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1999
RECEIVED

Date: March 8, 1999
Refer to: EM/ER:99-051

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

HSWA LANL 1/1106/21

SUBJECT: NOTIFICATION OF THE REDISCOVERY OF AOC ASSOCIATED WITH THE NTISV COLD TEST AT TA-21

Dear Mr. Garcia:

One former Area of Concern (AOC) has been encountered at Los Alamos National Laboratory within Technical Area (TA) 21. The site was previously referred to as AOC-21-028, the former location of an aboveground fuel storage tank. This letter provides a brief history of the site and documents the recent chain of events surrounding the former AOC and the startup of the non-traditional in-situ vitrification (NTISV) demonstration at the site.

The AOC was a 12,788-gallon aboveground fuel tank and identified as structure TA-21-47. The tank was installed in 1945 and set on a reinforced 9-inch thick concrete slab. The slab had a 4-inch vitrified clay pipe (VCP) drainline, which discharged stormwater to the south toward the rim of Los Alamos Canyon. Following the construction of Building TA-21-33 in 1948, a reinforced concrete wall was constructed around the tank to contain any fuel should the tank leak or rupture. A 4-inch steel drainline (Potential Release Site (PRS) 21-027(d)) replaced the former VCP drainline. The new drainline extended from the catch basin and was routed around the new building toward the rim of Los Alamos Canyon. The tank was reportedly removed in 1960 and the 4-inch steel drainline was removed in 1965. Historic records conflict over the use of the tank. Retired Zia Company employees who worked at TA-21 have stated that the tank was installed to serve the boiler in the former DP Laundry, (TA-21-20). The boiler was reportedly fueled by diesel fuel; however, former employees stated that the DP Laundry was tied to the DP Steam Plant so there would have been no reason to operate the boiler in the laundry facility. There are no records of the tank being serviced, (i.e., filled with fuel). The Comprehensive Environmental Assessment and Response Program report indicates the presence of a diesel tank with a drainline that extended to Los Alamos Canyon. The Solid Waste Management Unit (SWMU) Report states that it is unknown whether the tank leaked or if there were hazardous releases from the drainline.

AOC-21-028 was proposed for no further action (NFA) to the Department of Energy (DOE), as noted in the March 1995 Request for Permit Modification, and subsequently approved for NFA by the DOE. There are no records documenting the removal of the 4-inch VCP drainline (PRS 21-027(d)), and during the recent excavation of the NTISV demonstration pit, a portion of this drainline was discovered. The Resource Conservation and Recovery Act Facility Investigation for PRS 21-027(d) was completed in 1992, and the site was determined as being suitable for NFA and a Class III Permit Modification by the Environmental Protection Agency in 1995 and by the New Mexico Environment Department in 1998. However, PRS 21-027(d) remains on Table A of Module VIII of the Laboratory's Hazardous Waste Facility Permit.

Analytical results from the baseline samples collected on January 29, 1999, from the proposed demonstration pit location for the NTISV Cold Test showed low levels of hydrocarbons (0.33 ppb toluene). The baseline samples were collected to ensure the proposed area for the NTISV cold demonstration is clean. Dave McInroy verbally reported the results to the Hazardous and Radioactive Materials Bureau (HRMB) on February 24, 1999. It was verbally agreed by John Kieling that a test trench be excavated to identify the source of the contamination. Excavation of the test trench began on March 1, 1999. Staining of the tuff exhibiting a strong odor was observed in the excavation on March 2, 1999. Low readings were also noted on a photo ionization detector utilized during the excavation. The operation was shut down and the HRMB was notified of the presence of the contamination. On March 3rd, John Young and Vicki Maranville, HRMB met Deba Daymon, Gary McMath, and Paul Schuman, Laboratory's ER Project, and Joe Mose, DOE at the site of the test trench to examine the stained tuff and report back to John Kieling. Tony Grieggs and Tori George, ER Project met with Stu Dinwiddie, John Young and John Kieling at the HRMB on March 4,1999, and with Deba Daymon, the NTISV Project Manager and Jody Plum, DOE on a conference call to establish a course of action which would allow the NTISV demonstration to proceed. The following actions were agreed to at the March 4th meeting:

1. Former AOC-21-028 will be identified as a SWMU in the Hazardous and Solid Waste Ammendments of 1984 Module VIII. In accordance with our effort to consolidate units that meet the consolidation criteria, this new unit will be consolidated with PRS 21-027(d) and added to the Laboratory's Annual Unit Audit Response. A consolidation work sheet is provided as Enclosure A.

2. The Cold Test of in situ vitrification (ISV) will be considered a Voluntary Corrective Measure (VCM) for a feasibility demonstration. The Non-Traditional In Situ Vitrification Demonstration Plan for the Material Disposition Area (MDA) V Site at the Laboratory will be modified and resubmitted to the HRMB on March 12, 1999 as a VCM Plan. The plan will include a description of confirmatory samples to be collected upon completion of the NTISV Cold Test.

3. Sampling will be conducted at the completion of the excavation of the NTISV demonstration pit on Monday, March 8, 1999. Five samples will be collected from

the bottom of the excavation, one from each side of the excavation, and two from biased locations exhibiting soil/tuff staining (see Enclosure B). The samples will be analyzed for volatile organic compounds, semivolatile organic compounds, metals, and radionuclides. The samples will be collected from the excavator bucket due to safety concerns associated with the depth of the pit (6 to12 feet).

4. Construction of the NTISV demonstration pit will commence prior to receipt of the analytical results and the excavated soil and tuff will be placed back into the excavation in accordance with the design of the mock-up test bed. Any soil and tuff not returned to the excavation will be placed in roll off containers, characterized and disposed of in accordance with applicable regulatory requirements.

5. The Laboratory will meet with Environmental, Safety, and Health -17 to determine if there are any National Emissions Standards for Hazardous Air Pollutants issues to be addressed due to the unexpected presence of hydrocarbons at the NTISV demonstration location, and evaluate if additional controls are necessary to capture potential air emissions.

6. Upon completion and evaluation of the NTISV performance criteria, as defined in the VCM Plan, an Interim Measure (IM) will be performed on a portion of MDA V absorption bed #1. The Laboratory will schedule a meeting with the HRMB to discuss the content of the IM Plan.

We will incorporate the HRMB's comments on the previously submitted draft NTISV Plan dated, December 6, 1998. The revised VCM Plan will be provided to the HRMB with both a clean copy and redlined copy to expedite the review process. A revised schedule for the NTISV Cold Test is included as Enclosure C. The Laboratory does not anticipate any changes to the NTISV Hot Test demonstration activities or schedule.

We look forward to meeting with you on Friday, March 12, 1999, at 8:30 am to further discuss the VCM Plan for the NTISV Cold Test. Based on our discussions and agreements presented herein, we plan to proceed with the NTISV demonstration pit next week. Please contact us at your earliest convenience if any immediate concerns arise that have not already been addressed. We appreciate the HRMB's efforts to assist the Laboratory's ER Project in implementing the NTISV Cold Test in a timely fashion. If you have any questions, please call Deba Daymon at (505) 667-9021 or Dave McInroy at (505) 667-0819 of the Laboratory, or Joe Mose at (505) 667 5808 of the DOE.

Sincerely,

Julie A. Canepa, Program Manager
LANL/ER Project

Sincerely,

Theodore J. Taylor, Program Manager
DOE/LAAO

JC/TT/PB/gt

Enclosures: (1) Consolidation Work Sheet
(2) Sample Location Map
(3) Revised NTISV Demonstration Schedule

Cy(w/enc.:)
M. Buksa, EM/ER, MS M992
D. Daymon, EES-13, MS M992
D. McInroy, EM/ER, MS M992
G. McMath, EM/ER, MS M992
J. Mose, DOE-LAAO, MS A316
H. Plum, DOE-LAAO, MS A316
M. Springer, EES-15, MS J495
T. Taylor, LAAO, MS A316
RPF, MS M707

Cy(w/o enc.:)
T. Baca, EM/DO, MS J591
J. Vozella, DOE-LAAO, MS A316
EM/ER File, MS M992
Tracker RM 604, MS M992

ENCLOSURE A

PRS CONSOLIDATION WORK SHEET

PRS CONSOLIDATION WORKSHEET

Site Type: **Former Structure TA-21**

PRS Number	HSWA (Y or N)	Description	COPCs	Regulatory Status
21-027(d)	Y	Former Drainline	VOCs, SVOCs, metals, rad	Investigation Continuing
C-21-028	Y	Former Aboveground Storage Tank	VOCs, SVOCs, metals, rad	Investigation Continuing

Consolidation Checklist Criteria	Yes	No
1. Are the PRSs part of a process or system which treated, stored, or released hazardous constituents to the environment?	✓	
2. Is the contamination origin non-discernable?	✓	
3. Are the PRSs in the same geographic proximity?	✓	
4. Are the transport mechanisms and pathways similar?	✓	
5. Do risk calculations need to be performed on all of the PRSs to determine a cumulative effect in order to make further recommendations?	✓	

Description and Rationale:

The consolidated PRS consists of a former aboveground diesel fuel storage tank and concrete containment area, and the drainline from the containment area. AOC-21-028 was a 12,788-gallon aboveground fuel tank, identified as structure TA-21-47. The tank was installed in 1945 and set on a reinforced 9-inch thick concrete slab. The slab had a 4-inch vitrified clay pipe (VCP) drainline, which discharged to the south toward the rim of Los Alamos Canyon. Following the construction of Building TA-21-33 in 1948, a reinforced concrete wall was constructed around the tank to contain any fuel should the tank leak or rupture. A 4-inch steel drainline (PRS 21-027(d)) replaced the former VCP drainline. The new drainline extended from the catch basin and was routed around the new building toward the rim of Los Alamos Canyon. The tank was reportedly removed in 1960 and the 4-inch steel drainline was removed in 1965. There are no records documenting the removal of the 4-inch VCP drainline. Historic records conflict over the use of the tank. Retired Zia Company employees who worked at TA-21 have stated that the tank was installed to serve the boiler in the former DP Laundry, (TA-21-20). The boiler was reportedly fueled by diesel fuel; however, former employees stated that the DP Laundry was tied into the overhead steam line and condensate return line from the DP Steam Plant so there would have been no reason to operate the boiler in the laundry building, and the tank may not have ever been used. There are no records of the tank being serviced (i.e., filled with diesel). The Comprehensive Environmental Assessment and Response Program (CEARP) report indicates the presence of a diesel tank with a storm drainline that extended to Los Alamos Canyon. The SWMU Report states that it is unknown whether the tank leaked or if there were hazardous releases from the drainline.

AOC-21-028 was proposed for no further action (NFA) in the TA-21 RFI Work Plan because it was one of"... those sites where records show that no documented releases have occurred, or that releases have occurred but cleanup has been conducted and documented, no further investigation will be pursued." The AOC was proposed for NFA in the March 1995 Request for Permit Modification, and subsequently approved for NFA by DOE. During the recent excavation of the non-traditional in-situ vitrification (NTISV) demonstration pit, a portion of the 4-inch VCP drainline (PRS 21-027(d)) was discovered. The RFI for PRS 21-027(d) was completed in 1992, and the site was determined as being suitable for NFA and a Class III Permit Modification by EPA in 1995, and by NMED in 1996. However, PRS 21-027(d) remains on Table A of Module VIII of LANL's Hazardous Waste Facility Permit.

Based on the operational history, waste streams, geographical proximity, transport mechanisms (primarily subsurface), and the type of investigation needed to assess the residual hydrocarbon contamination while removing the remaining portion of the drainline it is proposed that these PRSs be consolidated.

Proposed PRS Number for Consolidated PRSs: 21-027(d)

Prepared by: Paula Bertino **Date:** 3/5/99

PRS CONSOLIDATION WORKSHEET

Team Leader Approval: _____ **Date:** _____

DOE Approval: _____ **Date:** _____

Comments:

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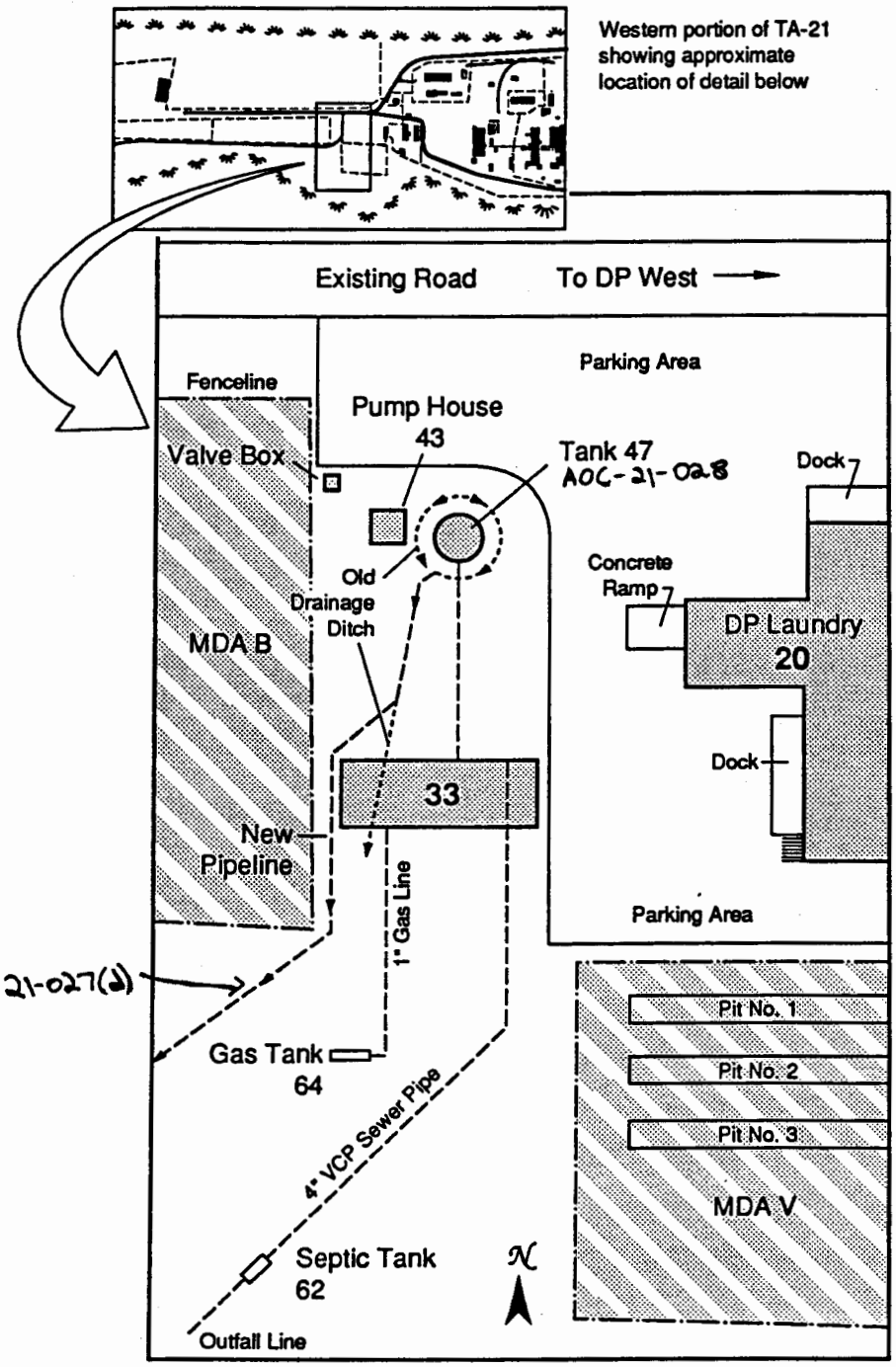
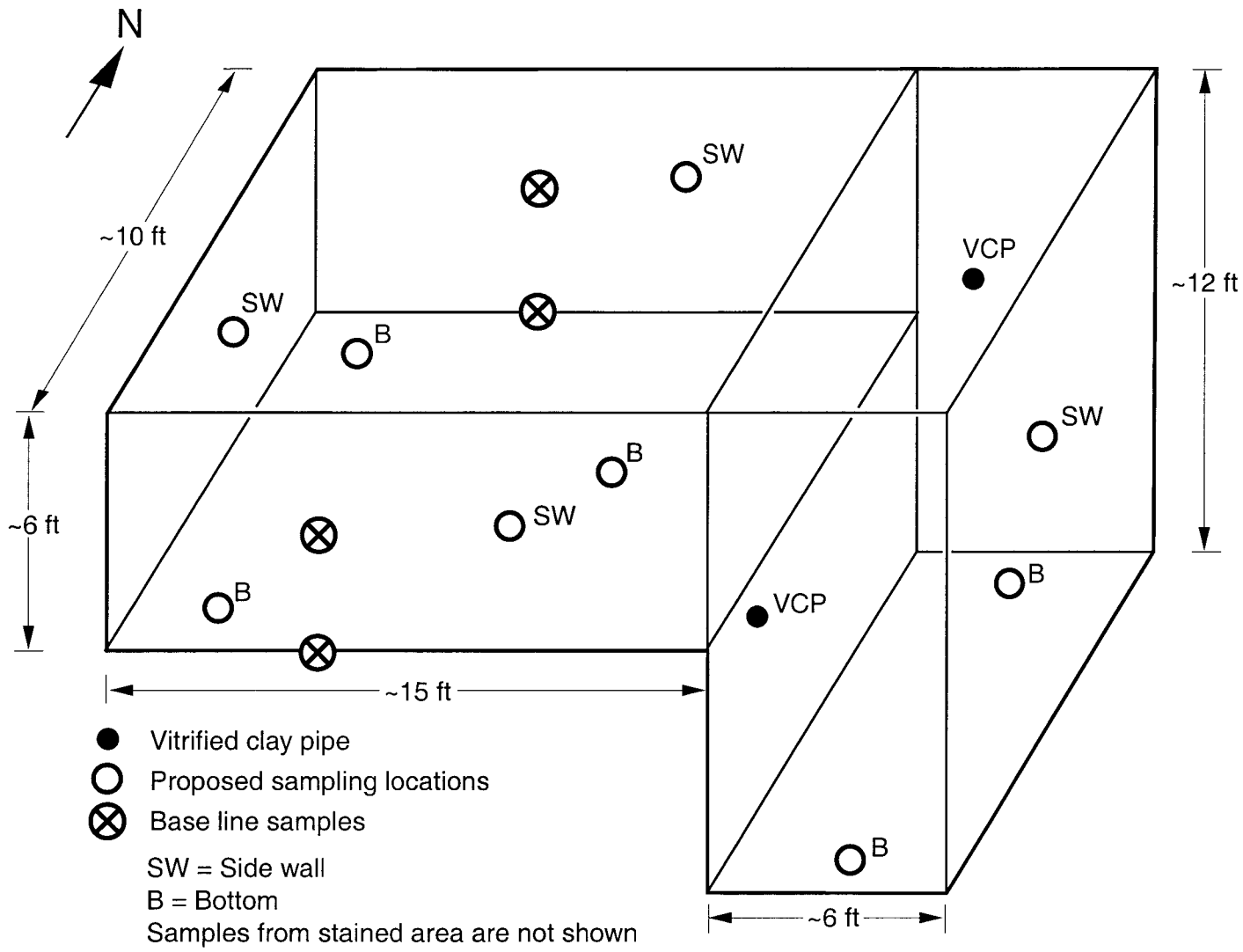


Fig. 17.3-1 Location of Building 33 at TA-21 in 1948. (LASL 1948)

ENCLOSURE B

SAMPLE LOCATION MAP



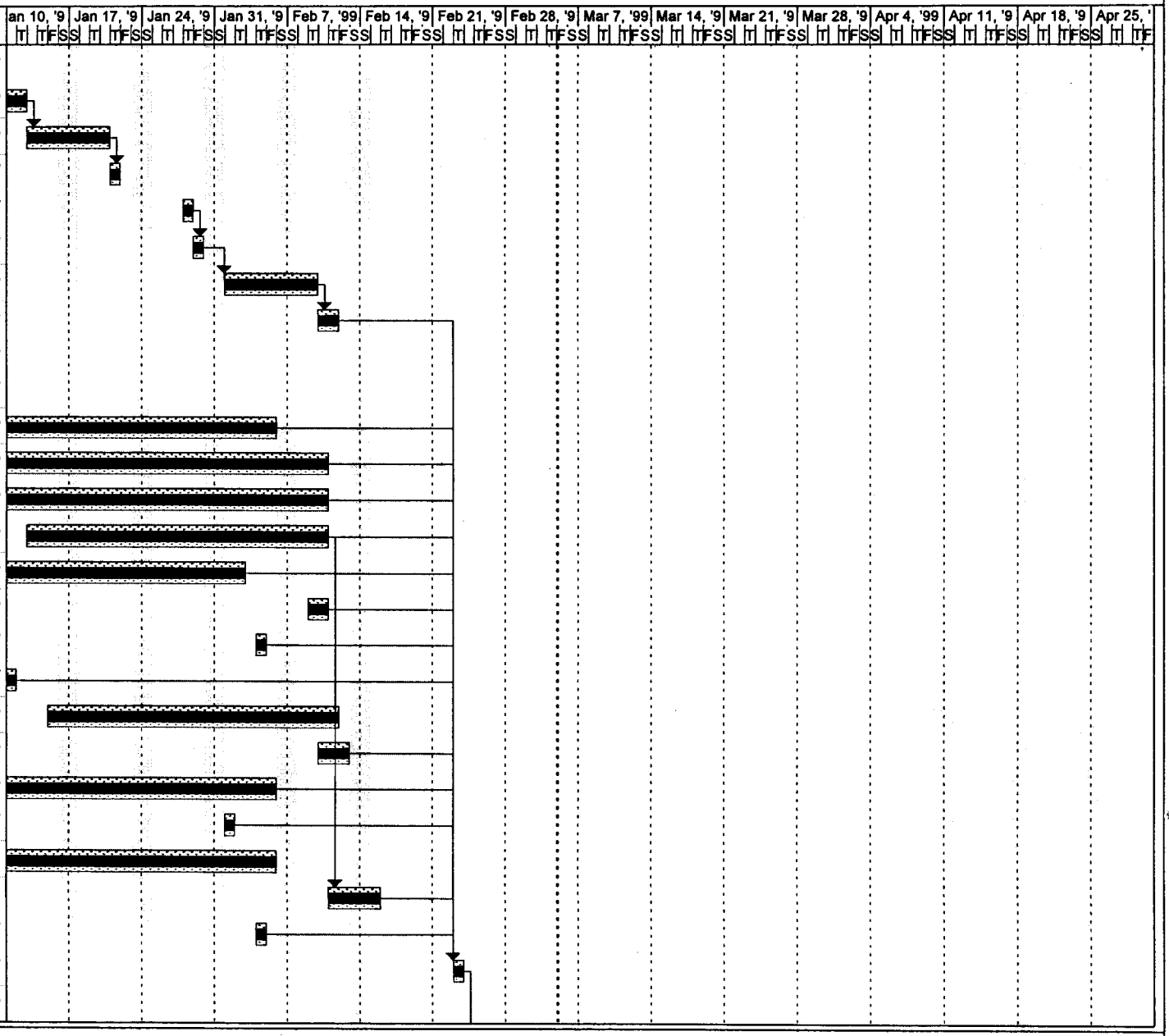
Schematic drawing of cold test pit

ENCLOSURE C

REVISED NTISV SCHEDULE

Non-Traditional In-situ Vitrification Demonstration Project

ID		Task Name	Duration
1		**Baseline Samp. Approval**	**0 days**
2	✓	SSHASP Mod Approval	2 days
3	✓	Facility-Tenant Agreement	6 days
4	✓	Sampling Approval Mtg.	1 day
5	✓	Baseline Sampling	1 day
6	✓	Rad Screening Lab & Ship	1 day
7	✓	Laboratory Analytical	7 days
8	✓	Preliminary Data Review	2 days
9		**Readiness Review-Cold**	0 days
10		ESHID Approval	1 day
11	✓	- Air Quality Approval	20 days
12	✓	- NEPA Approval	23 days
13	✓	WCSF Approval	23 days
14	✓	SSHASP Approval	21 days
15	✓	SG Western S/C in place	17 days
16	✓	Training Records (MK+SG)	2 days
17	✓	Site Specific Training	1 day
18	✓	Excavation Permit 1	1 day
19	✓	Excavation Permit 2	20 days
20	✓	RWP	3 days
21	✓	GeoSafe Test Plan Concurrence	20 days
22	✓	SMO Notified	1 day
23	✓	Geosafe H&S Prog App.	20 days
24	✓	Facility Coord. Approval	3 days
25	✓	Informal Notifications	1 day
26	✓	Readiness Review Meeting	1 day
27		**Mockup Bed Construction**	0 days



Project: ISV Schedule
Date: Fri 3/5/99

Task		Milestone		Rolled Up Split		External Tasks	
Split		Summary		Rolled Up Milestone		Project Summary	
Progress		Rolled Up Task		Rolled Up Progress			