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**CLOSURE PLAN INFORMATION AND DATA FOR
THE DETREX STILL REVISION 1 MARCH 1994**

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**DOE/OPEA
11
REPORT**

CLOSURE PLAN INFORMATION AND DATA
for the
Detrex Still

Fernald Environmental Management Project

March 1994

Revision 1

U.S. DEPARTMENT OF ENERGY

CONTENTS (continued)

4.4	STATEMENT OF CERTIFICATION	4-3
4.5	POST-CLOSURE PLAN	4-4
4.6	NOTICE IN DEED	4-4
5.0	SAMPLING PLAN AND ANALYTICAL PROCEDURES	5-1
5.1	NATURE, RATE, AND EXTENT OF CONTAMINATION	5-1
5.2	EQUIPMENT, CALIBRATION, AND EXPERIENCE OF OPERATORS	5-2
5.3	PROCEDURES FOR GROUNDWATER MONITORING ANALYSIS	5-3
5.4	NUMBER, LOCATION, AND FREQUENCY OF SAMPLES	5-3
6.0	AIR AND WASTEWATER MANAGEMENT PLANS	6-1
6.1	CONTROL OF AIRBORNE PARTICULATES	6-1
6.2	CONTROL OF RUNOFF TO SURFACE WATER	6-1
6.3	CONTROL OF RINSEATE RUNOFF	6-1
6.4	CONTROL OF HAZARDOUS CONSTITUENTS	6-1
6.5	WASTEWATER TREATMENT	6-1
7.0	PERSONNEL SAFETY AND FIRE PREVENTION	7-1
7.1	GUIDELINES FOR PREPARATION OF HEALTH AND SAFETY PLANS	7-1
8.0	REFERENCES	8-1
	APPENDIX 1 DETREX STILL PHOTOGRAPHS	
	APPENDIX 2 WASTE CHARACTERIZATION DATA SUMMARY	
	APPENDIX 3 SAMPLING AND ANALYSIS PLAN	
	APPENDIX 4 GUIDELINES FOR PREPARATION OF HEALTH AND SAFETY PLANS	

Table 2-2. Sequence of Actions Required for Closure of the Detrex Still.

Equipment Item	Actions
Still Tank	<ul style="list-style-type: none"> • Disassemble and remove • Manage contaminated materials <ul style="list-style-type: none"> - Remove and package Still Tank
Solvent Condenser	<ul style="list-style-type: none"> • Decontaminate • Dismantle and remove • Manage contaminated materials <ul style="list-style-type: none"> - Remove, compact CUT INTO MANAGEABLE SECTIONS, and package attached valves, and instruments • Manage decontamination wastes • Size reduce and manage clean materials
Equipment Structural Supports	<ul style="list-style-type: none"> • Dismantle • Decontaminate • Manage clean materials • Manage decontamination wastes
Piping	<ul style="list-style-type: none"> • Remove external insulation from steam piping • Dismantle and remove • Manage clean materials • Manage contaminated materials <ul style="list-style-type: none"> - Remove, compact CUT INTO MANAGEABLE SECTIONS, and package external insulation, connecting piping, valves, and instrumentation
Pump, valves (and any piping not suitable for decontamination - e.g., rusty)	<ul style="list-style-type: none"> • Manage contaminated materials <ul style="list-style-type: none"> - Remove, compact CUT INTO MANAGEABLE SECTIONS, and package pump, valves, and any piping
Concrete Floor	<ul style="list-style-type: none"> • Decontaminate (scabble) • Manage decontamination wastes <ul style="list-style-type: none"> - Sample and package concrete rubble

The equipment structural supports will be decontaminated using high pressure steam and water sprays until a visual inspection confirms a "clean debris surface" is obtained, in accordance with the OEPA Interim Final Closure Review Guidance (September 1, 1993) and 40 CFR § 268.45-Table 1, Footnote No. 3. Debris surfaces are considered "clean" when the surface, viewed without magnification, is free of all visible hazardous waste except that residual staining from waste consisting of light shadows, slight streaks, or minor discolorations, and waste in cracks, crevices, and pits may be present provided that such staining and waste in cracks, crevices and pits is limited to no more than 5% of each square inch of surface area.

The condenser will be decontaminated using the same high pressure steam and water spray described above for the equipment structural supports. Following decontamination and determination of a "clean debris surface" (as described above), the condenser will be dismantled and removed. The condenser will then be demolished, and managed appropriately, in accordance with Section 2.2.2.1. The equipment items will be handled and managed as clean or contaminated materials.

During disassembly, ~~valves or instruments on the condenser~~ CONNECTING PIPING AND SOLVENT INLET/OUTLET PIPING, will be removed, ~~compacted~~ CUT INTO SECTIONS, and managed as mixed waste. THE PIPING AND WILL BE CUT INTO SECTIONS, AS NECESSARY, IN THE FIELD OR IN THE DECONTAMINATION AND DECOMMISSIONING (D&D) FACILITY TO CONFORM TO THE SIZE OF THE STORAGE CONTAINER. PRIOR TO DISMANTLING ANY EQUIPMENT, INDUSTRIAL HYGIENE WILL MONITOR THE AREA TO ENSURE WORKER SAFETY. THE PIPING WILL BE CUT INTO SECTIONS WITH FEMP APPROVED EQUIPMENT (E.G., BAND SAW, RECIPROCATING SAW, ACETYLENE TORCH, OR PLASMA-ARC TORCH). CONTAMINATED SAW BLADES WILL EITHER BE DISCARDED OR DECONTAMINATED BY FEMP MAINTENANCE.

Spill prevention and control measures will be employed during all decontamination operations, in accordance with the FEMP SOPs. Work areas will be prepared by placing impermeable liners and/or diking to contain spills. Catch pans or basins will be placed beneath the equipment at points where there is potential for liquids to drain, once disconnected. Personnel will disconnect the equipment from existing piping, tubing, structural supports, instrumentation, ancillary equipment, and electrical connections. If appropriate, the resulting openings will be sealed. Liquids collected in catch pans and

Detrex Still
Closure Plan Information and Data

- 5291

all other demolition waste created by the dismantling activities will be managed according to the procedures described in Section 2.2 for mixed wastes pending characterization and final disposition. Personnel will apply standard industry procedures selected according to the type of equipment as well as the historical use based on process knowledge.

Personnel may require access to internal surfaces of equipment to remove waste inventories and residues and to facilitate decontamination. Workers may have to cut through the walls of the Still Tank. Asbestos abatement controls specified by Removal Action No. 26, Asbestos Abatement, will be applied. Workers will seal these access openings to prevent spread of contamination while the equipment awaits final disposition.

The Detrex Still Tank will be disassembled and removed to prevent the spread of contamination. Distillation residues (approximately 2.8 ft³) will be sampled and removed after disassembly. However, the asbestos insulation on the outside of the Still Tank will not be removed. The equipment items will be handled and managed as contaminated material. The Still Tank then will be packaged and managed as described in Section 2.2.2.2.

The pump, valves, and piping are not amenable to decontamination, and will be considered contaminated materials. These items will be ~~compacted~~ CUT INTO SECTIONS IN THE FIELD OR AT THE D&D FACILITY, appropriately containerized, and managed as described in Section 2.2.

Consistent with the Physical Extraction technologies specified in 40 CFR § 268.45-Table 1, the concrete floor within the HWMU boundaries (and any contiguous staining on the concrete floor which extends outward beyond the HWMU boundaries) will be decontaminated using a concrete impact scabbling device to remove at least 0.6 cm of the surface layer. Treatment will continue until a "clean debris surface" has been obtained, by visual inspection (see OEPA September 1993 Interim Final Closure Review Guidance page 26 and Footnote No. 3 in 40 CFR § 268.45-Table 1). The "clean debris surface" criteria are the same as those already discussed. The scabbled concrete debris will be sampled, appropriately containerized, and managed according to Section 2.2 procedures. The scabbling equipment is equipped with a high efficiency particulate

Detrex Still
Closure Plan Information and Data

(HEPA) vacuum system to collect and control airborne particulates during concrete scabbling operations.

All equipment found to be free from hazardous contamination will be managed as non-RCRA, processed through a radiological decontamination area, if necessary, and then added to the scrap inventory for recycle. Disposal will be conducted in accordance with the procedures in Section 2.2. Equipment and materials that cannot be fully decontaminated will then be containerized and managed as mixed waste according to procedures described in Section 2.2.

Decontamination will generate materials including construction debris (such as temporary diking and splash shielding), wash water, flush water, nonhazardous solvents, and wipes used to wipe down and remove visible residues and sludges from equipment and facilities. All decontamination materials will be collected and managed according to procedures described in Section 2.2. At this point in the Detrex Still closure, all hazardous materials and contaminated equipment will have been removed from the Detrex Still HWMU, and the closure field activities will be complete.

2.4 DESCRIPTION OF SECURITY SYSTEMS

The boundary of the Detrex Still has been marked and identification signs have been posted. Access to the HWMU is restricted by chains.

As with all DOE facilities, plant security at the FEMP is strict. The entire FEMP processing area, which includes Building 1A and the Detrex Still area, is surrounded by chain link fencing and monitored 24 hours a day by onsite security personnel. All employees and visitors enter through one of several guarded entrances into the facility.

Detrex Still
Closure Plan Information and Data

4.4 STATEMENT OF CERTIFICATION

~~The FEMP will submit a Certification of RCRA Closure within 60 days after the Detrex Still closure is complete. Completion of closure for the Detrex Still will be certified after the completion of the actions described in this CPID. The Certification will comply with the provisions of OAC 3745-55-15 and 40 CFR § 264.115. The Certification will state the following:~~

~~"Based on information made available to me, I....., (Title)....., do hereby certify that to the best of my knowledge, the Detrex Still System Components have been closed in accordance with the closure plan information and data for the Detrex Still as approved by the Ohio EPA on....(date)."~~

THE DOE AND AN INDEPENDENT, QUALIFIED, REGISTERED, PROFESSIONAL ENGINEER, WILL SUBMIT CERTIFICATION OF CLOSURE WITHIN 60 DAYS AFTER COMPLETING THE ACTIONS SPECIFIED IN THIS APPROVED CLOSURE PLAN INFORMATION AND DATA FOR THE DETREX STILL. THE CERTIFICATION WILL MEET THE REQUIREMENTS OF OAC 3745-50-42(D) AND OAC 3745-66-15 AND 40 CFR 270.11(D) AND 40 CFR 265.115, RESPECTIVELY. THE CERTIFICATION STATEMENTS WILL BE WORDED AS FOLLOWS:

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

U. S. DEPARTMENT OF ENERGY

"I HEREBY CERTIFY THAT THE HAZARDOUS WASTE MANAGEMENT UNIT HAS BEEN CLOSED IN ACCORDANCE WITH THE SPECIFICATIONS IN THE APPROVED CLOSURE PLAN."

OHIO REGISTERED PROFESSIONAL ENGINEER

4.5 POST-CLOSURE PLAN

Because this plan contemplates clean closure of the Detrex Still HWMU as defined in this CPID, no specific post-closure care for this unit is anticipated.

4.6 NOTICE IN DEED

A notation in the property deed is required under OAC 3745-55-19(b)(1) (40 C.F.R. § 264.119) for areas that require post-closure care. Because the Detrex Still HWMU will not require unit-specific, post-closure care, these notice requirements will not be necessary.

Table 1-1. Detrex Still Analytes for Waste Characterization.

Page 1 of 2

Waste Number ^{1/}	Analyte	TCLP Regulatory Levels (mg/l) ^{2/}
F003 ^{2 4/}	Acetone	--
D004	Arsenic	5.0
D005	Barium	100.0
D018	Benzene	0.5
D006	Cadmium	1.0
D019	Carbon tetrachloride	0.5
D021	Chlorobenzene	100.0
D022	Chloroform ^{3/}	6.0
D007	Chromium	5.0
D023	o-Cresol	200.0
D024	m-Cresol	200.0
D025	p-Cresol	200.0
D026	Cresol (total)	200.0
D016	2,4-D	10.0
D027	1,4-Dichlorobenzene	7.5
D028	1,2-Dichloroethane	0.5
D029	1,1-Dichloroethylene	0.7
D030	2,4-Dinitrotoluene	0.13
D032	Hexachlorobenzene	0.13
D033	Hexachlorobutadiene	0.5
D034	Hexachloroethane	3.0
D008	Lead	5.0
D009	Mercury	0.2
D035	Methyl ethyl ketone	200.0
D036	Nitrobenzene	2.0
D037	Pentachlorophenol	100.0
D038	Pyridine	5.0
D010	Selenium	1.0
D011	Silver	5.0
D039/F001 ^{4/}	Tetrachloroethylene	0.7
D040/F002 ^{4/}	Trichloroethylene	0.5
D041	2,4,5-Trichlorophenol	400.0
D042	2,4,6-Trichlorophenol	2.0
D043	Vinyl chloride	0.2
F002/F001 ^{4/}	1,1,1-Trichloroethane	--

Table 1-1. Detrex Still Analytes for Waste Characterization.

Waste Number ^{1/}	Analyte	TCLP Regulatory Levels (mg/l) ^{2/}
--	Thorium (total)	--
--	Uranium (total)	--
--	Polychlorinated biphenyls	--

- 1/ Waste number that would be applied if the analyte concentration exceeds the TCLP regulatory level.
- 2/ Maximum concentrations of contaminants for the TCLP (40 CFR § 261.24).
- 3/ Chloroform is regulated as the sum of all trihalomethanes.
- 4/ Waste number that would be applied if the analyte is detected at any concentration.

Detrex Still
Closure Plan Information and Data

- 5291

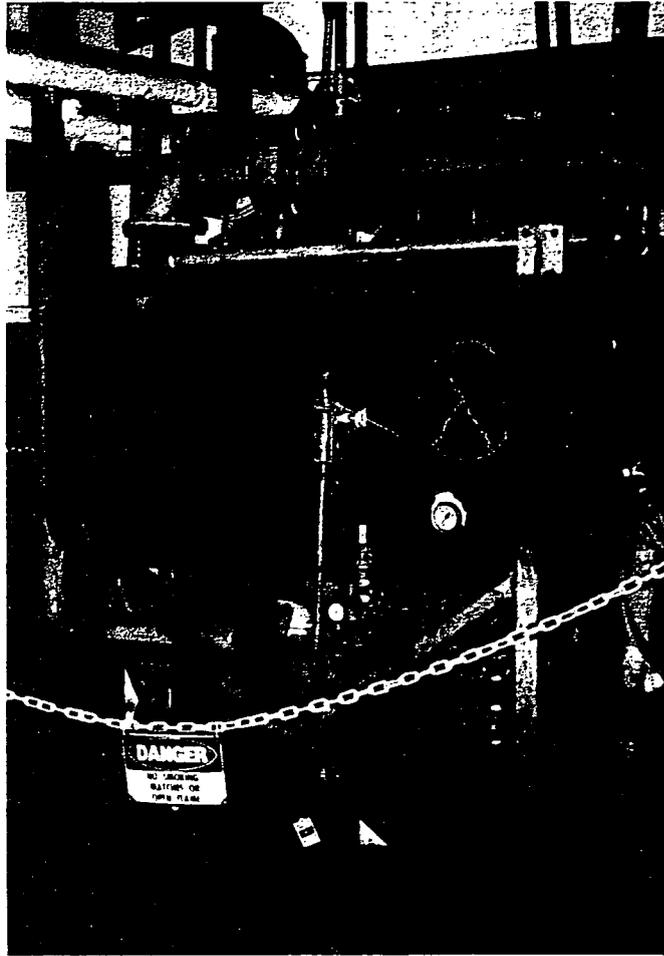


Plate 2. Still Tank.



Plate 3. Condensate Tank. CONDENSER UNIT