

5716

**CLASSIFICATION OF TANK T-2 AS A HAZARDOUS WASTE MANAGEMENT
UNIT**

06/26/94

**DOE-1971-94
DOE-FN OEPA
8
LETTER**



5716

Department of Energy
Fernald Environmental Management Project
P. O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 648-3155

JUN 26 1994
DOE-1971-94

Mr. Mark Metcalf
Southwest District Office
Division of Hazardous Waste Management
Ohio Environmental Protection Agency
401 East Fifth Street
Dayton, Ohio 45202-2911

Dear Mr. Metcalf:

CLASSIFICATION OF TANK T-2 AS A HAZARDOUS WASTE MANAGEMENT UNIT

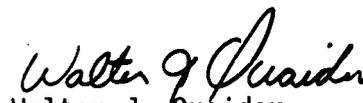
This letter is notification of an additional Hazardous Waste Management Unit (HWMU) at the Fernald Environmental Management Project (FEMP). Hazardous waste has been stored in Tank T-2 for more than 90 days and is therefore a HWMU. Enclosure 1 contains information on Tank T-2 contents.

The FEMP requests that the closure of T-2 be handled as one of the HWMU closures to be completed under the integrated RCRA/CERCLA process. The Tank T-2 HWMU will be added to the RCRA Part A application.

The FEMP is performing daily inspections on Tank T-2. Overall, the integrity of the tank is sound and does not present an imminent threat of release.

If you have any questions or require additional information, please contact John Sattler at (513) 648-3145.

Sincerely,


Walter J. Quaid
Assistant Manager
Technical Support

FN: Sattler

Enclosure: As Stated

cc w/enc:

cc w/enc:

H. O'Connell, OEPA-Dayton
T. Schneider, OEPA-Dayton
J. A. Saric, USEPA Region V
J. Van Kley, Ohio AGO
K. A. Hayes, EM-424 TREV
M. McDermonntt, DOJ
D. Rast, DOE-FN
J. Reising, DOE-FN
E. Osheim, DOE-FN
K. L. Alkema, FERMCO/65-2
J. T. Curtis, FERMCO/8
D. Ofte, FERMCO/1
J. Theising, FERMCO/2
M. K. Yates, FERMCO/2

AR Coordinator, FERMCO
RCRA Operating Record, FERMCO

Enclosure 1

Tank T-2 is a 10,000 gallon above ground stainless steel tank that was used to store purified thorium nitrate after extraction. During production, the purified material would either be shipped off site as product or processed further in other Pilot Plant components to precipitate various thorium compounds. When thorium processing in the Pilot Plant ceased in the mid-1970's, remaining thorium nitrate solution was stored in T-2.

Currently, the tank contains a solution of thorium nitrate dissolved in 3 normal nitric acid. Approximately 6500 gallons of thorium nitrate solution still remains in the tank. The FEMP considered this material a product until DOE declared the material to be a waste. Once thorium nitrate became a waste, the material was determined to exhibit the characteristic of corrosivity (D002). Additional sampling and analysis will be performed for toxicity characteristic (TC) metals. Because the material is corrosive and has been stored in the tank for a period greater than 90 days, the material in the tank is a hazardous waste and the tank is a hazardous waste management unit (40 CFR 261.4(c)/OAC 3745-51-04(C)).

In November 1993, Tank T-2 underwent ultrasonic thickness testing and visual inspection (see Enclosure 3). Although Tank T-2 original shell thickness is not available, the results of the November 1993 testing "are consistent with possible initial thicknesses for the size of the tank and show no unusual behavior indicating excessive corrosion."* No evidence from visual examination or past spill report reviews indicate any leakage problems with Tank T-2. The FEMP is inspecting Tank T-2 on a daily basis using the form shown as Enclosure 2. The Tank shares a 2 foot diked containment area with Tanks T-5 and T-6 which are presently undergoing RCRA closure actions.

Tank T-2 is scheduled to be emptied and the contents treated under CERCLA Removal Action 12 during the latter half of 1995.

* FERMCO'S Safe Configuration Assessment of the UNH Tank System Final Report, dated December 29, 1993, contains the discussion of Tank T-2 measured shell thickness. A copy of the report was made an attachment to a letter mailed to Ms. Robin Fisher, Ohio EPA, on January 28, 1994.

Thorium Nitrate Tank T2 - DAILY INSPECTION LOG

Inspector's Name:		Date:		Time:		
Facility Owner/Supervisor's Signature:		Date:		Time:		
Item No.	Item Description	Status		Observation(s)	Corrective Action Status	
		Accept	Reject		To Be Completed	Date Completed
1.	Signs:					
	a. Danger-Authorized Personnel Only					
	b. No Smoking or Open Flame					
2.	Overfill/Spill Control Equipment					
3.	Monitoring Equipment					
4.	Corrosion or Release Of Waste					
5.	Condition - Secondary Containment					
6.	Surrounding Area and Tank Integrity					
7.	Emergency & Spill Response Equipment					

Comments: _____

Instructions:

1. Perform tank inspection daily.
2. Document the inspection results for items 1 through 7.
3. Inspector records his/her name, date, and time of inspection.
4. Facility Owner or Supervisor reviews and signs inspection log.
5. Facility Owner or Supervisor retains a copy and forwards the original inspection log to the RCRA operating Record, Mailstop 30.
6. Use acceptance criteria specified in SOP 20-C-816 for above ground storage tanks. Inspectors shall be trained to SOP 20-C-816.

NOTE: ANY ITEM MARKED REJECT SHALL HAVE THE OBSERVATION AND CORRECTIVE ACTION COLUMNS COMPLETED. RECORD THE WORK REQUEST NUMBERS, DEVIATION REPORTS, ETC. IN THE "TO BE COMPLETED" COLUMN. THE DATE ACTION COMPLETED SHALL BE DOCUMENTED ON INSPECTION LOG THE DAY THE CORRECTIVE ACTION WAS COMPLETED.

7. After receipt of the original inspection log in the RCRA Operating Record, Waste Compliance will perform an independent review and establish a tracking system to ensure compliance with the daily inspection requirement.

Waste Compliance Review Signature:	Date:
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QUALITY ENGINEERING INSPECTION PLANNING

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QIP No. C930753 Rev. _____

1. Source	2. Receiving	3. Construction/Remediation X	4. Quality Level
Item/Title/description: ULTRASONIC THICKNESS TESTING			
PILOT PLANT THORIUM TANKS			
Project: OLD PILOT PLANT		Dwg./Spec. No. PER ENGINEER'S DIRECTION	
9. P/O	Subcontract	MJR Job EA	W.O.# N/A Rev
10. Prepared By: F.B. THOMPSON		Date: 11/02/93	11. *Reviewed By: N/A Date:
12. Approved By: W. J. Romine		Date: 11/02/93	*A/E
12a. NDE LEVEL III Review: Steve Hurley		Date: 11-2-93	

13. Char No.	14. Inspection Characteristic	15. Inspec Status	16. General Remarks
	<p>Verify wall thickness and condition of the Old Pilot Plant's thorium tanks per the Engineer's direction. Verify through the use of Ultrasonic Testing.</p> <p style="text-align:center;">*ACCEPTANCE CRITERIA*</p> <p>Perform Ultrasonic Thickness testing in accordance with EQP-11.03.</p> <p>Document the examination on the attached ULTRASONIC THICKNESS EXAMINATION REPORT</p>		Reference EQP-11.03

17. Inspection Reviewed/Completed <u>Steve Hurley</u> Date: <u>11-2-93</u> Quality Field Engineer	18. Final Quality Engineering Review/Approval <u>Frank Thompson</u> Date: <u>11-18-93</u> Quality Engineer
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QUALITY ENGINEERING INSPECTION PLANNING

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QIP No.

Rev.

1. Source 2. Receiving 3. Construction/Remediation X 4. Quality Level

Item/Title/description: VISUAL EXAMINATION OF TANK T-2

Project: OLD PILOT PLANT Dwg./Spec. No. PER ENGINEER'S DIRECTION

9. P/O Subcontract MJR Job EA W.O.# N/A Rev

10. Prepared By: *F.B. Thompson* Date: 11/02/93 11. *Reviewed By: N/A Date:

12. Approved By: *W.A. Romine* Date: 11/02/93 *A/E

12a. NDE LEVEL III Review: *Steve Hurdley* Date: 11-2-93

13. Char No.	14. Inspection Characteristic	15. Inspec Status	16. General Remarks
1.	Verify Tank T-2 has no visible leaks along the welded seams per the Engineer's direction.	11-2-93	

17. Inspection Reviewed/Completed

18. Final Quality Engineering Review/Approval

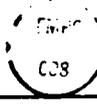
Steve Hurdley Date: 11-2-93
Quality Field Engineer

F.B. Thompson Date: 11/2/93
Quality Engineer

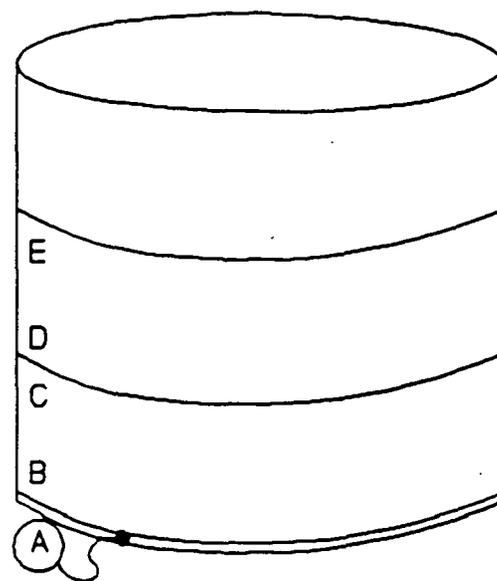
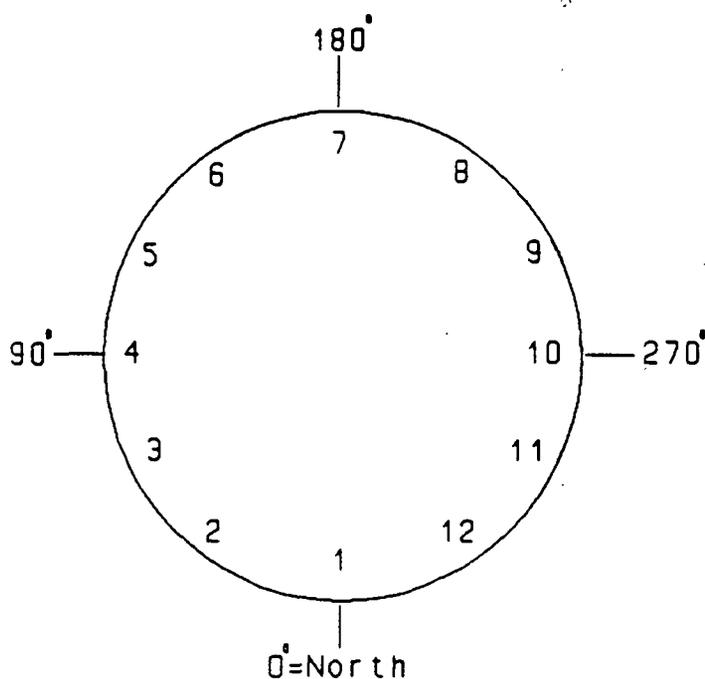
FMPC
QUALITY ASSURANCE DEPARTMENT
VISUAL WELD EXAMINATION CHECKLIST

SHEET OF

PO/SUBCONTRACT/AM/NUMBER:	ITEM DESCRIPTION: <i>Tanks # T-2</i>	DATE: <i>11-2-93</i>
WELD NUMBER: <i>All welds</i>	DRAWING NUMBER/REVISION: <i>N/A</i>	TYPE OF EXAMINATION: <i>visual</i>
STATUS OF WORK: <i>complete</i>	EXAM/PROCEDURE/REVISION: <i>RAE - 11.07 Rev 0</i>	ACCEPTANCE STANDARD: <i>ASME</i>
MATERIAL: <i>CS tanks</i>	SURFACE CONDITION: <i>Painted</i>	EQUIPMENT USED/MATE NUMBER: <i>NONE</i>

	ACC	REJ	N/A	SIGNATURE	LEVEL	DATE
PRIOR TO FIT-UP						
CLEANLINESS			✓			
WELD PREP CONFIGURATION			✓			
FIT-UP						
JOINT PREP/SOCKET GAP			✓			
TACKS			✓			
WELD PREP CLEANLINESS			✓			
MATERIALS	✓			<i>Steve Hawley</i> 	II	
WELDERS ID			✓			<i>unavailable</i>
MISMATCH						
ALIGNMENT			✓			
FINAL VISUAL						
EXT WELD SURFACE	✓			<i>Steve Hawley</i> 	II	
INT WELD SURFACE			✓			<i>inaccessible</i>
4 TO 1 TAPER	✓			<i>Steve Hawley</i> 	II	
OTHER*						

*Other includes counterbore, purge dam, back purge, purge dam removal, surface acceptable for MOE ISI prep, and configuration/flow direction verification as required



(Flat Bottom)

UT Thickness Readings						
Location	A	B	C	D	E	
1	0.138	0.137	0.140	0.139	0.132	
2	0.128	0.133	0.140	0.139	0.132	
3	0.130	0.132	0.139	0.139	0.132	
4	0.142	0.143	0.139	0.138	0.137	
5	0.142	0.135	0.143	0.138	0.131	
6	0.138	0.136	0.139	0.138	0.132	
7	0.137	0.140	0.145	0.145	0.138	
8	0.131	0.135	0.142	0.140	0.135	
9	0.134	0.139	0.140	0.140	0.137	
10	0.149	0.142	0.139	0.137	0.132	
11	0.141	0.141	0.142	0.141	0.135	
12	0.129	0.135	0.141	0.140	0.134	

Note: Ultrasonic Thickness Gauge, NOVA 100-D, Serial Number 550

By W.L. Romine

FEMP QC Dept. S.M. Hurley