

Document Modification Request

Print or Type All Information (Except Signatures). Process procedures in accordance with 1-A01-FROC DEV-400, Procedure Process

25.DMR. No.

96-DMR-RMRS-0047

Originator			2. Date		
Name/Phone/Page/Location Greg DiGregorio, x5688, 1732, T893B			Sep 23, 1996		
3. Existing Document Number/Revision RF/ER-96-0010 Rev.0			4. Document Type <input type="checkbox"/> Procedure <input checked="" type="checkbox"/> Plan <input type="checkbox"/> Other <u>Sampling Analysis Plan</u>		
5. Document Title Interagency Agreement Underground Storage Tank Removal Program Sampling and Analysis Plan					
6. Item	7. Page	8. Step	9. Proposed Modifications		
1	7 of 13	3.0	Delete 6th sentence of 4th paragraph, "If no appreciative decrease (30%) in target parameters is realized, the rinsing effort will be considered complete."		
2	7 of 13	3.0	Delete 5th sentence of 5th paragraph, "If the screening sample results indicate that the rinse effort was not successful, the samples will be conducted again until 30% decrease in target levels are met. However, the project manager may suspend rinsing efforts if a point of diminishing returns is reached."		
3	4 of 9	4.2.2	Remove items labeled as Roman Numeral "I" in the DQO section of the SAP and renumber remaining text accordingly.		
10. Item			10a. Justification (Reason for Modification, EJO#, TP#, etc.)		
1,2,3			The accelerated action plan "Interagency Agreement Underground storage Tanks Containing RCRA Regulated Materials, Rev.0, Dec. 18, 1995, 95-RF-090501" requires that only 3 rinsate samples need to be collected from the tanks in order to foam them and complete the project. No further action levels are required. Therefore, there are no DQOs required for rinsate samples.		

Originator's Supervisor *M. C. Broussard* 10-9-96 (print/sign/date)

11. Process Do not Process (state reason in block 10a)

12. Process (Complete Blocks 13-22) (print/sign/date) Do not Process (state reason in block 10a)

13. New Document/ Rev. No. (if new or changed)
n/a

Complete either Section 14a. or 14b., as applicable	For procedures, attach completed Procedure Modification worksheet from 1-A01-PROC DEV-400	Additional Attributes
14a. Type of Complete Modification	14b. Changes (check all that apply)	
<input checked="" type="checkbox"/> New <input type="checkbox"/> Revision	<input type="checkbox"/> Intent Change <input checked="" type="checkbox"/> Nonintent Change	<input type="checkbox"/> Temporary
<input type="checkbox"/> One-Time-Use <input type="checkbox"/> Cancellation	<input type="checkbox"/> Editorial Correction <input type="checkbox"/> Regular	<input type="checkbox"/> One-Time-Use
	<input type="checkbox"/> Interim Approval Requested - Needed for immediate Use (14 day limit for obtaining final approval)	<input type="checkbox"/> Limited Distribution

15. ERM Change Control Board Required: Yes No (Applicable only to new procedures, revisions, or intent changes.)

List the reviewing disciplines in Block 16. After concurrence has been obtained (in accordance with 1-A01-PROC DEV-400), enter the name of the reviewer followed by / s/ in block 17. If the reviewer indicates No Comments, the review signature constitutes concurrence. Enter the date concurrence is obtained in block 18.

16. Organization	17. Reviewer/Concuror	18. Date	16a. Organization	17a. Reviewer/Concuror	18a. Date
Prgm Mngmt	M.C. Broussard <i>M. C. Broussard</i>	10-9-96			
Peer	T.H. Spence/ <i>T.H. Spence</i>	10-9-96			
QA	G. DiGregorio/ <i>G. DiGregorio</i>	10-9-96			

19. Assigned SME/Phone/Page/Location S.M. Paris/3656/4624/T893B	20. Cost Center 0203	21. Charge Number 951832-00	22. Requested Completion Date Sep 23, 1996
23. Prescreen/Screen/USDQ Number		24. Independent Safety Review Meeting and Date A-DU13-000251	

26. After obtaining ALL required signatures: Responsible Manager's Approval (print/sign/date) (Not Required for New procedures or Revisions)

M.C. Broussard *M. C. Broussard* 10-9-96

28. Expiration Date (if applicable)
9-23-96

ADMIN RECORD

3.0 SAMPLING APPROACH AND REQUIREMENTS

The planned source removal action will consist of pumping/removal of tank liquids and sludges. The source removal will be conducted by trained Rocky Flats Environmental Technology Site Liquid Waste Operations staff equipped with appropriate personal protective equipment defined by the Integrated Work Control Package. The action will be conducted using hand tools and pumps.

The tanks currently contain liquids (process wastes and/or groundwater), Tanks 10, 14, and 16 are also known to contain sludges. The first removal activity will be to pump existing liquids from the tanks to allow sludge removal activities. Liquids will be pumped to a tanker or through a pipeline to an appropriate onsite treatment facility (Buildings 374, 774, 891). Liquids have previously been sampled and analyzed, results are provided in the *OU No.9 Draft Summary 2, Operable Unit No.9, Outside Tanks* (DOE, 1995). Sludges have been characterized for Tanks T-10 East, Tank T-14 and Tanks T-16 North and South. If Tanks T-2, Tank-10 West and Tank 40 are determined to contain sludges the sludges will be sampled prior to or following containerization. The timing of the sampling event will be determined in the field based on the actual quantities and containerization requirements. However, the samples will be collected as soon as possible following the detection of sludges. Tank 10 sludges may be resuspended and pumped via a constructed pipeline to Building 774.

The removal action will require a four step approach to sludge, water, and rinsate sampling. The first step will be to collect sludge samples, if required, of previously uncharacterized sludges for waste acceptance criteria parameters. The sludges and liquids may be sampled insitu or after being placed in a new waste container. The second sampling step is to obtain samples of the source water to be used in the final rinsing of the tanks. The purpose of this sample is to determine a baseline quality of waters used in the rinsing process.

The third set of samples to be collected include a samples of waters generated from each rinsing effort. The samples will be submitted to the onsite laboratory for screening purposes. The purpose of these screening sample is to determine the effectiveness of the rinsing by determining the quality of water following each effort. The results of the most recent sampling effort will be compared to the previous sampling results to determine if the rinsing effort is effective. A minimum of three rinsing efforts will be performed for each tank. Rinsate waters introduced and removed from the tanks during each rinsing effort will be visually monitored and recorded in the field log book to determine if rinsates are recovered and controlled.

The fourth (final) sample to be collected will consist of water generated during the final rinsate. The final rinsate sample will be collected for definitive data analysis. This sample will be utilized to document the effectiveness of the rinsing process by determining the quality of the final rinsate water. The sample may be collected following the third rinse effort in anticipation that the third rinse was effective

3.1 COLLECTION OF SLUDGE SAMPLES

Field sampling personnel will collect additional samples of sludges, liquids and/or samples of previously uncharacterized sludges (if encountered) for waste characterization purposes. These samples will be analyzed for parameters provided in Table 3-1. Sludges have not been encountered

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State the Problem

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- (1) *Identify members of the planning team.* The planning team members include the Project Manager, the Accelerated Actions group's Team Leader, Environmental Safety, Health and Quality's Quality Assurance Officer, and a Liquid Waste Operations representative.
 - (2) *Identify the primary decision-maker.* There will be no primary decision maker; separate decisions will either be allocated to members of the planning team or made by consensus.
 - (3) *Develop a concise description of the problem.* The problem has been divided into the three activities that will be completed as part of the sampling activity. The problems are to:
 - I. Determine the chemical composition of the rinsate generated from the final rinsing effort of the tank; and
 - II. Determine waste characterization of sludges generated from the removal action which have not been previously characterized.
 - (4) *Specify available resources and relevant deadlines for the study.* The removal actions must be completed in fiscal year (FY) 1996. The tank sources must be removed in FY 96 in order to obtain a specific performance measure. Cost is a factor on this project, and sampling cost must be kept at a minimum, while maintaining the necessary level of quality assurance/quality control.

Identify the Decision

- (1) *State the decision(s).*
 - Is the tank rinsing effort complete?
 - What type of waste is the sludge generated from this effort?
- (2) *State the actions that could result from the decision.*

Decisions made based on the sample results will be:

- I. Do the final rinsate water sample results confirm the rinsing process was effective in removing residual contamination to the extent possible by the method used?
 - a) Fill tank with closed-cell foam for interim closure pending clean closure.
 - b) Fill tank with closed-cell foam for interim closure pending closure as a landfill.

- II. Is the waste a RCRA regulated, low-level radioactive, transuranic, mixed, or a solid waste?
- a) The waste will be managed as a RCRA hazardous waste.
 - b) The waste will be managed as a low level waste.
 - c) The waste will be managed as a transuranic waste.
 - d) The waste will be managed as a mixed waste.
 - e) The waste will be managed as a solid waste.

Identify Input to the Decision

(1) *Identify the information that will be required to make a decision.*

- I. To evaluate the problem, the planning team must collect samples of the final rinsate to analyze for metals, VOAs, semi-VOAs, and radionuclides.
- II. To evaluate the problem the planning team must collect samples from the waste and analyze for the characterization parameters.

(2) *Determine the sources of each item of information identified.*

- I. The source of information will be the analytical results from the rinsate sample collected following the final rinsate effort.
- II. The source of information will be the analytical results from the sludge samples.

(3) *Identify the information that is need to establish the action level for the study.*

- I. Action levels for the final rinsate samples – Action levels currently do not exist for the final rinsate samples.
- II. The action levels will be:
 - a) The waste acceptance criteria for a permitted RCRA hazardous waste disposal facility.
 - b) The waste acceptance criteria for at a low level waste disposal facility.
 - c) The waste acceptance criteria for a transuranic waste disposal facility.
 - d) The waste acceptance criteria for a mixed waste disposal landfill.
 - e) The waste acceptance criteria for a sanitary landfill.

- (4) *Confirm that appropriate field sampling techniques and analytical methods exist to provide the necessary data.*
- I. Final rinsate samples will be collected using procedure L-6245F, *Sample Procedures for Waste Characterization* or procedure L6294A, *Waste Characterization Sampling Procedure Inside the Protected Area*. Analytical methods include radioanalytical by gas proportional counting, EPA Method 8240 Target Compound List, Semi-VOCs by EPA Method 8270, and Method 6010, 7000, and 7470 for the Target Analyte List for metals.
 - II. Waste characterization samples will be collected using procedure L-6245F, *Sample Procedures for Waste Characterization* or procedure L6294A, *Waste Characterization Sampling Procedure Inside the Protected Area*. Analytical methods include radioanalytical by gas proportional counting, EPA Method 8240 Target Compound List, Semi-VOCs by EPA Method 8270, and Methods 6010, 6020, and 7000 series analyses for the Target Analyte List for metals.

Define the Boundaries of the Corrective Action

- (1) *Define the spatial boundary of the decision.*
- (a) Define the domain or geographic area within which all decisions must apply:
 - I. Decisions will apply to the volume of water generated from the final rinsing of the tank.
 - II. Decisions will apply to the volume of the waste containers.
 - (b) Specify the characteristics that define the population that will be studied:
 - I. Waters generated from the final rinse of the tank.
 - II. Sludges will be generated during the source removal process.
 - (c) Define the scale of decision making:
 - I. The scale of decision making will be based on the size of the tank.
 - II. The scale of decision will be based on the number of waste containers generated during remedial activities.

(2) *Define the temporal boundary of the decision.*

(a) Determine when to collect data:

- I. Final rinsate samples will be collected following the final rinse of the tank.
- II. The sludge samples will be collected in the tanks or after all waste containers are filled.

(b) Determine the time frame in which the study data apply:

- I. The sampling data will represent the quality of the final rinse water.
- II. The sampling data will represent the results of sludge materials in the waste containers.

(3) Identify practical constraints on data collection:

- I. Access to the tanks may be limited.
- II. Access to the tanks may be limited.

Develop a Decision Rule

(1) *Specify the parameter that characterizes the population of interest.*

- I. VOCs, semi-VOCs, metals and radioactivity in the final rinse waters will be used to determine the condition of the tanks following the final rinse.
- II. The concentration of RCRA constituents and radioactivity levels will be compared to waste disposal criteria for selected disposal facilities.

(2) *Specify the action level for the study.*

- I. The action level for this decision has not been determined.
- II. The action level for this decision is the waste acceptance criteria for the selected waste disposal facility.

3) *Develop a decision rule.*

- I. If the analytical results from the final rinsate sample support screening level results and indicate rinsing is no longer effective, the tank shall be filled with foam.

II.

- a.) If RCRA constituents exceed TCLP threshold, the waste will be classified RCRA.
- b.) If RCRA constituents do not exceed TCLP, the waste will be classified solid waste.
- c.) If the radioanalytical results indicate radionuclides above background but less than 100nCi/l or 100nCi/g, the waste will be classified low level mixed waste.
- d.) If the radioanalytical results indicate radionuclides above 100 nCi/l or 100 Ci/g, the waste will be classified transuranic.
- e.) If RCRA and radioanalytical parameters are present in the waste, the waste will be classified low level mixed or TRU mixed waste.

Specify Acceptable Limits on the Decision Error

Sampling conducted under the IAG UST Source Removal Program is designed as a judgmental sampling program and not statistically based. Therefore, no hypothesis is being tested and limits on the decision error are not applicable.

Optimize the Design

There must be a high level of confidence that the data generated from samples collected in the field represent actual conditions. Data generated from the removal action will be compared to existing data and evaluated to determine if new data is representative.

Quality is also an accurate representation of the actual waste condition. This confidence level will be maintained by taking duplicate samples and equipment rinsates, ensuring the proper number of confirmation and waste container samples are collected, and by following the Precision, Accuracy, Representativeness, Comparability, and Completeness (PARCC) parameters as defined in Table 4-1.

4.2.3 Equipment Decontamination

Sampling equipment that is used at more than one location shall be decontaminated between sampling locations in accordance with Section 6.22, Equipment Decontamination, in Procedure L-6245-F, *Sampling Procedure for Waste Characterization*. The decontamination effort will be documented in accordance Section 8, Records of Procedure L-6245-F.

4.2.4 Quality Control

Field sampling quality control will be conducted for definitive sampling only (blank and final rinse samples) and consist of:

- Collection of field duplicate samples will be at a minimum of one per 20 samples or a minimum of one duplicate sample every three tanks.
- Preparation and analysis of an equipment rinsate blank for every 20 samples collected (at a minimum or at least one rinsate blank if 20 samples are not collected).
- Trip blanks for VOC analysis at a frequency of a VOC trip blank per shipment.