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HYDROGEN FLUORIDE DUMPSTER NUMBER 3

01/19/95

DOE-0282-95
DOE-FN OEPA
20
LETTER



Department of Energy
 Fernald Environmental Management Project
 P. O. Box 208705
 Cincinnati, Ohio 45200-8705
 (513) 720-6357

JAN 19 1995
 DOE-0282-95

Mr. Paul Pardi
 Ohio Environmental Protection Agency
 401 East Fifth Street
 Dayton, OH 45402-2911

Dear Mr. Pardi:

HYDROGEN FLUORIDE DUMPSTER NUMBER 3

During the July 7, 1994, meeting of the Fernald Environmental Management Project (FEMP) staff and Ohio Environmental Protection Agency (OEPA), a request was made by your staff for additional information on Hydrogen Fluoride Dumpster Number 3. Enclosed is a fact sheet, a figure of the current location of the dumpster, structural integrity inspection forms, a photograph of the dumpster at its current location, and analytical data for the dumpster waste.

There is no visible evidence of spills and no documented spill data indicating a release from the dumpster at either its previous location on the north end of the Pilot Plant or at its current location in the tank farm secondary containment. Since its movement to the tank farm, daily leakage inspections are performed on the dumpster. The liquid content of the dumpster will be neutralized using the same methodology as proposed in the HF Railcar Closure Plan Information and Data (CPID) submittal.

If you have any questions regarding this matter, please contact John Sattler at (513) 648-3145.

Sincerely,

Walter J. Quaider
 Acting Associate Director
 Office of Safety & Assessment

FN:Sattler

Enclosure: As Stated

cc w/o enc:

K. A. Chaney, EM-423, QO
 P. F. Clay, FERMCO/52-2
 J. T. Curtis, FERMCO/8
 D. Ofte, FERMCO/1
 T. J. Walsh, FERMCO
 Administrative Record

ENCLOSURE 1

HF DUMPSTER NUMBER 3 FACT SHEET

The Hydrogen Fluoride Dumpster Number 3 is a 900 gallon portable container (Enclosure 2) which contains approximately 775 gallons of 10.7% hydrofluoric acid (HF) residues. The dumpster is designed to hold HF residues and is lined with rubber.

The HF residues originated from the rinsing of dilute HF from process air exhaust scrubber tanks located in the Pilot Plant. When operations ceased in 1989, the HF rinseates from those tanks was emptied into the dumpster and the dumpster was placed on the north end of the Pilot Plant within concrete secondary containment.

In January 1994, the HF dumpster underwent ultrasonic thickness testing and visual inspection (Enclosure 3). Although the original thickness of the dumpster wall is not available, the January 1994 thickness testing did not indicate any significant corrosion or lack of integrity.

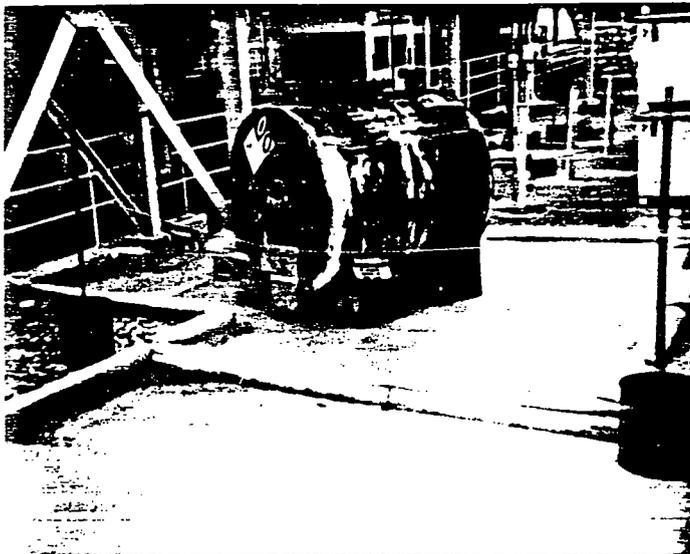
On April 14, 1994, the HF dumpster, the HF Tank Car (HWMU #38) and the RCRA-empty HF tank car containing approximately 22.5 gallons of HF residues were relocated to the east side concrete pad of the Tank Farm Area (Enclosure 4). This area provides sufficient (over 100%) concrete secondary containment for the storage of all the HF and HF residues. Concrete "bumpers" and herculite have been added to enhance the spill containment configuration around the HF dumpster which drains to the Tank Farm's large secondary containment system. The dumpster and surrounding area is inspected daily for leaks and signs of deterioration.

On July 22, 1994, the contents of the HF dumpster were sampled and analyzed to make a hazardous waste determination and confirm the residues in the dumpster can be treated on-site. Analytical data shows that the waste does not exhibit any of the toxicity characteristics for metals (Enclosure 5). However, it is hazardous for the characteristic of corrosivity (D002). The analytical data also confirmed that the HF residues in the dumpster can be processed through the HF neutralization system.

Elementary neutralization of the contents of the HF dumpster is planned to occur during the calendar year of 1995. Elementary neutralization will be conducted on-site in the HF neutralization system proposed in the revised HF Tank Car Closure Plan Information and Data (CPID) submitted to Ohio EPA on July 27, 1994. The dumpster's contents are scheduled to be neutralized following treatment of the HF Tank Car's contents. Following neutralization, the empty dumpster will be rinsed, the rinseate will be tested to confirm pH is ≥ 2 and ≤ 12.5 , and the clean dumpster will be reused elsewhere on site.

ENCLOSURE 2

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HF DUMPSTER NUMBER 3

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ENCLOSURE 3

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ORIGINAL

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QUALITY ENGINEERING INSPECTION PLANNING

QIP No. Q46055 Rev.

1. Source 2. Receiving 3. Construction X 4. Production 5. Quality Level III

Item/Title/description: ULTRASONIC THICKNESS EXAMINATION

HF DUMPSTER NUMBER 3

Project: SITWIDE HF REMOVAL ACTION Dwg./Spec. No.

9. P/O Subcontract M.J.R. Job EA Rust W.O.# Rev

10. Prepared By: MGODBER Date: 1/12/94 11. *Reviewed By: [Signature] Date: 1-12-94

12. Approved By: [Signature] Date: 1/12/94 *ATE

12a. LEVEL III NDE Review [Signature] Date 1-12-94 1-12-94

13. Char No.	14. Inspection Characteristic	15. Inspec Status	16. General Remarks
	<p>CALIBRATE THE ULTRASONIC THICKNESS TESTING INSTRUMENT IN ACCORDANCE WITH THE QUALITY CONTROL EVALUATION PROCEDURE (QCEP 60-1103).</p> <p>VERIFY THE THICKNESS OF HF DUMPSTER NUMBER 3 IN ACCORDANCE WITH QCEP 60-1103.</p> <p>*ACCEPTANCE CRITERIA*</p> <p>REFERENCE QCEP 60-1103. PART 6. FOR SURFACE PREPARATION. EQUIPMENT CALIBRATION. THICKNESS DETERMINATION. AND POST CLEANING.</p> <p>RECORD THE EXAMINATION ON THE ATTACHED FMPC-Q-2858 EXAMINATION FORM.</p> <p>SEE ATTACHED SUMMARY SHEET.</p>	<p>FMF 1-12-94</p> <p>FMF 1-12-94</p>	<p>No visible leaks</p> <p>L.N. 1-12-94</p>

17. Inspection Reviewed/Completed Date: 1-12-94

18. Final Quality Engineering Review/Approval Date: 1-12-94

[Signature] Quality Field Engineer

[Signature] Quality Engineer

FMPC
ULTRASONIC THICKNESS EXAMINATION REPORT

Page _____ of _____

REPORT NUMBER:		MATERIAL			
IDENTIFICATION:		TYPE:	THICKNESS:	SURFACE CONDITION:	
Tank No. 3		Hydrogen Fluoride	1/4"	Corroded / Painted	
EQUIPMENT TYPE AND NUMBER:	COUPLANT:	CALIBRATION REFERENCE BLOCK NUMBER:		PROCEDURE:	REV:
NOVA 100-D 2 1/2" 550	Ultragel	S/N 3640		60-1103	0
SADDLES, WEDGES, OR SHOES (WHERE APPLICABLE):		SCANNING MECHANISM (WHERE APPLICABLE):		SCANNING:	
NOT used		NOT applicable		Method: Not applicable	
ITEM/COMPONENT DESCRIPTION:				Level:	
HF Dumostar No. 3				CALIBRATION TIME:	
				Start: 12:05 PM	
				Finish: 12:10 P.M.	

INSTRUMENT SETTINGS (WHERE APPLICABLE):	SKETCH OF ITEM INSPECTED (WHERE APPLICABLE):
Frequency	see attached sketch
Pulse Length/Energy	
Material/Sweep Delay	
Test Range/Sweep Length	
Suppression/Reject	
Sweep Gain/DAC Curve	
Calibrated Gain in db	
Uncalibrated Gain	
Reject Level/Limit	
Reference Level	
Tran. Mode	
SEARCH UNITS (WHERE APPLICABLE)	
Brand	
Serial Number	
Nominal Angle	
Size	
Nominal Freq. (MHZ)	

DISPOSITION: Accept Reject

Acceptance Standard Used: _____

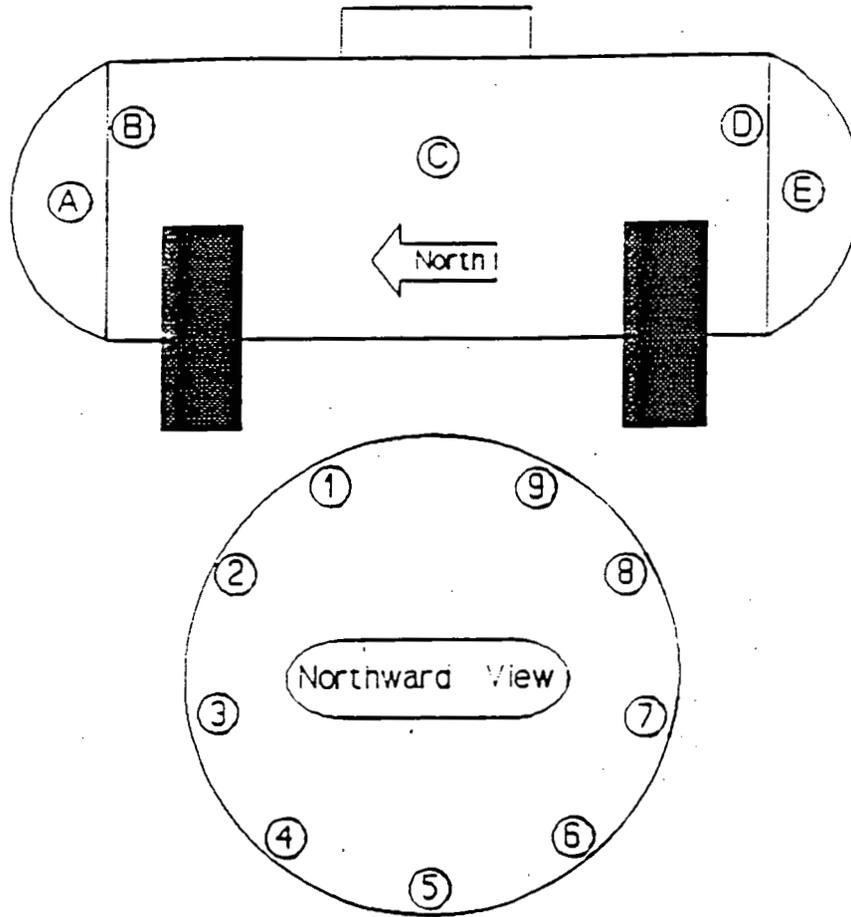
EXAMINER: Steve Wheeler SIGNATURE

LEVEL: II DATE: 1-12-94

REMARKS: For engineering information

SUPERVISOR: Frank Thompson SIGNATURE

DATE: 1-12-94



UT THICKNESS READINGS					
	(A)	(B)	(C)	(D)	(E)
1	0.265	0.263	0.261	0.260	0.260
2	0.251	0.251	0.252	0.278	0.262
3	0.253	0.261	0.255	0.258	0.261
4	0.273	0.285	0.258	0.250	0.257
5	0.278	0.267	(*)	(*)	(*)
6	0.248	0.258	0.251	0.258	0.272
7	0.264	0.263	0.257	0.244	0.272
8	0.250	0.269	0.260	0.272	0.262
9	0.254	0.272	0.265	0.260	0.261

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

(*) Inaccessible

ENCLOSURE 4

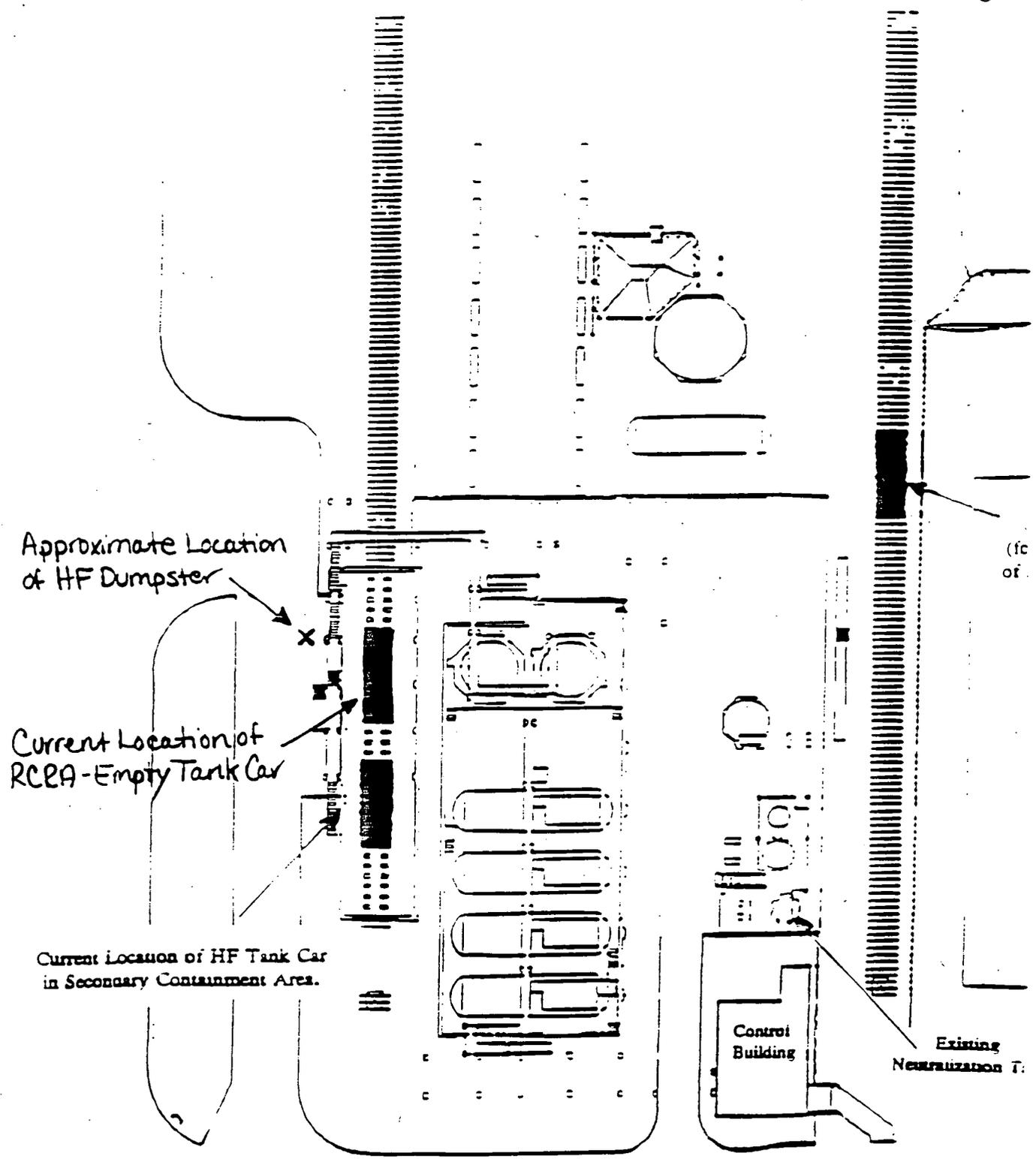


Figure 4. Vicinity of HF Tank Car and Secondary Containment Area.

ENCLOSURE 5

DATE 21-SEP-94
TIME 08:37:05

SUMMARY REPORT

PAGE 1

RELEASE NUMBER : 1000003302
PROJECT NAME : 04.73 DHF TANK CAR

LAB	SAMPLE ID	USER	SAMPLE ID	SAMPLE POINT	COMPONENT	U	RESULT	UNITS	DATE SAMPLED	DATE TASK PERFORMED
INORGANICS-EPM	200076275	WBS	04.73	2842	HF DUMPSTER TA URANIUM		449	ug/L	22-JUL-94	22-JUL-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA ARSENIC	U	10.0	ug/L	22-JUL-94	20-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA BARIUM	U	400.0	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA CADMIUM	U	10.0	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA CHROMIUM	U	80.2	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA COPPER		10918	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA LEAD		VOID	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA LEAD		10.6	ug/L	22-JUL-94	02-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA MERCURY	U	0.8	ug/L	22-JUL-94	29-JUL-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA NICKEL		20980	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA SELENIUM		8.9	ug/L	22-JUL-94	29-AUG-94
INORGANICS-AA/I	200076276	WBS	04.73	2842	HF DUMPSTER TA SILVER	U	20.0	ug/L	22-JUL-94	08-AUG-94
INORGANICS-EPM	200076277	WBS	04.73	2842	HF DUMPSTER TA PH		1.32	pH Units	22-JUL-94	26-JUL-94
INORGANICS-EPM	200076278	WBS	04.73	2842	HF DUMPSTER TA FLUORIDE		106300	mg/L	22-JUL-94	28-JUL-94
INORGANICS-EPM	200076279	WBS	04.73	2842	HF DUMPSTER TA HYDROGEN ICWS		5.4	Y	22-JUL-94	22-JUL-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA ARSENIC	U	10.0	ug/L	22-JUL-94	20-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA BARIUM	U	400.0	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA CADMIUM		10.8	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA CHROMIUM		85.6	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA COPPER		11234	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA LEAD		VOID	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA LEAD	U	6.0	ug/L	22-JUL-94	02-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA MERCURY	U	0.8	ug/L	22-JUL-94	29-JUL-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA NICKEL		21640	ug/L	22-JUL-94	08-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA SELENIUM		7.6	ug/L	22-JUL-94	29-AUG-94
INORGANICS-AA/I	200076280	WBS	04.73	2843	HF DUMPSTER TA SILVER	U	20.0	ug/L	22-JUL-94	08-AUG-94
INORGANICS-EPM	200076281	WBS	04.73	2843	HF DUMPSTER TA URANIUM		473	ug/L	22-JUL-94	22-JUL-94
INORGANICS-EPM	200076282	WBS	04.73	2843	HF DUMPSTER TA PH		1.41	pH Units	22-JUL-94	26-JUL-94
INORGANICS-EPM	200076283	WBS	04.73	2843	HF DUMPSTER TA FLUORIDE		105700	mg/L	22-JUL-94	28-JUL-94
INORGANICS-EPM	200076284	WBS	04.73	2843	HF DUMPSTER TA HYDROGEN ICWS		5.4	Y	22-JUL-94	22-JUL-94

30 RECORDS PRINTED

END OF REPORT