Y/TS-344, Part 1

Y-12

OAK RIDGE
Y-12
PLANT

MARTIN MARIETTA

UNCLASSIFIED DESCRIPTIONS OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES AT THE OAK RIDGE Y-12 PLANT

J. K. BAILEY

AUGUST 1984

Distribution

Recipients
J. M. Mills, Jr.
Y-12 Central Files (RC)

OPERATED BY
MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY

934

Issue Date: August 1984 Y/TS-344, Part 1

UNCLASSIFIED DESCRIPTIONS OF INACTIVE WASTE DISPOSAL SITES AT THE OAK RIDGE Y-12 PLANT

J. K. Bailey

August 1984

Prepared by the
Y-12 Plant
Oak Ridge, Tennessee 37831
operated by
MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
Under Contract No. DE-AC05-84OR21400

FOREWORD

As an enclosure to his August 24, 1984 letter to H. D. Hickman, entitled "Inactive Hazardous Waste Disposal Sites," G. G. Fee transmitted two versions of completed forms entitled "Report on Potential Hazardous Waste Disposal Facility" for 21 waste disposal activities or sites associated with Y-12 Plant.

As explained in his letter, a complete set of forms was transmitted to DOE-ORO with some data omitted to make them unclassified. A second set of forms (for file of the sites) with all data included was also transmitted. For archival and reference purposes, the unclassified forms have been incorporated in this unclassified document. The classified versions have been included in a classified supplement, Y/TS-344, Part 2.

October 1987
L. L. McCauley

CONTENTS

POTENTIAL HAZARDOUS WASTE DISPOSAL
FACILITY REPORTS

*See Y/TS-344, Part 2 for reports containing classified data.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Hazardous Chemical Disposal Area

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge | 04 STATE: TN | 05 ZIP CODE: 37831 | 06 COUNTY: Anderson | 07 COUNTY CODE: 29

08 COORDINATES — LATITUDE: 35° 58' 15" | LONGITUDE: 84° 16' 55"

09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy | 02 STREET: P. O. Box E

03 CITY: Oak Ridge | 04 STATE: TN | 05 ZIP CODE: 37831 | 06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above | 08 STREET:

09 CITY: | 10 STATE: | 11 ZIP CODE: | 12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1975 (BEGINNING YEAR) | 1981 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy | 02 STREET OR BOX NO.: P. O. Box E | 03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge | 05 STATE: TN | 06 ZIP CODE: 37831 | 07 COUNTY: Anderson | 08 DATE: 3 / 3 / 84 (MONTH DAY YEAR)

09 CONTACT NAME: R. L. Sleeman | 10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.)

Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: <5
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☒ Ignitable
- ☒ Reactive
- ☒ Corrosive
- ☒ Toxic
- ☐ EP Toxic
- ☒ Other: Inert, highly volatile flammable

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1975 TO 1981

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
D002	Misc. Chemicals	Laboratory Operations	T04	S05/D84		Bottle quantities		
D003	Gas Cylinders	Plant Operations	T04	S05/D84		Conditions of cylinders and valves prevent prior knowledge of gas quantity contained by cylinder		
	See Attachment 1 for further explanation.							

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = Unknown

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)*	T04

Storage:	Code
CONTAINER *(barrel, drum, etc)*	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER *(Describe process in the space provided; Part 2-III)*	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER *(Describe process in space provided; Part 2-III)*	D84

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

See Attachment 1

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

See Attachment 1

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

The facility is used for the storage of leaking gas cylinders containing non-corrosive gases. The area is fenced, posted, and locked.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

An unlined surface impoundment was used to collect effluent which then percolated/permeated the soil.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING:

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (*Check as applicable*)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (*Other sources available*) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (*No other water sources available*) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (*Limited other sources available*) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

4

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located within 3000 feet of this facility. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.02 (mi)
	(mi)
Bear Creek	≈0.20 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-2} cm/sec ☐ C. 10^{-2} to 10^{-1} cm/sec ☐ D. GREATER THAN 10^{-1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-4} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-4} to 10^{-2} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 10 (ft)	Unknown (ft)	6-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	South	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1976
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORNL			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		
01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORAU			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 2

ATTACHMENT 1

Additional Comments to Report on Hazardous Waste Disposal Facility - Y-12 Hazardous Chemical Disposal Area, U. S. Department of Energy.

Supplementary Comments for Parts 2 and 3.

A remote area designated as the Hazardous Chemical Disposal Area was constructed in 1975 for the purpose of treating/destroying chemical substances posing safety hazards within the plant. These substances included gas cylinders with leaking or otherwise damaged valves, and chemicals which were reactive, explosive, or potentially explosive.

The chemicals ranged in character from acid/base to organics and from water-reactive (sodium compounds) to explosive (picric acid, benzoyl peroxide, and ether). A vertical concrete pipe with a water spray provided a method for breaking chemical bottles and reacting the substance posing the hazard. The effluent was discharged to a small, unlined surface impoundment and allowed to percolate/permeate the soil.

Gas cylinders containing non-corrosive gases were allowed to leak to the atmosphere or bled-off to expedite the process. Cylinders containing corrosive gases were bled through neutralizing slurries.

Chemicals containing heavy metals and known carcinogens were removed from the area and sent to the Y-12 Walk-In Pits. Records were kept for identity, quantity, and treatment/disposal of all waste handled at the facility since 1975.

Remaining chemical residue was periodically removed from the concrete vessel and transported to the Y-12 Burial Ground. Empty gas cylinders were removed for repair of faulty valves or destruction.

When the facility is closed, all above-ground fixtures will be removed and buried. The area will be covered with soil and seeded with grass.

ATTACHMENT 2

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

State of Tennessee — Department of Public Health
Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

8

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Asbestos Disposal Pits
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES — LATITUDE: 35° 57' 50" LONGITUDE: 84° 18' 0"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: Approximately 1978 (BEGINNING YEAR) – 1984 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 8 / 3 / 84 (MONTH / DAY / YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: 65 tons/yr
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☐ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☐ Toxic
- ☐ EP Toxic
- ☒ Other: Asbestos

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1979 TO 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 · WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
NA	Asbestos	Plant Maintenance & Demolition Activities	NA	D80	5*	Ton/Mo	NA	NA

*Estimated quantity which includes asbestos and asbestos-containing materials. Weights include piping and other equipment wrapped with asbestos materials also.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 5 Tons/Mo

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03

Treatment	Code
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided. PART 2 III)*	T04

Storage:	Code
CONTAINER *(barrel, drum, etc)*	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER *(Describe process in the space provided; Part 2 III)*	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER *(Describe process in space provided; Part 2 III)*	D84

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

Materials were placed in trenches and covered daily.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Trenches were excavated, filled with waste, and covered with minimum 2-foot soil. Trenches were unlined. Waste was containerized in plastic bags or drums.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility has been prepared for closure pending approval by TDHE. Closure plan has been prepared and submitted. Area is posted and on restricted access government land.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

No liners or collection systems were used at this facility.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY *(Check as applicable)*

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING *(Other sources available)* ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION *(No other water sources available)* ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION *(Limited other sources available)* ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

11

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Numerous monitoring and test wells of various depths are located with 3,000 feet of this facility. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
None due to nature of material.	(mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-6} cm/sec ☐ C. 10^{-6} to 10^{-8} cm/sec ☐ D. GREATER THAN 10^{-4} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-4} to 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-4} to 10^{-2} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	0 (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	< 5 %	South	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1965
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORGDP			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	2819 / 7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		
01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

State of Tennessee — Department of Public Health
Division of Solid Waste Management

14

Report on Potential Hazardous Waste Disposal Facility

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Burn Yard
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES: LATITUDE 35° 58' 10" | LONGITUDE 84° 16' 53"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U. S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☒ B. FEDERAL: U. S. D. O. E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: (Specify) ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

15 YEARS OF OPERATION: Approximately 1943 (BEGINNING YEAR) | 1968 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.)

Production of nuclear weapons components.

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
☒ A. SOLID ☐ E. SLURRY
☒ B. POWDER, FINES ☒ F. LIQUID
☒ C. SLUDGE ☐ G. GAS
☐ D. OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS 4,000 ton/yr
OR CUBIC YARDS
OR NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
☒ Ignitable ☐ Toxic
☐ Reactive ☐ EP Toxic
☐ Corrosive ☒ Other Inert

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1943 TO 1968

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
N/A	Sanitary Refuse*	Plant Operations	T04	NA/D84	≃ 350	Ton/Mo	NA	NA

*Refuse may have contained quantities of various organics and inorganics including empty pesticide containers, metal shavings, solvents, oils, and lab chemicals. Prior to 1968 regulations did not require detailed descriptions for waste disposals. Accordingly, available records give generalized descriptions of waste with no analysis of composition.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 350 Ton/Mo (Approximately)

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04

Storage:	Code
CONTAINER (barrel, drum, etc)	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER (Describe process in the space provided; Part 2 III)	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER (Describe process in space provided; Part 2 III)	D84

16

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

Plant refuse was transported to an excavated trench and burned. Oils and other flammable liquids were used to start and support combustion. Filled trenches were covered with soil.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Plant refuse was collected and placed in an unlined earthen trench. The refuse was burned as necessary. The filled trenches were covered with soil.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

The facility is inactive, posted and located on restricted access government land.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

No collection, treatment or liner systems were used.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6,000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY *(Check as applicable)*

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING *(Other sources available)* ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION *(No other water sources available)* ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION *(Limited other sources available)* ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5 Gal/Min (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

17

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located within 3000 ft. of this facility. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA
- [x] YES
- [ ] NO

COMMENTS

11 DISCHARGE AREA
- [x] YES
- [ ] NO

COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
- [ ] A. RESERVOIR, RECREATION DRINKING WATER SOURCE
- [ ] B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
- [ ] C. COMMERCIAL, INDUSTRIAL
- [x] D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.02 (mi)
	(mi)
Bear Creek	≈0.20 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
- [ ] A. 10^{-6} to 10^{-4} cm/sec
- [x] B. 10^{-4} to 10^{-2} cm/sec
- [ ] C. 10^{-2} to 10^{-1} cm/sec
- [ ] D. GREATER THAN 10^{-1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
- [ ] A. IMPERMEABLE (Less than 10^{-6} cm/sec)
- [x] B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec)
- [ ] C. RELATIVELY PERMEABLE (10^{-2} to 10^{-1} cm/sec)
- [ ] D. VERY PERMEABLE (Greater than 10^{-1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	1 %	South	1 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN TVA Flood Control Area

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE [x] GROUND [x] AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1960
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION Not applicable

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

20

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Bone Yard
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES: LATITUDE 35° 58' 17" | LONGITUDE 84° 16' 50"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: Approximately 1943 (BEGINNING YEAR) | 1970 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 08 / 03 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.)

Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: Unknown
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☒ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☐ Toxic
- ☐ EP Toxic
- ☒ Other: Uranium Inert

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1943 TO 1970

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
D001	Spent Solvents, Metal Chips	Plant Operations	T04	NA/D80	Unknown		NA	NA

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = Unknown

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided: PART 2 III)	T04

Storage:	Code
CONTAINER (barrel, drum, etc)	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER (Describe process in the space provided; Part 2 III)	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER (Describe process in space provided; Part 2 III)	D84

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION
01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

Metal chips were placed in burn pans with an ignitable solvent and ignited. Remaining residue was covered with compacted soil.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Metal chips were placed in burn pans in an earthen trench. Ignitable solvents were used to initiate the burn. Remaining residue was covered in the trench with compacted soil. When the trench had been filled, top soil was placed over the cover soil and seeded with grass.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

The facility has been closed, posted, and located on restricted access government land.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

No leachate collection, liners or treatment systems were used except those identified in Part 3, I. above.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING:

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

23

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located within 3000 feet of this facility. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≅ 0.02 (mi)
Bear Creek	≅ 0.20 (mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-2} cm/sec ☐ C. 10^{-2} to 10^{-1} cm/sec ☐ D. GREATER THAN 10^{-1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{-1} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	< 5 %	South	< 5 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)
ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 Feet elevation) situated between Pine Ridge (1,200 feet elevation) and Chestnut Ridge (1,100 feet elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☐ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION Not applicable

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D → 8 NUMBER	01 NAME	02 D → 8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D → 8 NUMBER	01 NAME	02 D → 8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

26

State of Tennessee — Department of Public Health
Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: TN3890090001

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Plant S-3 Ponds
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES: LATITUDE 35° 58' 40" LONGITUDE 84° 16' 10"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Located at west end of the Y-12 Plant. Approximately 1.0 mile west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U. S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one): ☐ A. PRIVATE ☒ B. FEDERAL: U. S. D. O. E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER: (Specify) ☐ G. UNKNOWN

14 FACILITY STATUS (Check one): ☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN
15 YEARS OF OPERATION: 1951 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 08 / 03 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 -- Nuclear Weapon Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components.

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply): ☐ A. SOLID ☐ B. POWDER, FINES ☒ C. SLUDGE ☐ D. OTHER (Specify) ☐ E. SLURRY ☒ F. LIQUID ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent): Gal/yr ~~TONS~~ 1,300,000; OR CUBIC YARDS; OR NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply): ☐ Ignitable ☒ Toxic ☐ Reactive ☐ EP Toxic ☒ Corrosive ☒ Other: Radioactive

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1951 TO Present

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. TN3890090001

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
F006	Sludges	Plating Operation	T02	S04/D83				
F007	Plating Bath Soln	Plating Operation	T02	S04/D83				
F008	Plating Bath Sludges	Plating Operation	T02	S04/D83	25,000	Gal/Mo		
D002	Corrosive Liquids	Plating Operation	T02	S04/D83				
F009	Stripping & Cleaning	Plating Operation	T02	S04/D83				
NA	Mopwater Containing	Floor Cleaning	T02	S04/D83	42,000	Gal/Mo		
	Uranium		T02	S04/D83			<100	ppm
	Beryllium		T02	S04/D83			< 50	ppm
	Thorium		T02	S04/D83			< 1	ppm
F001	Halogenated Solvents	Degreasing & Lab	T02	S04/D83				
F003	Non-Halogenated Solv.	Degreasing & Lab	T02	S04/D83	Contained in mopwaters and plating			
F005	Non-Halogenated Solv.	Degreasing & Lab	T02	S04/D83	waste and are estimated to be less			
					than 1% of total volume			

NOTE: The process of neutralizing the contents of the ponds was initiated in May 1983. Presently, only solutions which are required for neutralization and nutrient balance are added to the ponds.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 67,000 Gal/Mo

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER (Use for physical, chemical, thermal or biological treatment processes not occuring in tanks, surface impoundments or incinerators. Describe the process in the space provided. PART 2 III)	T04

Storage:	Code
CONTAINER (barrel, drum, etc)	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER (Describe process in the space provided; Part 2 III)	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER (Describe process in space provided; Part 2 III)	D84

Tennessee Department of Public Health — Division of Solid Waste Management 28

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION
01 FACILITY ID NO. TN3890090001

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

See Attachment 1

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC. Facility consists of four diked compartments, approximately 200 ft. x 200 ft. x 20 ft. each, unlined, earthen, impoundments. Process liquids were emptied into the ponds for evaporation/percolation and neutralization. Closure will include the neutralization and solidfication of the liquids in the Basins. Basins will be filled with soil and seeded.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility is fenced, posted, and locked.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

Surface impoundment.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☒ YES ☐ NO

02 COMMENTS
Surface impoundment, neutralization ponds.

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:
A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6,000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.
a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)
☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
---- (ft) 5-20 (ft)	West	~~>20 (ft)~~ (ft)	~~3-5GAL/(gpm)~~	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

29

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. TN3890090001

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells for various depths are located in the area. There are no drinking water wells within a 1-mile radius of the site.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS Surface and ground water could flow into Bear Creek

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS Flowing spring ≈300 yds. downstream.

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Bear Creek - intermittent stream	≈0.02 (mi)
	(mi)
East Fork Poplar Creek	≈ 6.0 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-2} cm/sec ☐ C. 10^{-2} to 10^{-1} cm/sec ☐ D. GREATER THAN 10^{-1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{-1} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
<10 (ft)	unknown (ft)	1-6

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	West	< 5 %

09 FLOOD POTENTIAL
FACILITY IS IN >100 YEAR FLOOD PLAIN TVA Flood Control Area

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1970
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 FACILITY ID NO. TN3890090001

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific request.	
SURFACE WATER			
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
ORAU		ORGDP	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391	U. S. Dept. of Energy	2819/7391
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831	Oak Ridge / TN	37831
01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
ORNL			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 2

ATTACHMENT 1

Additional Comments to Report on Hazardous Waste Disposal Facility - Y-12 S-3 Ponds, U. S. Department of Energy.

Supplementary Comments for Parts 2 and 3.

The impoundment ponds (4) were constructed in 1951 for percolation and evaporation of nitric acid waste and other liquid wastes generated by chemical extraction process for uranium. The ponds were also used for inorganic streams associated with plating and pickling operations as wellas waters associated with floor cleaning. These liquid wastes have contained concentrations of substances primarily listed in Part 2, Section II, including certain RCRA-listed hazardous organic liquids and uranium, thorium, and beryllium. In 1976, an in-plant bio-denitrification facility was started for recovery and recycle of part of the nitric acid and other nitrates.

The process of neutralizinng the contents of the ponds was initiated in May 1973. Only solutions which are required for neutralization and nutrient balance are added to the ponds. Since March 1984, the remaining process streams are being collected, sampled, and transported to ORGDP for treatment.

ATTACHMENT 2

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

33

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: NA

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Waste Oil Landfarm
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES LATITUDE: 35° 58' 14" LONGITUDE: 84° 17' 05"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☒ B. FEDERAL: U. S. D. O. E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: (Specify) ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1973 (BEGINNING YEAR) | 1982 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
☐ A. SOLID ☐ B. POWDER, FINES ☐ C. SLUDGE ☐ D. OTHER (Specify) ☐ E. SLURRY ☒ F. LIQUID ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
Gal/yr ~~TONS~~ 50,000
OR CUBIC YARDS
OR NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
☒ Ignitable ☒ Toxic ☐ Reactive ☐ EP Toxic ☐ Corrosive ☐ Other

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1973 TO 1982

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. NA

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
F002	Waste Oil and	Machining Operations	T04	D81	8,000	Gal.	85% - oil	%
	Machine Coolants						<15%- water	%
	contaminated with:							
							Contaminant	Levels
	Beryllium Compounds						≈50	µgm/gm
	Uranium-depleted					max	<100	µgm/gm
						avg	20	µgm/gm
	PCB						< 5 *	mg/ℓ
	Tetrachloroethylene						< 5 **	%
	1,1,1-Trichloroethane						< 1 **	%

*Prior to 1978, oils were not sampled for PCBs.
**Since 1981, oils were sampled for chlorinated solvents and were restricted to 3% of chlorinated solvents.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 8,000 Gal/Mo (Used only during warm months)

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2-III)	T04

Storage:	Code
CONTAINER (barrel, drum, etc)	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER (Describe process in the space provided; Part 2-III)	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER (Describe process in space provided; Part 2-III)	D84

34

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION
01 FACILITY ID NO.
NA

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

This facility was a treatment process used for biological degradation of waste oils and coolants. Waste oils and coolants were stored in drums and tanks at another plant location, transferred to a tanker, and then spread over the plots for treatment. The contaminants result from the machining process.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.
Waste oils were applied to soil plots during dry months (April-October) of the year. Plots were cultivated approximately 3 times per week during seasonal operations. Waste oil was not applied immediately before or following periods of precipitation.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE
The area is posted and on restricted access government land.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.
Oils were collected in drums and tanks prior to landfarming. The storage area was contained within an earthen dike. No liners or collection systems were used at the facility.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☒ YES ☐ NO

02 COMMENTS
Oils were spread on top of soil plots.

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:
A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING:
a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)
☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABL

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIF
5-20 (ft)	South	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

36

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths in Bear Creek Valley between Pine Ridge and Chestnut Ridge. There are no drinking water wells within a 1-mile radius of this facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS Surface drainage would flow into Bear Creek.

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS Flowing spring within 50 ft. area.

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.02 (mi)
	(mi)
Bear Creek	≈0.20 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-6} to 10^{-8} cm/sec ☒ B. 10^{-6} to 10^{-4} cm/sec ☐ C. 10^{-4} to 10^{-2} cm/sec ☐ D. GREATER THAN 10^{-2} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-4} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-4} to 10^{-2} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	1 (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	South	< 5 %

09 FLOOD POTENTIAL TVA Flood Control Area
FACILITY IS IN >100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)
ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF Y-12 HSEA DIVISION
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1974
LATEST PHOTO DATE 1979

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. NA

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORNL			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		
01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORGDP			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391/2819		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

39

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Sanitary Landfill I

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 COUNTY: Anderson

07 COUNTY CODE: 29

08 COORDINATES LATITUDE: 35° 58' 10" LONGITUDE: 84° 17' 03"

09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy

02 STREET: P. O. Box E

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above

08 STREET:

09 CITY:

10 STATE:

11 ZIP CODE:

12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one): ☐ A. PRIVATE ☒ B. FEDERAL: U. S. D. O. E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER: (Specify) ☐ G. UNKNOWN

14 FACILITY STATUS (Check one): ☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1968 (BEGINNING YEAR) | 1983 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy

02 STREET OR BOX NO.: P. O. Box E

03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge

05 STATE: TN

06 ZIP CODE: 37831

07 COUNTY: Anderson

08 DATE: 08 / 03 / 84 (MONTH DAY YEAR)

09 CONTACT NAME: R. L. Sleeman

10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply): ☒ A. SOLID ☐ B. POWDER, FINES ☐ C. SLUDGE ☐ D. OTHER (Specify) ☐ E. SLURRY ☐ F. LIQUID ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent): TONS 7,000 ton/yr; OR CUBIC YARDS; OR NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply): ☒ Ignitable ☐ Reactive ☐ Corrosive ☐ Toxic ☐ EP Toxic ☒ Other Inert

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1968 TO 1983

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
N/A	Sanitary Refuse*	Plant Operations	N/A	NA /D80	585	Ton/Mo	NA	NA

*Prior to 1976, waste composition was controlled administratively to exclude chemicals and other hazardous materials for the protection of the equipment operator at the site. Records were used primarily for information relative to source, quantity, and location of trenches. No records of specified chemical disposal are available prior to 1976. Beginning in 1976, lab chemicals and other hazardous materials were sent to the hazardous chemical disposal area and records indicate this practice. Prior to 1979, there are no specific records for burial of asbestos insultation. Since 1979, asbestos has been collected and buried in the asbestos pit.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 585 ton/mo (approximately)

PROCESS CODES:

Treatment:	Code	Treatment	Code	Storage:	Code	Disposal:	Code
TANK	T01	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04	CONTAINER (barrel, drum, etc)	S01	INJECTION WELL	D79
SURFACE IMPOUNDMENT	T02			TANK	S02	LANDFILL	D80
INCINERATOR	T03			WASTE PILE	S03	LAND APPLICATION	D81
				SURFACE IMPOUNDMENT	S04	OCEAN DISPOSAL	D82
				OTHER (Describe process in the space provided; Part 2 III)	S05	SURFACE IMPOUNDMENT	D83
						OTHER (Describe process in space provided; Part 2 III)	D84

AG

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Trenches were excavated and filled with refuse. Refuse was compacted with a rubber-tired loader and covered daily. Finished trenches were covered with 3 feet of soil and seeded.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility is inactive, posted, and located on restricted access government land. Facility is currently being closed in accordance with the closure plan approved by TDHE (Ref. Document Y/IA-160 Closure Plan for Y-12 Centralized Landfill I)/

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

No containment, collection, or treatment systems were used.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

Finished trenches have 3 feet of soil cover.

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius: Zero B. Residents within 1 mi. radius: Zero C. No. Employees on site: Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER: Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL: >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	West	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

42

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located in Bear Creek Valley. There are no water supply wells within a 1-mile radius of this site.

10 RECHARGE AREA

☒ YES ☐ NO

COMMENTS Surface water would drain into Bear Creek

11 DISCHARGE AREA

☒ YES ☐ NO

COMMENTS Springs have been reported in the area.

III. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.02 (mi)
Bear Creek	≈0.20 (mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-2} cm/sec ☐ C. 10^{-2} to 10^{-1} cm/sec ☐ D. GREATER THAN 10^{-1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-4} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-4} to 10^{-2} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	< 5 %	South	< 5 %

09 FLOOD POTENTIAL TVA Flood Control Area

FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 feet elevation) situated between Pine Ridge (1,200 feet elevation) and Chestnut Ridge (1,100 feet elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☐ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division (Name of organization and individual contact)

Address: P. O. Box Y Oak Ridge, TN 37831

Phone No.:

03 DATES (estimated) EARLIEST PHOTO DATE 1968 LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 FACILITY ID NO.: N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D + 8 NUMBER	01 NAME	02 D + 8 NUMBER
ORNL		ORAU	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391	U. S. Dept. of Energy	7391
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831	Oak Ridge / TN	37831
01 NAME	02 D + 8 NUMBER	01 NAME	02 D + 8 NUMBER
ORGDP			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391/2819		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

45

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Burial Ground A

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 COUNTY: Anderson

07 COUNTY CODE: 29

08 COORDINATES — LATITUDE: 35° 57' 50" LONGITUDE: 84° 17' 45"

09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy

02 STREET: P. O. Box E

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above

08 STREET:

09 CITY:

10 STATE:

11 ZIP CODE:

12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1955 (BEGINNING YEAR) | 1984 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy

02 STREET OR BOX NO.: P. O. Box E

03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge

05 STATE: TN

06 ZIP CODE: 37831

07 COUNTY: Anderson

08 DATE: 08 / 03 / 84 (MONTH DAY YEAR)

09 CONTACT NAME: R. L. Sleeman

10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.)

Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☒ B. POWDER, FINES
- ☒ C. SLUDGE
- ☒ D. OTHER: Solvents (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: 1700 ton/yr
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☒ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☒ Toxic
- ☐ EP Toxic
- ☒ Other: Flammable, Radioactive, Inert

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1955 TO 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
NA	PCB	Former Plant Operations	NA	D80				
NA	Misc. Uranium Contam. Materials	Plant Operations	NA	S01/D80				
	Beryllium	Plant Operations	NA	D80				
NA	Thorium	Plant Operations	NA	D80				
F001	Solvents	Plant Operations	NA	D81	Prior to November 1981, these materials were poured onto the ground.			
F002	Solvents	Plant Operations	NA	D81				
F003	Solvents	Plant Operations	NA	D81				
	Lead	Plant Operations	NA	D80				
	Mercury	Plant Operations	NA	D80				
F008	Plating Bath Sludges	Plant Operations	NA	D80				
F007	Spent Cyanide Soln.	Plant Operations	T04	D79	These solutions are complexed prior to disposal			

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 142 Ton/Mo (Approximately)

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04

Storage:	Code
CONTAINER (barrel, drum, etc)	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER (Describe process in the space provided; Part 2 III)	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER (Describe process in space provided; Part 2 III)	D84

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

See Attachment 1

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Trenches were excavated, filled with waste, covered with minimum 1-foot soil, and seeded with grass. Trenches were unlined. Waste was segregated according to hazards, contamination, and type material.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE

Facility is inactive, posted, and located on restricted access government land.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

A pond is used to collect seepage from pits resulting from past disposal practices. Oils are collected and stored as required.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (*Check as applicable*)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (*Other sources available*) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (*No other water sources available*) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (*Limited other sources available*) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

48

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located near this facility. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA

☒ YES ☐ NO

COMMENTS Surface and ground water could flow into Bear Creek.

11 DISCHARGE AREA

☒ YES ☐ NO

COMMENTS Flowing springs have been reported in this area.

III. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.01 (mi)
	(mi)
Bear Creek	≈0.40 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-6} cm/sec ☐ C. 10^{-4} to 10^{-2} cm/sec ☐ D. GREATER THAN 10^{-2} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-4} to 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	South	< 5 %

09 FLOOD POTENTIAL TVA Flood Control Area

FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division (Name of organization and individual contact)

Address: P. O. Box Y Oak Ridge, TN 37831

Phone No.:

03 DATES (estimated) EARLIEST PHOTO DATE 1965 LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 FACILITY ID NO.: NA

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORNL			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		
01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORGDP			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391 2819		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 2

50

Supplementary Comments on Parts 2 and 3.

Burial Ground A was first used in 1955 for disposal of waste materials contaminated with depleted and normal uranium. Examples of the solid waste included wood, paper, carbon, metal machine turnings, plastic, filters, metal drums and small quantities of metal. The area was used for disposal of some chemicals. The solid waste accounts for approximately 90% of waste quantities reported in Part 2.

Liquid streams contaminated with uranium, beryllium, and thorium were disposed of in Burial Ground A. These liquids included oils, coolants, mopwaters, and some RCRA-listed hazardous organic and inorganic liquids. One method of disposal involved excavation of a sealed pit, installation of a perforated pipe, and backfilling the void around the pipe with large stone. The waste liquids were then poured into the pipe and allowed to permeate the stone and waste materials within the trench. A second disposal method utilized the ground surface to allow vaporization of organic solvents. In 1973, the Waste Oil Landfarm was started, and oils and coolants were no longer sent to the burial ground. In 1979, the disposal point for the mopwaters was transferred to S-3 Ponds. The general practice of pouring out organic liquids/solvents was stopped in 1981. These liquids are now being stored for treatment and eventual disposal. In addition, two other liquid streams consisting of sludges generated by biodegradation of water-soluble coolants and complexed-cyanide solutions were disposed of in Burial Ground A.

ATTACHMENT 2

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

52

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Burial Ground C

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 COUNTY: Anderson

07 COUNTY CODE: 29

08 COORDINATES — LATITUDE: 35° 57' 50" LONGITUDE: 84° 18' 0"

09 DIRECTIONS TO FACILITY (Starting from nearest public road):
Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy

02 STREET: P. O. Box E

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above

08 STREET:

09 CITY:

10 STATE:

11 ZIP CODE:

12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☒ A. ACTIVE
- ☐ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1961 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy

02 STREET OR BOX NO.: P. O. Box E

03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge

05 STATE: TN

06 ZIP CODE: 37831

07 COUNTY: Anderson

08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)

09 CONTACT NAME: R. L. Sleeman

10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.):
Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☒ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: 700 ton/yr
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☒ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☒ Toxic
- ☐ EP Toxic
- ☒ Other: Radioactive Iner

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1961 TO Present

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
N/A	Materials Contaminated with enriched uranium thorium, and beryllium	Plant Operations	NA	NA/D80	53	Ton/Mo	NA	NA
D001	Liquid Process Waste	Plant Operations	NA	NA/D80				
N/A	Lead	Plant Operations	NA	NA/D80				
N/A	Mercury	Plant Operations	NA	NA/D80				

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 53 Ton/Mo (Approximately)

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided. PART 2 III)*	T04

Storage:	Code
CONTAINER *(barrel, drum, etc)*	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER *(Describe process in the space provided; Part 2 III)*	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER *(Describe process in space provided; Part 2 III)*	D84

54

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Trenches were excavated, filled with waste, covered with soil, and seeded with grass. Trenches were unlined. Waste was segregated according to hazards, contamination, and type of material.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE

The facility is within a posted and locked area.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

No containment, collection, or treatment systems are used.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

Facility is within posted area.

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING:

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located within 3000 feet of this facility. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS Surface water and ground water could flow into Bear Creek.

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS Flowing springs have been reported in this area.

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.01 (mi)
	(mi)
Bear Creek	≈0.40 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-6} cm/sec ☐ C. 10^{-4} to 10^{-2} cm/sec ☐ D. GREATER THAN 10^{-2} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-4} to 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	South	< 5 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1965
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION
01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
ORNL			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		
01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
ORGDP			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391/2819		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

58

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Chestnut Ridge Sediment Disposal Basin

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 COUNTY: Anderson

07 COUNTY CODE: 29

08 COORDINATES: LATITUDE 35° 59' 30" | LONGITUDE 84° 14' 05"

09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 0.5 mile west on Y-12 Plant Service Road from Scarboro Road.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy

02 STREET: P. O. Box E

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above

08 STREET:

09 CITY:

10 STATE:

11 ZIP CODE:

12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one): ☐ A. PRIVATE ☒ B. FEDERAL: U. S. D. O. E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER: (Specify) ☐ G. UNKNOWN

14 FACILITY STATUS (Check one): ☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1973 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy

02 STREET OR BOX NO.: P. O. Box E

03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge

05 STATE: TN

06 ZIP CODE: 37831

07 COUNTY: Anderson

08 DATE: 8/ 3 / 84 (MONTH DAY YEAR)

09 CONTACT NAME: R. L. Sleeman

10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply): ☐ A. SOLID ☒ B. POWDER, FINES ☒ C. SLUDGE ☐ D. OTHER (Specify) ☒ E. SLURRY ☐ F. LIQUID ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent): TONS ____ OR CUBIC YARDS <15,000 OR NO. OF DRUMS ____

03 WASTE CHARACTERISTICS (Check all that apply): ☐ Ignitable ☐ Toxic ☐ Reactive ☐ EP Toxic ☐ Corrosive ☒ Other See Part 2-II

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1973 TO Present

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 · WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
	New Hope Pond Sediment	Plant Operations	T02	S04/D80	(See Note Below)			

Note

The total volume of sediment placed in the basin is less than 15,000 cubic yards. Sediment has been periodically dredged from New Hope Pond since 1973. In 1973, a primary dredging operation was accomplished.

The sediment contains trace amounts of the following constituents: mercury, PCB, depleted uranium, and thorium.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = <15,000 cubic yards

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04

Storage:	Code
CONTAINER (barrel, drum, etc)	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER (Describe process in the space provided; Part 2 III)	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER (Describe process in space provided; Part 2 III)	D84

59

Tennessee Department of Public Health — Division of Solid Waste Management
Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION
01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

Chestnut Ridge Basin is used as a decanting basin and containment basin for the sediment from New Hope Pond. When the basin has filled with sediment, the facility will be closed in situ.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.
Sediment is pumped into or transported to the basin. Decanted water flows by gravity back into New Hope Pond. Remaining water evaporates/percolates. Closure will include placing an earthen cover over the sediment and seeding with grass.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE
The facility is used periodically (yearly) in conjunction with dredging of New Hope Pond. The facility is fenced, posted, and locked.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.
The location of the Chestnut Ridge Basin prevents surface runoff from entering the basin. No liners, leachate collection, or treatment are used.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☒ YES ☐ NO

02 COMMENTS
Restricted access through fenced, posted, Government land.

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:
A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.
a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)
☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
>50 (ft)	Southeast	>50 (ft)	Unknown (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

61

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

No water supply wells located within a 1-mile radius of this facility.

10 RECHARGE AREA
- [x] YES
- [ ] NO

COMMENTS

11 DISCHARGE AREA
- [ ] YES
- [x] NO

COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
- [ ] A. RESERVOIR, RECREATION DRINKING WATER SOURCE
- [ ] B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
- [ ] C. COMMERCIAL, INDUSTRIAL
- [x] D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
East Fork Poplar Creek	≈ 0.20 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
- [ ] A. 10^{-6} to 10^{-4} cm/sec
- [x] B. 10^{-4} to 10^{-6} cm/sec
- [ ] C. 10^{-6} to 10^{-8} cm/sec
- [ ] D. GREATER THAN 10^{-4} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
- [ ] A. IMPERMEABLE (Less than 10^{-6} cm/sec)
- [x] B. RELATIVELY IMPERMEABLE (10^{-4} to 10^{-6} cm/sec)
- [ ] C. RELATIVELY PERMEABLE (10^{-2} to 10^{-4} cm/sec)
- [ ] D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 50 (ft)	unknown (ft)	6-7.5

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<20 %	North	< 20 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located near the top of Chestnut Ridge (1040 ft. elevation). Bear Creek Valley (910 ft. elevation) lies to the north and Bethel Valley (880 ft. elevation) lies to the south of Chestnut Ridge.

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE
- [ ] GROUND
- [x] AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1975
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

62

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

Not applicable

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D + 8 NUMBER	01 NAME	02 D + 8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + 8 NUMBER	01 NAME	02 D + 8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

State of Tennessee — Department of Public Health
Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

64

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 9204-4 Trenches
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES — LATITUDE: 35° 58' 55" LONGITUDE: 84° 16' 08"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Facility is located within the Y-12 Plant Processing Area south of the Bear Creek Portal.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )
13 TYPE OF OWNERSHIP (Check one): ☐ A. PRIVATE ☒ B. FEDERAL: U. S.-D. O. E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER: (Specify) ☐ G. UNKNOWN
14 FACILITY STATUS (Check one): ☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN
15 YEARS OF OPERATION: 1968 (BEGINNING YEAR) 1972 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply): ☒ A. SOLID ☒ B. POWDER, FINES ☒ C. SLUDGE ☐ D. OTHER (Specify) ☐ E. SLURRY ☐ F. LIQUID ☐ G. GAS
02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent): Approx. TONS 2201 OR CUBIC YARDS ___ OR NO. OF DRUMS ___
03 WASTE CHARACTERISTICS (Check all that apply): ☐ Ignitable ☒ Toxic ☐ Reactive ☐ EP Toxic ☐ Corrosive ☒ Other Uranium
04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1968 TO 1972

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
N/A	Misc. Waste Debris	Plant Operations	N/A	NA/D80	UNKNOWN			
D002	Acids	Plant Operations	N/A	NA/D80	UNKNOWN			
N/A	Uranium and Uranium Alloys	Plant Operations	N/A	NA/D80	UNKNOWN			
	Depleted Uranium Contaminated Metal	Plant Operations	N/A	NA/D80	UNKNOWN			
	Enriched Uranium Contaminated Metal	Plant Operations	N/A	NA/D80	UNKNOWN			
N/A	Organics	Plant Operations	N/A	NA/D80	UNKNOWN			

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 23 Ton/MO (Approximately)

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04

Storage:	Code
CONTAINER (barrel, drum, etc)	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER (Describe process in the space provided; Part 2 III)	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER (Describe process in space provided; Part 2 III)	D84

59

66

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Trenches were excavated, filled with waste, covered with soil and seeded with grass.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility is within a fenced, posted, and locked area.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

There were no liner barrier or leachate collection/treatment systems used in this facility.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southeast	>20 (ft)	3-5 GPM (gpm)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management
Report on Potential Hazardous Waste Disposal Facility

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located in the area. There are no water supply wells within a 1-mile radius of the facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
East Fork Poplar Creek	0.2 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-2} cm/sec ☐ C. 10^{-2} to 10^{+1} cm/sec ☐ D. GREATER THAN 10^{+1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{+1} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{+1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 10 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	25 %	South	< 5 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)
ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE
LATEST PHOTO DATE 1983

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION Not Applicable

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1.

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

State of Tennessee — Department of Public Health
Division of Solid Waste Management

70

Report on Potential Hazardous Waste Disposal Facility

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 9712 Ravine Disposal Site
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES — LATITUDE: 35° 59' 35" LONGITUDE: 84° 14' 40"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Facility is located within Y-12 Plant Area north of the East Portal.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☒ B. FEDERAL: U. S. D. O. E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: (Specify) ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

15 YEARS OF OPERATION: Approximate 1943 (BEGINNING YEAR) 1952 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILITY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
☒ A. SOLID ☐ B. POWDER, FINES ☐ C. SLUDGE ☐ D. OTHER (Specify) ☐ E. SLURRY ☒ F. LIQUID ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS: Unknown
OR CUBIC YARDS:
OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
☐ Ignitable ☐ Toxic ☐ Reactive ☐ EP Toxic ☐ Corrosive ☒ Other: Construction Spoil

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1943 TO 1952 Approximately

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
N/A	Construction Spoil	Plant Operations	N/A	NA/D80	UNKNOWN			
	Scrap Metal							
	Uranium Contaminated							
	Scrap Metal							

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = UNKNOWN

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03

Treatment	Code
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided. PART 2 III)*	T04

Storage:	Code
CONTAINER *(barrel, drum, etc)*	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER *(Describe process in the space provided; Part 2-III)*	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER *(Describe process in space provided; Part 2-III)*	D84

Tennessee Department of Public Health — Division of Solid Waste Management
Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION
01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

A ravine was filled with waste, covered with soil and seeded with grass.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility is within a fenced, posted, and locked area.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

There were no liners, barrier or leachate collection/treatment systems used in this facility.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:
A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.
a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY *(Check as applicable)*
☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING *(Other sources available)* ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION *(No other water sources available)* ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION *(Limited other sources available)* ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	South east	>20 (ft)	3-5GPM (gpm)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

73

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located in the area. There are no water supply wells within a 1-mile radius of the facility.

10 RECHARGE AREA
- [x] YES
- [ ] NO

COMMENTS

11 DISCHARGE AREA
- [x] YES
- [ ] NO

COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
- [ ] A. RESERVOIR, RECREATION DRINKING WATER SOURCE
- [ ] B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
- [ ] C. COMMERCIAL, INDUSTRIAL
- [x] D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
East Fork Poplar Creek	0.25 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
- [ ] A. 10^{-6} to 10^{-4} cm/sec
- [x] B. 10^{-4} to 10^{-2} cm/sec
- [ ] C. 10^{-2} to 10^{+1} cm/sec
- [ ] D. GREATER THAN 10^{+1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
- [ ] A. IMPERMEABLE (Less than 10^{-6} cm/sec)
- [x] B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec)
- [ ] C. RELATIVELY PERMEABLE (10^{-2} to 10^{+1} cm/sec)
- [ ] D. VERY PERMEABLE (Greater than 10^{+1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 10 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	< 5 %	South	< 5 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE [x] GROUND [x] AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1943
LATEST PHOTO DATE 1984

74

Tennessee Department of Public Health — Division of Solid Waste Management
Potential Hazardous Waste Disposal Facility

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION NOT APPLICABLE

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + B NUMBER	01 NAME	02 D + B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 1.

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Report on Potential Hazardous Waste Disposal Facility

76

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: NA

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 S-2 Pit
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES LATITUDE: 35° 58' 46" LONGITUDE: 84° 15' 56"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Facility is located within the Y-12 Plant processing area.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1943 (BEGINNING YEAR) | 1951 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILITY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: Unknown
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☐ Ignitable
- ☐ Reactive
- ☒ Corrosive
- ☒ Toxic
- ☐ EP Toxic
- ☐ Other

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1943 TO 1951

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. NA

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
D002	Corrosive liquids	Plant operations	T02	S04/D80	Unknown			
F001	Halogenated solvents	Plant operations	T02	S04/D80	Unknown			
F003	Non Halogenated solvents	Plant operations	T02	S04/D80	Unknown			

NOTE: It is likely the above substances may have been treated, stored, and disposed at this facility. Records are not available to substantiate the substances or the quantity of substances treated, stored, and disposed at this facility.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = Unknown

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided. PART 2 III)	T04

Storage:	Code
CONTAINER (barrel, drum, etc)	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER (Describe process in the space provided; Part 2 III)	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER (Describe process in space provided; Part 2 III)	D84

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

78

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. NA

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

The facility was used for the treatment of liquid process waste. The facility consisted of an unlined earthen impoundment. Liquid process liquids were emptied into the impoundment for evaporazation/percolation and neutralization. At closure the liquids were neutralized, the impoundment filled with soil and seeded with grass.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility is within a fenced, posted, and locked area.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

There were no liners, barriers, or leachate collection/treatment systems used in this facility.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius 0 B. Residents within 1 mi. radius 0 C. No. Employees on site 6,000 Y-12 Plant

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER 0 (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southeast	>20 (ft)	3-5 GPM (gpm)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

79

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located in the area. There are no water supply wells within a one (1) mile radius.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
East Fork Poplar Creek	0.05 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-6} cm/sec ☐ C. 10^{-6} to 10^{-8} cm/sec ☐ D. GREATER THAN 10^{-8} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-4} to 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
<10 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5-2 (in)	<5 %	South	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN >100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft elevation) situated between Pine Ridge (1,200 ft elevation) and Chestnut Ridge (1,100 ft elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☐ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P.O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

80

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific request	
SURFACE WATER			
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION NOT APPLICABLE

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1

ATTACHMENT 1

81

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

82

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: NA

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): East Fork Poplar Creek Waterway
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson/Roane
07 COUNTY CODE: 29
08 COORDINATES: LATITUDE ___ LONGITUDE ___
09 DIRECTIONS TO FACILITY (Starting from nearest public road):
The facility is the waterway of East Fork Poplar Creek from mile 0.0 to mile 14.7.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1956 (BEGINNING YEAR) ---- (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 08 / 03 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.):
Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILITY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- APPROX. TONS 217
- OR CUBIC YARDS
- OR NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
- ☐ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☐ Toxic
- ☐ EP Toxic
- ☒ Other Mercury

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1956 TO ----

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. NA

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
NA	Mercury	Plant operations spillage	NA	D84	See Note			

NOTE: The loss of mercury was due to infrequent incidental spillage.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = See Note

PROCESS CODES:

Treatment:	Code	Treatment	Code	Storage:	Code	Disposal:	Code
TANK	T01	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04	CONTAINER (barrel, drum, etc)	S01	INJECTION WELL	D79
SURFACE IMPOUNDMENT	T02			TANK	S02	LANDFILL	D80
INCINERATOR	T03			WASTE PILE	S03	LAND APPLICATION	D81
				SURFACE IMPOUNDMENT	S04	OCEAN DISPOSAL	D82
				OTHER (Describe process in the space provided; Part 2 III)	S05	SURFACE IMPOUNDMENT	D83
						OTHER (Describe process in space provided; Part 2 III)	D84

84

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION
01 FACILITY ID NO. NA

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

East Fork Poplar Creek may have received leachate and runoff from mercury spill and use areas at the Y-12 Plant. The mercury reaching the Creek may have accumulated on the stream bed of East Fork Poplar Creek.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Incidental spillage of mercury occurred in the mercury use areas. Although clean up operations were initiated at the time of the occurrences, records indicated some quantities of mercury were not recovered.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

Clean up and recovery operations were undertaken at the time of the incidents.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☒ YES ☐ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Unknown B. Residents within 1 mi. radius Unknown C. No. Employees on site 6,000 Y-12 Plant

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.
a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEAB

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER 0 (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL Unknown (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUI
5-20 (ft)	Southwest	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management
Report on Potential Hazardous Waste Disposal Facility

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 FACILITY ID NO. NA

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located in the area. There are no water supply wells within a one (1) mile radius of the facility.

10 RECHARGE AREA
[X] YES [ ] NO
COMMENTS

11 DISCHARGE AREA
[X] YES [ ] NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
[ ] A. RESERVOIR, RECREATION DRINKING WATER SOURCE [ ] B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES [ ] C. COMMERCIAL, INDUSTRIAL [X] D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
East Fork Poplar Creek	0.0 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
[ ] A. 10^{-6} to 10^{-4} cm/sec [X] B. 10^{-4} to 10^{-2} cm/sec [ ] C. 10^{-2} to 10^{0} cm/sec [ ] D. GREATER THAN 10^{0} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
[ ] A. IMPERMEABLE (Less than 10^{-6} cm/sec) [X] B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec) [ ] C. RELATIVELY PERMEABLE (10^{-2} to 10^{0} cm/sec) [ ] D. VERY PERMEABLE (Greater than 10^{0} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
<10 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5-2 (in)	<5 %	West	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN NA YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)
ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

East Fork Poplar Creek flows north from the Y-12 Plant then southwesterly between Blackoak Ridge on the North and East Fork Ridge on the south.

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE [ ] GROUND [X] AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P.O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

86

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific request	
SURFACE WATER			
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION UNKNOWN

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

YY

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: NA

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Mercury Spill Areas

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Buildings 9201-2, 9201-5, 9720-24, 81-10, Oak Ridge 9204-4, 9201-4, 9202, 9733-1,9733-2

04 STATE: TN

05 ZIP CODE: 37831

06 COUNTY: Anderson

07 COUNTY CODE: 29

08 COORDINATES — LATITUDE: Approx. 35° 58' 17" LONGITUDE: 84° 15' 30"

09 DIRECTIONS TO FACILITY (Starting from nearest public road):

The facilities are located within the Y-12 Plant process area.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy

02 STREET: P. O. Box E

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above

08 STREET:

09 CITY:

10 STATE:

11 ZIP CODE:

12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1956 (BEGINNING YEAR) ---- (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy

02 STREET OR BOX NO.: P. O. Box E

03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge

05 STATE: TN

06 ZIP CODE: 37831

07 COUNTY: Anderson

08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)

09 CONTACT NAME: R. L. Sleeman

10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.)

Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILITY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- APPROX. TONS 217
- OR CUBIC YARDS
- OR NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
- ☐ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☐ Toxic
- ☐ EP Toxic
- ☒ Other Mercury

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1956 TO ----

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. NA

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
NA	Mercury	Spillage from Plant operations	NA	NA/D80	See note			

NOTE: The loss of mercury was due to infrequent incidental spillage.

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = See Note

PROCESS CODES:

Treatment:	Code	Treatment	Code	Storage:	Code	Disposal:	Code
TANK	T01	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided. PART 2 III)	T04	CONTAINER (barrel, drum, etc)	S01	INJECTION WELL	D79
SURFACE IMPOUNDMENT	T02			TANK	S02	LANDFILL	D80
INCINERATOR	T03			WASTE PILE	S03	LAND APPLICATION	D81
				SURFACE IMPOUNDMENT	S04	OCEAN DISPOSAL	D82
				OTHER (Describe process in the space provided; Part 2 III)	S05	SURFACE IMPOUNDMENT	D83
						OTHER (Describe process in space provided; Part 2 III)	D84

89

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION
01 FACILITY ID NO.
NA

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Incidental spillage of mercury occurred in the mercury use areas. After the clean up of recoverable mercury, the contaminated soil was covered with soil, gravel, asphalt, or concrete.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility is within a fenced, posted, and locked area.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

There were no liners, barriers, or leachate collection/treatment systems used in this facility.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius 0 B. Residents within 1 mi. radius 0 C. No. Employees on site 6,000 Y-12 Plant

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.
a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) X☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER 0 (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
520 (ft)	Southeast	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

91

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells with various depths are located in the area. There are no water supply wells within a one (1) mile radius of the facility.

10 RECHARGE AREA
- [X] YES
- [ ] NO

COMMENTS

11 DISCHARGE AREA
- [X] YES
- [ ] NO

COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)

- [ ] A. RESERVOIR, RECREATION DRINKING WATER SOURCE
- [ ] B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
- [ ] C. COMMERCIAL, INDUSTRIAL
- [X] D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
East Fork Poplar Creek	0.01 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

- [ ] A. 10^{-6} to 10^{-4} cm/sec
- [X] B. 10^{-4} to 10^{-6} cm/sec
- [ ] C. 10^{-4} to 10^{-1} cm/sec
- [ ] D. GREATER THAN 10^{-1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

- [ ] A. IMPERMEABLE (Less than 10^{-6} cm/sec)
- [X] B. RELATIVELY IMPERMEABLE (10^{-4} to 10^{-6} cm/sec)
- [ ] C. RELATIVELY PERMEABLE (10^{-4} to 10^{-1} cm/sec)
- [ ] D. VERY PERMEABLE (Greater than 10^{-1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
<10 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5-2 (in)	<5 %	South	<5 %

09 FLOOD POTENTIAL

FACILITY IS IN >100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE [X] GROUND [X] AERIAL

02 IN CUSTODY OF Y-12 HSEA Division (Name of organization and individual contact)

Address: P.O. Box Y, Oak Ridge, TN 37831

Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1945
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

92

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific request	
SURFACE WATER			
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION NOT APPLICABLE

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

94

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: NA

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Bear Creek Waterway

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge | 04 STATE: TN | 05 ZIP CODE: 37831 | 06 COUNTY: Anderson | 07 COUNTY CODE: 29

08 COORDINATES: LATITUDE ___ LONGITUDE ___

09 DIRECTIONS TO FACILITY (Starting from nearest public road):
The facility is the waterway from the mouth of Bear Creek to the headwaters of Bear Creek

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy

02 STREET: P. O. Box E

03 CITY: Oak Ridge | 04 STATE: TN | 05 ZIP CODE: 37831 | 06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above

08 STREET:

09 CITY: | 10 STATE: | 11 ZIP CODE: | 12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☒ A. ACTIVE
- ☐ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1943 (BEGINNING YEAR) | (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy

02 STREET OR BOX NO.: P. O. Box E

03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge | 05 STATE: TN | 06 ZIP CODE: 37831 | 07 COUNTY: Anderson

08 DATE: 08 / 03 / 84 (MONTH DAY YEAR)

09 CONTACT NAME: R. L. Sleeman

10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.):
Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILITY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: Unknown
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☐ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☐ Toxic
- ☐ EP Toxic
- ☒ Other: See Part 2, II

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1943 TO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2 - WASTE INFORMATION—continued

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. NA

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
NA	See page from Treatment & Disposal Facilities	Y-12 S-3 Ponds & Y-12 Burial Grounds	NA	D84	UNKNOWN	UNKNOWN		

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = UNKNOWN

PROCESS CODES:

Treatment:	Code	Treatment	Code	Storage:	Code	Disposal:	Code
TANK	T01	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04	CONTAINER (barrel, drum, etc)	S01	INJECTION WELL	D79
SURFACE IMPOUNDMENT	T02			TANK	S02	LANDFILL	D80
INCINERATOR	T03			WASTE PILE	S03	LAND APPLICATION	D81
				SURFACE IMPOUNDMENT	S04	OCEAN DISPOSAL	D82
				OTHER (Describe process in the space provided; Part 2 III)	S05	SURFACE IMPOUNDMENT	D83
						OTHER (Describe process in space provided; Part 2 III)	D84

96

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION
01 FACILITY ID NO.
NA

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

Bear Creek may have received leachate, seepage, and runoff from the Y-12 S-3 Ponds and the Y-12 Burial Grounds. Constituents contained in the leachate, seepage, and runoff may have accumulated on the stream bed of Bear Creek.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Not Applicable

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

Not Applicable

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☒ YES ☐ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Unknown B. Residents within 1 mi. radius Unknown C. No. Employees on site 6,000 Y-12 Plant

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.
a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABL

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER 0 (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL Unknown (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIF
5-20 (ft)	Southwest	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

97

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitor and test wells of various depths are located near this area. There are no water supply wells within a one (1) mile radius of this site.

10 RECHARGE AREA
- [x] YES
- [ ] NO

COMMENTS

11 DISCHARGE AREA
- [x] YES
- [ ] NO

COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
- [ ] A. RESERVOIR, RECREATION DRINKING WATER SOURCE
- [ ] B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
- [ ] C. COMMERCIAL, INDUSTRIAL
- [ ] D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Bear Creek	0.0 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
- [ ] A. 10^{-6} to 10^{-4} cm/sec
- [x] B. 10^{-4} to 10^{-6} cm/sec
- [ ] C. 10^{-4} to 10^{-2} cm/sec
- [ ] D. GREATER THAN 10^{-2} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
- [ ] A. IMPERMEABLE (Less than 10^{-6} cm/sec)
- [x] B. RELATIVELY IMPERMEABLE (10^{-4} to 10^{-6} cm/sec)
- [ ] C. RELATIVELY PERMEABLE (10^{-2} to 10^{-4} cm/sec)
- [ ] D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
<10 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	South	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN NA YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

The Bear Creek waterway is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE [X] GROUND [X] AERIAL

02 IN CUSTODY OF Y-12 Plant Disposal Coordinator
(Name of organization and individual contact)

Address: P.O. Box Y
Oak Ridge, TN 37831

Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1965
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

98

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. NA

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon request	–
SURFACE WATER			
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request

PART 6—OFF-SITE GENERATOR INFORMATION

Unknown

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment I

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

State of Tennessee Dept.
Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

101

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Walk-In Pits
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES: LATITUDE 35° 57' 50" LONGITUDE 84° 17' 55"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☒ A. ACTIVE
- ☐ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1968 (BEGINNING YEAR) | 1984 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.)

Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☒ B. POWDER, FINES
- ☒ C. SLUDGE
- ☒ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS
- ☐ D. OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS
- OR CUBIC ~~YARDS~~ feet 3,500
- OR NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
- ☒ Ignitable
- ☒ Reactive
- ☒ Corrosive
- ☒ Toxic
- ☐ EP Toxic
- ☐ Other

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1968 TO 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

PART 2 · WASTE INFORMATION—continued

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
N/A	Depleted Uranium Powders & Grindings	Machining Operations	NA	S03/D80	14,000	lb/mo		
D001	Misc. Lab Chemicals	Plant Operations	NA	S03/D80				
D002								
D003								
	See Attachment 1 for general description of waste and operation.							
	NOTE: Since 1981 facility has received only Urahium fines and powders.							

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 14,000 lb/mo (Approximately)

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2-III)*	T04

Storage:	Code
CONTAINER *(barrel, drum, etc)*	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER *(Describe process in the space provided; Part 2-III)*	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER *(Describe process in space provided; Part 2-III)*	D84

10.2

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

103

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

See Attachment 1

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

See Attachment 1

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

The area is fenced, posted, and locked. See Attachment 1 for further comment.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

Waste was generally placed in drums and 5-gallon cans. There were no barriers or liners used, and no leachate collection/treatment systems.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING:

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY *(Check as applicable)*

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING *(Other sources available)* ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION *(No other water sources available)* ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION *(Limited other sources available)* ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

104

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located in the area. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA

☒ YES ☐ NO

COMMENTS: Surface and ground water could flow into Bear Creek

11 DISCHARGE AREA

☒ YES ☐ NO

COMMENTS: Springs are reported in this area.

III. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.01 (mi)
	(mi)
Bear Creek	≈0.20 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-2} cm/sec ☐ C. 10^{-2} to 10^{-1} cm/sec ☐ D. GREATER THAN 10^{-1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{-1} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	Unknown (ft)	6-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	15-20 %	South	15-20 %

09 FLOOD POTENTIAL

FACILITY IS IN > 100 YEAR FLOOD PLAIN TVA Flood Control Area

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division (Name of organization and individual contact)

Address: P. O. Box Y Oak Ridge, TN 37831

Phone No.:

03 DATES (estimated)

EARLIEST PHOTO DATE 1973

LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

105

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORNL			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		
01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORGDP			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	2819 / 7391		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		

PART 7—SOURCES OF INFORMATION FOR THIS REPORT *(Cite specific references, e.g., company files, sample analysis, reports)*

See Attachment 2

ATTACHMENT 2

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

ATTACHMENT 1

Additional Comments to Report on Hazardous Waste Disposal Facility - Y-12 Walk-In Pits, U. S. Department of Energy.

Supplementary Comments for Parts 2 and 3.

The facility was divided into 3 separate areas for segregation of the wastes. The operation utilized above-ground space for storage/disposal of wastes. Following placement of the wastes, an earthen cover of approximately 5 feet was placed on top of the waste.

The area was originally utilized for disposal of lab chemicals (drum and bottle quantities). The 3 distinct areas provided a method for segregating organic, acid, and caustic wastes. Records are available to indicate total quantities of chemicals placed in the pits; however, prior to 1976, identity of specific chemicals and individual quantities are not complete. The disposal of lab chemicals in the facility was discontinued in 1981.

The area was also used for storage/disposal of uranium fines and powders generated by Plant Operations. Since 1981, the facility has been used only for the storage/disposal of uranium fines and powders. Records are available for all quantities of uranium buried in this facility. The uranium accounts for 90% of the volume and generation rates reported in Part II.

State of Tennessee — Department of Public Health
Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

108

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 9418-3 Uranium Vault
02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 COUNTY: Anderson
07 COUNTY CODE: 29
08 COORDINATES — LATITUDE: 35° 59' 09" LONGITUDE: 84° 15' 08"
09 DIRECTIONS TO FACILITY (Starting from nearest public road): Facility is located within the Y-12 Plant Processing Area.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy
02 STREET: P. O. Box E
03 CITY: Oak Ridge
04 STATE: TN
05 ZIP CODE: 37831
06 TELEPHONE NUMBER: (615) 576-0845
07 OPERATOR (If known and different from owner): Same as above
08 STREET:
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☒ B. FEDERAL: U. S.-D. O. E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: (Specify) ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1960 (BEGINNING YEAR) | 1965 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy
02 STREET OR BOX NO.: P. O. Box E
03 TELEPHONE NUMBER: (615) 576-0845
04 CITY: Oak Ridge
05 STATE: TN
06 ZIP CODE: 37831
07 COUNTY: Anderson
08 DATE: 8 / 3 / 84 (MONTH DAY YEAR)
09 CONTACT NAME: R. L. Sleeman
10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator
11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication
12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.): Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILITY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
☒ A. SOLID ☐ B. POWDER, FINES ☐ C. SLUDGE ☐ D. OTHER (Specify) ☐ E. SLURRY ☐ F. LIQUID ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS: 100
OR CUBIC YARDS:
OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
☐ Ignitable ☐ Reactive ☐ Corrosive ☐ Toxic ☐ EP Toxic ☒ Other: Uranium Oxide

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1960 TO 1965

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
N/A	Uranium Oxide	Plant Operations	N/A	NA/D80	≈2.0	Tons/Mo		

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 2.0 (Approximately)

PROCESS CODES:

Treatment:	Code	Treatment	Code	Storage:	Code	Disposal:	Code
TANK	T01	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04	CONTAINER (barrel, drum, etc)	S01	INJECTION WELL	D79
SURFACE IMPOUNDMENT	T02			TANK	S02	LANDFILL	D80
INCINERATOR	T03			WASTE PILE	S03	LAND APPLICATION	D81
				SURFACE IMPOUNDMENT	S04	OCEAN DISPOSAL	D82
				OTHER (Describe process in the space provided; Part 2 III)	S05	SURFACE IMPOUNDMENT	D83
						OTHER (Describe process in space provided; Part 2 III)	D84

169

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

110

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

An available concrete sump was filled with waste, encased in concrete and the top covered with asphalt.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility is within a fenced, posted and locked area.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

The concrete sump served as containment for leachate which may have developed.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING:

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY *(Check as applicable)*

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING *(Other sources available)* ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION *(No other water sources available)* ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION *(Limited other sources available)* ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southeast	>20 (ft)	3-5 GPM (gpm)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

///

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located in the area. There are no water supply wells within a 1-mile radius of the facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
East Fork Poplar Creek	0.01 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-2} cm/sec ☐ C. 10^{-2} to 10^{-1} cm/sec ☐ D. GREATER THAN 10^{-1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{-1} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
<10 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	South	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN >100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA DIVISION
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE ~~1984~~
LATEST PHOTO DATE

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

112

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION NOT APPLICABLE

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D + 8 NUMBER	01 NAME	02 D + 8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D + 8 NUMBER	01 NAME	02 D + 8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1.

ATTACHMENT 1

113

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

State of Tennessee Department

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

114

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Burial Ground D

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge | 04 STATE: TN | 05 ZIP CODE: 37831 | 06 COUNTY: Anderson | 07 COUNTY CODE: 29

08 COORDINATES — LATITUDE: 35° 57' 55" | LONGITUDE: 84° 17' 55"

09 DIRECTIONS TO FACILITY (Starting from nearest public road):
Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy | 02 STREET: P. O. Box E

03 CITY: Oak Ridge | 04 STATE: TN | 05 ZIP CODE: 37831 | 06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above | 08 STREET:

09 CITY: | 10 STATE: | 11 ZIP CODE: | 12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☒ A. ACTIVE
- ☐ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1970 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy | 02 STREET OR BOX NO.: P. O. Box E | 03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge | 05 STATE: TN | 06 ZIP CODE: 37831 | 07 COUNTY: Anderson | 08 DATE: 08 / 03 / 84 (MONTH DAY YEAR)

09 CONTACT NAME: R. L. Sleeman | 10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.)
Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: 288 ton/yr
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☐ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☐ Toxic
- ☐ EP Toxic
- ☒ Other: Flammable Radioactive ~~Inert~~

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1970 TO Present

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. N/A

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
NA	Uranium and Uranium Alloys	Plant Operations	NA	NA/D80	24	Ton/Mo		

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 24 Ton/Mo (Approximately)

PROCESS CODES:

Treatment:	Code	Treatment	Code	Storage:	Code	Disposal:	Code
TANK	T01	OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)*	T04	CONTAINER *(barrel, drum, etc)*	S01	INJECTION WELL	D79
SURFACE IMPOUNDMENT	T02			TANK	S02	LANDFILL	D80
INCINERATOR	T03			WASTE PILE	S03	LAND APPLICATION	D81
				SURFACE IMPOUNDMENT	S04	OCEAN DISPOSAL	D82
				OTHER *(Describe process in the space provided; Part 2 III)*	S05	SURFACE IMPOUNDMENT	D83
						OTHER *(Describe process in space provided; Part 2 III)*	D84

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

116

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Trenches were excavated, filled with waste, covered with soil, and seeded with grass. Trenches were unlined.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

Facility is active within a posted and locked area.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

There were no liners, barriers, or leachate collection/treatment used in the trenches.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

Facility is witnin a posted area.

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY *(Check as applicable)*

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING *(Other sources available)* ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION *(No other water sources available)* ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION *(Limited other sources available)* ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

117

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located near this facility. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA
- [x] YES
- [ ] NO

COMMENTS Surface and ground water could flow into Bear Creek

11 DISCHARGE AREA
- [x] YES
- [ ] NO

COMMENTS Flowing springs have been reported in this area.

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
- [ ] A. RESERVOIR, RECREATION DRINKING WATER SOURCE
- [ ] B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
- [ ] C. COMMERCIAL, INDUSTRIAL
- [x] D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.01 (mi)
	(mi)
Bear Creek	≈0.40 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
- [ ] A. 10^{-6} to 10^{-4} cm/sec
- [x] B. 10^{-4} to 10^{-2} cm/sec
- [ ] C. 10^{-2} to 10^{-0} cm/sec
- [ ] D. GREATER THAN 10^{-0} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
- [ ] A. IMPERMEABLE (Less than 10^{-6} cm/sec)
- [x] B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec)
- [ ] C. RELATIVELY PERMEABLE (10^{-2} to 10^{-0} cm/sec)
- [ ] D. VERY PERMEABLE (Greater than 10^{-0} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	South	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE [X] GROUND [X] AERIAL

03 DATES (estimated)
EARLIEST PHOTO DATE 1965
LATEST PHOTO DATE 1984

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

118

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

Not applicable

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

120

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: N/A

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Burial Ground B

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 COUNTY: Anderson

07 COUNTY CODE: 29

08 COORDINATES — LATITUDE: 35° 57' 50" | LONGITUDE: 84° 17' 58"

09 DIRECTIONS TO FACILITY (Starting from nearest public road):
Approximately 2.5 miles west on Bear Creek Road from the main portal of the Y-12 Plant.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy

02 STREET: P. O. Box E

03 CITY: Oak Ridge

04 STATE: TN

05 ZIP CODE: 37831

06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above

08 STREET:

09 CITY:

10 STATE:

11 ZIP CODE:

12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1960 (BEGINNING YEAR) | 1983 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy

02 STREET OR BOX NO.: P. O. Box E

03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge

05 STATE: TN

06 ZIP CODE: 37831

07 COUNTY: Anderson

08 DATE: 08 / 03 / 84 (MONTH / DAY / YEAR)

09 CONTACT NAME: R. L. Sleeman

10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.)

Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☒ B. POWDER, FINES
- ☒ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- TONS: Approximately 600 ton/yr
- OR CUBIC YARDS:
- OR NO. OF DRUMS:

03 WASTE CHARACTERISTICS (Check all that apply)
- ☒ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☒ Toxic
- ☐ EP Toxic
- ☒ Other: Radioactive Inert

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1960 TO 1983

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO. NA

PART 2 · WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
NA	Uranium and Uranium Compounds	Plant Operations	NA	S01/D80	50	Ton/Mo	NA	NA

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 50 Ton/Mo (approximately)

PROCESS CODES:

Treatment:	Code
TANK	T01
SURFACE IMPOUNDMENT	T02
INCINERATOR	T03
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)*	T04

Storage:	Code
CONTAINER *(barrel, drum, etc)*	S01
TANK	S02
WASTE PILE	S03
SURFACE IMPOUNDMENT	S04
OTHER *(Describe process in the space provided; Part 2 III)*	S05

Disposal:	Code
INJECTION WELL	D79
LANDFILL	D80
LAND APPLICATION	D81
OCEAN DISPOSAL	D82
SURFACE IMPOUNDMENT	D83
OTHER *(Describe process in space provided; Part 2 III)*	D84

Tennessee Department of Public Health — Division of Solid Waste Management 122

Report on Potential Hazardous Waste Disposal Facility

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. N/A

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Trenches were excavated, filled with waste, covered with soil, and seeded with grass. Trenches were unlined. Waste was segregated according to hazards and Form of material.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

The area is within a posted and locked area.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

No containment, collection, or treatment systems were used.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius Zero B. Residents within 1 mi. radius Zero C. No. Employees on site Y-12 Plant 6000

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (*Check as applicable*)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (*Other sources available*) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (*No other water sources available*) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (*Limited other sources available*) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER Zero (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southwest	>20 (ft)	3-5 GPM (gpd)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

123

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. N/A

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located within 3000 ft. of this facility. There are no water supply wells within a 1-mile radius of this facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
Tributary to Bear Creek	≈0.01 (mi)
	(mi)
Bear Creek	≈0.40 (mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A. 10^{-4} to 10^{-6} cm/sec ☒ B. 10^{-4} to 10^{-6} cm/sec ☐ C. 10^{-4} to 10^{-6} cm/sec ☐ D. GREATER THAN 10^{-4} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-4} to 10^{-6} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-4} to 10^{-2} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
< 20 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5.2 (in)	<5 %	South	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN > 100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) > 5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)
ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft. elevation) situated between Pine Ridge (1,200 ft. elevation) and Chestnut Ridge (1,100 ft. elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P. O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE 1965
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

124

PART 5—SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 FACILITY ID NO. N/A

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific	
SURFACE WATER		request.	
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
ORGDP			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
U. S. Dept. of Energy	7391/2819		
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
Oak Ridge / TN	37831		
01 NAME	02 D→8 NUMBER	01 NAME	02 D→8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1

Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

125

PART 1 - FACILITY INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: NA

II. FACILITY NAME AND LOCATION

01 FACILITY NAME (Legal, common, or descriptive name of site): Y-12 Coal Pile Trench

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER: P. O. Box Y

03 CITY: Oak Ridge | 04 STATE: TN | 05 ZIP CODE: 37831 | 06 COUNTY: Anderson | 07 COUNTY CODE: 29

08 COORDINATES — LATITUDE: 35°58' 25" | LONGITUDE: 84°16' 15"

09 DIRECTIONS TO FACILITY (Starting from nearest public road):

Approximately 1.0 mile west on Bear Creek Road from the main portal of the Y-12 Plant (west end of Y-12 Plant).

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Department of Energy

02 STREET: P. O. Box E

03 CITY: Oak Ridge | 04 STATE: TN | 05 ZIP CODE: 37831 | 06 TELEPHONE NUMBER: (615) 576-0845

07 OPERATOR (If known and different from owner): Same as above

08 STREET:

09 CITY: | 10 STATE: | 11 ZIP CODE: | 12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
- ☐ A. PRIVATE
- ☒ B. FEDERAL: U. S. D. O. E. (Agency name)
- ☐ C. STATE
- ☐ D. COUNTY
- ☐ E. MUNICIPAL
- ☐ F. OTHER: (Specify)
- ☐ G. UNKNOWN

14 FACILITY STATUS (Check one)
- ☐ A. ACTIVE
- ☒ B. INACTIVE
- ☐ C. UNKNOWN

15 YEARS OF OPERATION: 1965 (BEGINNING YEAR) | 1966 (ENDING YEAR) ☐ UNKNOWN

IV. NOTIFIER INFORMATION

01 NOTIFIER NAME (Company name): U.S. Department of Energy

02 STREET OR BOX NO.: P. O. Box E

03 TELEPHONE NUMBER: (615) 576-0845

04 CITY: Oak Ridge | 05 STATE: TN | 06 ZIP CODE: 37831 | 07 COUNTY: Anderson

08 DATE: 8 / 3 / 84 (MONTH / DAY / YEAR)

09 CONTACT NAME: R. L. Sleeman

10 CONTACT TITLE: DOE - Oak Ridge Operations Environmental Coordinator

11 SIC CODE AND DESCRIPTION LISTED: 2819 - Nuclear Weapons Component Fabrication

12 BRIEF DESCRIPTION OF PRODUCTION PROCESS (ITEMS PRODUCED, ACTIVITIES INCLUDED, ETC.):

Production of nuclear weapons components

PART 2. INFORMATION CONCERNING WASTES DISPOSED AT REFERENCED FACILILTY

I. WASTE STATES, QUANTITIES, AND CHARACTERISTICS AT TIME OF DISPOSAL

01 PHYSICAL STATES (Check all that apply)
- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER (Specify)
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
- APPROX. TONS 2,200
- OR CUBIC YARDS
- OR NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)
- ☐ Ignitable
- ☐ Reactive
- ☐ Corrosive
- ☐ Toxic
- ☐ EP Toxic
- ☒ Other: Depleted Uranium Inert

04 DATES OF WASTE DISPOSAL BY NOTIFER AT ABOVE SITE: FROM 1965 TO 1966

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

I. IDENTIFICATION

01 DISPOSAL FACILITY ID NO.: NA

PART 2 - WASTE INFORMATION—continued

II. HAZARDOUS WASTES (Reference Hazardous Waste Regulations for Code Numbers)

01 HAZARDOUS WASTE CODE	02 SUBSTANCE NAME	03 SOURCE OF WASTE (Activity Producing Waste)	04 TREATMENT METHOD (Ref. Process Codes)	05 STORAGE/DISPOSAL METHOD (Ref. Process Codes)	06 AMOUNT DISPOSED PER MONTH	07 UNIT OF MEASURE	08 CONCENTRATION AS DISPOSED	09 UNIT OF MEASURE
NA	Depleted uranium and depleted uranium alloys	Plant operations	NA	NA/D80	183	ton/mo.	NA	NA

TOTAL QUANTITY OF HAZARDOUS WASTE DISPOSED PER MONTH = 183 ton (approximately)

PROCESS CODES:

Treatment:	Code	Treatment	Code	Storage:	Code	Disposal:	Code
TANK	T01	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the process in the space provided PART 2 III)	T04	CONTAINER (barrel, drum, etc)	S01	INJECTION WELL	D79
SURFACE IMPOUNDMENT	T02			TANK	S02	LANDFILL	D80
INCINERATOR	T03			WASTE PILE	S03	LAND APPLICATION	D81
				SURFACE IMPOUNDMENT	S04	OCEAN DISPOSAL	D82
				OTHER (Describe process in the space provided; Part 2 III)	S05	SURFACE IMPOUNDMENT	D83
						OTHER (Describe process in space provided; Part 2 III)	D84

126

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

127

PART 2—WASTE INFORMATION—Continued

I. IDENTIFICATION

01 FACILITY ID NO. NA

III. EXPLANATION OF PROCESS CODES, PARTICULARLY "OTHER" CODES USED IN PART 2-II.

The facility was used for disposal of depleted uranium, depleted uranium alloys, and a small amount of miscellaneous non-uranium material.

PART 3—DESCRIPTIVE INFORMATION

I. FACILITY DESCRIPTION

01 DESCRIPTION OF METHOD OF OPERATION, CLOSURE, COVER, ETC.

Trenches were excavated, filled with waste, and covered with soil.

02 CURRENT USE AND SITE SECURITY (FENCING, LIGHTING, ETC.) WHERE APPLICABLE.

The area is currently used for the stockpiling of coal. The area is fenced, posted, and locked.

II. CONTAINMENT

01 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, LEACHATE COLLECTION AND TREATMENT SYSTEMS, ETC.

There were no liners, barriers, or leachate collection/treatment systems used in this facility.

III. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE (exposed at surface?): ☐ YES ☒ NO

02 COMMENTS

PART 4—DEMOGRAPHIC, WATER, AND ENVIRONMENTAL DATA

I. DEMOGRAPHIC AND PROPERTY INFORMATION

01 ESTIMATED TOTAL POPULATION:

A. Residents within ½ mi. radius 0 B. Residents within 1 mi. radius 0 C. No. Employees on site 6,000 Y-12 Plant

02 PROVIDE USGS TOPOGRAPHIC MAP FOR 1 MI. RADIUS OF FACILITY SHOWING THE FOLLOWING.

a. 20 ft. contours
b. existing roads, buildings and other major structures
c. drinking water intakes (both groundwater and surface water)

II. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check as applicable)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ D. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☒ E. NOT USED, UNUSEABLE

02 POPULATION WITHIN 1 MI. RADIUS OF FACILITY WHICH IS SERVED BY GROUND WATER 0 (estimate)

03 DISTANCE TO NEAREST DOWN GRADIENT DRINKING WATER WELL >5 (mi) (estimate)

04 DEPTH TO UPPERMOST AQUIFER	05 DIRECTION OF UPPERMOST AQUIFER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
5-20 (ft)	Southeast	>20 (ft)	3-5 GPM (gpm)	☐ YES ☒ NO

Tennessee Department of Public Health — Division of Solid Waste Management

Report on Potential Hazardous Waste Disposal Facility

128

PART 4—WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. GROUNDWATER—Continued

09 DESCRIPTION OF WELLS (Including usage, depth, and location—latitude and longitude—within 1 mi. radius)

Several monitoring and test wells of various depths are located in the area. There are no water supply wells within a one (1) mile radius of the facility.

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES ☐ NO
COMMENTS

III. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 POTENTIALLY AFFECTED BODIES OF WATER

NAME:	DISTANCE TO SITE
East Fork Poplar Creek	0.02 (mi)
	(mi)
	(mi)

IV. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} to 10^{-4} cm/sec ☒ B. 10^{-4} to 10^{-2} cm/sec ☐ C. 10^{-2} to 10^{+1} cm/sec ☐ D. GREATER THAN 10^{+1} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE (10^{-6} to 10^{-2} cm/sec) ☐ C. RELATIVELY PERMEABLE (10^{-2} to 10^{+1} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{+1} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
<10 (ft)	Unknown (ft)	5-7

06 NET PRECIPITATION/YEAR	07 TEN YEAR 24 HOUR RAINFALL	08 SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
54.45 (in)	5-2 (in)	<5 %	South	<5 %

09 FLOOD POTENTIAL
FACILITY IS IN >100 YEAR FLOOD PLAIN

10 DISTANCE TO WETLANDS (5 acre minimum) >5 (mi)

11 DISTANCE TO CRITICAL HABITAT (of endangered species) Unknown (mi)

ENDANGERED SPECIES: None

12 DESCRIPTION OF FACILITY IN RELATION TO SURROUNDING TOPOGRAPHY

Facility is located in Bear Creek Valley (910 ft elevation) situated between Pine Ridge (1,200 ft elevation) and Chestnut Ridge (1,100 ft elevation).

V. PHOTOGRAPHS (Provide copies if readily available)

01 TYPE ☒ GROUND ☒ AERIAL

02 IN CUSTODY OF Y-12 HSEA Division
(Name of organization and individual contact)
Address: P.O. Box Y
Oak Ridge, TN 37831
Phone No.:

03 DATES (estimated)
EARLIEST PHOTO DATE
LATEST PHOTO DATE 1984

Tennessee Department of Public Health — Division of Solid Waste Management

Potential Hazardous Waste Disposal Facility

129

PART 5—SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 FACILITY ID NO. NA

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 BRIEF SUMMARY OF ANALYTICAL RESULTS	03 SAMPLING DATES
GROUNDWATER		Some information available upon specific request	
SURFACE WATER			
AMBIENT AIR			
METHANE			
RUNOFF			
SOIL			
VEGETATION			
OTHER			

III. OTHER FIELD DATA COLLECTED (Provide field measurements and narrative description of other field data)

Information available upon specific request.

PART 6—OFF-SITE GENERATOR INFORMATION NOT APPLICABLE

I. OTHER GENERATORS WITHIN NOTIFIER'S COMPANY DISPOSING AT THIS FACILITY

01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D-8 NUMBER	01 NAME	02 D-8 NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

PART 7—SOURCES OF INFORMATION FOR THIS REPORT (Cite specific references, e.g., company files, sample analysis, reports)

See Attachment 1

ATTACHMENT 1

Sources of Information for this Report

1. Company Operation Files

2. Exxon NFRRC, "Preliminary Safety Analysis Report," Docket 50-564, 1975.

3. McMaster, W. M., "Geologic Map of the Oak Ridge Reservation, Tennessee," Martin Marietta Energy Systems, Inc., Oak Ridge National Laboratory, Health Physics Division, Oak Ridge, Tennessee, 1963.

4. McMaster, W. M., "Hydrologic Data for the Oak Ridge Area, Tennessee," U. S. Geological Survey, Water Supply Paper 1839-N, 1967.