

### 3.0 CONTAMINATE SOURCE POTENTIAL RELEASE SITES 53-002(a) AND (b)

#### 3.1 Evaluation of Sources of Waste for TA-53 Surface Impoundments

Two general sources of waste exist for the TA-53 surface impoundments (PRs 53-002(a) and (b)). The first source is discharges from the sanitary sewer and radioactive liquid waste lines. The second source is discharges of septic tank sludges. Available information was reviewed to characterize the specific types of waste associated with these sources. Information was available on sources of the waste, but not on waste composition or amounts of constituents.

Sources of sanitary and radioactive liquid wastes were identified from the series of wastewater stream characterization reports prepared for the Environmental Protection Group (ESH-8). Twelve reports were prepared for TA-53 (Santa Fe Engineering, 1993a; Santa Fe Engineering, 1993b; Santa Fe Engineering, 1993c; Santa Fe Engineering, 1993d; Santa Fe Engineering, 1993e; Santa Fe Engineering, 1993f; Santa Fe Engineering, 1993g; Santa Fe Engineering, 1993h; Santa Fe Engineering, 1993i; Santa Fe Engineering, 1993j; Santa Fe Engineering, 1993k; Santa Fe Engineering, 1993l). These reports evaluated discharges from 420 structures at TA-53. The reports identified every wastewater discharge from each of these facilities, identified sources contributing to each discharge, and identified where each discharge goes. Sixty facilities were identified which discharge to the sanitary sewer; a total of 70 separate discharges were identified for these facilities. Eight facilities were identified which discharge to the radioactive liquid waste system; a total of 11 separate discharges were identified for these facilities. These discharges and their associated sources are identified in **table 3.1**. The wastewater stream characterization reports did not identify any discharges of hazardous wastes to the sanitary sewer or radioactive liquid waste system.

The information presented in Table 3.1-1 shows that most of the outfalls should not have received discharges containing hazardous chemicals or radionuclides. Many of the outfalls receive only sanitary waste discharges (e.g., lavatories, water fountains) and should not have received hazardous constituents. Some of the outfalls were identified as receiving drainage from a variety of equipment including chillers, water heaters, pressure relief valves, air conditioners, boilers, compressors, and vacuum pumps. This drainage is not expected to contain hazardous chemicals.



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Table 3-1. Summary of Wastewater Sources at TA-53

Building No.	Sanitary Outfall No.	Radioactive Waste Outfall No.	Wastewater Sources	Satellite Area Present
1	53-1-OPN-1A		Ice machine, kitchen equipment, hand wash, general cleaning, toilet, urinal, water fountain, bar sink, coffee bar.	Yes
	53-1-OPN-1B		Floor wash, hand wash, clean up, non-emergency shower, toilet, urinal, water fountain, storm water, water heater drains, pressure relief valves, boiler blowdown, air conditioner condensate, air conditioner compressor discharge, air washer blowdown, clean room, humidifier drain.	
	53-1-OPN-1C		Hand wash, clean up, toilet, urinal, water fountain, storm water, floor drainage, chiller drain, backflow preventer, water heater pressure relief valve, boiler drains.	
	53-1-OPN-1D		Clean up, hand wash, non-emergency shower, toilet, urinal, water fountain, floor wash, steam condensate sump drain, steam pressure relief valve, boiler drain, deionized water tank drain, acid waste bypass overflow, potable water bypass overflow, vacuum pump cooling water, vacuum tank drain, vent lines, fire test, fire drain, water heater pressure relief valve, water heater drain lines, floor drainage.	
2	53-2-OPN-2		Equipment rinse, hand wash.	Yes
	53-2-OPN-3		Floor washings, hand wash, parts rinse, lavatory, hood drain, equipment rinse, backflow preventer drain, shower drain, toilet, urinal, water fountain.	
3	53-3-OPN-1		Backflow preventer, heating/air conditioning drain, potable water, floor wash, pump leak, oil catch pan, boiler relief, hot water expansion tank, boiler drain, compressed air tank, leaks in area, pressure relief valve drain, fire water drain, deionized water leaks, water heater relief, storm water, boiler pump drain, chemical feed drain, strainer/cooling water, water heater relief, hand wash, mop water, general washings, shower water, sanitary wastes, potable water, deionized water drain, hot water relief valve, heat exchanger leak, compressed air dyer, vacuum relief, chiller drain, heating and air conditioning drain, chiller pump drain, boiler discharge pipe, strainer/boiler system, strainer/tower system, chiller expansion tank, chiller discharge pipe.	Yes

**Table 3-1. Summary of Wastewater Sources at TA-53 (Continued)**

Building No.	Sanitary Outfall No.	Radioactive Waste Outfall No.	Wastewater Sources	Satellite Area Present
		53-3-OPN-2	Deionized water system, oil catch pan, cooling tower water, sump pump.	
4	53-4-OPN-1		Emergency shower, floor wash, lavatory, service sink, hand wash, toilet, urinal, drinking water, fire line drains, condensed water drain, backflow preventer drain, pressure relief drain, rinse water, diluted utensil rinse water.	Yes
6	53-6-OPN-1		Backflow preventer, pressure release drain, floor wash, air compressor drain, water fountain, lavatory, countertop sink, service sink, toilet, urinal.	No
	53-6-OPN-2		Backflow preventer, boiler pressure relief valve, lavatory, countertop sink, service sink, toilet, urinal, water fountain.	
7	53-7-OPN-2		Backflow preventer, hot water supply/return drains, air conditioning/heating condensate drains, hand wash.	Yes
	53-7-OPN-3		Cooling tower drains, air conditioning/heating condensate drains, handwash, general cleaning, toilet, urinal.	
		53-7-OPN-1	Deionized water system.	
		53-7-OPN-5	Deionized water system drain.	
7		53-7-OPN-6	Deionized water system drain, target moderator chiller drain, backflow preventer, sampling drains.	Yes
		53-7-OPN-7	Target tunnel drain, discharge from 53-368-OPN-1.	
8		53-8-OPN-1	Deionized water system.	Yes
10	53-10-OPN-1		Permanently plugged.	Yes
14	53-14-OPN-1		Backflow preventer drain, floor wash, deionized water drain, lavatory, service sink, hand wash, shower, toilet, drinking water, treated cooling water.	Yes
15	53-15-OPN-1		Potable water faucet, once through non-contact cooling, emergency eye wash/shower, water heater pressure relief valve and drain, handwash, countertop water filters, clean-up, general cleaning, toilet, urinal.	Yes
16	53-16-OPN-1		Not used.	Yes

Table 3-1. Summary of Wastewater Sources at TA-53 (Continued)

Building No.	Sanitary Outfall No.	Radioactive Waste Outfall No.	Wastewater Sources	Satellite Area Present
17	53-17-OPN-1		Domestic water pressure relief valve drain, water pressure relief valve drain, floor wash, lavatory, hand wash, service sink, hand wash, toilet, urinal, drinking fountain, fire line drain, water heater relief valve, fire line drain.	Yes
18	53-18-OPN-1		Equipment condensate drain, floor wash, sink drain (removed), condensed water drain, water heater relief valve, expansion tank, equipment drain, electric humidifier drain, hand wash	Yes
	53-18-OPN-2		Floor wash, backflow preventers, lavatory, service sink, hand wash, shower drain, equipment drain, toilet, urinal, water fountain.	
19	53-19-OPN-1		Air compressor drain, floor wash, water heater relief valve, lavatory, hand wash, shower, toilet, urinal, drinking fountain.	Yes
20	53-20-OPN-1		General cleaning.	No
21	53-21-OPN-1		Hand wash, toilet, urinal, water fountain.	No
22	53-22-OPN-1		Hand washing, drinking water	Yes
24	53-24-OPN-8		Floor drain, backflow preventer, mop bucket, hand wash, shower, toilet, urinal, water fountain, kitchen sink.	Yes
	53-24-OPN-13		Chiller drain, hand wash, toilet, urinal, water fountain.	
25	53-25-OPN-1		Hand/general washings, storm water, helium leak test drain.	Yes
26	53-26-OPN-1		Hand wash, fire water, roof drain.	Yes
27	53-27-OPN-1		Lavatory, service sink, toilet, urinal, drinking water.	No
28	53-28-OPN-1		Electronics cabinet condensate, backflow preventer, water fountain drain, deionized water system drain, water heater drain and pressure relief valve, cooling tower water drain, air conditioning/heating condensate drain, air compressor tank drain, general cleaning.	Yes
		53-28-OPN-2	Radioactive deionized water system.	

Table 3-1. Summary of Wastewater Sources at TA-53 (Continued)

Building No.	Sanitary Outfall No.	Radioactive Waste Outfall No.	Wastewater Sources	Satellite Area Present
30	53-30-OPN-1		Compressed air tank drain, discharge from 53-622-OPN-9, compressed air filter drain, boiler drains and pressure relief valves, hot water supply system drains, backflow preventer.	Yes
		53-30-OPN-2	Clean up, no other direct sources.	
31	53-31-OPN-1		Steam blowoff/pressure relief valve, backflow preventer, floor wash, lavatory, countertop sink, service sink, kitchenette sink, shower drain, toilet, water fountain, heating/cooling unit overflow.	No
36		53-36-OPN-1	Deionized water drain/cooling tower drain.	No
37	53-37-OPN-1		Hand wash, toilet.	No
39	53-39-OPN-1		Rinse water, emergency eye wash, hand wash, backflow preventer, sink drain, sanitary wastewater, toilet, water fountain.	No
40	53-40-OPN-1		Hand wash, clean-up, toilet.	No
43	53-43-OPN-1		Lavatory, toilet, urinal, water fountain.	No
44	53-44-OPN-1		Drinking fountain.	No
46	53-46-OPN-1		Handwash, janitorial sink, water heater pressure relief valve, toilet, urinal.	No
47	53-47-OPN-1		Drinking fountain.	No
315	53-315-OPN-1		Water heater, humidifier, sanitary rinse.	No
364	53-364-OPN-1		Hand washing.	Yes
365	53-365-OPN-1		Air conditioning coil condensate, ground water seepage into tunnel, humidifier condensate, deionized water system drain, backflow preventer drain, flows to oil interceptor, treated cooling water drain, hand wash, light cleaning, general cleaning, tunnel floor drains, toilet, drinking fountain, non-emergency shower, urinal, air conditioning/heating condensate and system drains, cooling water system drain, make up water system drain, fire system test drain.	Yes

Table 3-1. Summary of Wastewater Sources at TA-53 (Continued)

Building No.	Sanitary Outfall No.	Radioactive Waste Outfall No.	Wastewater Sources	Satellite Area Present
	53-365-OPN-2		Compressed air storage tank drain, boiler system drains, air compressor drains, boiler pressure relief valves, boiler drains, make-up water, water heater pressure relief valve, water heater drain, cooling water system drain, metered cooling tower blowdown, backflow preventer drain, air conditioner/heater condensate drain, make up water system drain, chilled water system drain.	
368		53-368-OPN-1	Deionized water system drain.	No
395	53-395-OPN-1		Non treated evaporator drain, hand wash, toilet, water fountain.	No
397	53-397-OPN-1		Hand wash, clean up, general cleaning, non-emergency shower, toilet.	No
398	53-398-OPN-1		Clean up, water fountain.	No
400	53-400-OPN-1		Lavatory, toilet, urinal.	No
401	53-401-OPN-1		Lavatory, toilet, urinal, water fountain.	No
402	53-402-OPN-1		Lavatory, toilet, water fountain.	No
403	53-403-OPN-1		Lavatory, toilet, urinal.	No
404	53-404-OPN-1		Lavatory, toilet, urinal.	Yes
405	53-405-OPN-1		Lavatory, toilet, urinal, water fountain.	No
406	53-406-OPN-1		Handwash, toilet, urinal	No
407	53-407-OPN-1		Handwash, toilet, urinal.	No
408	53-408-OPN-1		Lavatory, countertop sink, service sink, shower, toilet, water fountain.	No
409	53-409-OPN-1		Lavatory, service sink, countertop sink, toilet, water fountain.	No
410	53-410-OPN-1		Lavatory.	Yes
502		53-502-OPN-1	Clothes washing machine, hand wash, shower.	No

Table 3-1. Summary of Wastewater Sources at TA-53 (Continued)

Building No.	Sanitary Outfall No.	Radioactive Waste Outfall No.	Wastewater Sources	Satellite Area Present
523	53-523-OPN-1		Lavatory, toilet.	No
526	53-526-OPN-1		Hand wash, clean-up, non-emergency shower, toilet.	No
527	53-527-OPN-1		Kitchen sink.	No
544	53-544-OPN-1		Lavatory, toilet, drinking water.	No
570	53-570-OPN-1		Lavatory, toilet, urinal, drinking water.	No
577	53-577-OPN-1		Lavatory, shower drain, toilet, water fountain.	No
622	53-622-OPN-1		General cleaning, hand wash, non-emergency shower, toilet, urinal, water fountain.	Yes
	53-622-OPN-9		Air conditioning/heating drains.	
675	53-675-OPN-1		Lavatory, toilet, drinking water.	No
694	53-694-OPN-1		Shower.	No
882	53-882-OPN-1		Hand wash, clean up, water heater pressure relief valve, general cleaning, non emergency shower, toilet.	No
888	53-888-OPN-1		Lavatory, toilet.	No
889	53-889-OPN-1		Lavatory, toilet, shower, urinal	No
898	53-898-OPN-1		Sanitary rinse, sanitary wastewater.	Yes

A possible source of hazardous constituents appears to be improper disposal of chemicals to floor drains and sink drains. No records exist concerning disposal of chemicals to floor drains or sink drains. A review of the hazardous waste tracking system maintained by ESH-8 showed that 25 of the facilities listed in **Table 3-1** have hazardous waste accumulation areas (i.e., satellite areas). These facilities generate hazardous wastes and, presumably, could be sources of chemical discharge to the impoundments.

Historical information concerning septic sludge discharged to the TA-53 impoundments is very limited. Staff at the Waste Management Group (CST-7), ESH-8, and Johnson Controls (JCI) were interviewed to obtain information about these discharges. Information obtained from these interviews indicates that septic sludge from many of the technical areas at the Laboratory was taken to TA-53 for disposal. This practice may have started during the 1970s. During the period of approximately 1989 to 1991, the TA-53 impoundments apparently received all septic sludge at the Laboratory. Discharges of septic sludge to the sewage treatment plants was stopped during this period to prevent overloads. Records of pumping and disposal of septic tank waste prior to 1991 no longer exist.

Septic tanks whose contents may have been discharged to the TA-53 impoundments were identified from a list of septic tanks contained in the 1987 Comprehensive Environmental Assessment and Response Program (CEARP) Report (DOE, 1987), the 1990 Solid Waste Management Units (SWMU) Report (LANL, 1990), and the <sup>1991</sup> septic tank inventory maintained by ESH-8. These sources were reviewed to identify those tanks that were active and those that were taken out of service after 1970. These tanks, and comments concerning possible hazardous and radioactive contents, are presented in **Table 3-2**.

The information in **Table 3-2** shows that some of the septic tanks may have contained chemical or radioactive contamination. The sludge from these tanks, therefore, could be a source of hazardous constituents in the impoundments. Septic sludge was not characterized before disposal so no information exists concerning constituents that may actually have been disposed of to the impoundments.

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-0	TA-0-14	Active as of 1987 (1987 CEARP)	Could find no additional information.
<p>The 1990 SWMU report lists 13 septic systems in TA-0 for which the periods of use are not provided. Some of these septic systems listed in the SWMU report may be the same ones listed in the CEARP, but the corresponding structure numbers were not provided for correlation with the CEARP information. The SWMU report states that these septic systems presumably handled sanitary waste, although other potentially hazardous materials may also have been discharged to these systems. Nine out of 13 systems appear to be associated with residential areas and were apparently abandoned before the 1970s. Four systems served various Zia Company facilities (Fuel dispatch office, warehouses, materials testing laboratory).</p>			
TA-2	TA-2-43	Became inactive in the mid-1970s and removed in 1985 (1990 SWMU); decommissioned in 1986 (1987 CEARP)	May have received industrial liquids in the past in addition to sanitary wastes. In 1967, the sludge was reported to contain strontium-90, cesium-137, and uranium.
TA-3	TA-3-79	Active as of 1990 (The 1987 CEARP identifies TA-3-79 as being abandoned; however, an E.R. Program site reconnaissance survey in 1989 found the tank was active.)	Chemical contamination unknown.
	TA-3-272	Active as of 1990 (The 1987 CEARP identifies TA-3-272 as being abandoned; however, an E.R. Program site reconnaissance survey in 1989 found the tank was active.)	Chemical contamination unknown.

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
	TA-3-668	Status unknown as of 1990	Grease trap. Waste is probably grease from cafeteria drains. Chemical contamination unknown.
TA-3	TA-3-689	Abandoned prior to 1987, date not provided (1987 CEARP)	Chemical contamination unknown. Was discovered in 1989 during trenching activities. Probably served Bldg. 23 (formerly TA-3-282). No further information available (1990 SWMU).
	TA-3-1484	Active as of 1991	Possible chemical contamination from research and development (R&D) activities.
	TA-3-2035**	Active as of 1991	Holding tank and grease trap. Waste is probably grease from cafeteria drains. Chemical contamination unknown. Installation date unknown. Active until at least 1991 (1990 SWMU, 1991 list).
TA-6	TA-6-40**	Active as of 1991	Holding tank. Possible chemical contamination from laboratory operations at TA-6, including HE, solvents and other chemicals. Served Bldg. 1 (carpenter's shop) and Bldg. 3 (silkscreen facility). Operated 1946 to at least 1991(1987 CEARP, 1990 SWMU, 1991 list).
	TA-6-43**	Active as of 1991	Holding tank. Possible chemical contamination from laboratory operations at TA-6, including HE, solvents and other chemicals. Served Bldg. 6 (office, laboratory, and shop) from 1946 to at least 1991(CEARP 1987, 1990 SWMU, 1991 list).
TA-9	TA-9-48	Uncertain status as of 1987 (1987 CEARP)	Could find no additional information.
	TA-9-81	Abandoned 1970	Potential spent photo solutions and small quantities of industrial waste contamination. Tank may have received strontium-90 from TA-8. In operation from 1950 to 1970 (1987 CEARP, 1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
	TA-9-105	Active as of 1990	Potential spent photo solutions and small quantities of industrial waste contamination. In operation 1952 to at least 1990 (1987 CEARP, 1990 SWMU).
TA-9	TA-9-106	Active as of 1987; inactive as of 1990	Potential spent photo solutions and small quantities of industrial waste contamination. In operation from 1952 to sometime between 1987 and 1990 (1987 CEARP, 1990 SWMU).
	TA-9-107**	Active as of 1991	Holding tank. May be contaminated with toxic chemicals. Potential spent photo solutions and small quantities of industrial waste contamination. In operation from 1952 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-9-108	Active as of 1991	May contain chemicals and other materials from R&D activities. Potential spent photo solutions and small quantities of industrial waste contamination. In operation from 1952 to at least 1991(1987 CEARP, 1990 SWMU, 1991 list).
	TA-9-109	Active as of 1991	Potential spent photo solutions and small quantities of industrial waste contamination. In operation from 1952 to at least 1991(1987 CEARP, 1990 SWMU, 1991 list).
	TA-9-110**	Active as of 1991	Holding tank. Potential spent photo solutions and small quantities of industrial waste contamination. In operation from 1952 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-9-211	Abandoned 1986 (CEARP 1987)	Potential spent photo solutions and small quantities of industrial waste contamination. In operation from 1961(estimated) to 1986 (1990 SWMU).
TA-10	TA-10-39	Status Uncertain	This tank was listed in the CEARP as a septic tank, however, it was not listed in the 1990 SWMU report. It may have been confused with the liquid disposal tank, SWMU 10-003(i), that served TA-10-39.

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

<b>Technical Area</b>	<b>Structure No.</b>	<b>Tank Status as of the Date Specified</b>	<b>Comments</b>
TA-11	TA-11-20**	Active as of 1991	Holding tank. Potentially contaminated with HE; however nature of chemical contamination is unknown. Possibly received photographic chemical wastes. Tank was most likely connected only to sinks and sanitary facilities. In service from 1944 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-11-43	Active as of 1991	Potentially contaminated with HE; however, nature of chemical contamination is unknown. Tank was most likely connected only to sinks and sanitary facilities. In operation from 1963 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
TA-14	TA-14-19	Active as of 1991	Potentially contaminated with chemicals. Served Bldg. 6 (shop and a darkroom). In operation from 1955 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
TA-15	TA-15-00	Active as of 1991	Chemical contamination unknown. Served Hydrotest site. Date of installation unknown; active until at least 1991 (1990 SWMU, 1991 list)
	TA-15-00	Active as of 1991	Chemical contamination unknown. Served radiographic lab. Date of installation unknown; active until at least 1991 (1990 SWMU, 1991 list).
	TA-15-51	Active as of 1991	Potentially contaminated with chemicals. This tank was sampled for HE in 1981 and none was detected; no analyses were performed for other chemicals. Served Bldg. 20 (assembly shop). In operation from 1949 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-15-61	Active as of 1991	Primarily received sanitary waste; hazardous constituent contamination unknown. Served Bldg. 45. In operation from 1951 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-15	TA-15-62**	Active as of 1991	Holding tank. Possible chemical contamination. Primarily received sanitary waste; hazardous constituent contamination unknown. As of 1990, the tank had been sampled and no volatiles were detected. Served Bldg. 44. In operation from 1951 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-15-63	Active as of 1991	May have received photo processing waste. Served Bldg. 40 (office). In operation from 1951 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-15-72	Inactive as of 1987; semi-active as of 1990	Primarily received sanitary waste; hazardous constituent contamination unknown. Served Bldg. 27. In operation from 1947 to at least 1990 (1987 CEARP, 1990 SWMU).
	TA-15-80	Abandoned 1980 (1987 CEARP)	Could find no additional information.
	TA-15-195**	Active as of 1991	Chemical contamination from laboratory likely. In the past, the tank had required pumping due to scum development which might have indicated the presence of chemicals. As of 1990, the tank had been sampled and no volatiles were detected. Served Bldg. 183 (laboratory and office). In operation from 1961 to 1976 (old tank) and from 1976 to at least 1991 (new tank) (1987 CEARP, 1990 SWMU, 1991 list).
	TA-15-205	Active as of 1991	Potential chemical and solvent contamination from R&D activities. Could possibly have received mixed waste; however, LANL staff consider this unlikely. Serves Bldgs. 185 and 186 (PHERMEX facility). In operation from 1961 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
	TA-15-282	Active as of 1991	Primarily received sanitary waste; hazardous constituent contamination unknown. Serves Bldg. 280 (ECTOR facility). In operation from late 1970s to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
TA-15	TA-15-284	Active as of 1991	Possible solvent contamination such as kerosene and acetone. Serves Bldg. 233 (Betatron building); however tank was installed after the Betatron equipment had been removed. In operation from 1979 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-15-286	Active as of 1991	Possible solvent contamination from shop building. Serves Bldg. 285 (confinement and test facility). In operation from 1981 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
TA-16	TA-16-00	Active as of 1991	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. Served Bldg. 370 (1991 list). Date of installed unknown; active until at least 1991 (1990 SWMU, 1991 list).
	TA-16-161	Decommissioned, date not provided (1990 SWMU)	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. Served Bldgs. 42, 43, 44, and 45. Active from 1945 until unknown date prior to 1990 (1990 SWMU)
	TA-16-173	Abandoned 1971 (1987 CEARP); decommissioned and removed 1971 (1990 SWMU)	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. Active from 1949 to 1971 (1990 SWMU).
	TA-16-174	Decommissioned, date not provided (1987 CEARP). 1990 SWMU report indicates that this tank may not have been removed	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. Active from 1945 until unknown date prior to 1990 (1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-16	TA-16-175	Active as of 1991	Potential chemical contamination from R&D activities. Tank was sampled in November 1988. Volatiles were present and EP Toxic metals were below detection limits. Served Bldg. 54. Active from 1946 to 1988 (old tank) and 1988 to at least 1991 (new tank) (1987 CEARP, 1990 SWMU, 1991 list).
	TA-16-176	Decommissioned, date not provided (1990 SWMU); removed, date not provided (1987 CEARP)	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. In operation from 1945 until unknown date prior to 1987 (1990 SWMU).
	TA-16-178	Active as of 1991	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. Serves Bldg. 210. In operation from 1952 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-16-179	Decommissioned, date not provided (1987 CEARP and 1990 SWMU)	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. Serves Bldg. 37. In operation from 1948 until unknown date prior to 1987 (1987 CEARP and 1990 SWMU).
	TA-16-272	Decommissioned, date not provided (1990 SWMU)	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. Possibly received TNT, HMX, RDX, boron, and barium. Served Bldg. 260. In operation from 1951 until unknown date prior to 1990 (1990 SWMU).
	TA-16-371**	Active as of 1991	Holding tank. Potential chemical contamination from R&D activities. Served Bldg. 370. In operation from 1951 or 1953 to at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
	TA-16-381	Active as of 1991	Potential chemical contamination from R&D activities. Served Bldg. 380. In operation from 1952 or 1954 to at least 1991 (1987 CEARP, 1990 SWMU and 1991 list).
TA-16	TA-16-385**	Active as of 1991	Holding tank. Tank was sampled in November 1988. Volatiles were present and EP Toxic metals were below detection limits. Served Bldg. 389. In operation from 1963 to at least 1991 (1987 CEARP, 1990 SWMU and 1991 list).
	TA-16-504	1987 CEARP states tank was removed in 1960. 1990 SWMU states that tank was reportedly removed in 1963, but may not have been removed after all.	Received solvents and possibly received photographic solutions. In operation from 1948 to 1960, 1963, or unknown date (1987 CEARP and 1990 SWMU).
	TA-16-526	As of 1990, it was unknown whether tank was active or inactive (1990 SWMU)	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. In operation from 1945 until unknown date, status unknown (1990 SWMU).
	TA-16-527 (V-12, 1987 CEARP)	Became inactive prior to 1987 (CEARP)	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. May have handled liquids containing HE residues. In operation from 1944 until unknown date prior to 1987 (1990 SWMU).
	TA-16-1137	Decommissioned, date not provided (1990 SWMU)	Grease trap. Decommissioned prior to 1990, Could find no additional information (1990 SWMU).
	TA-16-1153	Active as of 1990	Some of the TA-16 tanks possibly received industrial waste. Volatile organic contamination has been detected in other TA-16 tanks. In operation from 1987 to at least 1990 (1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-18	TA-18-39	Active as of 1991	Potential radiological contamination. Received wash water from Kiva 1 drains. Waste contains uranium, plutonium, and perhaps hazardous materials. In operation from 1947 or 1950 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-18-40	Decommissioned prior to 1987 (1987 CEARP); reportedly removed before March 1980 (1990 SWMU)	Primarily received sanitary waste. Possibly received small quantities of solvents and other chemicals. May also have received beryllium, uranium-235, photo processing chemicals and hazardous chemicals. In operation from 1952 until sometime before March 1980 (1990 SWMU).
	TA-18-41	Decommissioned prior to 1987 (1987 CEARP); reportedly removed before March 1980 (1990 SWMU)	Primarily received sanitary waste. Possibly received small quantities of solvents and other chemicals. May also have received beryllium, uranium-235, photo processing chemicals and hazardous chemicals. In operation from 1952 until sometime before March 1980 (1990 SWMU).
	TA-18-42	Active as of 1991	Received wash water from Kiva 2 drains. Waste contains uranium, plutonium, and perhaps hazardous materials. In operation from 1950 or 1952 until at least 1991 (1987 CEARP, 1990 SWMU).
	TA-18-43	Removed prior to 1987 (1987 CEARP); reportedly removed before March 1980. (1990 SWMU)	Primarily received sanitary waste. Possibly received small quantities of solvents and other chemicals. May also have received beryllium, uranium-235, photo processing chemicals and hazardous chemicals. Served Bldgs. 1 and 47. In operation from 1944 until sometime before March 1980 (1990 SWMU).
	TA-18-105	Active as of 1990	Received wash water from Kiva 1 drains. Waste contains uranium, plutonium, and perhaps hazardous materials. Served Bldg. 23. In operation from 1946 until at least 1990 (1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

<b>Technical Area</b>	<b>Structure No.</b>	<b>Tank Status as of the Date Specified</b>	<b>Comments</b>
TA-18	TA-18-120	Active as of 1991	Potential contamination with radionuclides and oil. Received wash water from Kiva 3 drains. Waste contains uranium, plutonium, and perhaps hazardous materials. High oil content also reported. Served Bldg. 116. In operation from 1959 or 1960 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-18-152	Abandoned prior to 1987 (1987 CEARP); may have been removed, date unknown (1990 SWMU)	Primarily received sanitary waste. Possibly received small quantities of solvents and other chemicals. May also have received uranium-235 and beryllium. Served Bldg. 28. Date of installed unknown. Date abandoned or removed unknown, but prior to 1987 (1987 CEARP, 1990 SWMU).
TA-20	TA-20-49 (TA-0-276, 1987 CEARP)	Replaced in 1989	Received sanitary waste and may have received chemicals and solvents in the past. Date installed unknown; active until 1989 when it was replaced by septic system TA-72-18 (1987 CEARP, 1990 SWMU).
TA-22	TA-22-50	Active as of 1991	Potential contamination with HE waste (such as PETN, RDX, tetryl, and PBX). Serves Bldg. 34. In operation from 1952 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-22-51	Active as of 1991	Potential contamination with HE waste (such as PETN, RDX, tetryl, and PBX). Serves Bldgs. 1, 4, 5, 32, 52, 90, 91, and 93. In operation from 1952 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
TA-33	TA-33-23**	Active as of 1990	Holding tank. May have previously received HE waste. Serves Bldg. 181 (residential trailer) In operation from 1987 until at least 1990 (1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-33	TA-33-31	Active as of 1991	Several tanks in TA-33 are possibly contaminated with beryllium, mercury, lead, various organic constituents, and radioactive liquid waste (tritium and depleted uranium), especially TA-33-31. A radiation survey for tritium at tank 31 was negative. Served several laboratory buildings and machine shop. Possible chemical contamination. Active from before 1951 until at least 1991 (1987 CEARP, 1990 SWMU).
	TA-33-32	Decommissioned 1975 (1987 CEARP)	Could find no additional information.
	TA-33-33**	Active as of 1991	Holding tank. Several tanks in TA-33 are possibly contaminated with beryllium, mercury, lead, various organic constituents, and radioactive liquid waste (tritium and depleted uranium). Contamination information specific to this tank is not known. Serves Bldg. 24 (control building). Active from 1950 until at least 1991 (1987 CEARP, 1990 SWMU).
	TA-33-93	Active as of 1991	Potential radionuclide contamination in tank. This tank is not listed in the 1990 SWMU report, but according to the SWMU report, several tanks in TA-33 are possibly contaminated with beryllium, mercury, lead, various organic constituents, and radioactive liquid waste (tritium and depleted uranium). Serves Bldg. 86. Active from 1955 until at least 1991 (1987 CEARP, 1991 list).
	TA-33-96	Active as of 1991	Possible chemical contamination from a laboratory. Several tanks in TA-33 are possibly contaminated with beryllium, mercury, lead, various organic constituents, and radioactive liquid waste (tritium and depleted uranium). Serves Bldg. 87 (firing site control building). Active from 1955 until at least 1991 (1987 CEARP, 1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-33	TA-33-121	Active as of 1991	This tank may have received photo processing waste (including silver and other metals) and volatile organic compounds from the 1940s to the 1960s. Several tanks in TA-33 are possibly contaminated with beryllium, mercury, lead, various organic constituents, and radioactive liquid waste (tritium and depleted uranium). Serves Bldg. 1 (portable laboratory). (It is not clear whether the laboratory is still active; the 1990 SWMU report states it is inactive, and the 1991 list indicates that it is active). Active from 1957 until at least 1991 (1987 CEARP, 1990 SWMU & 1991 list).
	TA-33-161	Active as of 1987 (1987 CEARP); inactive as of 1990 (1990 SWMU)	Several tanks in TA-33 are possibly contaminated with beryllium, mercury, lead, various organic constituents, and radioactive liquid waste (tritium and depleted uranium). Contamination information specific to this tank is not known. Served Bldg. 169 (portable office building, now removed). Date installed is unknown; became inactive between 1987 and 1990 (1987 CEARP, 1990 SWMU).
	TA-33-179	Active as of 1991	Contamination information specific to this tank was not known. (Tank was not listed in the 1990 SWMU Report or 1987 CEARP). Active from 1987 until at least 1991 (1991 list).
	TA-33-206** (TA-33-HP23, 1991 list)	Active as of 1991	Holding tank. Contamination information specific to this tank is not known. (Tank was not listed in the 1990 SWMU Report or 1987 CEARP). Active from 1987 until at least 1991 (1991 list).
TA-35	TA-35-14	Abandoned 1975 (1987 CEARP and 1990 SWMU)	Potential oil contamination. Possible industrial waste contamination. Active from 1951 to 1975 (1987 CEARP, 1990 SWMU).
	TA-35-44**	Active as of 1990 (1990 SWMU)	Possible industrial waste contamination. Active from 1961 until at least 1990. As of 1990, tank was being pumped weekly (1987 CEARP, 1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

<b>Technical Area</b>	<b>Structure No.</b>	<b>Tank Status as of the Date Specified</b>	<b>Comments</b>
TA-35	TA-35-65**	Active as of 1990 (1990 SWMU)	Potential chemical contamination from laboratory building. Possible industrial waste contamination. Active from 1966 until at least 1990. As of 1990, tank was routinely being pumped (1987 CEARP, 1990 SWMU).
	TA-35-76	Abandoned 1975, but outfall may still be active	Possible industrial waste contamination. Active from 1966 to 1975 (1987 CEARP, 1990 SWMU).
TA-36	TA-36-17	Active as of 1991	Potential chemical contamination from laboratory building. Laboratory waste may have included depleted uranium, solvents, and spent photo liquids. Serves Bldgs. 1 and 22. Active from 1950 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-36-61** (TA-15-67, 1991 list)	Active as of 1991	Holding Tank. According to 1987 CEARP, tank potentially received radionuclide and HE contamination. According to the 1990 SWMU report, this tank most likely received only sanitary waste. Served Bldg. 55 (formerly TA-15-31). Active from 1949 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-36-70	Active as of 1991	This tank most likely received only sanitary waste from guard station. Active from 1985 until at least 1991 (1990 SWMU, 1991 list).
	TA-36-100 (TA-36-00, 1991 list)	Active as of 1991	This tank most likely received only sanitary waste from Bldg. 1 (Bldg. M-8). Active from 1988 until at least 1991 (1990 SWMU, 1991 list).
TA-37	TA-37-28	Active as of 1991	This tank most likely received only sanitary waste from Bldg. 1. Date installed not provided. Active until at least 1991 (1987 CEARP, 1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-39	TA-39-104 (TA-39-12, 1987 CEARP and 1991 list)	Active as of 1991 (new tank, installed with same structure number)	Documentation shows that the old tank received photo processing solutions in quantities that interfered with the sewage digestion processes. New tank receives about 1 gal/month of tray and sink photo waste. Until recently, may have received small quantities of solvents and other chemicals from labs. Active from 1952 to 1986 (old tank) and 1986 until at least 1991 (new tank) (1987 CEARP, 1990 SWMU, 1991 list).
	TA-39-132 (TA-39-00, 1991 list)	Active as of 1991	Tank receives only sanitary waste from Pulsed Power building. Active from 1985 or 1989 until at least 1991 (1990 SWMU, 1991 list).
TA-40	TA-40-24	Active as of 1991	Solvents and chemicals from previous years are suspected. Tank received sanitary and other liquid waste from Bldgs. 1, 19, and 23. Active from 1949 or 1950 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-40-25**	Active as of 1991	Potential solvent and chemical contamination from previous years are suspected from R&D lab activities. Tank received sanitary and other liquid waste from Bldg. 11. Active from 1949 until at least 1991. As of 1990, tank was pumped when full (about every 3 months) (1987 CEARP, 1990 SWMU, 1991 list).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-42	TA-42-4**	Abandoned in 1952, decommissioned and removed in 1978	Documented radiological contamination. Because a decontamination operation took place at TA-42, solvents and perhaps acids may also be present. Samples of liquid collected in 1973 contained plutonium-239, uranium-235, tritium, and fission products. During decommissioning in 1978, the liquid waste contained Pu-239, U-235, tritium and fission products; and the sludge contained 350 nCi/g of plutonium-239. Active from 1951 until 1952, removed in 1978. Periodically, the tank liquids were removed and either placed in Pit 4, Area G in TA-54, or treated at TA-50 (1987 CEARP, 1990 SWMU).
TA-46	TA-46-8	Abandoned 1973	Potential radiological, acid, organic, inorganic, and beryllium contamination. Active from 1954 to 1973 (1987 CEARP, 1990 SWMU).
	TA-46-22	Abandoned 1973	Potential radiological, acid, organic, inorganic, and beryllium contamination. Active from 1956 to 1973 (1987 CEARP, 1990 SWMU).
	TA-46-49	Abandoned 1973	Potential radiological, acid, organic, inorganic, and beryllium contamination. Active from 1956 to 1973 (1987 CEARP, 1990 SWMU).
	TA-46-53	Abandoned 1973	Potential radiological, acid, organic, inorganic, and beryllium contamination. Plutonium was found in sludge from tank TA-46-53 when the tank was pumped. Active from 1956 to 1973 (1987 CEARP, 1990 SWMU).
	TA-46-66	Abandoned 1973	Potential radiological, acid, organic, inorganic, and beryllium contamination. Active from 1960 to 1973 (1987 CEARP, 1990 SWMU).
	TA-46-94	Abandoned 1972 (1987 CEARP); abandoned and backfilled 1974 (1990 SWMU)	Possible radiological, acid, organic, inorganic, and beryllium contamination. Active from 1960 to 1972 or 1974 (1987 CEARP, 1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
	TA-46-230**	Active as of 1991	Believed to receive only sanitary waste, but suspect for other wastes. Date installed was not provided. Active in 1987 and at least until 1991. As of 1990 the tank was pumped frequently (1990 SWMU, 1991 list).
TA-48	TA-48-5	Abandoned and removed in 1986	Possible contamination with chemical waste, photo processing solutions, and radionuclides. Served Bldg. 1. Active from 1957 to 1986 (1987 CEARP, 1990 SWMU).
	TA-48-29 (1987 CEARP)	Status uncertain	This tank is listed in the 1987 CEARP but not in the 1990 SWMU report. It may be confused with tank TA-48-32, which serves Bldg. TA-48-29.
TA-48	TA-48-32**	Active as of 1991	It is believed that the tank only managed sanitary waste because it only served office buildings. Active from 1983 until at least 1991. Prior to 1986, tank was pumped frequently (1990 SWMU, 1991 list).
TA-49	TA-49-118**	Active as of 1991	Tank receives only sanitary waste from office building. Active from 1985 until at least 1991. As of 1990, tank was pumped periodically (1990 SWMU and 1991 list).
	TA-49-119**	Active as of 1991	Tank receives only sanitary waste. Active from 1985 until at least 1991. As of 1990, tank was pumped periodically (1990 SWMU and 1991 list).
TA-50	TA-50-10	Decommissioned and removed in 1983	The tank received only sanitary waste. Active from 1963 to 1983 (1987 CEARP, 1990 SWMU).
TA-51	TA-51-4 (TA-54-4, 1990 SWMU)	Active as of 1991	This tank has received animal waste and sanitary waste and may contain hazardous and radioactive constituents. Active from 1962 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
	TA-51-9 (TA-54-9, 1990 SWMU)	Active as of 1991	This tank has received animal waste and sanitary waste and may contain hazardous and radioactive constituents. Active from 1960 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list).
	TA-51-30	Active as of 1991	Tank generally handles sanitary waste. Chemical contamination is unknown. Serves Bldgs. 11 and 12. Active from 1983 until at least 1991 (1987 CEARP, 1990 SWMU).
TA-52	TA-52-2	Status uncertain	This tank is listed in the 1987 CEARP but not in the 1990 SWMU report. It may refer to one of two underground storage tanks located in the basement of Bldg. TA-52-2.
	TA-52-3**	Active as of 1991	Potentially contaminated with chemicals and solvents from UHTREX facility. Active from 1963 or 1968 until at least 1991. As of 1990, tank was routinely pumped (1987 CEARP, 1990 SWMU, 1991 list).
TA-52	TA-52-4	Status uncertain	This tank is listed in the 1987 CEARP but not in the 1990 SWMU report. It may refer to the distribution box (TA-52-4) which is connected to TA-52-3.
	TA-52-34a**	Active as of 1991	Chemical contamination unknown. Serves Bldg. 44. Active from 1983 until at least 1991. As of 1990, tank was routinely pumped (1987 CEARP, 1990 SWMU, 1991 list).
	TA-52-34b**	Active as of 1991	Chemical contamination unknown. Serves Bldg. 45. Active from 1983 until at least 1991. As of 1990, tank was routinely pumped (1987 CEARP, 1990 SWMU, 1991 list).
	TA-52-46	Active as of 1990	Chemical contamination unknown. Serves TA-52 transportable buildings. Active from 1984 until at least 1990 (1990 SWMU).
	TA-52-47	Active as of 1990	Chemical contamination unknown. Serves TA-52 transportable buildings. Active from 1984 until at least 1990 (1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
	TA-52-49	Active as of 1990	Potentially contaminated with chemicals and solvents from UHTREX building and maintenance shop. Active from 1984 (estimated) until at least 1990 (1990 SWMU).
	TA-52-95**	Active as of 1991	Holding tank. Chemical contamination unknown. Serves trailers. Date installed not provided; active until at least 1990 (1990 SWMU, 1991 list).
	TA-52-97**	Active as of 1991	Chemical contamination unknown. This tank is believed to discharge into the TA-52-34 tanks. Serves Bldgs. 41 and 42 (and possible 45). Active from 1983 until at least 1991. As of 1990, tank was occasionally pumped (1990 SWMU, 1991 list).
	TA-52-98**	Active as of 1991	Chemical contamination unknown. This tank is believed to discharge into the TA-52-34 tanks. Serves Bldg. 33 (and possibly 44). Active from 1983 until at least 1991. As of 1990, tank was occasionally pumped (1990 SWMU, 1991 list).
TA-52	TA-52-99 (TA-52-00, 1991 list)	Active as of 1991	Chemical contamination unknown. Serves Bldgs. 35 and 36. Active from 1983 until at least 1991 (1990 SWMU, 1991 list).
TA-53	TA-53-1016** (TA-0-190, 1987 CEARP) (TA-53-00, 1991 list)	Active as of 1991	Holding tank. Tank handles sanitary waste from office trailer. Active from 1967 until at least 1991 (1990 SWMU, 1991 list).
TA-54	TA-54-16	Active as of 1991	This tank may contain hazardous and radioactive constituents because it is located in waste handling area. Serves Bldg. 2 (compactor building) and Bldg. 11 (waste management control facility). Active from 1977 until at least 1991 (1987 CEARP, 1990 SWMU and 1991 list).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
	TA-54-28	Active as of 1991	This tank may contain hazardous and radioactive constituents because it is located in waste handling area. Serves Bldg. 22 (office building). Active from 1983 until at least 1991 (1990 SWMU and 1991 list).
	TA-54-43**	Active as of 1991	Holding tank. Because of tank's location, hazardous or radioactive contamination may be possible. Serves trailer and the PCB Waste Storage Facility (TA-54-39). Active from 1988 until at least 1991 (1990 SWMU and 1991 list).
	TA-54-80**	Active as of 1991	Holding tank. Chemical contamination unknown. (Tank was not listed in the 1987 CEARP or 1990 SWMU report). Active from 1989 until at least 1991 (1991 list).
	TA-54-89	Active as of 1991	Chemical contamination unknown. (Was not listed in the 1987 CEARP or 1990 SWMU report). Active from 1988 until at least 1991 (1991 list).
	TA-54-150**	Active as of 1991	Holding tank. Chemical contamination unknown. (Was not listed in the 1987 CEARP or 1990 SWMU report). Active from 1990 until at least 1991 (1991 list).
TA-54	TA-54-West	Active as of 1990	This tank may contain hazardous and radioactive constituents because it is located in waste handling area. Serves Bldg. 34 (office building) and Bldg. 38 (TRU drum assay building). Date installed was not provided, but it was new system as of 1990 (1990 SWMU).
TA-58	TA-58-00**	Active as of 1991	Holding tank. Chemical contamination unknown. (Was not listed in the 1990 SWMU Report or 1987 CEARP). Active from 1989 until at least 1991 (1991 list).
TA-59	TA-59-4	Decommissioned and removed in 1979	Potentially contaminated with photographic chemical wastes. Also could have received other industrial waste. Served Bldg. 1. Active from 1966 to 1979 (1987 CEARP, 1990 SWMU).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

<b>Technical Area</b>	<b>Structure No.</b>	<b>Tank Status as of the Date Specified</b>	<b>Comments</b>
TA-60	SWMU No. 60-006(b)	Inactive sometime after 1979, exact date unknown	Chemical contamination unknown. Served trailers that were located on Sigma Mesa during the drilling of the geothermal well. Active from 1979 until unknown date prior to 1990 (1990 SWMU).
	TA-60-00	Active as of 1989 (1990 SWMU)	Chemical contamination unknown. Date of installation is unknown. Active as of 1989, according to the Active Septic Tank Systems List dated December 1989 (1990 SWMU)
	TA-60-1885 (TA-3-1885)	Active as of 1990	Paints, solvents, or oils may have entered the drains to the tank from operations in the paint booth in Bldg. 17. Active from 1979 until at least 1990 (1990 SWMU).
TA-63	TA-63-12 (TA-52-12, 1991 list)	Active as of 1991	Chemical contamination unknown. Serves Bldg. 48. Date of installation unknown. Active until at least 1991 (1990 SWMU and 1991 list).
	TA-63-14 (TA-52-154, 1991 list) (TA-0-154, 1987 CEARP, 1991 list)	Active as of 1991	Possible solvent and chemical contamination from previous maintenance shop activities. Serves office building previously used as maintenance shop. Active from 1965 until at least 1991 (1987 CEARP, 1990 SWMU, 1991 list)
TA-66	TA-66-03 (TA-66-00, 1991 list)	Active as of 1991	Chemical contamination unknown. (Was not listed in the 1990 SWMU Report or 1987 CEARP). Serves ATAC Bldg. Active from 1988 until at least 1991 (1991 list).
TA-69	TA-69-09** (TA-0-69, 1987 CEARP)	Active as of 1991	Holding tank. Tank is believed to handle only sanitary waste from Bldg. 1 (guard station). Active from 1953 or 1954 until at least 1991 (1990 SWMU and 1991 list).
	TA-69-10 (TA-6-00, 1991 list) (TA-6, 1987 CEARP)	Active as of 1991	Tank is believed to handle only sanitary waste from Bldg. 2 (trailer). Active from 1986 until at least 1991 (1990 SWMU and 1991 list).

**Table 3-2. Septic Tanks Whose Contents May Have Been Disposed of to TA-53 Surface Impoundments (Continued)**

Technical Area	Structure No.	Tank Status as of the Date Specified	Comments
TA-72	TA-72-18	Active as of 1991	Tank is believed to handle only sanitary waste from small arms firing range. Active from 1989 until at least 1991 (replaced septic tank TA-0-276 in 1989).(1990 SWMU and 1991 list).
TA-73	SWMU Nos. 73-004 (b), (c), & (d) (1990 SWMU)	Inactive, date not provided	The periods of activity for the three inactive septic systems are unknown. Thus, they may have contributed waste to the TA-53 impoundments. SWMU No. 73-004(c) and (d) are associated with the control tower and landfill office and are believed to have handled sanitary waste only. SWMU No. 73-004(b) is associated with the garbage truck cleaning plant and is believed to have received wash water as well as sanitary waste (1990 SWMU).

**Notes:**

\* Structure No. - The current number is listed and old numbers are in parentheses

\*\* Tank was routinely, periodically, or occasionally pumped.

Some of the septic systems listed in this table may not have been active when the TA-53 impoundments received waste from other TAs (from early 1970s to Sept. 1991). The three sources used had some data gaps, such as unknown dates of decommissioning, removal, or abandonment for septic systems.

## REFERENCES

DOE (US Department of Energy), July 1987. Comprehensive Environmental Assessment and Response Program, Phase I: Installation Assessment, Los Alamos National Laboratory, Vol. 2 of 2, Draft, United States Department of Energy, Albuquerque Operations Office, Environment Safety and Health Division, Environmental Programs Branch, Albuquerque, New Mexico. (DOE, 1987)

LANL (Los Alamos National Laboratory). November 1990. "Solid Waste Management Units Report," Volumes I through IV, LA-UR-90-3400, prepared by International Technology Corporation under Contract 9-XS8-0062R-1, Los Alamos, New Mexico. (LANL, 1990)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-2, 38, 49, 56, 410, 430, 438, 455, 461, 498, 508, 523, 607, 608, 609, 610, 707, 717, 745, 746, 814, 828, 829, 830, 831, 832, 860, 890, 1036, and 1037 at Los Alamos National Laboratory, Environmental Study, Characterization Report #27. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993a)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-23, 24, 26, 41, 60, 61, 62, 63, 64, 65, 413, 418, 419, 426, 427, 451, 506, 521, 527, 614, 615, 779, 808, 841, 879, 1021, and 1054 at Los Alamos National Laboratory, Environmental Study, Characterization Report #28. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993b)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-1, 40, 70, 415, 416, 420, 421, 428, 450, 452, 454, 515, 524, 526, 605, 733, 809, 813, 815, and 845 at Los Alamos National Laboratory, Environmental Study, Characterization Report #29. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993c)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-6, 17, 18, 19, 31, 293, 294, 385, 400, 401, 402, 403, 404, 405, 409, 543, 577, 617, 620, 678, 708, 709, 710, 764, 833, 835, 852, 874, 888, 1032, 1038, and 1053 at Los Alamos National Laboratory, Environmental Study, Characterization Report #30. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993d)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-3, 10, 23, 25, 364, 505, 510, 552, 681, and 773 at Los Alamos National Laboratory, Environmental Study, Characterization Report #31. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993e)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-4, 5, 14, 27, 32, 433, 434, 453, 456, 459, 465, 489, 499, 500, 509, 516, 525, 528, 529, 531, 532, 539, 542, 544, 548, 549, 553, 555, 561, 564, 566, 569, 570, 576, 594, 612, 621, 633, 635, 636, 671, 673, 674, 675, 694, 700, 701, 702, 703, 704, 705, 706, 747, 761, 825, 834, 840, 844, 849, 850, 851, 853, 854, 855, 856, 857, 858, 859, 862, 866, 870, 872, 873, 883, 885, 886, 889, 1020, 1045, 1046, and Sanitary Sewage Treatment Plant at Los Alamos National Laboratory, Environmental Study, Characterization Report #32. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993f)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-7, 8, 15, 16, 28, 29, 30, 34, 35, 36, 37, 368, 369, 370, 371, 372, 374, 382, 384, 534, 535, 540, 541, 573, 574, 622, 625, 634, 679, 686, 726, 734, 735, 736, 776, 777, 780, 781, 782, 823, 826, 880, 1031, 1039, 1043, 1120, and 1121 at Los Alamos National Laboratory, Environmental Study, Characterization Report #33. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993g)

Santa Fe Engineering, Ltd, 1993. Waste Water Stream Characterization for TA 53-20, 21, 380, 381, 394, 395, 396, 397, 398, 399, 406, 407, 613, 616, 633, 682, 684, 685, 687, 696, 697, 698, 699, 718, 724, 784, 836, 846, 847, 848, 865, 882, and 1030 at Los Alamos National Laboratory, Environmental Study, Characterization Report #34. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993h)

Santa Fe Engineering, Ltd, 1993. Waste Water Stream Characterization for TA 53-315, 429, 444, 460, 464, 469, 475, 476, 479, 487, 499, 501, 507, 511, 517, 520, 558, 575, 596, 598, 599, 606, 680, 719, 720, 721, 722, 723, 738, 739, 740, 741, 742, 749, 806, 807, 810, 819, 898, 1022, 1114, 1115, 1116, 1117, and 1118 at Los Alamos National Laboratory, Environmental Study, Characterization Report #35. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993i)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-22, 39, 43, 408, 414, 422, 432, 435, 443, 449, 462, 463, 470, 473, 482, 494, 502, 514, 688, 689, 716, 744, 754, 804, 805, 816, 839, 843, 1050, and 1136 at Los Alamos National Laboratory, Environmental Study, Characterization Report #36. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993j)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-365, 600, 601, 603, 637, 638, 639, 676, 683, 711, 712, 713, 714, 715, 757, 758, 759, 760, 786, 787, and 867 at Los Alamos National Laboratory, Environmental Study, Characterization Report #37. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993k)

Santa Fe Engineering, Ltd., 1993. Waste Water Stream Characterization for TA 53-45, 46, 47, 411, 417, 423, 424, 425, 435, 439, 442, 445, 446, 458, 466, 467, 474, 485, 486, 491, 493, 494, 495, 512, 513, 545, 595, 597, 602, 604, 642, 677, 743, 746, 747, 755, 765, 778, 803, 812, 817, 818, 878, and 894 at Los Alamos National Laboratory, Environmental Study, Characterization Report #39. Los Alamos National Laboratory, Los Alamos, New Mexico. (Santa Fe Engineering 1993l)