waste and whether the waste is considered homogeneous or heterogeneous.)

No further sampling of this waste stream is planned.

* Grab sampling is appropriate for wastes that are fairly homogeneous, such as liquid wastes.
* Composite sampling is appropriate for wastes that are heterogeneous, such as soil, sediment, and debris.
* A sample of homogeneous or heterogeneous waste collected for VOC analysis should consist of a grab sample rather than a composite sample.

Analytical Strategy

Analyte Category	Analytical Method	May be Present (yes, no, unknown)	Direct Sampling of Containerized Waste	Acceptable Knowledge Existing Information	Acceptable Knowledge Data from Proposed Site Characterization
Volatile Organic Constituents		no		X	
Semivolatile Constituents		no		X	
Organic Pesticides		no		X	
Organic Herbicides		no		X	
Pesticides and PCBs		no		X	
PCBs		no		X	

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Septic Tank Liquid		

Analytical Strategy (Continued)

Analyte Category	Analytical Method	May be Present (yes, no, unknown)	Direct Sampling of Containerized Waste	Acceptable Knowledge Existing Information	Acceptable Knowledge Data from Proposed Site Characterization
Total Metals		yes		X	
Total Cyanide		no		X	
Other Inorganic Constituents (specify)		no		X	
High Explosive Constituents		yes		X	
Asbestos		no		X	
TPH		no		X	
TCLP Metals		no		X	
TCLP Organics		no			
TCLP Pesticides and Herbicides		no		X	
Gross Alpha		no		X	
Gross Beta		no		X	
Gross Gamma		no		X	
Tritium[1]		no		X	
Gamma Spectroscopy		no		X	
Isotopic Plutonium		no		X	
Total Plutonium		no		X	
Isotopic Uranium		yes		X	
Total Uranium		yes		X	
Strontium-90		no		X	
Americium-241		no		X	

[1] If tritium is not expected, attach a statement signed by the FPL stating that, based on a review of the available information and professional judgment, it is not necessary to sample for tritium at this site.

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Septic Tank Liquid		

Preliminary RCRA Determination

Based on available information, indicate the waste and whether it could potentially be any of the wastes as defined in 40 CFR 261. List the F-, D-, K-, P-, or U- category and number.

Phase I sample results indicate the septic tank liquids are non-hazardous.

Preliminary RCRA Status

__X__ Non-RCRA: (No 90-Day Storage Requirement)
Describe how waste will be stored/handled:

The waste, if stored, will be kept in less-than-90-day storage area but segregated from the hazardous waste and prominently labeled as low-level radioactive waste.

_____ RCRA: (90-Day Storage Requirement)
Waste will be stored/handled in accordance with 20 NMAC Generator Requirements

Preliminary Determination for Radioactivity

Based on available information, indicate the amount and type of radiation contamination expected in the waste.

Table 7.2-1 of the Voluntary Corrective Action Plan lists total Uranium concentration at 130 parts per billion.

Preliminary Radioactivity Status

_____ Material is not radioactive
Describe how waste will be stored/handled

__X__ Material is radioactive
Describe the controlled area, labeling, and protection against inadvertent contamination

This waste will be managed as low-level radioactive waste. If stored, it will be kept in a less-than-90-day storage area segregated from hazardous waste.

A volume contamination controlled area will be set up. All radioactive material will be managed in accordance with LP-107.02 (Radiological Posting), LS-105.05 (Removing Waste from Radiation Control Areas), and LP-107.04 (Releasing Equipment and Materials from Radiation Control Areas).

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Sludge/Sludge-Slurry		

Waste Description

Description of Waste Type, Potential Contaminants, Volume Estimate, and Waste Packaging:

Specific Waste Type:	Sludge/Sludge-slurry
Waste Type Description:	Septic tank sludge and slurry from first tank decontamination rinse
Volume Estimate:	200 gallons
Waste Packaging:	DOT approved 55-gallon drums

Characterization Strategy

Description of Strategy:

The septic tank sludge will be removed from the tank by using a portable pump or vacuum tank system. The sludge will be reanalyzed using EPA SW 846 Method 1311 for toxicity characteristics (metals). One representative composite sample will be taken from the sludge. The sludge is expected to pump easily. A pressure rinse (first decon rinse) will be utilized to remove any remaining sludge from the subsurface tank. If the sludge is not easily pumped, then the first rinse will contain a significant amount of sludge, and the first rinse will be added to the sludge, creating a sludge-slurry. The sludge sample taken prior to the addition of the first decontamination rinse (if added) will be considered representative of the sludge-slurry waste. If the sludge pumps easily, and the first decontamination rinse is <5% sludge, then the first decontamination rinse will be segregated and managed in the same fashion as second and third tank decontamination rinses.

Waste Sampling*: (If sampling will be used, indicate how many grab or composite samples will be collected per container or volume of waste and whether the waste is considered homogeneous or heterogeneous.)

Prior to tank decontamination, the sludge will be pumped into DOT approved 55-gallon drums. The sludge will be homogenized inside the drums, and one subsample will be collected from each drum. The subsamples will then be composited and submitted for a TCLP analysis.

* Grab sampling is appropriate for wastes that are fairly homogeneous, such as liquid wastes.
* Composite sampling is appropriate for wastes that are heterogeneous, such as soil, sediment, and debris.
* A sample of homogeneous or heterogeneous waste collected for VOC analysis should consist of a grab sample rather than a composite sample.

Analytical Strategy

Analyte Category	Analytical Method	May be Present (yes, no, unknown)	Direct Sampling of Containerized Waste	Acceptable Knowledge Existing Information	Acceptable Knowledge Data from Proposed Site Characterization
Volatile Organic Constituents		no		X	
Semivolatile Constituents		no		X	
Organic Pesticides		no		X	
Organic Herbicides		no		X	
Pesticides and PCBs		no		X	
PCBs		no		X	

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Sludge/Sludge-Slurry		

Analytical Strategy (Continued)

Analyte Category	Analytical Method	May be Present (yes, no, unknown)	Direct Sampling of Containerized Waste	Acceptable Knowledge Existing Information	Acceptable Knowledge Data from Proposed Site Characterization
Total Metals		yes		X	
Total Cyanide		no		X	
Other Inorganic Constituents (specify)		no		X	
High Explosive Constituents		yes		X	
Asbestos		no		X	
TPH		no		X	
TCLP Metals		unk	x		
TCLP Organics		no			
TCLP Pesticides and Herbicides		no		X	
Gross Alpha		no		X	
Gross Beta		no		X	
Gross Gamma		no		X	
Tritium[2]		no		X	
Gamma Spectroscopy		no		X	
Isotopic Plutonium		no		X	
Total Plutonium		no		X	
Isotopic Uranium		yes		X	
Total Uranium		yes		X	
Strontium-90		no		X	
Americium-241		no		X	

[2] If tritium is not expected, attach a statement signed by the FPL stating that, based on a review of the available information and professional judgment, it is not necessary to sample for tritium at this site.

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Sludge/Sludge-Slurry		

Preliminary RCRA Determination

Based on available information, indicate the waste and whether it could potentially be any of the wastes as defined in 40 CFR 261. List the F-, D-, K-, P-, or U- category and number.

Phase I sample results indicate the possibility of soluble lead at levels that slightly exceed RCRA values for toxicity characteristic (D008) waste.

Preliminary RCRA Status

____ Non-RCRA: (No 90-Day Storage Requirement)
Describe how waste will be stored/handled:

__X__ RCRA: (90-Day Storage Requirement)
Waste will be stored/handled in accordance with 20 NMAC Generator Requirements

The waste will be stored/handled in accordance with 20 NMAC Generator Requirementsuntil sample results indicate otherwise.

Preliminary Determination for Radioactivity

Based on available information, indicate the amount and type of radiation contamination expected in the waste.

Table 7.2-1 of the Voluntary Corrective Action Plan lists the maximum total uranium concentration at 533 parts per billion.

Preliminary Radioactivity Status

_____ Material is not radioactive
Describe how waste will be stored/handled

__X__ Material is radioactive
Describe the controlled area, labeling, and protection against inadvertent contamination

This waste will be managed as low-level radioactive waste and stored in a less-than-90-day storage area.

A volume contamination controlled area will be set up. All radioactive material will be managed in accordance with LP-107.02 (Radiological Posting), LS-105.05 (Removing Waste from Radiation Control Areas), and LP-107.04 (Releasing Equipment and Materials from Radiation Control Areas).

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Low-Particulate Decontamination Rinsewater		

Waste Description

Description of Waste Type, Potential Contaminants, Volume Estimate, and Waste Packaging:

Waste Type Description:	Second, third, and potentially first tank decontamination rinsewater; equipment and PPE decontamination rinsewater
Potential Regulatory Status:	Low-level Radioactive Waste
Volume Estimate:	100 to 150 gallons
Waste Packaging:	55-gallon drums

Characterization Strategy

Description of Strategy:

The liquid decontamination waste will be characterized based on the analytical results from the sludge from the Phase I RFI sampling and the TCLP sample to be taken. Acceptable knowledge from previous tank decommissionings indicates that these decontamination liquids will contain no more than 5% sludge. This acceptable knowledge will be documented in the official OU 1130 field logbook.

Waste Sampling*: (If sampling will be used, indicate how many grab or composite samples will be collected per container or volume of waste and whether the waste is considered homogeneous or heterogeneous.)

No direct sampling of this waste will be performed.

* Grab sampling is appropriate for wastes that are fairly homogeneous, such as liquid wastes.
* Composite sampling is appropriate for wastes that are heterogeneous, such as soil, sediment, and debris.
* A sample of homogeneous or heterogeneous waste collected for VOC analysis should consist of a grab sample rather than a composite sample.

Analytical Strategy

Analyte Category	Analytical Method	May be Present (yes, no, unknown)	Direct Sampling of Containerized Waste	Acceptable Knowledge Existing Information	Acceptable Knowledge Data from Proposed Site Characterization
Volatile Organic Constituents		no		X	
Semivolatile Constituents		no		X	
Organic Pesticides		no		X	
Organic Herbicides		no		X	
Pesticides and PCBs		no		X	
PCBs		no		X	

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Low-Particulate Decontamination Rinsewater		

Analytical Strategy (Continued)

Analyte Category	Analytical Method	May be Present (yes, no, unknown)	Direct Sampling of Containerized Waste	Acceptable Knowledge Existing Information	Acceptable Knowledge Data from Proposed Site Characterization
Total Metals		yes		X	
Total Cyanide		no		X	
Other Inorganic Constituents (specify)		no		X	
High Explosive Constituents		yes		X	
Asbestos		no		X	
TPH		no		X	
TCLP Metals		no		X	
TCLP Organics		no		X	
TCLP Pesticides and Herbicides		no		X	
Gross Alpha		no		X	
Gross Beta		no		X	
Gross Gamma		no		X	
Tritium[3]		no		X	
Gamma Spectroscopy		no		X	
Isotopic Plutonium		no		X	
Total Plutonium		no		X	
Isotopic Uranium		yes		X	
Total Uranium		yes		X	
Strontium-90		no		X	
Americium-241		no		X	

[3] If tritium is not expected, attach a statement signed by the FPL stating that, based on a review of the available information and professional judgment, it is not necessary to sample for tritium at this site.

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: Low-Particulate Decontamination Rinsewater		

Preliminary RCRA Determination

Based on available information, indicate the waste and whether it could potentially be any of the wastes as defined in 40 CFR 261. List the F-, D-, K-, P-, or U- category and number.

Non-hazardous. TCLP metal levels in the sludge were only slightly elevated.

Preliminary RCRA Status

__X__ Non-RCRA: (No 90-Day Storage Requirement)
Describe how waste will be stored/handled:

The waste, if stored, will be kept in less-than-90-day storage area, but segregated from the hazardous waste and prominently labeled as low-level radioactive waste.

_____ RCRA: (90-Day Storage Requirement)
Waste will be stored/handled in accordance with 20 NMAC Generator Requirements

Preliminary Determination for Radioactivity

Based on available information, indicate the amount and type of radiation contamination expected in the waste.

Table 7.2-1 of the Voluntary Corrective Action Plan lists maximum total uranium concentration of sludge at 533 parts per billion.

Preliminary Radioactivity Status

_____ Material is not radioactive
Describe how waste will be stored/handled

__X__ Material is radioactive
Describe the controlled area, labeling, and protection against inadvertent contamination

After containerization, the waste will be managed as low-level radioactive waste and stored in a less-than-90-day storage area segregated from hazardous waste.

A volume contamination controlled area will be set up. All radioactive material will be managed in accordance with LP-107.02 (Radiological Posting), LS-105.05 (Removing Waste from Radiation Control Areas), and LP-107.04 (Releasing Equipment and Materials from Radiation Control Areas).

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: PPE and Sampling/Waste Management Equipment		

Waste Description

Description of Waste Type, Potential Contaminants, Volume Estimate, and Waste Packaging:

Waste Type Description:	PPE and Sampling/Waste Management Equipment
Potential Regulatory Status:	Low-level Radioactive Waste, Mixed Waste, Non-hazardous-non-radioactive waste
Volume Estimate:	< 3 ft^3
Waste Packaging:	55-gallon drum

Characterization Strategy

Description of Strategy:

If possible, the PPE and sampling/waste management equipment will be decontaminated prior to reuse/disposal. After decontamination, the items will be field screened for gross alpha, beta, and gamma radiation in accordance with LANL-ER-SOP-10.07. The items will be inspected to determine if there is any visible contamination. If the items are not visibly contaminated and are nonradioactive, they will be managed as non-hazardous, non-radioactive waste. Visibly contaminated items may be managed either as hazardous waste or as mixed waste, based upon the results of field screening and upon the results of the TCLP analysis for the septic tank sludge. Visibly contaminated items will be stored as hazardous waste until sample results indicate otherwise. All non-visibly contaminated items that cannot be released as non-radioactive will be managed as low-level radioactive waste.

Waste Sampling*: (If sampling will be used, indicate how many grab or composite samples will be collected per container or volume of waste and whether the waste is considered homogeneous or heterogeneous.)

No direct sampling of this waste will be performed.

* Grab sampling is appropriate for wastes that are fairly homogeneous, such as liquid wastes.
* Composite sampling is appropriate for wastes that are heterogeneous, such as soil, sediment, and debris.
* A sample of homogeneous or heterogeneous waste collected for VOC analysis should consist of a grab sample rather than a composite sample.

Analytical Strategy

Analyte Category	Analytical Method	May be Present (yes, no, unknown)	Direct Sampling of Containerized Waste	Acceptable Knowledge Existing Information	Acceptable Knowledge Data from Proposed Site Characterization
Volatile Organic Constituents		no		X	
Semivolatile Constituents		no		X	
Organic Pesticides		no		X	
Organic Herbicides		no		X	
Pesticides and PCBs		no		X	
PCBs		no		X	

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: PPE and Sampling/Waste Management Equipment		

Analytical Strategy (Continued)

Analyte Category	Analytical Method	May be Present (yes, no, unknown)	Direct Sampling of Containerized Waste	Acceptable Knowledge Existing Information	Acceptable Knowledge Data from Proposed Site Characterization
Total Metals		yes		X	
Total Cyanide		no		X	
Other Inorganic Constituents (specify)		no		X	
High Explosive Constituents		yes		X	
Asbestos		no		X	
TPH		no		X	
TCLP Metals		unk		X	
TCLP Organics		no		X	
TCLP Pesticides and Herbicides		no		X	
Gross Alpha		no		X	
Gross Beta		no		X	
Gross Gamma		no		X	
Tritium[4]		no		X	
Gamma Spectroscopy		no		X	
Isotopic Plutonium		no		X	
Total Plutonium		no		X	
Isotopic Uranium		yes		X	
Total Uranium		yes		X	
Strontium-90		no		X	
Americium-241		no		X	

[4] If tritium is not expected, attach a statement signed by the FPL stating that, based on a review of the available information and professional judgment, it is not necessary to sample for tritium at this site.

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Specific Waste Type: PPE and Sampling/Waste Management Equipment		

Preliminary RCRA Determination

Based on available information, indicate the waste and whether it could potentially be any of the wastes as defined in 40 CFR 261. List the F-, D-, K-, P-, or U- category and number.

Visibly contaminated items: D008

Preliminary RCRA Status

__X__ Non-RCRA: (No 90-Day Storage Requirement)
Describe how waste will be stored/handled:

Visibly uncontaminated items that are non-radioactive will be segregated and managed as non-hazardous, non-radioactive waste.

__X__ RCRA: (90-Day Storage Requirement)
Waste will be stored/handled in accordance with 20 NMAC Generator Requirements

Visibly contaminated items that are radioactive will be segregated and, depending upon the results of the sludge TCLP analysis, may be managed as RCRA mixed waste. Visibly contaminated items that are non-radioactive will be segregated and may be managed as RCRA hazardous waste. Visibly contaminated items will be stored as hazardous waste until sample results indicate otherwise.

Preliminary Determination for Radioactivity

Based on available information, indicate the amount and type of radiation contamination expected in the waste.

Table 7.2-1 of the Voluntary Corrective Action Plan lists total uranium concentration at 533 parts per billion.

Preliminary Radioactivity Status

__X__ Material is not radioactive (Describe how waste will be stored/handled)

Visibly uncontaminated items that are non-radioactive will be segregated and managed as non-hazardous, non-radioactive waste.

__X__ Material is radioactive
Describe the controlled area, labeling, and protection against inadvertent contamination

This waste will be managed as low-level radioactive waste. If stored, it will be kept in a less-than-90-day storage area segregated from hazardous waste.

All radioactive items will be managed in accordance with LP-107.04 (Releasing Equipment and Materials from Radiation Control Areas) and LP-107.05 (Removing Waste from Radiation Control Areas). Visibly uncontaminated items that remain radioactive will be managed as low-level radioactive waste.

WASTE CHARACTERIZATION STRATEGY FORM

OU Number/FU	PRS/SWMU Number	Title
1130/FU-2	36-003(b)	I-J Firing Site Septic System
Waste Types of Wastestreams: Septic Tank Liquid; Sludge-Slurry, Low-Particulate Decontamination Water; Sampling/Waste Management Equipment		

Signatures:

Field Team Leader _____

Field Team Waste Management Coordinator Jeff Bingham

Waste Management Representative Mary Jane Wright 9/9/96

ANNEX 7.7

VCA CHECKLIST AND FIELDWORK AUTHORIZATION FORM

Voluntary Corrective Action (VCA)

Checklist and Fieldwork Authorization Form

PRS 36-003(b), Sump

√ COPC(s) defined.

√ Nature and extent defined or field screening method available to guide where not defined.

√ Remedy is obvious.

√ Time for removal is less than 6 months.

√ Remedy is final.

√ Land use assumptions straightforward.

√ Treatment, Storage, Disposal Facilities are available for waste type and volume.

√ Cleanup cost is reasonable for the planned action, and meets accelerated decision logic criterion for decision to proceed with VCA.

Explain criteria not checked above._____

Through reviewing the above criteria associated with this site, I believe that a VCA is the appropriate Accelerated Cleanup approach.

FPL _____ Date 8/29/96

FPC _____ for E. Trollinger Date 9/10/96

The undersigned have reviewed the final plan and believe that it fully satisfies the appropriate Accelerated Cleanup approach.

FPL _____ Date 9/6/96

FPC _____ for E. Trollinger Date 9/10/96

Through reviewing the VCA Plan, for site(s) **36-003(b)** and believing that the above criteria have been met, I authorize the fieldwork to proceed.

DOE ER Program Manager _____ Date 9/10/96

ANNEX 7.8

COST ESTIMATE

TABLE 7.8-1

COST ESTIMATE

Activity	Estimated Cost
Plan Development	$13,000
Mobilization	11,000
Cleanup	8,500
Verification Sampling	----
Waste Management	16,000
Waste Disposal	4,500
Demobilization	3,000
Reporting	9,700
Total Estimated Cost	**$65,700**

8.0 REFERENCES

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