

**Closure Description Document
For Closure of RCRA Units 43.01 and 43.02; Tanks 231A and 231B and
Ancillary Equipment**

U. S. Department of Energy

Rocky Flats Environmental Technology Site

EPA ID No. CO7890010526



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1.0 INTRODUCTION

1.1 Purpose and Scope

The Closure Plan for Interim Status Units at the Rocky Flats Environmental Technology Site (RFETS), August 1997 (the Closure Plan) addresses the closure of interim units. Removal of a unit is subject to the Closure Plan and to a subsequent Closure Description Document (CDD) that identifies the portions or sections of the Closure Plan that are applicable to the specific unit closure.

1.2 Unit Closure Notification

The Colorado Department of Public Health and Environment (CDPHE), Hazardous Materials and Waste Management Division, is hereby notified of the Site's intent to conduct final closure of the portion of the unit identified in Section 4.0. The submittal of this notification is at least 45 days prior to the beginning of closure activities. Closure activities for this unit will be tied to the RISS decommissioning and demolition schedule, consistent with the Rocky Flats Cleanup Agreement (RFCA).

Within 30 days after completion of final closure activities, a summary report will be submitted to CDPHE containing details about the removal of the specified components of the unit.

1.3 Facility Contacts

The contacts for closure activities at RFETS in the Remediation, Industrial D&D, & Site Services projects are:

Assistant Manager
Environment and
Stewardship
Rocky Flats Field Office
U. S. Department of Energy
10808 Highway 93, Unit A
Golden, CO 80403-8200
(303)966-2282

Environmental Manager
Remediation, Industrial D&D,
& Site Services
Kaiser-Hill Company, L.L.C.
10808 Highway 93, Unit B
Golden, CO 80403-8200
(303)966-6386

2.0 METHOD OF CLOSURE AND PERFORMANCE STANDARD

The tanks and related components in the units described in this document will be closed by the approved methods described in the "Closure Plan for Interim Status Units at the Rocky Flats Environmental Technology Site", Part C "Clean Closure by Decontamination" and by removal (ancillary equipment) as appropriate.

3.0 SYSTEM DESCRIPTION AND WASTE CHARACTERIZATION

Tanks 231A and 231B (Units 43.01 and 43.02 respectively) are located south of Building 374 and were used to store hazardous process wastewater. Attachment 1 shows the Site Plan for the tanks and their secondary containment. These tanks provided storage capacity for the Building 374 evaporation treatment process. The larger of the tanks, 231B, is 49 feet high, 59.5 feet in diameter, and has a capacity of 950,000 gallons. Tank 231A is 33.5 feet high, 37 feet in diameter, and has a capacity of 250,000 gallons. Both tanks are carbon steel in construction and were installed in 1987. In addition to the tanks, the 231 pump house is located next to the secondary containment for the tanks and houses the pumps used to move water into and out of the tanks. There are pipelines, valves and other ancillary equipment associated with the tanks and the pump house that are also included in Units 43.01 and 43.02.

The secondary containment system for this tank storage area includes a hypalon liner covered with 1.5" river rock, and is designed to contain the volume of the largest tank plus precipitation from a 25 year, 24-hour storm event. The design of the secondary containment makes it difficult at times to determine if liquid accumulated in the containment is from the tank or precipitation. Normally, precipitation that collects in the secondary containment is removed within 24 hours or as soon as is practicable. Precipitation accumulated in secondary containment is managed in accordance with the RFETS Incidental Water Program. The tanks, the pumps and ancillary equipment and the secondary containment are inspected daily as part of the routine RCRA surveillance of these units.

With the closure of the Building 374 evaporators in 2002, the tanks were no longer needed as storage for that facility. There is still a need to manage a small amount of hazardous wastewater at RFETS, so Tank 231B is being retained for that use. Sludge accumulated in both Tanks 231A and 231B during the years of operation in support of Building 374 was removed in 2003 and 2002, respectively. Tank 231A has been emptied, isolated and declared RCRA Stable. Tank 231B remains in service as a storage unit for the management of hazardous wastewater.

The following table shows the RCRA Waste Codes attached to Units 43.01 and 43.02, the Contaminants of Concern, and action levels associated with each code. Rinsate from closure activities will be compared to the action levels to make the determination of clean closure.

Table 3-1

Associated RCRA Waste Codes, Contaminants of Concern, and Action Levels

RCRA Waste Code	Associated Contaminants of Concern	RFCA Attachment 3 Ground Water Tier II Action Levels (mg/L)
D001	Ignitable	No longer meets RCRA characteristic
D002	Corrosive	pH between 6 and 9
D004	Arsenic	5.00E-02
D005	Barium	2.00E+00
D006	Cadmium	5.00E-03

RCRA Waste Code	Associated Contaminants of Concern	RFCA Attachment 3 Ground Water Tier II Action Levels (mg/L)
D007	Chromium	1.00E-01
D008	Lead (dissolved)	1.50E-02
D009	Mercury	2.00E-03
D010	Selenium	5.00E-02
D011	Silver	1.83E-01
F001	Listed spent halogenated solvents used in degreasing	Action level varies with solvent*
F002	Listed spent halogenated solvents	Action level varies with solvent*
F003	Listed spent non-halogenated solvents	Action level varies with solvent*
F004	Listed spent non-halogenated solvents	Action level varies with solvent*
F005	Listed spent non-halogenated solvents	Action level varies with solvent*
F006	Wastewater treatment sludges from electroplating operations	Action level varies with constituent*
F007	Spent cyanide plating bath solution from electroplating operations	Action level varies with constituent*
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process	Action level varies with constituent*
P030	Cyanides (soluble cyanide salts), not elsewhere specified	Action level varies with constituent*
P098	Potassium cyanide	1.20E-00**
P099	Potassium silver cyanide	1.20E-00**
P106	Sodium cyanide	1.20E-00**
U003	Acetonitrile (I,T)	5.60E-00***

* Analytical results will be evaluated for various components of each solvent associated with the RCRA Waste Code

** Limit for cyanide (amenable) from 6 CCR 1007-3, Part 268.40

*** Limit from 6 CCR 1007-3, Part 268.40

Wastes generated as part of this closure activity will fall into several categories of wastes managed at RFETS. A brief description of each category relevant to this project follows.

1. Low Level Waste – low level waste (LLW) is waste contaminated with radionuclides at a level of 10 nCi/g or less. LLW is packaged on-site and shipped to an approved disposal facility.

2. Low Level Mixed Waste – low level mixed waste (LLM) is waste that is contaminated with both radionuclides at a level of 10 nCi/g or less, and by hazardous waste. LLM is packaged and shipped off-site to an approved disposal site.

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3. **Hazardous Waste** – hazardous waste (HAZ) is waste regulated by the Resource Conservation and Recovery Act (RCRA), the Colorado Hazardous Waste Act (CHWA) and the RFETS Part B RCRA permit. Hazardous waste is disposed of only at an approved and permitted waste disposal site.
4. **Sanitary Waste** – sanitary waste (SAN) is non-radioactive contaminated, non-hazardous waste suitable for disposal at an approved sanitary landfill.

4.0 SPECIFIC CLOSURE ACTIVITIES

4.1 Establish System Boundaries and Scope of Removal

4.1.1 Tank 231A

The interior of A Tank will be pressure washed with water and an appropriate detergent and then rinsed. The rinse volume will be no more than 5% of the tank capacity. The rinsate will be tested in accordance with the closure plan. If the rinsate meets closure requirements, tank metal will be disposed of as LLW or non-rad sanitary waste. If not, tank metal will be disposed of as LLM. Portions of the tank with external contamination (resulting from sludge spill) will be disposed of as LLM.

4.1.2 Tank 231B

B Tank must be emptied of wastewater and any remnant sludge prior to the commencement of any closure activities. Wastewater will be removed in accordance with the approved AWTS methods. Sludge will be removed as it was in the previous approved sludge removal effort.

The interior of the 231B tank will then be pressure washed with water and an appropriate detergent and then rinsed. The rinse volume will be no more than 5% of the tank capacity. The rinsate will be tested in accordance with the closure plan. If the rinsate meets closure requirements, tank metal will be disposed of as LLW. If not, tank metal will be disposed of as LLM.

4.1.3 231 Pump house

The pump house will be emptied of all equipment and dismantled. Because the building did not come in direct contact with the hazardous waste, it will be considered either LLW or Sanitary waste based on waste characterization. The building will be dispositioned in accordance with standard methods (characterization, PDS, etc.).

4.1.4 Ancillary Equipment

The pumps, pipes, valves and all other ancillary equipment will be disposed of as LLM.

Attachment 3 is the Level One Program Schedule which includes the planned activities for this closure.

5.0 DISPOSITION OF CLOSURE WASTES

Waste management, handling, transportation and disposal will comply with the requirements of the RCRA Part B permit, RFETS procedures, and State and Federal regulatory guidelines. All cleaning liquids generated during the tank closure will be collected and managed as appropriate. Solid wastes that meet the clean closure requirements, and demonstrate no other hazardous or radiological characteristics will be disposed of as sanitary waste. This includes all of the rock, wood planking, sump, sump pumps, liner, and concrete secondary containment surrounding the 231B Tank. This tank has never had a spill and incidental waters collected within the secondary containment have met the requirements of the Site's Incidental Water Program as described in Section 3.0. Similar material surrounding the 231A Tank will be disposed of as LLM waste due to the recent sludge spill. Attachment 2 contains photographs of the 231A tank, the secondary containment and areas contaminated by the sludge spill. All other wastes will be managed and disposed of in an appropriate manner based on waste characterization efforts.

6.0 RECORD KEEPING

The following closure records will be maintained on Site during closure activities and at a federal repository for a minimum of 30 years following the report of closure:

- Record of sampling activities including type, number and date of samples;
- Analytical results;
- Work instructions used to conduct closure activities and documentation verifying closure activities were conducted in accordance with the closure plan and this CDD;
- Records of the volume of hazardous waste generated during closure, as documented in the Closure Summary Report.

7.0 AMENDMENT

In conducting closure activities, unexpected events that are identified during implementation of closure activities may require an amendment to this Closure Description Document. Modifications to this Closure Description Document will be made in accordance with applicable regulations.

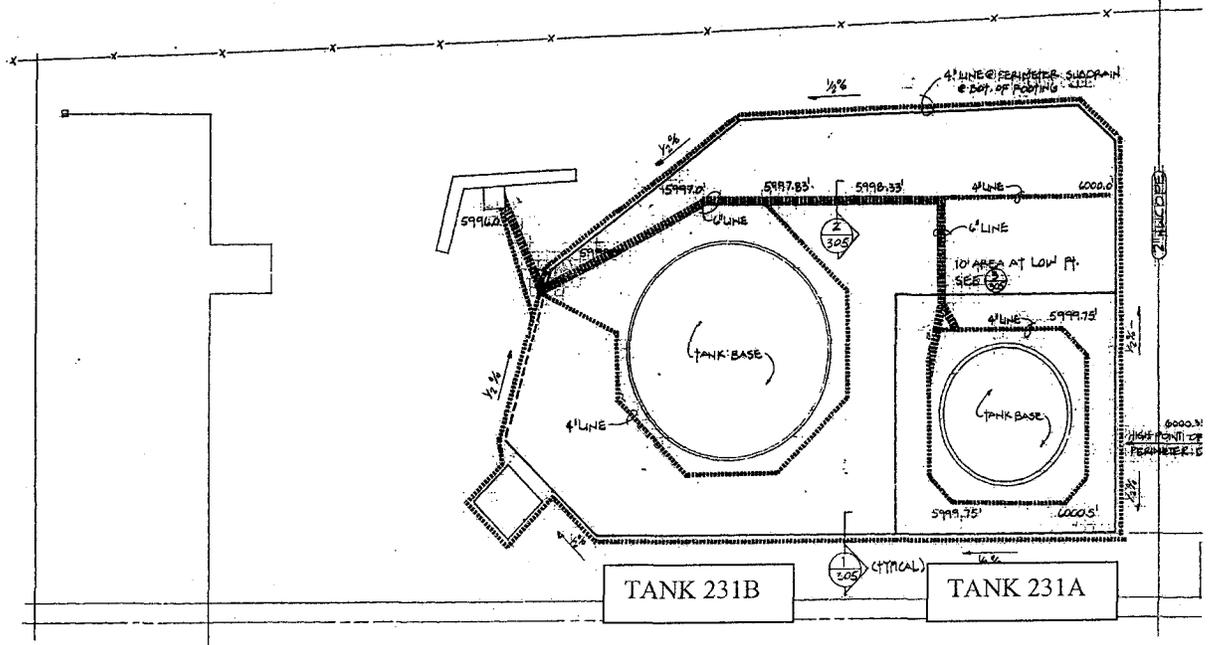
8.0 REFERENCES

Waste Stream and Residue Identification and Characterization for Building 231 Version 7.0
May 2003

The Closure Plan for Interim Status Units at the Rocky Flats Environmental Technology Site
August 1997

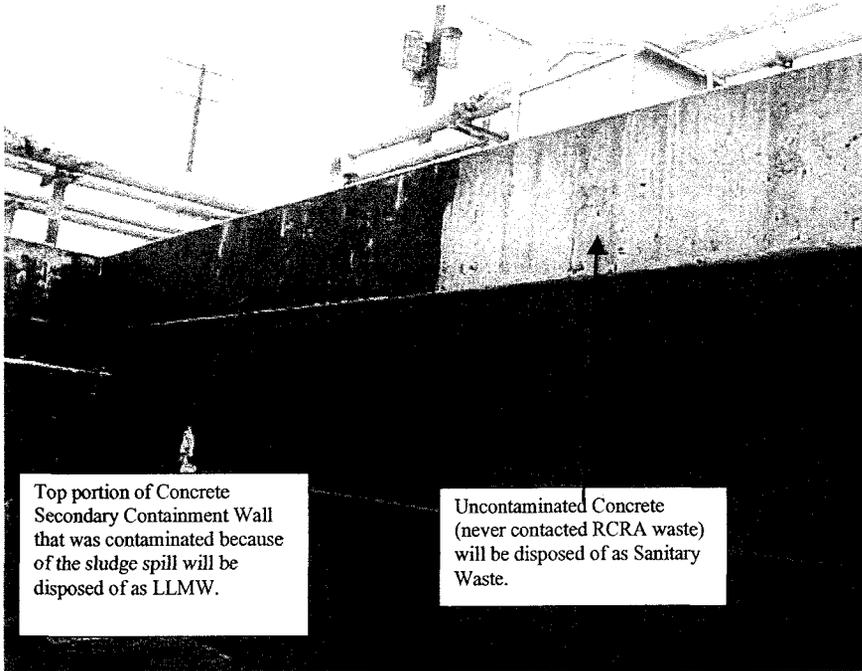
ATTACHMENT 1

SKETCH OF TANK LAYOUT



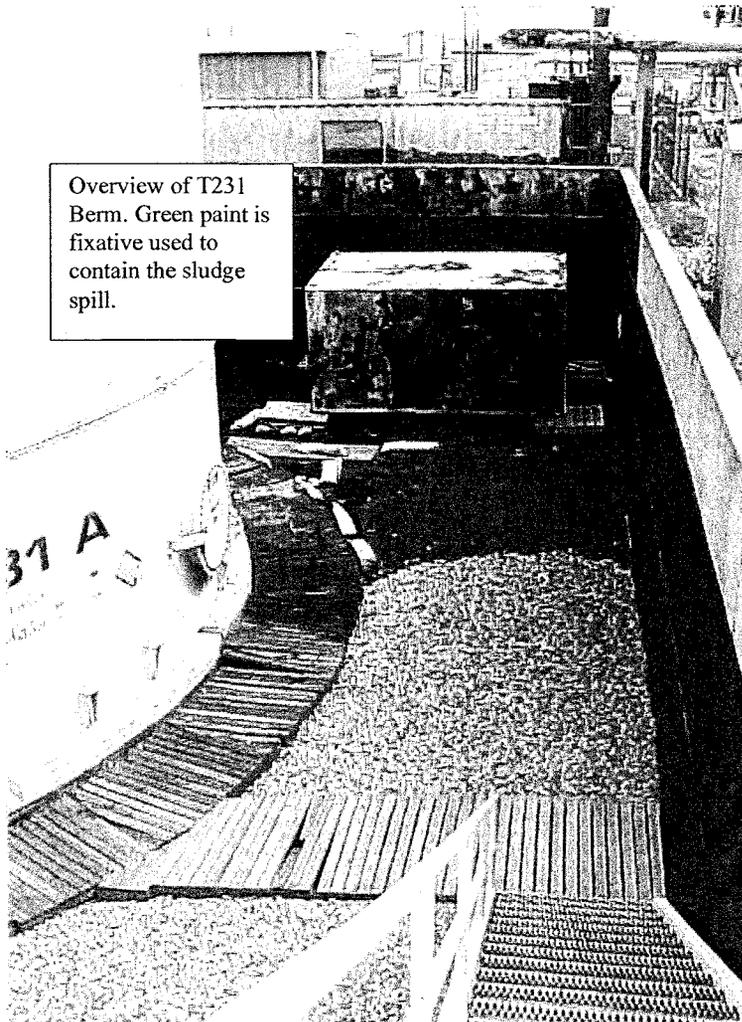
ATTACHMENT 2

PHOTOGRAPHS OF SECONDARY CONTAINMENT

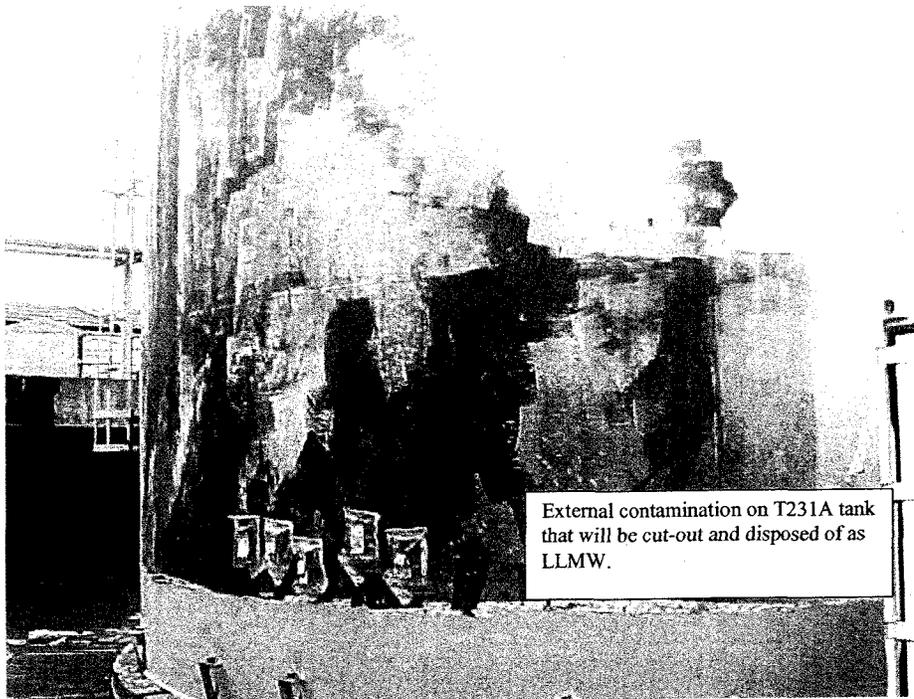


Top portion of Concrete Secondary Containment Wall that was contaminated because of the sludge spill will be disposed of as LLMW.

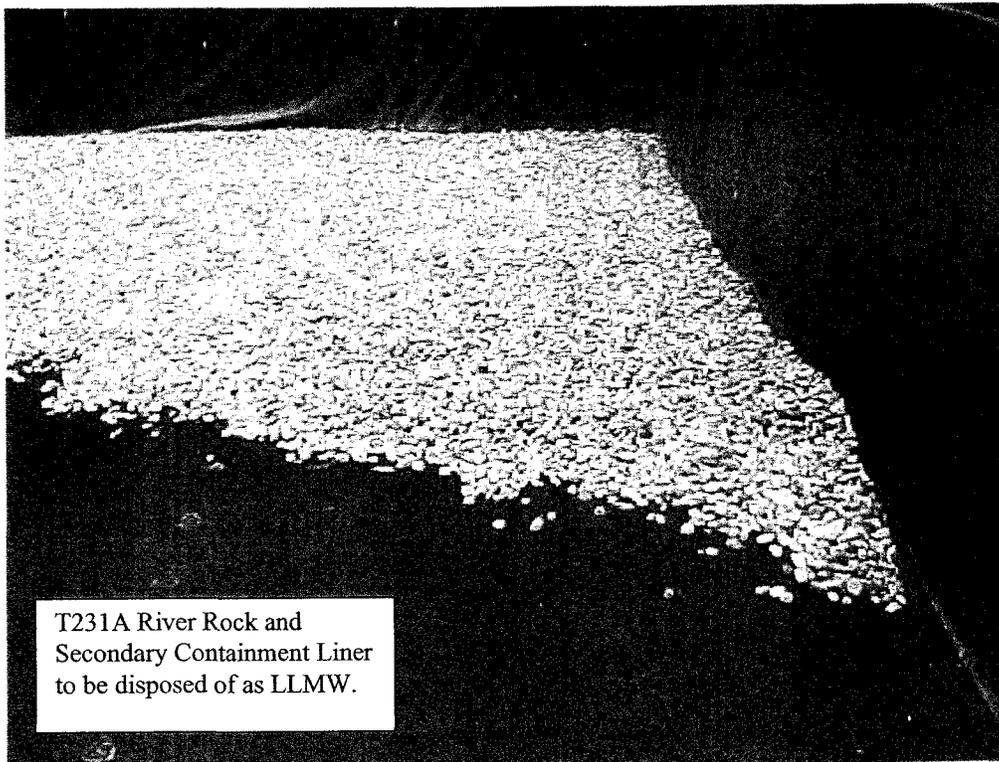
Uncontaminated Concrete (never contacted RCRA waste) will be disposed of as Sanitary Waste.



Overview of T231 Berm. Green paint is fixative used to contain the sludge spill.



External contamination on T231A tank that will be cut-out and disposed of as LLMW.

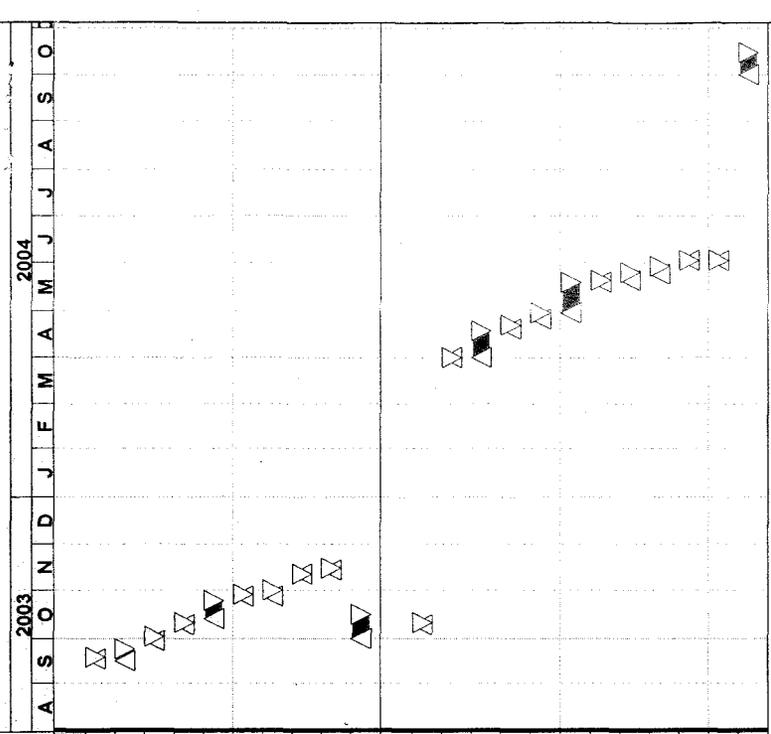


T231A River Rock and Secondary Containment Liner to be disposed of as LLMW.

ATTACHMENT 3

LEVEL ONE PROGRAM SCHEDULE

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	WBS
T231A Tank							
1T231A10	Submit RCRA Closure Description Document	1	1	0	18SEP03	18SEP03	T231A TANK
1T231A15	T231A Tank Cold and Dark	6	6	0	16SEP03	23SEP03	T231A TANK
1T231A20	Cut Hole in Tank for Access	3	3	0	29SEP03	01OCT03	T231A TANK
1T231A25	CDD Approval/Contact Record to begin Washing	1	1	0	10OCT03	10OCT03	T231A TANK
1T231A30	Pressure Wash Tank	9	9	0	14OCT03	24OCT03	T231A TANK
1T231A35	Sample Tank	1	1	0	28OCT03	28OCT03	T231A TANK
1T231A40	Remove Rocks, Liner, External Piping	4	4	0	28OCT03	31OCT03	T231A TANK
1T231A45	Receive Sample Results from Rinseate	1	1	0	11NOV03	11NOV03	T231A TANK
1T231A50	RCRA Closure of T231A Tank	1	1	0	14NOV03	14NOV03	T231A TANK
1T231A55	Demo of T231A Tank & Packaging of LLMWV	11	11	0	01OCT03	15OCT03	T231A TANK
T231B Tank							
1T231B10	CDD Approval	1	1	0	10OCT03	10OCT03	T231B TANK
1T231B15	Complete AWTs Use of T231B Tank	1	1	0	31MAR04	31MAR04	T231B TANK
1T231B20	Remove Residual Sludge from Tank	12	12	0	01APR04	16APR04	T231B TANK
1T231B25	T231B Cold and Dark	3	3	0	19APR04	21APR04	T231B TANK
1T231B30	Cut Hole in Tank for Access	4	4	0	26APR04	29APR04	T231B TANK
1T231B35	Pressure Wash Tank	13	13	0	30APR04	18MAY04	T231B TANK
1T231B40	Sample Tank	1	1	0	19MAY04	19MAY04	T231B TANK
1T231B45	Remove External Piping (LLMWW)	4	4	0	20MAY04	25MAY04	T231B TANK
1T231B50	Remove Rocks, Liner (Sanitary Waste)	4	4	0	25MAY04	28MAY04	T231B TANK
1T231B55	Receive Sample Results from Rinseate	1	1	0	02JUN04	02JUN04	T231B TANK
1T231B60	RCRA Closure of T231B Tank	1	1	0	02JUN04	02JUN04	T231B TANK
1T231B65	Demolition of T231B Tank	11	11	0	01OCT04	15OCT04	T231B TANK



Start Date: 01AUG03
 Finish Date: 01AUG03
 Data Date: 17SEP03 15:13
 Run Date

Legend:
 Early Bar
 Progress Bar
 Critical Activity

T231

Sheet 1 of 1

KH

T231 Tanks RCRA Closure & Demolition

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